

We Cannot Infer by Accepting Testimony*

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Abstract While we can judge and believe things by merely accepting testimony, we cannot make inferences by merely accepting testimony. A good theory of inference should explain this. The theories that are best suited to explain this fact seem to be theories that accept a so-called intuitional construal of Boghossian’s Taking Condition.

Keywords inference · taking condition · testimony · belief · intuition

1 Introduction

Some philosophers think that if someone makes an inference, she necessarily takes her premises to support her conclusion and draws her conclusion because of that fact (Stroud, 1979; Thomson, 1965). Paul Boghossian (2014) labeled this idea the “Taking Condition” on inference. According to the doxastic construal of the Taking Condition the relevant act or state of taking is a belief or judgment (Valaris, 2014; Neta, 2013). On the alternative intuitional construal of the Taking Condition, the taking at issue is an intuition or seeming (Dogramaci, 2013; Chudnoff, 2014; Broome, 2014). A third position, which I call “skepticism about takings,” rejects the Taking Condition either by saying that there are inferences that don’t involve takings (McHugh and Way, 2016;

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Wright, 2014; Winters, 1983) or by saying that even if (or when) inferences involve takings, the subject is not drawing her conclusion because of the taking (Koziolk, 2017; Mercier and Sperber, 2017). A fourth position accepts the Taking Condition but holds that the taking at issue is neither a belief nor an intuition (Boghossian, 2014).

In addressing this debate, my topic will be conscious, person-level inference (McHugh and Way, 2017). Subpersonal or unconscious information processing does not count as reasoning or inferring,¹ for the purposes of this paper. By the same token, my topic doesn't include what some call "non-self-conscious inferences" (Koziolk, 2017), "intuitive inferences" (Mercier and Sperber, 2017), "bare inferential transitions" (Quilty-Dunn and Mandelbaum, 2017), and the like. What I say in this paper may have interesting implications for these other topics, but I will leave that for another occasion.

Here I want to move the debate about takings forward, not by giving conclusive arguments for one of the views mentioned above but by describing a phenomenon: Beliefs and judgments can be acquired by merely accepting testimony whereas pieces of reasoning cannot be passed on in this way. One dimension along which we can evaluate accounts of inference is to what extent they can explain this phenomenon. Before I explain how this observation moves the debate forward, I must motivate the claim that we cannot make inferences by merely accepting testimony.

2 What Testimony Cannot Do

If you believe that P and I think that you are trustworthy regarding the matter, you can usually pass on your belief to me by asserting that P . If you do so, I will typically come to believe that P simply by accepting your testimony, which may involve reasoning about your trustworthiness or the like.² Pieces of reasoning, by contrast, cannot be passed on in this way. If you express a piece of reasoning by saying " P ; therefore, Q ," I cannot make the same inference simply by accepting what you are saying. Trusting your testimony when you say " P " amounts to believing that P , but trusting your testimony when you say " P ; therefore Q " doesn't amount to inferring Q from P . It is impossible to make inferences by merely accepting testimony.

I will use the phrase "infer by merely accepting testimony" in such a way that inferring Q from P by merely accepting testimony would require that

¹ In this paper, I use "inference" and "reasoning" interchangeably. This use differs, e.g., from that of Mercier and Sperber (2017) who use "inference" much more broadly than "reasoning." On their way of talking, my topic here is reasoning and not inference. It may be interesting to see whether the issues below may tell us anything about a notion of inference that is broader than mine but narrower than that of Mercier and Sperber. However, such a discussion is beyond the scope of this paper.

² According to reductionism about testimony, my justification for believing that P ultimately derives from my justification for believing such things as that you are trustworthy, that testimony I received in the past was reliable, and so on. Whether reductionism is true will not matter for my purposes.

