

Inferential Seemings

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Abstract: There is a felt difference between following an argument to its conclusion and keeping up with an argument in your judgments while failing to see how its conclusion follows from its premises. In the first case there's what I'm calling an inferential seeming, in the second case there isn't. Inferential seemings exhibit a cluster of functional and normative characteristics whose integration in one mental state is puzzling. Several recent accounts of inferring suggest inferential seemings play a significant role in the process, but none provides a fully satisfactory understanding of inferential seemings themselves. In this paper I critically examine theoretical options on offer in the existing literature, then develop an alternative view. I discuss implications for recent debates about general principles governing inference, such as Fumerton's Principle of Inferential Justification and Boghossian's Taking Condition.

"Inferential seeming" is not a familiar term, but I'm using it to pick out what I take to be a familiar experience. This is a kind of experience that occurs in the context of consciously drawing a conclusion from some premises. Inferential seemings can be described as states of seeing how a conclusion follows from some premises, or how those premises support that conclusion. These are natural ways to pick out the relevant experiences, but they shouldn't be read as importing controversial assumptions about the nature of those experiences. For example, I am not assuming they are success states. Maybe some inferential seemings are *mere seemings to see support* rather than *genuine seeings of support*. Nor am I assuming that inferential seemings are attitudes toward propositions about the support given to a conclusion by some premises. At the outset, I want to leave it open whether inferential seemings are representations with propositional contents such as *that a conclusion follows from some premises*.

A proper account of inferential seemings is relevant to addressing debates about general principles that have been claimed to govern the process of inferring. The two most prominent in the recent philosophical literature are Fumerton's Principle of Inferential Justification and Boghossian's Taking Condition:

"For one to be inferentially justified in believing P on the basis of E one must *be justified in believing* that E makes probable P (where entailment can be viewed as the upper limit of making probable) or, alternatively, that the inference from E to P is sanctioned by a correct epistemic rule" (Fumerton 2004).

"Inferring necessarily involves the thinker taking his premises to support his conclusion and drawing his conclusion because of that fact." (Boghossian (2014).

On some accounts of inferential seeming, it'll turn out that an appropriate inferential seeming can justify one in believing that E makes probable P. And it may also turn out that a thinker's inferential seeming can constitute his taking his premises to support his conclusion. The view of

inferential seemings I'll defend will have these consequences, and this is something I'll return to at the end of the paper.

Fumerton's and Boghossian's principles can be seen as specific ways of developing the general idea that a successful inference from some premises to a conclusion must be guided by appreciation that those premises support that conclusion. Lewis Carroll's dialogue, "What the Tortoise Said to Achilles," dramatizes a regress challenge to any such idea. Carroll considers the following argument from (A) to (B) to (Z):

- (A) Things that are equal to the same are equal to each other.
- (B) The two sides of this triangle are things that are equal to the same.
- (Z) The two sides of this triangle are things that are equal to each other.

According to the Tortoise, someone who accepts (A) and (B) but not the hypothetical proposition (C) that if (A) and (B) are true, then (Z) must be true, is not "as yet under any logical necessity to accept (Z) as true." Though open to different interpretations, one natural lesson to draw from the ensuing exchange is that inferring (Z) from (A) and (B) under the guidance of appreciation that (A) and (B) support (Z) should not require really making one's inference to (Z) from (A) and (B) and the additional hypothetical proposition (C). For, if this were required, then it would be impossible to meet a general demand that inferences be guided by appreciation of their merits. Any such general demand would lead to regress. So, another natural aim for an account of inferential seemings is to show how an inference can be guided by appreciation of its merits without leading to regress.

Though I think inferential seemings have roles to play in interpreting general principles governing inference and in resolving puzzles about Carrollian regress, I do not take them to be theoretical entities postulated for these reasons. Inferential seemings are experiences that can be introspected. In this, I'm following Descartes and Locke. Descartes in the *Rules* and Locke in the *Essay* each give an account of a distinction between intuition and deduction that they take to be introspectively ostensible. If their method is sound, then plausibly inferential seemings are what we observe on the deduction side of the distinction. The approach I'll take toward a theory of inferential seemings will not depend on introspection alone, but it will aim to stay grounded in what can be pointed to in experience.

Here is the plan for the rest of the paper.

In (§1), I introduce and discuss four normative and functional characteristics of inferential seemings. These are characteristics that a theory of inferential seemings should explain. Then in (§2), I'll say why I think none of the theories of inferential seemings suggested by the current literature on inference successfully explains how inferential seemings have all four of these characteristics. In (§3), I develop an alternative theory that does meet this explanatory challenge. Finally, in (§4), I conclude by briefly considering implications for recent debates about general principles governing inference.

1. Normative and Functional Characteristics

Over the next few parts of the paper, I'll aim to draw conclusions about what inferential seemings must be like from plausible claims about their normative and functional characteristics. There are four such characteristics.

