

An Introduction To Reasoning

Real-World Reasoning

Everyday Inferences – Sources, Character, Motives

1 Sources

2 Criteria For Trustworthiness

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4 Appeal To Character Or Motives*

Summary – Appeal To Sources, Character, Motives

A star () indicates that there are exercise sets covering this section and previous unmarked sections.*

This piece in relation to others: This chapter uses some terminology from the chapters on classifying and analyzing reasoning. It would also be helpful to have covered Basic Evaluation prior to this one.



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Everyday Inferences – Sources, Character, Motives

1 Sources

1. One common type of inference is *inference from a source* (a.k.a. *appeal to a source* or sometimes *appeal to authority*). In an inference from a source, the target is (supposed to be) worth believing because it is asserted by a source such as a person or a newspaper or scientific article, etc.

Appealing to a source is an *extremely* common type of inference because there are so many different topics of discussion and not everyone can be an expert on everything. So, there is a division of cognitive labor: some people are experts in some things and some in others and non-experts trust the experts and take them to be reliable sources of information.

2. Here are some examples of *appealing to a source*.

"The umpire says the pitch was a strike. So, it was a strike." A source (the umpire) is used to justify belief in the proposition "The pitch was a strike."

Or, "I read in *Time* magazine this week that the Mississippi wants to take a different route at various points.". Here, *Time* is the source for the claim that the Mississippi wants to take a different route at various points.

Or someone might say "It's really hot outside." and you could use the speaker as a source for the claim that it is very hot outside.

3. Sources are worth believing when they are trustworthy. So, a speaker ought to include this claim when appealing to a source:

1. Source-S asserts *proposition-p*.
2. Source-S is trustworthy.
-
3. *Proposition-p*.

We can think more specifically about what it means for a source to be trustworthy. There are three criteria for trustworthiness: that the source is an expert in the relevant subject, that the source is unbiased, and, that there is consensus among the

experts on this subject.

We can substitute the general claim that the source is trustworthy with these three claims. Thus, when it is expressed completely, an inference from a source will include all of these elements, as follows:

1. Source-S asserts *proposition-p*.
2. Source-S is an expert in the relevant field.
3. Source-S is unbiased with respect to *proposition-p*.
4. *Proposition-p* is consistent with the judgments of (other) experts in the field.
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5. *Proposition-p*.

In real life, however, some or all of the specific propositions about trustworthiness are left out. An appeal to a source often just looks like this:

1. Source-S asserts *proposition-p*.
-
2. *Proposition-p*.

or like this:

1. Source-S asserts *proposition-p*.
2. Source-S is trustworthy.
-
3. *Proposition-p*.

In other words, the specific claims about trustworthiness are left out.

If any of these three are missing from the passage, add them to your standard form with an asterisk at the end. Doing so will make the inference strong. You can then ask whether or not the reasons – included any you added – are true; if they are not all true, the inference is unsound. (This process, of adding missing reasons that make an inference strong (or valid) and then checking the truth of the reasons, is discussed in a general way in *Warrants*.)

The three criteria will be discussed in detail in a moment, but here is a brief example:

- 1 [According to *Time* magazine this week,] 2 The Mississippi wants to take a different route at various points.

1. *Time* magazine this week says that the Mississippi wants to take a different route at various points.

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2. The Mississippi wants to take a different route at various points.

First, we have to add the three criteria for trustworthiness, marking each with an asterisk:

1. *Time* magazine this week says that the Mississippi wants to take a different route at various points.
 3. *Time* magazine is an expert in the course of the Mississippi river.*
 4. *Time* magazine is unbiased when it comes to the course of the Mississippi river.*
 5. There is consensus among the experts on the course of the Mississippi.*
-
2. The Mississippi wants to take a different route at various points.

You can see right away that inserting these three claims about trustworthiness raises some good questions about whether or not you can believe the target.

Is *Time* an expert in the course of the Mississippi? Well, this claim is imprecise: what does it mean for *a magazine* to be an expert? It would be preferable to know who the specific author is. If this is not possible, the best we can do is ask if articles in *Time* are generally written by experts?