(a) you couldn't make the inference, in your current doxastic state, without accepting the testimony, (b) you don't use the content of the testimony as an extra premise (in addition to P), and (c) the testimony doesn't help you to understand or realize something for yourself, which in turn enables you to make the inference. The first condition requires that the testimony is necessary; the second requires that what is acquired by the recipient is qualitatively identical to the state or act that is expressed in the testimony; and the third condition requires that the testimony is not just a catalyst for the subject's own thinking. Analogous conditions are usually fulfilled by beliefs based on testimony.³ I now want to argue that they are never fulfilled by inferences.

Let's consider an example. Suppose you infer *It will be sunny*, in a single step inference without further premises, from *It will neither snow nor rain* and *If it won't snow, then it will be sunny unless it'll rain*. And let's say that you are sincerely expressing your thoughts by saying: "It will neither snow nor rain. But if it won't snow, then it will be sunny unless it'll rain. Therefore, it will be sunny."⁴ Furthermore, suppose that I don't 'see' that the conclusion follows from the premises. Can I make the inference you made (without 'seeing' how the conclusion follows for myself) simply by accepting your testimony? Clearly not. Otherwise, we could all engage in all kinds of extraordinary reasoning—like remarkable pieces of reasoning of geniuses like Ramanujan or Gödel—simply by nodding along.

Of course, what you say might make me believe that it will be sunny if, first, it will neither snow nor rain and, second, if it won't snow, then it will be sunny unless it'll rain. And if I believe this long conditional, I can reach your conclusion by using the two premises of your inference to detach the consequent

³ E.g., if I believe that sexism is rampant in the Tesla factory because you say so, I wouldn't believe it without your testimony, we believe the same thing, and your testimony isn't merely a catalyst for my own thinking about the matter. If I believed it anyway, I wouldn't believe in virtue of your testimony. If I believed something other than what you said, we would either not be communicating properly or I would draw my own inferences from what you told me. And if what you told me, e.g., reminded me of something that then caused me to think about the matter for myself and come to the conclusion that sexism is rampant at Tesla, this would again not be a case of believing on the basis of testimony.

⁴ These examples can easily be multiplied. Depending on your background views, you might like other examples better. Here is another one: Testimony of the following kind doesn't, by itself, put you in a position to make the corresponding (defeasible) inference: "The last two chords in this jazz piece were an A-minor 7 \flat 5 and a D dominant 7. Therefore, the next chord must be a G-maj7." In order to make that inference, you must understand ii-V-I progressions. Merely accepting testimony cannot give you that understanding. Another example may be a tweaked version of an anecdote about Srinivasa Ramanujan and Godfrey Hardy. Suppose that a mathematical genius is sincerely expressing her thoughts by saying: "The number of this cab is 1729. Therefore, the number of this cab is the smallest number expressible as the sum of two cubes in two different ways." And suppose the genius makes the inference in one step and doesn't use any other premises. As in the other cases, you cannot make the inference that the genius made simply by accepting the genius's testimony. You will find this example plausible only if you think that "1729 is the smallest number expressible as the sum of two cubes in two different ways" isn't necessarily a suppressed premise of the genius's inference. I accept that, but my general point doesn't depend on this claim about the particular example.

of this long conditional. But that inference has three premises (supposing that I can do it in one step), whereas your inference has only two premises.

Contrast this case with a case in which you are expressing a belief. Suppose you assert: “It will be sunny if, first, it will neither snow nor rain and, second, if it won’t snow, then it will be sunny unless it’ll rain.” In this case, I can easily acquire a belief in what you say by simply accepting your testimony. I can simply take what you say at face value. A good account of inference should explain this contrast between belief and inference.

Here we can already see a connection to the Taking Condition. An advocate of the Taking Condition will probably hold that the reason why we cannot make inferences by merely accepting testimony is that we cannot acquire the requisite taking by merely accepting an utterance of “ P ; therefore, Q .”⁵ This raises the question whether the taking can be acquired by accepting testimony at all. Suppose the testimonial source says not only “ P ; therefore Q ” but also “ P supports Q ” (or whatever else the content of the taking may be). Does that enable the recipient of the testimony to make the inference? Clearly not. Hence, either the taking cannot be acquired by merely accepting testimony or the reason why the subjects in the examples above cannot make the inference is not (only) that they lack the appropriate taking. I will return to this in Section 3 below.