The first characteristic is (Basing):

(Basing) If you draw a conclusion because you see how it follows from some premises, then your belief in the conclusion is thereby based on the support transmitted by those premises alone. Ignoring alternative, independent bases, your belief in the conclusion is based on the support transmitted by the premises alone.

To see the motivation for (Basing), it is useful to contrast two experiences of the same argument. In one, you don't quite follow the line of reasoning, but you keep up in your judgments in order not to get left behind. In the other, that same line of reasoning is felt as carrying you along to its conclusion with a distinctive kind of compulsion. It is difficult to imagine such a contrasting pair using Lewis Carroll's simple argument, so I'll give more realistic examples involving counting. Reflection on these and some variations on them will also inform later discussion of the other normative and functional characteristics of inferential seemings.

There are 120 different ways of selecting 3 numbers out of the first 10 numbers. We can express this using a standard symbol for combinations, $\binom{10}{3} = 120$, which is read as saying 10 choose 3 is 120. There is a general formula for calculating $\binom{n}{r}$:

$$\binom{n}{r} = \frac{n!}{(n-r)!r!}$$

Most textbook discussions of combinations give pretty much the same argument establishing the correctness of the formula. Here I've copied from Sheldon Ross's *Topics in Finite and Discrete Mathematics* on the left and presented the argument with numbered premises on the right:

In general, as $n(n-1) \cdots (n-r+1)$ represents the number of different ways that a group of r items can be selected from n items when the order of selection is considered relevant, and as each group of r items will be counted $r!$ times in this count, it follows that the number of different groups of r items that can be formed from a set of n items is

$$\frac{n(n-1) \cdots (n-r+1)}{r!} = \frac{n!}{(n-r)!r!}$$

Ross, S. M. (2000). *Topics in finite and discrete mathematics*. Cambridge University Press. Pg. 40.

- (1) There are $n(n-1) \cdots (n-r+1)$ ways of making r sized ordered lists of items chosen from n total items.
- (2) This formula counts each unordered selection of r items $r!$ times.
- (3) To get the number of ways of making r sized unordered selections of items chosen from n total items, divide $n(n-1) \cdots (n-r+1)$ by $r!$.
- (4) It follows that the number of ways of selecting r items from n items = $\binom{n}{r} = \frac{n!}{(n-r)!r!}$

We will take steps (1) and (2) as premises established earlier in the discussion. Step (3) is arithmetically obvious: if you overcount each thing you are interested in $r!$ times, then to correct your count divide by $r!$. Step (4) follows by algebra. If you are like me, however, it can take a moment to see how the algebra is supposed to work. The trick is that the expression for

the overcount, $n(n-1) \dots (n-r+1)$, is the same as $\frac{n!}{(n-r)!}$ because $n!$ is the product of all the factors counting down from n to $(n-r+1)$ and continuing downward from $(n-r)$ to 1. Dividing $n!$ by $(n-r)!$ cancels these additional unwanted factors. The denominator in step (4) includes both this cancelation and the division by $r!$ from step (3). Ross's presentation is typical in not spelling any of this out.

The potential hiccup in following Ross's argument suggests the following phenomenally contrasting pair of cases.

[Obscure Reasoning] You are presented with the argument (1) – (3)/ (4). The step from (3) to (4) is obscure to you, but you ignore the obscurity, and judge that (4) is true despite not seeing how it follows from (1) – (3).

[Clear Reasoning] You are presented with the argument (1) – (3)/ (4). The step from (3) to (4) is obscure to you, but then you get clear on it, and judge that (4) is true because you see how it follows from (1) – (3).

Both [Obscure Reasoning] and [Clear Reasoning] are representative of common experiences that illustrate the contrast we are looking for. In [Clear Reasoning] there is an inferential seeming that is lacking in [Obscure Reasoning]. This is not to say that there are no inferential seemings in [Obscure Reasoning]. Maybe there are, but if so, then they are different inferential seemings from the one that occurs in [Clear Reasoning].

Returning now to (Basing), the motivation I have in mind for it derives from noting the following difference between the [Obscure Reasoning] case and the [Clear Reasoning] case. There is some pressure to deny that the belief in (4) formed in [Obscure Reasoning] is based on the support transmitted by (1) – (3) alone. If you judge (4) without seeing how it follows from (1) – (3), then plausibly you are taking out an additional epistemic loan. For example, maybe your judgment in (4) comes to depend in part on trusting Ross's assertion of the implication. Whatever the specifics, you are assuming that (1) – (3) somehow support (4), and this assumption makes a difference to the structure of your justification for believing (4).

I think there is a good case to be made in favor of this claim about [Obscure Reasoning], but my current interest is in the contrast with [Clear Reasoning]. In this case the belief in (4) is based on the support given by (1) – (3) alone, and there is no pressure to think otherwise. It might take supplementary thinking to enable or institute the basing, but the structure of the basing so enabled or instituted is one in which belief in (4) is based on the support given by (1) – (3). More generally we have the formulation in (Basing).