Second, is *Time* unbiased? Does the magazine (or the author, if known) stand to gain anything by getting people to believe that the Mississippi wants to take a different route at various points? The owners and employees of the magazine probably want the magazine to sell a lot of copies, which might raise a worry about bias, but it is hard to see how an article about the Mississippi would be used as a sensationalistic article designed to sell copies of the magazine. Plus, in the long run, the financial health magazine depends on being truthful. To tell whether or not the author is biased, we would have to know who it is and their relationship to the claim. Do they have a personal reason to promote one view and disregard others?

Finally, do other experts agree on this claim? As with the 'expert' criterion, we don't have a lot to go on. If the article mentioned the views of various experts, it would lend some support to the idea that the article is not an outlier, but to be reasonably sure

that there is consensus, a check of existing views on the matter is required.

As the passage stands, thus, we cannot say with any reasonable confidence that the source is an expert or that there is consensus, and so, even if we allow that there is no worry about bias, the inference is unsound, as the appeal to a source needs to satisfy all three of the criteria about trustworthiness.

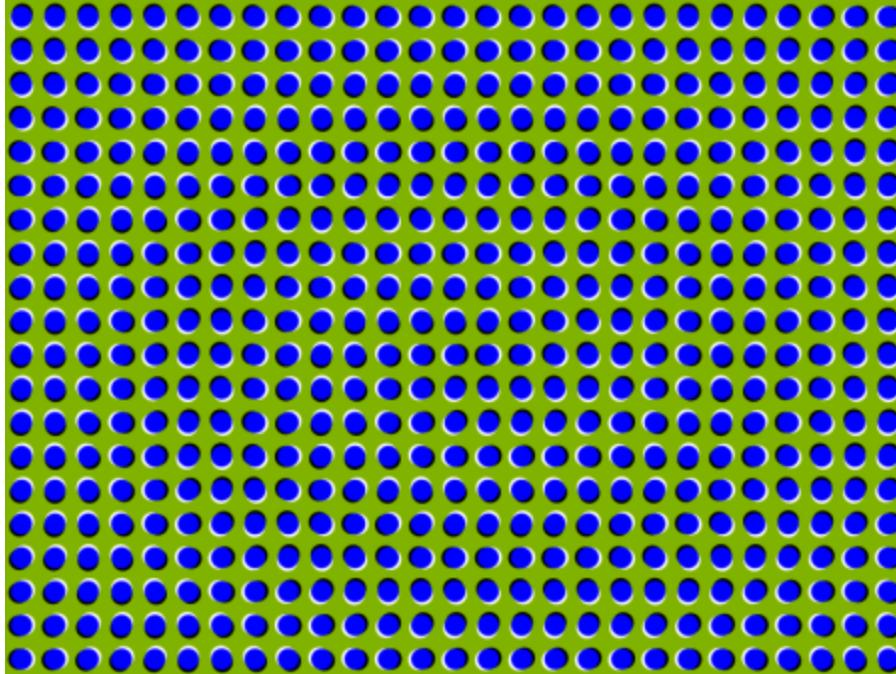
2 Criteria For Trustworthiness

1. First, a source must be an *expert in the relevant field*. Many people are experts in various things, but if a proposition is to be believed because a source says it, the source must be an expert *on the relevant topic*. (it's worth noting that saying what the relevant topic is can be difficult. For example, if your friend says it is hot outside, is the relevant topic 'hot days' or 'weather' generally?)

What is an expert? If the target claim is about something you perceived (seen, heard, etc.) then you will count as an expert, at least for ordinary objects, unless you have senses that are defective in various ways, such as being short-sighted, or hard of hearing, and lacking the sense altogether, such as being blind or deaf. You should also be free from the influence either of something that affects you physiologically (alcohol, drugs, etc.) or of a bias that affects you psychologically (such as being angry, prejudiced, or influenced by some strong desire). In such cases, your experience might be faulty.

If the claim is "It is raining" and your reason for believing this is that you feel drops of water from above, you could ask yourself "But am I really feeling drops of water from above? Perhaps my skin is prickling, as a reaction to heat or something I ate. Perhaps I am dreaming or hallucinating."