Before we move on, I must add two points that will become relevant below. First, someone may think that the impossibility to infer by accepting testimony is a contingent limitation of human minds. That is implausible. It isn’t familiarity with your psychology that allows me to say that what I said about myself in the example above is also true of you. Rather, it lies in the concept or nature of inference that it is a cognitive achievement (or failure) that goes beyond taking in what others say. When we teach students to reason by mathematical induction, e.g., students can often follow a recipe for constructing proofs by induction without grasping what they are doing. It is only once they ‘see’ or understand why such proofs establish their conclusions that they are reasoning by induction. If creatures who (*per impossibile*) can reason by accepting testimony were like students before they understand induction, they

⁵ Some philosophers hold that there is an important kind of inference that is necessarily accompanied by a taking but that these inferences are not made because of that taking. Such theorists deny the second conjunct of Boghossian’s (2014) Taking Condition. Koziol (2017), e.g., holds that what he calls an “epistemically successful self-conscious inference” is, by definition, a cause of the subject’s knowledge that she is making such a good inference. And Mercier and Sperber (2017) hold that what they call “reasoning” (in contrast to what they call “inference”) is partly constituted by a representation of one’s premises as good reasons for one’s conclusion, but they hold that such a representation is usually a result (often a kind of rationalization) of the move from the premises to the conclusion and not a cause of that move. Someone who holds a theory like that cannot explain the fact that we cannot infer by accepting testimony by appealing to the claim that takings are not transmissible via testimony. After all, on such views, even inferences that are necessarily accompanied by takings don’t require that the taking is present before (or even at) the time of the move from the premises to the conclusion. Hence, such views must provide an alternative explanation. A discussion of this interesting family of views is beyond the scope of this paper. With respect to what I say here, such views face the same problems as skepticism about takings.

wouldn't make the relevant inferences. But if they were like students after they have understood induction, they wouldn't infer by merely accepting testimony.⁶ It is unclear what it could mean for a creature to be like neither kind of student. A creature that can infer by merely accepting testimony is not just nomonologically impossible; it is metaphysically or conceptually impossible.

Second, what is missing in subjects who hear an epistemic authority say " P ; therefore Q " and " P supports Q " is (perhaps among other things) something cognitive, in a broad sense. The reasoner cannot infer Q from P because she cannot 'see' or understand how P and Q hang together. This comes out in the fact that understanding an explanation of how P and Q hang together can enable the reasoner to infer Q from P . If someone explains how mathematical induction works, e.g., this can, if all goes well, enable the recipient to reason by induction.⁷ If receiving an explanation can solve the problem, then the problem was presumably a lack of understanding.

3 Possible Responses

Before I explore the relevance of the phenomenon just described for current debates about the nature of inference, I want to forestall some potential misunderstandings. My thesis is not that beliefs acquired by accepting testimony can be justified whereas inferences made by accepting testimony cannot be justified. Rather, my claim is that there are no inferences made by accepting testimony.

I am not denying that we can draw inferences from facts we learned by testimony. We can acquire beliefs in premises by accepting testimony, but we cannot make whole inferences by accepting testimony. I am also not denying that we can learn to make inferences by following explanations. In such a case, we learn to make the inference by coming to 'see' or understand how the premises and the conclusion hang together. This 'seeing' or understanding is something that we have to do for ourselves; we cannot do it merely by accepting testimony. If, e.g., I don't understand why one can infer *It will be sunny* from *It will neither snow nor rain* and *If it won't snow, then it will be sunny unless it'll rain*, testimony that mentions the rule of exportation may help me. But the testimony only enables me to make the inference if it makes me 'see' or understand how the premises and the conclusion hang together.