Suppose, however, you follow a bad argument because it mistakenly seems good to you: you seem to see how the premises support the conclusion, but the premises do not really support the conclusion. According to (Basing) your belief in the conclusion does come to be based on the support transmitted by the premises, but since this support is nil your belief in the

conclusion is not thereby justified. I think we should allow such faulty inferential seemings. They enable basing, but the basing that they enable doesn't generate justification.¹

A second characteristic of inferential seemings is (Justification):

(Justification) If you see how some conclusion follows from some premises, then you thereby have prima facie justification for believing something along the following lines: the conclusion follows from the premises; the premises support the conclusion; if the premises are true, then the conclusion is true; etc.

The motivation for (Justification) can also be brought out by comparing [Obscure Reasoning] with [Clear Reasoning]. Plausibly, if you see how (4) follows from (1) – (3), then you thereby have prima facie justification for believing something along the following lines: (4) follows from (1) – (3); (1) – (3) support (4); if (1) – (3) are true, then (4) is true; etc. (Justification) expresses the general idea.

You need not form any of the beliefs mentioned in (Justification). The claim it makes is about the justification you have for forming a belief, not the justified status of a belief you have formed. In familiar jargon, it is about propositional justification, not doxastic justification.

To appreciate (Justification)'s plausibility, however, it is helpful to consider a case in which you do form one of the beliefs it mentions. Suppose you are in the [Clear Reasoning] case and in addition to (4) you also judge that (1) – (3) support (4). This belief is epistemically appropriate in a distinctive way that it wouldn't be if it were formed in the [Obscure Reasoning] case. The "distinctive way" qualification is necessary, since in the [Obscure Reasoning] case you might have justification for thinking (1) – (3) support (4), but in this case it would be constituted differently. For example, it might come from trusting Ross's assertion. (Justification) gives a natural explanation of the epistemic difference between these two cases.

The third characteristic of inferential seemings is (Opacity):

(Opacity) Even if you see how some conclusion follows from some premises, the truth of the conclusion itself might remain opaque to you. The conclusion might not seem true to you. Seeing how it follows from some premises you accept does not constitute having immediate justification for believing that the conclusion is true.

Thinking through an argument for a conclusion might result in an intuition that the conclusion is true. In this case the conclusion does come to seem true to you, and you do gain immediate justification for believing that it is true. But the seeming and the justification are due to the intuition that the conclusion is true, not the inferential seeming in which you see how it follows from the premises of the argument.

The difference between inference and intuition can be made clearer by considering a claim about combinations that can both be demonstrated from the formula and intuitively grasped on its own. Recall that there are 120 ways of selecting 3 numbers out of the first 10

¹ Here I disagree with one of the desiderata Huemer (2016) places on a theory of inferential seemings (what he calls inferential appearances). Huemer's acceptance of this desideratum opens him to objections effectively pressed by Smithies (2019).

numbers. There are also 120 ways of selecting 7 numbers out of the first 10 numbers. This is no accident. In general, the number of ways of selecting r items from n items = the number of ways of selecting $n - r$ items from n items. Here is how Blitzstein and Hwang present this identity in their textbook, *Introduction to Probability*:

Example 1.5.1 (Choosing the complement). For any nonnegative integers n and k with $k \leq n$, we have

$$\binom{n}{k} = \binom{n}{n-k}.$$

This is easy to check algebraically (by writing the binomial coefficients in terms of factorials), but a story proof makes the result easier to understand intuitively.

Story proof: Consider choosing a committee of size k in a group of n people. We know that there are $\binom{n}{k}$ possibilities. But another way to choose the committee is to specify which $n - k$ people are *not* on the committee; specifying who is on the committee determines who is *not* on the committee, and vice versa. So the two sides are equal, as they are two ways of counting the same thing. \square

The algebraic way of checking the formula that they mention would look something like this:

$$\binom{n}{r} = \frac{n!}{(n-r)!r!} = \frac{n!}{(n-(n-r))!(n-r)!} = \binom{n}{n-r}$$

The contrast between the algebraic argument and Blitzstein's and Hwang's "story proof" suggest the following phenomenally contrasting cases:

[Inferential Basing] You are presented with the algebraic argument from the formula for combinations to the identity $\binom{n}{r} = \binom{n}{n-r}$. You judge that the identity is true because you see how it follows from the formula.

[Intuitive Grasping] You notice that choosing r items out n items to call "selected" is the same as choosing $n - r$ items out of n items to call "unselected." The labels are arbitrary and can be switched. You judge that $\binom{n}{r} = \binom{n}{n-r}$ because you see its truth intuitively.

Why not say that even without the intuition, the identity still does seem true to you but does so inferentially rather than intuitively? One could choose to talk this way, but I think it is needlessly misleading and will avoid it. If the inferential seeming represents a proposition as true, then it is the proposition *that the identity follows from the formula*, not the proposition *that the identity itself is true*.

