

THE MOTIVATIONAL THEORY OF INFERENCE

Marc A. Moffett

UNIVERSITY OF TEXAS, EL PASO

mamoffett@utep.edu

<https://www.marcmoffett.com/>

Preliminaries

It is now commonplace in action theory to distinguish between two “kinds” of reasons, motivating (explanatory) reasons and normative reasons.

Motivating Reasons: Reasons that explain why someone ϕ -ed (where ϕ is some *action* that person performed).¹

Normative Reasons: As standardly explicated, these are reasons that account for why someone should or should not ϕ (things that “count in favor of or against” ϕ -ing).

The Traditional View is that these two kinds of reasons are of different ontological types. Specifically, motivating reasons are intentional cognitive states while normative reasons are propositions (or corresponding states of affairs).

More recently, however, an ontological unity thesis has become ascendent. According to the Unity Thesis, both motivating and normative reasons are of the same ontological category. Here, in a nutshell, is Dancy’s (2000) well-known argument for this claim:

1. If a motivating reason for ϕ -ing were of a different kind from a normative reason to ϕ , then no one could ϕ for a good reason.
2. People can ϕ for good reasons.
3. So, a motivating reason for ϕ -ing must be of the same ontological kind as a normative reason to ϕ .

But the Unity Thesis leads to a kind of philosophical conundrum. On the one hand, it is immensely *prima facie* plausible that motivating reasons are psychological states; indeed, non-factive psychological states. On the other hand, it is also immensely plausible that normative reasons are not psychological states, but rather the sorts of things that can be invoked in logical and practical reasoning in support of ϕ -ing. And it is standardly thought that what is invoked in reasoning are propositions (or, perhaps indirectly,

¹ Appeal to motivations (motivating reasons) is, I will assume, a species of psychological explanation. So motivating reasons are a species of explanatory reasons; there is no need to invoke a third type of reason, explanatory reasons.

facts/states-of-affairs). Consequently, any philosopher who takes her cue from the naïve ontology of motivating reasons, will find herself hard pressed to explain how psychological states can serve as normative reasons. Similarly, any philosopher who takes her cue from the naïve ontology of normative reasons, will find herself hard pressed to explain how propositions (or states-of-affairs) can serve as motivating reasons. (The *schadenfreude* of disunity theorists is palpable.)

In this talk I will lay out a partial defense of psychologism. In Part I, I argue for a priority thesis concerning motivating and normative reasons to the effect that the theory of normative reasons presupposes and is beholden to a prior theory of motivating reasons. If correct, this provides strong *prima facie* reason to accept psychologism about reasons. In Part II, I will argue that this *prima facie* case is bolstered by the fact that a plausible theory of inference (the act of inferring) due to Frege and Boghossian, requires at least some of our reasons to be psychological states. This view, which I dub the Motivational Theory of Inference, analyzes inference in terms of motivating psychological states. I further argue that there is no plausible “de-psychologized” treatment of inference (e.g., in terms of enabling conditions) along these lines. Finally, in Part III, I develop the Motivational Theory in a way that respects the Unity of Reasons Thesis, and so gives an account of how psychological states in inference count as normative as well as motivating reasons.

I. The Ontological Priority of Motivating Reasons

Reasons, as we have seen, are invoked to answer two different questions: (1) An explanatory question concerning the nature of motivating reasons, and (2) an evaluative question concerning the nature of normative reasons. In this section, I argue that the explanatory question is theoretically prior to the evaluative question in the sense that an answer to the normative question presupposes an answer to the explanatory question. Call this The Priority Thesis. If this is correct, then given the Unity of Reasons, it follows that the normative project is determined by the answer to the explanatory project – at least as far as the ontology of reasons goes. Here is how the Priority Argument goes:

1. The Priority Thesis: An answer to the normative question about reasons presupposes an answer to the explanatory question.
2. The Unity of Reasons: Motivating and normative reasons are of the same ontological type.
3. Therefore, the question concerning the nature of reasons (both normative and motivating), is settled by answering the explanatory question.