There can also be limitations to one's senses such as when trying to see faraway objects, or to listen to sounds when there is a lot of other noise. [Optical illusions](#) can also thwart the senses. For example: the dots in the image below (by [Paul Nasca](#)) appear to be moving, but they aren't.



Sense-Experience As An Expertise

Immediate sense-experience is preferred. Immediate sense-experience is what you rely on as you move around and interact with the world. Beyond this, however, you must also rely heavily on memory, though memory can be unreliable, even for quite recent events. (It is also possible to invent false memories and deliberately [create them](#) in people.)

Unmediated sense-experience is also preferable. The devices and instruments that are used to communicate information can have their own problems and introduce doubt simply by being an extra step in the process. For example, some people were [skeptical](#) that the pictures of the astronauts from Apollo 11 on the moon were real. The doubt was possible because they were watching the pictures on television, rather than being on the moon within sight of the events.

2. Unfortunately, your own sense-experience doesn't take you very far in your attempt to understand the world. You rely greatly on other people for information and theories and on instruments and machines to provide the data you need in order to generate and test your theories about how the world works. It is possible that the (other)

person or the instrument is malfunctioning. In the case of a person, "malfunctioning" would be a failure on her part to properly perceive or remember her sense-experience.

Since the information or claims that you get from other people are received via your senses, the same problems can arise as with your own perceptions: it is possible that you can mis-read or mis-hear what the other person wrote or said or what reading the instrument was showing. And if you want to keep the information for later, you might misremember what was written or said or shown.

3. The complexity of the proposition also makes a difference when taking in (and passing on) information from others. One common example is the difficulty newspaper reporters have in passing along the results of scientific papers. If the science is very complex, non-scientists might have trouble understanding it and when they pass it on to others, it might become simplified or garbled in some way. This is the problem of *expert to non-expert communication*.

4. Practically everyone is competent to report on her sense-perception (what was seen, heard, smelled, etc.) and so is an "expert" on these things, but we typically reserve the word "expert" for people with knowledge that goes beyond immediate and remembered sensation. An expert in the more typical sense of the word is someone who possesses a *large* set of beliefs that are *interrelated*. This expertise allows such people to make arguments (and give explanations) to others.

5. If you are not an expert in the field, how do you know whether another person is an expert? Non-experts can nonetheless judge experts in terms of reliability: an expert produces goods or makes predictions which can be verified by the senses (whether directly or with instruments) and build a record of reliability (or not). An expert cook, for example, will be able to produce a certain taste in a dish reliably; an expert doctor consistently relieves the sick; an expert weather forecaster reliably says what the weather will be.

Experts are thus judged by reliability, though how reliable their predictions have to be is an open question. *Ask yourself, "Does this source make claims (on this subject) that are reliably true?"* Or alternatively, because the judgment of expertise is itself

something that you can outsource to others, "*Do I trust other people to judge the expertise of this source?*" This will be the reason that you will generally take doctors, dentists, mechanics, butchers, chefs, and so on as experts: they have been vetted by other experts in the field and these other experts reliably produce reliable judgments about the reliability of practitioners. In this way, you don't need to have any prior experience of (say) a dentist: if you can see her credentials on the wall and recognize the school, you can be reasonably confident that she is an expert.

Various news agencies, journals, and encyclopedias (including Wikipedia) have all earned a reputation for reliability on *many* subjects, though you should always be alert to the possibility that they are less reliable on subjects that they do not normally report on.

6. The second requirement for a good source is that the source is *unbiased*. Even people or sources that are experts can be overcome by particular influences. For example, people will lie or distort what they say in order to protect their reputation or achieve something good for themselves. When a source has a stake in getting you (the audience) to accept the belief, it is not neutral.

Ask yourself: Does the source stand to gain anything for him-/her-/itself by having audiences believe the target claim? If the answer is "yes" or there is a good chance that the source is benefiting in some way by making this claim to the audience, do not trust the source.

7. Third, the source's opinion must be the same as the *consensus* opinion amongst experts in the relevant field. What a source says must be consistent with judgments given by (unbiased) experts on the matter being discussed. One way of telling that a source — whether your own experience, or another's experience, or even an expert's judgment — has gone awry is that it contradicts or is inconsistent with the opinions of (other) experts. Even when a proposition comes from an expert, but the matter is controversial among experts, it is unwise to accept the claim; there must be near-consensus amongst experts.