The fourth and final characteristic of inferential seemings is (Passivity):

(Passivity) Seeing how a conclusion follows from some premises that you accept does not necessitate judging that the conclusion is true. Having an inferential seeming does

not necessitate making an inference or going through any other process that results in judgment.

To see the motivation for (Passivity), compare the [Clear Reasoning] case with another case, which I'll call [Disrupted Reasoning]:

[Disrupted Reasoning] You are presented with the argument (1) – (3)/ (4). All the steps are clear to you, and you see how (4) follows from (1) – (3), but you fail to judge that (4) is true because you are disrupted by someone calling your name.

[Clear Reasoning] and [Disrupted Reasoning] both include an inferential seeming in which you see how (4) follows from (1) – (3). The difference is that in [Clear Reasoning] the seeming results in a judgment that (4) is true, but in [Disrupted Reasoning] it does not. The disruption need not be external. Another possible contrast case is one in which you are disrupted by self-doubt. The main point is the same, and (Passivity) is one way to express it.

The fact that (Passivity) includes your accepting the premises relative to an inert inferential seeming is important. Compare (Passivity) with an alternative claim, namely: seeing how a conclusion follows from some premises does not necessitate judging that the conclusion is true. This is obvious in cases in which you do not accept the premises. (Passivity) is less obvious, but I think it is still plausible.

This concludes my presentation of the four normative and functional characteristics of inferential seemings. Each seems plausible to me on reflection, and I don't think any stands out as especially surprising. Collectively, however, they place significant constraints on theories of inferential seeming. None of the views suggested by current discussions of inference meet all these constraints. That is what I'll argue for now.

2. Views from the Literature on Inference

Giving a theory of the process of inferring is not the same as giving a theory of the experiences I'm calling inferential seemings. But many theories of inference imply, or at least naturally pair with, one or another view about inferential seemings. I'll discuss views that are explicit and views that are implicit in the literature on inference, without making much of the difference. There are three main kinds of view, which I'll call representational state views, conditional representation views, and action awareness views.

The basic idea that ties representational state views together is expressed in <Representational State>:

<Representational State> Seeing how a conclusion follows from some premises is appropriately representing some content to the effect that the conclusion follows from the premises.

<Representational State> is compatible with a broad spectrum of views about the nature of the appropriate representation. For example, it might consist in:

- Your justified belief that the premises make the conclusion probable (Fumerton 2004)
- Your awareness of the premises supporting the conclusion (Tucker 2012)
- Its seeming to you that inferring the conclusion from the premises is right relative to a rule (Broome 2014)

According to the representational state view that I find most attractive, seeing how a conclusion follows from some premises is intuiting that the conclusion follows from the premises. This is the view that results from identifying the appropriate representational state with having an intuition that the conclusion follows from the premises. I think this idea is part of the correct account of inferential seeming, but it is inadequate on its own.

In general, representational state views run into trouble with explaining the role that inferential seemings play according to (Basing). To see the trouble, let us suppose that seeing how C follows from P is intuiting that C follows from P. Then (Basing) implies that it is possible to respond to the intuition that C follows from P by forming a belief that C, which belief is thereby based on the support transmitted by P and P alone. But how exactly is that supposed to work?

Maybe anything can cause anything somehow or other. But it is not enough for the intuition to cause the belief in just any way. The causal process must count as you responding to the intuition. This is a rational activity. I will not try to analyze this notion. What matters for present purposes is that not just any causal process connecting to mental states counts as a rational activity.

Let us first consider some direct ways of responding to the intuition that C follows from P. You might agree with it, disagree with it, or suspend judgment over it. Agreement results in the belief that C follows from P. Disagreement results in the belief that C doesn't follow from P. Suspension results in no belief about whether C follows from P. None of these cases results in believing C itself, but that is what should happen if the intuition were playing the role described in (Basing).

There are also indirect ways of responding to the intuition that C follows from P, which do result in believing C itself. Here is a simple one: you agree with the intuition and thereby form the belief that C follows from P; you infer C from P and the new premise that C follows from P. This results in believing C itself, but the belief is not based in the right way. According to (Basing), it should be based on the support transmitted by P and P alone, not on the support transmitted by P and the new premise that C follows from P. Without adding this new premise, however, it isn't clear how the intuition is something you are responsive to when forming the belief in C.

Nothing in the foregoing depends on special properties of intuitions as opposed to other candidate representational states. Similar points could have been made about beliefs, states of awareness, and non-intuitive seemings. This is no surprise, since what I've been describing is one component in the engine that drives Carrollian regress worries. The other component is a higher order requirement on inference, that is, some requirement to the effect that inferences *must* be responsive to inferential seemings. When you put higher order requirements together with representational state views, then you get Carrollian regresses.