For the purposes of this talk, I am going to assume that the arguments for the Unity of Reasons are successful. Why then should we accept the Priority Thesis? The answer can be seen most explicitly by considering Williams's (1981 [1979]; see also Mitova 2015), rather than Dancy's, argument for Unity:

1. Modified Ought Implies Can (MOIC): r is a normative reason for S to ϕ only if r can be a reason for which S ϕ -s
2. r can be a reason for which S ϕ -s only *iff*_{def} r can be a motivating reason for S to ϕ
3. So, r is a normative reason for S to ϕ only if r can be a motivating reason for S to ϕ
4. But if r can be both a normative reason and a motivating reason for S to ϕ , then normative and motivating reasons (at least sometimes) can be the same kind of thing.

Williams's reliance on (MOIC), seems to commit us to the Priority Thesis. Indeed, we can think of the Priority Thesis as effectively the converse of this principle:

- If r cannot be a reason for which S ϕ -s, then r is not a normative reason for S to ϕ

This converse principle effectively restricts the range of normative reasons to a (possibly proper) subset of motivating reasons.

So, why accept the MOIC? The intuition is that in order for something to be a reason for me to act thus-and-so, that thing must in some broad sense be able to motivate me to act that way. More explicitly,

1. Suppose that S cannot act on r (i.e., r cannot be a reason for S to ϕ)
2. If S cannot act on r , then S's behavior could not in principle be motivationally explained by appeal to r .
3. If S's behavior could not in principle be motivationally explained by appeal to r , then r is wholly external to S's agency
4. If r is wholly external to S's agency, then r cannot be used to evaluate S's actions normatively.
5. If r cannot be used to evaluate S's actions normatively, then r cannot be a normative reason for S to ϕ
6. Therefore, r cannot be a normative reason for S to ϕ

If correct, MOIC establishes (together with the Unity of Reasons) that we can settle the ontology of reasons debate by focusing on what constitutes the best general theory of motivating reasons. But this result has an important dialectical upshot: Settling the ontology of motivating reasons not only settles the ontology of normative reasons, but also constrains the open possibilities for explaining how normative reasons justify corresponding actions/beliefs. In other words, Priority + Unity together entail that our theory of justification is significantly beholden to our theory of motivation. Moreover, as stated at the

beginning, I think that on this score psychologism has a clear upper hand. Consequently, I take the Priority Argument to give us a *prima facie* reason to accept psychologism about reasons.

II. Inference & Psychologism about Reasons

Let's begin by considering a simple inference (borrowed from Boghossian 2019). On waking up one morning I recall that:

1. It rained last night.

I combine this with my knowledge that

2. If it rained last night, then the streets are wet.

to conclude:

3. The streets are wet.

I take it to be clear that inferences of this sort are a kind of *cognitive action* and not merely a *cognitive happening*. Specifically, it is a *judgment* – it is to judge that (3) on the basis of (1) and (2). Frege and Boghossian agree:

“To make a judgment because we are cognizant of other truths as providing a justification for it is known as *inferring*” (Frege 1979)

“S’s inferring from p to q is for S to judge q because S takes the (presumed) truth of p to provide support for q” (Boghossian 2014).

There are two points worth making about this proposed view of inference: (1) The “because” in these cases indicates that the items listed constitute the subject’s motivating reasons (at least *prima facie*). For this reason we might call it **The Motivational Theory of Inference (or MTI)**. And (2) the MTI invokes psychological states as motivating reasons for the inference/judgment:

- Frege: The subject is cognizant of a justificatory relation between propositions, and (arguably) calling the premises “other truths” indicates that they are beliefs or assertive representations of some kind (otherwise we have to uncharitably claim that Frege thought that we can only infer from truths).
- Boghossian: The taking relation is clearly a psychological state and saying the premises are “(presumed) truths” again indicates that they are beliefs or assertive representations of some kind.