In order to clarify my thesis, it will be helpful to consider some possible reactions. I will go over five potential explanations of why inferences cannot be shared via testimony.

(1) Someone might say that reasoning cannot be passed on via testimony because reasoning is a mental action and everyone must act for herself. You

⁶ There are connections (but also differences) between what I am saying here and recent work on understanding (Pritchard, 2016; Hills, 2016; Grimm, 2006).

⁷ Some ways of reasoning, like reasoning in accordance with *modus ponens*, are so basic that it is hard to see how one could give any explanation that doesn't presuppose this kind of reasoning. That doesn't mean that no understanding is required.

cannot perform an action merely by accepting testimony. I reply that what is at issue is not whether the act of inferring can be passed on via testimony. Rather, the question is why I cannot engage in my own act of inferring simply by accepting testimony. After all, I can engage in my own act of judging simply by accepting testimony. So there are some acts one can perform by merely accepting testimony. My question is why inference—and the taking mentioned in the Taking Condition—are not among these acts.

(2) Someone might say that no one is making an inference unless her attitudes toward the premises cause (or causally sustain) her attitude toward the conclusion in a non-deviant way. But, the interlocutor continues, such a causal relation (or the disposition to instantiate it) cannot be passed on via testimony. To see that this response is unsatisfying, notice that explanations regarding how the premises and the conclusion hang together can sometimes bring the subject into the right cognitive condition to make an inference. If listening to explanations can enable the subject to instantiate the right causal relations, why is it impossible that merely accepting testimony does the same? The obvious answer seems to be that explanations can establish (or enable the subject to instantiate) the right causal relations by allowing the subject to ‘see’ or understand how the premises and the conclusion hang together. But now we are back at square one: Why can accepting testimony not amount to this kind of ‘seeing’ or understanding?⁸

(3) A third reaction might be the following: Some judgments cannot be shared via testimony. Aesthetic judgments and judgments about matters of taste cannot be acquired by merely accepting testimony. When you judge that *Guernica* is a great piece of art on the basis of testimony, you are—in some important sense—not forming an aesthetic judgment. Expressions of inferences belong, the interlocutor continues, simply to the same class as expressions of aesthetic judgments or judgments of taste. Unfortunately, it is not obvious that (and if so why) inferences are in relevant respects similar to aesthetic judgments or judgments about matters of taste. It is easy to explain why aesthetic judgments and judgments of taste cannot be passed on via testimony, namely by pointing out that nothing can count as a judgment of this kind unless it is based in the right way on one’s own sensible or emotional experiences. In this sense, the judgments in question are defined by their “origin,” and this rules out that they have their “origin” in testimony.⁹ So the opponent should claim that inference (or something necessary for inference) must have its “origin” in

⁸ A variant of this reaction says that we cannot infer by accepting testimony because doing so would require that the belief in the conclusion is caused by the testimony, in which case it wouldn’t be the conclusion of an inference. This reaction misunderstands my question. I ask why accepting testimony, unlike understanding explanations, cannot put in place the necessary conditions for the conclusion belief to be caused in the right way. I am emphatically not asking why the belief in the conclusion of an inference cannot be caused by testimony.

⁹ Judgments that are conclusions of inferences are also defined—in some sense—by their “origin,” namely by the fact that the subject infers them from the premises. Our question is not, however, why we cannot acquire inferential judgments by accepting testimony. Our question is why we cannot make whole inferences by accepting testimony.

the thinker's own experience. Unfortunately, it is not obvious why that should be true. It is certainly a substantive thesis about inference.¹⁰

(4) A fourth reaction could be that inference requires that the subject has certain beliefs or judgments with a content regarding which no one is in a position to testify. Ram Neta, e.g., claims that "every inference is simply a judgment with a certain kind of content" (Neta, 2013, 404). One part of the content of the judgments that he identifies with inferences is that the subject's belief in the conclusion is doxastically justified by her beliefs in the premises. Now, one belief doxastically justifies another belief only if the second is based on the first one. Whether such a basing relation holds is a question about the subject's psychology. Hence, it can seem that nobody is in a better position to know about this issue than the subject herself. So perhaps the subject shouldn't accept anyone's testimony about such matters. This reaction misunderstands the problem as a problem regarding justification or rationality. Perhaps it would be irrational or unjustified to accept anyone's testimony regarding the basing relations that hold among one's own beliefs. At best, that can explain why it would be irrational or unjustified to make an inference on such a basis. It doesn't explain why this is impossible.