Regress worries aside, it doesn't look like representational state views are in a good position to accommodate (Basing). This conclusion is not meant to refute the claim that

inferential seemings do represent some content to the effect that a conclusion follows from some premises. It is meant to rule out views according to which this is all that they do. There must be more to their nature to accommodate (Basing).

The basic idea that ties conditional representation views together is expressed in <Conditional Representation>:

<Conditional Representation> Seeing how a conclusion follows from some premises is appropriately representing the conclusion, consequentially on appropriately representing the premises.

Conditional representation views are supposed to improve on representational state views because they describe subjects of inferential seemings as forming the appropriate conclusion beliefs and in a way that does not lead to regress. A few authors have recently developed accounts of inference that suggest something along the lines of <Conditional Representation>.

- Sinan Dogramaci introduces conditional intuitions, where “to have a conditional intuition is to be tempted, in a phenomenally conscious way, by certain existing considerations to believe a conclusion.” (2013; pg. 394)
- Michael Huemer introduces inferential appearances, “which, roughly, represent something to be true given, or in the light of, some other presumed truth.” (2016; pg. 149)
- According to Eric Marcus, a thinker’s inferences depend on their holding their beliefs in mind with a mode of understanding such that, the “thinker believes the conclusion because she must believe it, given what she already accepts as true.” (2020; pg. 312)

Note that in my formulation of the basic idea, I have used the phrase “consequentially on.” This is meant to express the result of meeting two conditions: (i) appropriately representing the conclusion, conditional on appropriately representing the premises; and (ii) appropriately representing the premises. To be views about inferential seemings, conditional representation views need such triggered conditional representations, since merely conditionally representing something does not suffice for being in a phenomenally conscious state.

As a group, conditional representation views run into problems with accommodating the role of inferential seemings described in (Justification).

The problem is this. For you to appropriately represent some conclusion C, consequentially on appropriately representing some premises P, is just for you to represent C in some way and for that representation to be caused by your representation of P. The specifics of the casual process don’t figure into the problem. (Justification) implies that seeing how C follows from P justifies believing that C follows from P. But it is not clear how representing C alone, in whatever form and because of whatever causes, will justify believing that C follows from P. For there to be justification, you need to represent somehow that C follows from P.

Huemer suggests that, as he understands them, inferential appearances do include having some attitude toward the proposition that C follows from P (Huemer 2016; pg. 152). That might be thought to help with (Justification). But it depends on how we understand the relevant attitude. On one understanding, the attitude is implicit in the dispositions in virtue of one appropriately represents C, conditional on appropriately representing P (cf. Leitgeb 2007

on conditional belief). However, it is not clear how such an implicit attitude could justify believing that C follows from P, especially given any view of justification along the lines of Huemer's own phenomenal conservatism. On another understanding, the attitude Huemer has in mind is just appropriately representing that C follows from P. Going with this understanding suggests that Huemer doesn't really have a conditional representation view. Representing "something to be true given, or in light of, some other presumed truth," is just representing that the first follows from the second. If this is the correct way to read him, then Huemer's view counts as a representational state view, and its main problem has already been discussed.

Aside from the common problem with (Justification), there are problems unique to different versions of conditional representation views. They hinge on the appropriate form of representation for the conclusion. Suppose with Dogramaci and Huemer that it is intuition, appearance, seeming or something along those lines. Then the resulting view doesn't just under generate justification. It also over generates justification. It is inconsistent with the claim I've called (Opacity).

(Opacity) implies that seeing how a conclusion C follows from some premises P doesn't justify believing C on its own merits. But intuiting, or having it appear or seem to one, that C presumably does justify believing C on its own merits. So conditional representation views that identify the appropriate form of representation for the conclusion with intuition, appearance, seeming, or something along those lines run afoul of (Opacity).

On the other hand, suppose with Marcus that the appropriate form of representation for the conclusion is belief. Then the view is inconsistent with the claim I've called (Passivity). (Passivity) implies that seeing how a conclusion C follows from some premises P doesn't necessitate believing C. But believing C, consequentially on appropriately representing P, does imply believing C. Marcus takes this to be a positive feature of his view, one that enables him to avoid Carrollian regress, but I think it is preferable to develop a view of inferential seeming that both avoids Carrollian regress and accommodates (Passivity).

Overall, then, I do not think that conditional representation views provide any real advantages over plain representational state views.

I'm calling the third and final group of views suggested by the literature on inference action awareness views. The basic idea that ties them together is <Action Awareness>:

<Action Awareness> Inferring a conclusion from some premises consists in performing an action. Seeing how the conclusion follows from the premises is being aware of what you are doing in performing this action.

The most straightforward version of <Action Awareness> identifies the action you are aware of with the action of making an inference. Seeing how a conclusion follows from some premises is just seeing yourself inferring the conclusion from the premises. This straightforward action awareness theory clearly runs afoul of (Passivity). It is possible for you to see how some conclusion follows from some premises you accept without inferring the conclusion from the premises. So, your inferential seeming cannot be identified with awareness of yourself inferring the conclusion from the premises.