If the Frege/Boghossian view is correct, therefore, my motivating reasons for judging (3) that the streets are wet are:

- I believe (1) it rained last night, and

- I believe (2) if it rained last night, then the streets are wet, and
- I take (1) and (2) to adequately support (3).

Since these items, viz., believing and taking, are psychological states, this plausible analysis of inference reinforces the previous conclusion in favor of psychologism about reasons.

Logicians, however, will want to resist this easy conclusion by (to use Dancy's phrase) proposing a "non-psychologized" analysis of inference. But I will now argue that this is inadequate. Here is the non-psychologized counterpart of the MTI:

S's inferring from p to q is for S to judge q because p provides support for q and p

In the logicist version of the MTI, my motivating reasons for judging (3) that the streets are wet are not psychological states, but rather their contents:

- (1) it rained last night, and
- (2) if it rained last night, then the streets are wet, and
- (1) and (2) to adequately support (3).

It is obvious (as the logicist will readily concede) that this unadorned account of my judging (3) is inadequate as it stands. For, if I don't believe that it rained last night or if I don't take (1) and (2) to adequately support (3), then appealing to these facts to explain my judging is pointless.

To avoid this concern, the go-to move of logicians has been to appeal to psychological states as background enabling conditions. Here is Dancy:

"There is a difference between a consideration that is a proper part of an explanation, and a consideration that is required for the explanation to go through, but which is itself not a part of the explanation. I call the latter 'enabling conditions'" (Dancy 2000)

The ideas, as applied to the case of inference, is that the psychological states invoked in the MTI aren't genuinely a part of the explanation (so not motivating conditions) but are background conditions required for the explanation. Dancy makes the same (or a very similar) point in terms of an appositive account:

"This hears 'He is doing it because he believes that p' as 'He is doing it because p, as he believes'. The 'as he believes' functions paratactically here, attaching itself to the 'p'. Again, it is not part of the specification of his reason That explanation specifies the features *in the light of which* the agent acted" (Dancy 2000).

This appeal to enabling conditions has the whiff of *ad hoc-ness*. Nevertheless, in the present context I think we can bring out why that is in a particularly forceful way. To do so, it is important to recognize that Boghossian's taking relation cannot plausibly be read simply as a belief relation. That is, my taking p

to support q cannot be read as me believing that p supports q . Without belaboring the point, the reason is that if we do this, the way in which such a belief would fit into the inference is as an additional premise. But in that case, we are led into Carroll's Regress (Carroll 1895) – requiring a new taking relation to hold between the old premises plus the new one and the conclusion. And so on.

So how should we understand the taking relation? As a first step, let's assume that the taking relation is a kind of seeming, so that our explanation runs as follows: My motivating reasons for judging (3), that the streets are wet are:

- I believe (1), it rained last night, and
- I believe (2), if it rained last night, then the streets are wet, and
- It seems to me (1) and (2) adequately support (3).²

Seemings play a fundamentally different epistemic and cognitive role than belief and other assertive attitudes. Specifically, seemings are not acceptances but rather they *present* their contents as true (or as obtaining) and since they are happenings, not actions, they do not themselves admit of justification (Bengson 2015; Chudnoff 2013; for a non-phenomenological account of presentationality see Moffett forthcoming).

I will return to seemings in more detail shortly, for now it is enough to grant that seemings are fundamentally different from beliefs in roughly the ways indicated. In order to carry out Dancy's logicist rephrasing of inference, it is necessary to treat both kinds of attitudes – beliefs and seemings – as enabling conditions. But doing so, requires us to invoke the differences between these states in a way that undercuts their status as mere background conditions. Call this the Argument from Mixed Attitudes:

1. Even with beliefs and seemings as enabling conditions, the non-psychologized contents cannot explain the inference unless we specify which ones are belief contents and which are seemings contents.
2. But if we must specify which ones are belief contents and which are seemings contents, then those states aren't merely enabling conditions but figure substantively into the explanation itself.
3. Therefore, beliefs and seemings are not mere enabling conditions but figure substantively into the explanation itself.