This criterion in effect means that a source is never reliable by itself; in order to

accept what a source says, it must be broadly supported by expert opinion, or as the quote in the blue box puts it, the expert must be *representative* of the body of experts.

"Perhaps the biggest pitfall in science journalism is the problem of *outlier* or *non-representative* experts. A journalist talks to someone who has appropriate credentials, but whose opinion on a topic is either a minority opinion, or just one side of a legitimate controversy. The journalist then mistakes this one person's opinion for the consensus scientific opinion."

— Steven Novella, "[TIME Gets It Wrong On Acupuncture](#)"

8. Here is a summary of how to deal with an appeal to a source.

First, analyze the passage as normal:

Analyzing 1: mark up the passage using brackets, underlining, and parentheses

Analyzing 2: put the passage in Standard Form

Second: repeat the Standard Form but this time add all/any of the three claims about trustworthiness that are missing from the passage. Put an asterisk at the end of any that you add. The three criteria are:

- i. *The source is an expert in the relevant field.** (That is, the source is competent to judge and previously reliable)
- ii. *The source is unbiased.** (That is, the source has no stake in getting the audience to accept the target)
- iii. *What the source says is in agreement with the consensus (if any) of (other) experts.**

Adding these three claims to your standard form will make the reasoning Strong. Now ask if the reasons *including those you added are true*. If any of the reasons are false, the inference is unsound.

3 Extended Inferences Based On Sources

1. Appeals to a source are often used to introduce a belief from which a further conclusion is drawn, creating what is called an extended inference. (See *RW – Diagrams & Complex Reasoning* for more about extended inference.)

For example, if a speaker wants to argue "Peanuts are cholesterol-free. So, they are good for your health.", she might support the claim that peanuts are cholesterol-free by appealing to a source, such as the label on the tin of peanuts. The complete inference is thus made up out of two inferences. First:

1 [The label (on the tin of peanuts) says that peanuts are cholesterol-free.] (So,) 2 peanuts are cholesterol-free.

1. The label (on the tin of peanuts) says that peanuts are cholesterol-free.

2. Peanuts are cholesterol-free.

and then the conclusion from this first inference is used as a reason (or: premise) in the second:

2 [Peanuts are cholesterol-free.] (So,) 3 they are good for your health.

2. Peanuts are cholesterol-free.

3. Peanuts are good for your health.

Proposition 2 is both a conclusion (from 1) and a reason (leading to 3).

This extended argumentation is often shortened. It's quite natural to say (for example) "My friend said it will rain this weekend. So, I won't go camping this weekend." "It will rain this weekend." is the reason for believing the ultimate conclusion but this doesn't explicitly appear. Rather, the audience is expected to automatically fill in proposition 2. In full, the passage would look like this:

1 [My friend said it will rain this weekend.] (So,) 2 [it will rain this weekend.] (So,) 3 I won't go camping this weekend.

1. My friend said it will rain this weekend.

2. It will rain this weekend.

2. It will rain this weekend.

3. I won't go camping this weekend.

(In the initial analysis of the passage, proposition (2) is both underlined and bracketed,

as it is both a conclusion and a premise, as is clear in the standard form.)

As with all extended inferences, both parts of the complete inference can be evaluated. In the peanuts example, the two questions about the first part would be (i) Did I really read that proposition on the label? (Perhaps you misread or misremembered?) and (ii) Even if the label did say that, does that mean it is true? (Perhaps the label is inaccurate?) And about the second part, the two questions would be (i) Are peanuts really low in cholesterol? and (ii) Even if they are cholesterol-free, are they good for your health?

In the rainy weather example the basic questions about the appeal to the source would be (i) Did I really hear my friend say that? (Perhaps it was noisy or windy? Perhaps he was mumbling? Perhaps your hearing is faulty?) (ii) Even if I did hear him say that, does that mean it is true? (Perhaps your friend is desperate to be useful? How does he know about the weather, anyway?) And then you can go on to evaluate the second inference: (i) Will it really rain? and (ii) Is rain enough to keep me from going camping?