The specific views in the current literature that suggest <Action Awareness>, however, do not take the straightforward form just dismissed. They are views that aim to illuminate the

nature of inference rather than take it for granted. Nonetheless, they all still run afoul of (Passivity). I'll briefly discuss the following examples:

- According to Boghossian (2014) and Broome (2014), inferring is following a rule of inference, such as:

R. If you accept P, then also accept C!

- According to Wright (2014), inferring C from P is the action of accepting C for the reason constituted by accepting P.
- According to Hlobil (2019), inferring C from P is the action of attaching what he calls inferential force to the argument, P therefore C.

Boghossian takes rule-following to be primitive. Broome develops an analysis.² Either way, inferring a conclusion C from some premises P amounts to accepting C because you accept P and follow rule R which tells you to accept C when you accept P. Plugging this into <Action Awareness> yields the view that seeing how C follows from P is being aware of yourself accepting C because you both accept P and follow R which tells you to accept C when you accept P. Perhaps there is some initial plausibility to this identification. Seeing how a conclusion follows from some premise is just seeing yourself drawing the conclusion from the premise in accordance with a rule. The plausibility, however, only attaches to the following implication of the view: if you see yourself drawing the conclusion from the premise in accordance with a rule, then you see how the conclusion follows from the premise. The view also implies a conditional going in the other direction: if you see how the conclusion follows from the premise, then you see yourself drawing the conclusion from the premise in accordance with a rule. But this is inconsistent with (Passivity).

One avenue left open to action awareness views is to isolate an action that is a proper part of inferring, and that falls short of judging. I have no knockdown argument against this idea, but I also do not know of any view that works out how it might go. Maybe Wright and Hlobil come close, but I think their views still run into problems with (Passivity). According to Wright (2014), inferring C from P is the action of accepting C for the reason constituted by accepting P. Plugging this into <Action Awareness> yields the view that seeing how C follows from P is being aware of yourself accepting C for the reason constituted by accepting P. Since this implies accepting C, it is inconsistent with (Passivity). According to Hlobil (2019), inferring C from P is the action of attaching what he calls inferential force to the argument, P therefore C. Plugging this into <Action Awareness> yields the view that seeing how C follows from P is being aware of yourself attaching inferential force to the argument, P therefore C. According to Hlobil's account, attaching inferential force to an argument implies judging that its conclusion is true. So, his view is also inconsistent with (Passivity).

² One element of Broome's analysis is seeming rightness. This element provisions his view with the resources of an alternative explanation of inferential seemings, one along the lines of a representational state view and already discussed above.

A second avenue left open to action awareness views is to endorse a disjunctive conception of inferential seeming. Perhaps inferential seemings are constituted by states of action awareness in cases in which one goes through with an inference, and they are constituted otherwise in cases in which one does not go through with an inference. I have no knockdown argument against this idea either, but it lacks any immediate plausibility. It is something to consider after exhausting other options.

The results of this section can be tabulated as follows:

		(Basing)	(Justification)	(Opacity)	(Passivity)
<Representational State>		X	✓	✓	✓
Non- Doxastic	<Conditional Representation>	?	X	X	✓
Doxastic				✓	X
<Action Awareness>		✓	?	✓	X

The “X”s represent problems that I have discussed. The “✓”s represent what I see as plausible successes. The “?”s represent open questions that I must set aside here. I’m not confident that conditional representation views can account for (Basing), nor that action awareness views can account for (Justification); but discussing these matters would take us off course.

3. The Indirect Command View

The alternative theory that I will sketch requires much more elaboration than I am presently able to give it. For now, I hope to make the general idea clear and give reasons to think it is workable. The point of departure is to borrow from speech act theory.

Speech act theory has been a fertile source of analogies for thinking about various kinds of experience. Consider perceptual experience and pain. A common thought about perceptual experience is that to have a perceptual experience as of your environment being a certain way is to be in an assertive mental state, one that asserts that your environment is that way.³ Taking a perceptual experience at face value is believing what it says about your environment. A more controversial but increasingly popular thought about pain is that to feel a pain in some part of your body is to be in a directive mental state, one that commands you to treat that body part in

³ See, for example, (Heck 2000), (Tucker 2010), (Reiland 2015).

certain ways, for example protectively.⁴ The function of a pain is to get you to act in the ways that it commands.

Inferential seemings are puzzling because they suggest conflicting analogies with speech acts. On the one hand, they suggest an analogy with assertions. Seeing how some conclusion follows from some premises is being in a mental state that tells you that the conclusion follows from the premises. This analogy nurtures representational state views. On the other hand, inferential seemings suggest an analogy with directives. Seeing how some conclusion follows from some premises is being in a mental state that commands you to infer the conclusion from the premises. This analogy captures what I think is plausible about action awareness views. Inferential seemings are essentially connected to mental actions such as inferring, not because they include performances of the actions, but because they command performances of them.