The animating thought here is that treating attitudes as explanatory background conditions is (or can be made to seem) plausible only if their function is relatively banal and uniform. Dancy puts it this way: "It is required for this sort of explanation [in terms of motivations] that those features [truths, facts] be

² Huemer 2016 calls these "inferential seemings". My own view (Moffett forthcoming) is that they are intuitions involved in concept application.

present to the agent's consciousness ... It is not required, however, that the nature of the agent's consciousness itself either constitute, or even be a part of, the *explanans*."

The Argument from Mixed Attitudes shows that Dancy's claim is incorrect. The specific cognitive relation the inferring agent stands to each content is essential for the explanation to make sense. These attitudes play specific and distinctive roles without which the explanation is inadequate. This feature is not eliminated, but masked, in single attitude explanations. As we have seen, the MTI is a motivational theory: In effect, an inference is a judgment having a certain motivational structure. This motivational structure involves "mixed attitudes", specifically a mixture of assertive (beliefs) and presentational (seemings) attitudes and that these attitudes play crucially different explanatory roles.

III. The Motivational Theory of Inference

I think that MTI as developed by Boghossian is on the right track. Nevertheless, Boghossian errs by adopting an overly simple approach to the taking condition. Specifically, he treats taking as a single, unified attitude. I will argue that what is required of the taking condition is more complex than this proposal suggests.

If we treat the taking relation as a seeming then, in Simple Inference (above), we get:

- It seems to me that (3) is adequately supported by (1) and (2).³

But what does that get us? If we accept some version of moderate dogmatism (Pryor 2000, Huemer 2001, etc.) then we get justification for the belief that (3) is adequately supported by (1) and (2). But this latter belief doesn't appear to help because, as already noted, it looks to just give us another premise and we are off on Carroll's Regress.

But this objection from Carroll's Regress works only if the seeming (or belief) is understood to function as a further premise in the inference. A different diagnosis of the problem is that the way we represent arguments in premise-conclusion form misleads us about how inferences work. We presuppose that inferring involves a direct cognitive transition from acceptance of the premises to acceptance of the conclusion. But this is, I submit, a mistake. The intuition that (3) is adequately supported by (1) and (2) doesn't function by generating a belief that adds a premise to an argument, but rather by enriching our cognitive context in a way that generates *another* intuition.

To explain this proposal, let me start by distinguishing between two types of seemings, basic and dependent.

³ One need not suppose that this is a general intuition about the validity of *modus ponens*, which might raise concerns about over-intellectualization. Instead, it should be understood as an intuition specifically about this case.

Basic seemings: Basic seemings are seemings whose occurrence and epistemic significance is independent of any overt antecedent representational states.

For example, if it perceptually seems to me that here is a hand, then – as moderate dogmatism suggests – my believing that here is a hand enjoys some *prima facie* justification (absent defeaters). According to moderate dogmatism, basic seemings yield foundational justifications; they are regress-stoppers.

Inference, of course, is paradigmatically non-foundational. But, I propose, there is a second kind of seeming that is at play in inference:

Dependent seemings: Dependent seemings are seemings whose occurrence and epistemic significance depends (in part) on overt antecedent intensional states.

Letting R be those antecedent representational states (the premises) and letting p be the content of the seeming, I will say that it seems to S that p *modulo* R .

So, dependent seemings are seemings that occur *modulo* some (overt) representational states. But representational states can be either assertively held or suppositionally held. For instance, in most philosophical “thought experiments”, the representational states are held suppositionally. We do not believe in the Gettier cases that there is such a situation, G , as described in the cases. We merely suppose that there is. (Though normally we have the intuition that the situation is logically possible.) Furthermore, in such cases, when it seems to us that Smith doesn’t know (*modulo* G), we don’t come to believe that Smith doesn’t know. At most we conclude that in G , Smith (a dummy person) wouldn’t know.