(5) Someone might say that we can infer by merely accepting testimony because "*P*. Therefore, *Q*" conveys (or perhaps literally says) that *P* and that *Q* and that *if P, then Q*. So by making the modus ponens inference, we are making the inference conveyed by the utterance. In response, I first want to point out that the proposal is implausible because if "*P*; therefore *Q*" expresses a modus ponens inference, it is unclear how we could ever express material inferences, like the inference from "It is a bird" to "It can fly." For if we say "It is a bird. So it can fly," this expresses, on the current proposal, the inference from "It is a bird" and "If it is a bird, then it can fly" to "It can fly." To say that "It is a bird. So it can fly" doesn't express the inference it intuitively seems to express strikes me as a revisionist position that should be avoided if possible. Second, the proposal fails even if we accept its implausible starting point because there isn't anything special about modus ponens inferences. We cannot make a modus ponens inference by merely accepting testimony. If the reasoner cannot 'see' or understand how the premises and the conclusion of a modus ponens hang together, accepting testimony will not enable the reasoner to draw the conclusion. The situation is analogous to the example about the weather from above. The only difference is that it is difficult to imagine someone who is able to understand conditionals but who cannot reason by modus ponens.¹¹

Let's take stock. Inferences differ from beliefs in that they cannot be passed on via testimony. It is not obvious what the correct explanation of this phe-

¹⁰ As will become clear below, the intuitional construal can be seen as motivating and embracing this thesis.

¹¹ More generally, my point is independent of the semantics of "therefore" (Pavese, 2017). The language that the subject speaks need not have an expression like "therefore" for my point to hold.

nomenon is. Theories of inference should explain the non-transmissibility of inference. As we will see, we can use this fact in assessments of such theories.

4 Relevance for Current Debates

Let us think about the first three theories mentioned at the beginning of this paper (putting the fourth theory to one side): the doxastic construal of the Taking Condition, the intuitional construal, and skepticism about takings. While the phenomenon I have pointed out cannot settle the disagreement among these views, it gives the intuitional construal of the Taking Condition an advantage over the two rival views.

Against skepticism regarding takings speaks the fact that what is missing in cases like my inability to infer that it will be sunny is that the subject ‘sees’ or understands how the premises and the conclusion hang together. After all, what is missing can be gotten by way of an explanation, if all goes well. Skeptics about takings must deny this and claim that something non-cognitive is missing.¹² For them, testimony must be incapable to produce the right non-cognitive conditions for making inferences. They will probably say that this missing condition is the instantiation of the right causal relation. They must hold that this non-cognitive, causal aspect of the particular inferential ability in question cannot result from accepting testimony, whereas it may result from receiving an explanation. This impossibility is either a merely nomological one or a conceptual or metaphysical one. So a skeptic about takings must either say (a) that our inability to infer by accepting testimony is a merely nomological impossibility, or (b) she must argue that it is conceptually or metaphysically impossible that accepting testimony enables the reasoner to instantiate the right causal relations. Both options are implausible. (*ad a*) The first option is implausible because, as I explained above, the impossibility of inferring by accepting testimony is not a nomological impossibility. Rather, it is not clear what it could be to infer by merely accepting testimony. (*ad b*) The second option is implausible because there are no conceptual limits to the merely causal effects we can coherently suppose testimony to have. By contrast, there