The puzzle, then, is to develop an understanding of inferential seemings on which they combine both aspects. The solution, I believe, is to draw on another idea from speech act theory. This is the idea of an indirect speech act.

Suppose a visitor enters a host's office, finds it too cold, and would like the host to lower the air conditioner. The visitor could make a direct request by uttering an imperative, such as "Please lower the air conditioner." Alternatively, the visitor could make the same request indirectly. One way to make the request indirectly is to utter an interrogative, such as "Can you lower the air conditioner?" or, "Is it me, or is it very cold in here?" Another way to make the request indirectly is to utter a declarative, such as "I am freezing" or, "I think you might have the air conditioner on too high." If the visitor makes their request in one of these indirect ways, then they have performed an indirect speech act. As Searle puts it, "In such cases a sentence that contains the illocutionary force indicators for one kind of illocutionary act can be uttered to perform, *in addition*, another type of illocutionary act." (Searle 1975)

The view of inferential seemings I want to defend is that they are directly assertoric mental states and indirectly directive mental states. More specifically, they are intuitions that indirectly command you to infer some conclusion from some premises by directly telling you that the premises support the conclusion.

Suppose you intuit that a set of premises P supports conclusion C. On its own this is like being told that P supports C. In this case the intuition is just an intuition. Provided the appropriate conditions are met however—conditions such as your endorsing P, your taking an interest in C, and your being rational—then, I suggest, that same intuition will also command you to infer C from P. The analogy with indirect speech is indicated by the following parallels:

Speech	Experience
Assert that I am freezing with the declarative, "I am freezing."	Being informed that P supports C by an intuition that P supports C
Conversational context	Cognitive context

⁴ See, for example, (Hall 2008), (Klein 2007), (Martinez 2011).

Indirectly request the air conditioner to be lowered by asserting that I am freezing with the declarative, "I am freezing."

Being indirectly ordered to infer C from P by being informed that P supports C by an intuition that P supports C

If the more familiar analogies between experiences and speech acts are legitimate, then I think the one I am proposing is too. The main reason to endorse the resulting view of inferential seemings is that it naturally explains their key functional and normative characteristics. This reason can be spelled out as follows.

Suppose you have an intuition that represents that C follows from P and thereby indirectly commands you to infer C from P. Because your experience is an intuition representing that C follows from P, your experience will exhibit the characteristics expressed by (Justification), (Opacity), and (Passivity). If you intuit that C follows from P, then: you thereby have justification for believing that C follows from P; you do not thereby have justification for believing C on its own merits; and you do not thereby form a belief in C. Because your experience commands you to infer C from P, your experience will also exhibit the characteristic expressed by (Basing). (Basing), recall, is stated as follows:

(Basing) If you draw a conclusion because you see how it follows from some premises, then your belief in the conclusion is thereby based on the support transmitted by those premises alone. Ignoring alternative, independent bases, your belief in the conclusion is based on the support transmitted by the premises alone.

Suppose seeing how some conclusion follows from some premises includes being ordered to infer the conclusion from the premises. Then drawing the conclusion because you see how it follows from the premises is just following the order. But the order was precisely to infer the conclusion from the premises, not to infer the conclusion from the premises and something else. So, if you do what you are ordered to do, you will have thereby formed a belief in the conclusion that is based on the support transmitted by the premises alone.

From the foregoing, we can conclude that an intuition that represents that C follows from P, and thereby indirectly commands you to infer C from P, will exhibit the key normative and functional characteristics of the inferential seeming that is seeing how C follows from P. Absent any better ideas, this gives us reason to identify inferential seemings with intuitions that indirectly command inferences.

The main challenge to this view of inferential seeming is that none of the familiar models of indirect speech acts illuminates how it might work. There are different models of how one speech act can be indirectly accomplished by means of directly performing another speech act. But none of them suggests a plausible answer to the question of how an intuition can indirectly command performing an inference by directly asserting that the conclusion follows from the premises. The details of the different models do not really matter. Their unsuitability can be appreciated from a distance.

Suppose a visitor indirectly requests their host to lower the air conditioner by directly asking a question, "Can you lower the air conditioner?" Here are some different views about how the indirect request is accomplished.

Conversational Implicature (Searle 1975)	The host infers that the visitor made the request from the fact that the visitor asked the question
Convention of Usage (Morgan 1977)	The visitor exploits a convention for making such requests by asking such questions
Ambiguity (Lepore and Stone 2014)	The interrogative is ambiguous; linguistic competence enables it to be used for requests in addition to questions

Suppose you have an intuition representing that C follows from P and thereby commanding you to infer C from P. If you had to infer the command, then there would be a threat of Carrollian regress. Clearly no convention applies in this case. And ambiguity would seem to require that the intuition have an identity independent of it representing that C follows from P, so that this representational reading would count as one of two equally admissible interpretations. A potential alternative to these inapplicable models is Millikan's (1995) model of pushmi-pullyu representations. These are representations that function to both describe and direct. So, they do function as inferential seemings should. The problem, however, is that on Millikan's view pushmi-pullyu representation have this dual function because they are more primitive than purely descriptive or purely directive representations. Pushmi-pullyu representations do not direct because they describe; they direct and describe because they operate at a representational level that is prior to the differentiation between these two functions. Intuitions about what follows from what, however, are manifestations of higher rational capacities.