4 Appeal To Character Or Motives*

1. Appeal to a source relies on a claim that the source is trustworthy. Speakers will sometimes appeal to the character of the source (apart from the source's expertise or bias). Speakers often attempt to support or attack a conclusion by praising or attacking (some part of) a source's character. Here is an example of both (positive and negative):

1 [Smith is a pillar of the community.] (So,) 2 her plan for the schools is great.

1 [Henry is a pastor at a church.] (So,) 2 his plan for refurbishment is a good one.

1 [Smith is a known criminal.] (So,) 2 her plan for the schools is bogus.

1 [Jack's place is a mess.] 2 I don't trust his proposal for our trip next week.

This kind of argument is generally weak; it is a form of irrelevance or *red herring*. (See the chapter on Reason Substitutes.) But not always:

1 [Smith is a known criminal.] (So,) 2 her plan for more lenient punishments is

bogus.

In this case, Smith's criminal record (and by extension, character) is relevant to the matter at hand (reform of punishments).

2. An attack on someone's character or motives, or a positive or negative association, will only be a good reason to accept or reject what they say when their character is relevant to the topic at hand.

These types of attack also go by the name *ad hominem* argument, an argument "against the man" and (usually) attacking the person is different from, and not relevant to, attacking them as a source.

3. These kinds of attacks are used against people as sources and can also be used against their inferences, asserting that the original argument is bad but doing so without offering any reasons for rejecting it. (See also *Reason Substitutes*.) Consider the following:

Jill: 1 [The cruelty done to animals in factory farms is terrible] (Since) 2 [most of our meat comes from factory farms,] 3 we should start reducing our meat consumption right away.

Jack: Wow. You must be really sheltered.

Jill's argument has premises and conclusion. Jack hasn't really offered any reason for thinking Jill's argument is unsound. He has claimed that Jill is sheltered, but it's not clear that this is relevant to her argument.

4. A specific kind of character attack is to accuse someone of hypocrisy. This is also called the "You do it too!" or "Look who's talking!" response, or in Latin "*tu quoque*". To charge someone with *hypocrisy* is to say that her actions and her beliefs contradict each other. Consider the following example:

Smith: 1 You need to give up the smokes, Jones. 2 [Smoking cigarettes is terrible for your health. Causes lung cancer.]

Jones: You're one to talk! I saw you puffing away at the bar last night.

Jones has charged Smith with hypocrisy — Smith's actions don't match her words, and Jones seems to think he doesn't need to listen to her reasons for giving up cigarettes.

But hypocrisy only shows that Smith is unable to abide by her own inference, not

that the inference is bad. It might be that Smith can't give them up, even though she has good reasons to do so.

(Similarly, speakers can be accused of having previously *believed* the opposite of what they are now arguing for. But changing one's mind is not a sign that the present argument is bad, only that there are likely to be two competing arguments.)

Summary – Sources, Character, Motives

Inference From A Source

First, analyze the passage as normal:

Analyzing 1: mark up the passage using brackets, underlining, and parentheses

Analyzing 2: put the passage in Standard Form

Second, evaluate the inference by inserting the reasons so that the Standard Form matches the complete pattern for an Inference From A Source and then evaluating the truth of the reasons.

Repeat the Standard Form but this time add all/any of the three claims about trustworthiness that are missing from the passage. Put an asterisk at the end of any that you add. In full, Inference From A Source looks like this:

1. Source-S asserts *proposition-p*.
2. Source-S is an expert in the relevant field.
3. Source-S is unbiased with respect to *proposition-p*.
4. *Proposition-p* is consistent with other judgments by other experts in the field.
-
5. *Proposition-p*.

Adding these three claims to your standard form will make the reasoning Strong. Now ask if the reasons *including those you added are true*. If any of the reasons are false, the inference is unsound.

Types Of Appeal To Character Or Motives

(Claiming that a source is biased.)

Praising, or attacking, a source's character.

Alleging that the speaker is hypocritical.

[Exercise Set \(1\)](#) | [Exercise Set \(2\)](#)