¹² The same holds for views on which takings are involved in some inferences or reasoning but are the effect and not a cause or prerequisite of those inferences, e.g., the view of Koziol (2017) or the one of Mercier and Sperber (2017). I cannot discuss these views in detail here, but as far as I can see they are vulnerable to the objection that I raise in this paragraph. It may be that such views are better placed to give the required alternative explanation than, e.g., the doxastic construal of the Taking Condition. Thus, what I say here can be understood as a challenge regarding such views, namely a challenge to spell out an alternative explanation for why inferences cannot be transmitted via testimony. I cannot see any obvious way in which they could do that, but I also don’t have a knockdown argument against all possible explanations that advocates of such views could develop in the future. As an anonymous referee points out, one promising strategy may be to say that what is missing in the relevant cases is an inferential ability that can be passed on via explanations but not via testimony because it is or requires a cognitive condition that testimony cannot bring about. To know whether this view is incompatible with or complementary to what I say here, the view would need to be spelled out in more detail. After all, the cognitive condition in question may or may not be an intuition.

are rather strict conceptual limitations on the cognitive effects of testimony that we can coherently imagine without having to say that these effects count as the receiving subject thinking for herself, such that the testimony is merely a catalyst for the subject's own reasoning. To sum up, until and unless the skeptic about takings offers an explanation of why inferential abilities cannot be passed on by mere testimony but can be passed on by explanations, the phenomenon described above counts against skepticism about takings.

The phenomenon also speaks against doxastic construals of the Taking Condition. Advocates of the doxastic construal can acknowledge that what the subject is lacking in cases like the one where I cannot make the inference about the weather is something cognitive: some 'seeing' or understanding. It is difficult to see how this 'seeing' or understanding can be anything but the taking mentioned in the Taking Condition. On the doxastic construal, this taking is a belief or judgment. But beliefs and judgments can usually be passed on via testimony. So, such theories must explain why the belief or judgment that is the taking is unusual in this respect.

The most promising strategy would be to argue that these takings are in relevant respects like aesthetic judgments or judgments of taste. As we have seen above, however, what is special about aesthetic judgments is that they are based on particular experiences. The only plausible candidate for such an experience in the case of inference is, I think, an intuition or intellectual seeming. The doxastic construal, however, rejects the idea that intuitions or seemings are required for inferences.

Advocates of a doxastic construal of takings could offer an alternative explanation of why the relevant judgments or beliefs cannot be passed on via testimony. Unfortunately, it is difficult to see what such an explanation might be. Why should it matter where the belief that is the taking is coming from? Alternatively, they could argue that the takings can be passed on via testimony and join the skeptic in her search for an explanation that doesn't depend on the Taking Condition. That, however, settles them with one of the unattractive options mentioned above.

The intuitional construal of takings is better placed than the two rival views just discussed to explain why we cannot infer by merely accepting testimony. To see this, recall that according to the intuitional construal, if you make an inference, you necessarily have an intuition or seeming that your premises support your conclusion (or whatever else the content of the taking is).¹³ Now, intuitions and seemings cannot be acquired by merely accepting testimony. It follows that inference requires something that cannot be acquired by testimony. That is why, according to the intuitional construal, we cannot infer by merely accepting testimony. Neither the doxastic construal of takings nor skepticism about takings have a similarly simple and elegant explanation of this phenomenon.

¹³ On Sinan Dogramaci's (2013) view, the intuition is a conditional intuition and not an attitude toward a single content. That doesn't matter for my point.

Let's take stock. Skeptics about takings and advocates of the doxastic construal have difficulties explaining why we cannot infer by accepting testimony. The intuitional construal doesn't have that problem. My goal was not to settle the debate between the three discussed views. Rather, I want to point out that both, the doxastic construal and skepticism about takings, need to be developed in more detail in order to deal with the phenomenon described above. Working out these options is bound to move the debate about the nature of inference forward. After all, this will require saying something new and substantive either about the nature of takings or about non-deviant causal relations.

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