On the model I prefer, when your intuition that conclusion C follows from premises P commands you to infer C from P, it is an instance of the more general phenomenon whereby the nature of a partial phenomenal state is fixed by the total phenomenal state to which it belongs. Consider the following visual example from Stephen Palmer (1990):

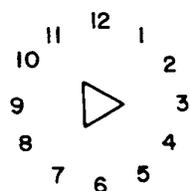


Figure A



Figure B

The triangle in Figure A can be seen as pointing to 3 o'clock, 7 o'clock, or 11 o'clock with equal force. There is strong pressure to see the middle triangle in figure B, however, as pointing in the 3 o'clock direction. The difference between how the triangle in Figure A and the middle triangle in Figure B are experienced is due to what else is experienced with them. The natures of the partial visual states are fixed by the total visual states to which they belong. My suggestion is that if an intuition that C follows from P is experienced in the appropriate context of other experiences, it will be experienced as commanding you to infer C from P. Like the triangle in Figure A, a mere intuition that C follows from P does not point you in any particular inferential direction. Like the middle triangle in Figure B, an intuition that indirectly commands you to infer C from P does point you in a particular inferential direction. The relevant context in the

intuition case will be primarily cognitive. For an intuition that C follows from P to indirectly command you to infer C from P, you'll likely need to experience P as a commitment, take some interest in C, not be aware of defeating considerations against C, etc. I readily admit to not being able to spell these conditions out with any confidence. Spelling out the principles governing perceptual organization is an ongoing empirical endeavor. We should expect it to take at least as much effort to spell out principles governing the organization of conscious cognition. The main points I want to make here are that there is such an organization, and it is a plausible candidate for being the explanation of how a descriptive experience constitutes a directive experience.

As warned at the beginning of this section, there's a demand for elaboration that I'm not presently able to meet. Still, I hope I've given sufficient reason to think the view I've sketched is more promising than the alternatives to be found in the literature on inference. I'll conclude by briefly considering how the indirect command view bears on some of the main philosophical concerns that have driven this literature.

4. Principles Governing Inference

The philosophical concerns I have in mind are about those general principles governing inference I mentioned at the beginning of the talk. The first principle is Fumerton's Principle of Inferential Justification:

"For one to be inferentially justified in believing P on the basis of E one must *be justified in believing* that E makes probable P (where entailment can be viewed as the upper limit of making probable) or, alternatively, that the inference from E to P is sanctioned by a correct epistemic rule" (Fumerton 2004).

The second principle is Boghossian's Taking Condition:

"Inferring necessarily involves the thinker taking his premises to support his conclusion and drawing his conclusion because of that fact." (Boghossian (2014).

The main observation I want to make is that one way for an inference to satisfy both Fumerton's principle and Boghossian's principle is for it to be made in response to an inferential seeming as I have construed them.

Suppose you intuit that conclusion C follows from premises P and are thereby indirectly commanded to infer C from P. Responding to this inferential seeming is doing what it tells you do to, namely inferring C from P. Suppose this occurs. Since intuiting that C follows from P is a way of taking P to support C, the resulting inference satisfies Boghossian's Taking Condition. Intuiting that C follows from P justifies believing that P makes probable C. So, the resulting inference also satisfies Fumerton's Principle of Inferential Justification. It is worth pointing out that intuiting that C follows from P can justify believing that P makes probable C, even if you do not go on to form that belief and even if forming that belief is not what the intuition calls for on the occasion, since it functions to direct rather than describe.

It follows that it is at least possible for Fumerton's and Boghossian's principles to be true. Some opponents of the principles challenge them on the basis of the worry that they lead to Carrollian regress. Since inferential seemings do not lead to Carrollian regress, however, one way for the principles to be true is for all inferences to be responses to inferential seemings.

But one might reasonably doubt that all inferences are in fact responses to inferential seemings. Some inferences might occur on autopilot. Suppose, then, it turns out that only some inferences are responses to inferential seemings, and suppose further that Fumerton's and Boghossian's principles are only true for those inferences. Would there be any interest in picking out this subset of inferences for special scrutiny? I think there would be. Inferences that satisfy Fumerton's and Boghossian's principles because they are responses to inferential seemings possess a distinctive transparency. Making such an inference includes consciousness of what one is doing in making such an inference. It may be that as a matter of fact in much of our epistemic life we remain obscure to ourselves, but that does not diminish the value of transparency. Transparency is worth pursuing both for knowing oneself and being able to make oneself known to others.

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