However, if we go out into the world and “find a Gettier case”, then we assertively represent G . That is, in real world Gettier cases (or cases we take to be real world), when it seems to us that Smith doesn’t know (*modulo* G), we may come to believe that Smith doesn’t know. But this belief is not inferential. It is, instead, based on an intuition about the applicability of a concept, the concept of justification or knowledge (Bealer 1992; Moffett forthcoming). As we will see, this distinguishes it from inferential cases.

So, there are two kinds of dependent seemings: (1) Suppositionally dependent seemings: it seems to S that p *modulo* $\neg R$ (deliberately psychologizing Frege’s content symbol); and (2) assertively dependent seemings: it seems to S that p *modulo* $\vdash R$ (deliberately psychologizing Frege’s assertion symbol). These two kinds of dependent seemings have different doxastic effects. Specifically, only assertively dependent seemings license us to accept something (judge, form a belief) on the basis of the content of the seemings. My claim is that inference is a form of judgment based on an assertively dependent seeming. In Simple Inference, for example, I judge that the streets are wet because it seems to me that the streets are wet is justified *modulo* \vdash [It rained last night, If it rained last night, the streets are wet, (1) and (2) support (3)]. Notice here that the content of my seeming is that a certain proposition, the

streets are wet, is justified while the content of the resulting belief is simply that the streets are wet.⁴ Here, more specifically, is the proposal: When I consider whether R adequately supports p, I have the intuition that it does. This generates the belief that R adequately supports W. This cognitive context then serves as an activation condition for the intuition that p is justified. That is, it seems to me that p is justified modulo my belief that R and my belief that R supports p. Call the intuition that p is justified, the justification intuition. I respond to the justification intuition I come to believe W. Generalizing:

The Motivational Theory of Inference (Reformulation)

S's inferring from p to q is for S to believe q *because* it seems to S that q is justified *modulo* (S's belief that p and S's belief that p supports q)

For my belief to be the result of an inference, the justification intuition must be generated in part by the belief that p supports q. This is the distinguishing feature of an inference and accounts for the claim in MTI that S believes q *because* S takes p to support q. In the present proposal, the taking relation is cashed out as the belief relation. This seems right. Taking is most naturally understood as an assertive apprehension. But this doesn't lead to Carroll's Regress because neither it nor the other propositions "play the role" of premises as we would ordinarily think of them. Instead, they serve to generate an intuition which, in turn, generates the relevant belief.

While this may at first blush seem counterintuitive, this can be undercut by considering the distinction between the theory of inferring as a cognitive action and a theory of inference as the study of consequence relations in contemporary logic (see, e.g., Smith 2009). While it is perhaps natural to think that the connection between the two is tighter than that suggested above, I know of no argument that this must be so. Moreover, the theory of inferring on offer essentially embeds the theory of logic. After all, it says that the justification intuition must be generated by a belief that the premises support the conclusion.⁵

⁴ It is commonplace to state moderate dogmatism in terms of content identity: If it seems to *x* that p, then yada yada, *x* has some justification for believing that p. But this identity is neither necessary nor sufficient for the fittingness of such judgments. For instance, it may be fitting to judge certain simple logical entailments of the contents of our seemings rather than the contents themselves. If it perceptually seems to me that p and q, it may be fitting for me to judge (merely) that q if that happens to otherwise be the object of my cognitive focus. Or it may be that it is fitting for me to judge some existential generalization of the content of my seeming as, for example, when I judge that there are deer in the field upon seeing one specific deer. Conversely, it may be inappropriate to judge that p, where p is a detailed or specific content of a seeming. This is the sort of phenomenon that arises in the so-called speckled hen problem (Fumerton 1995). An account of how beliefs arise from seemings is sketched in Moffett (forthcoming b) and fully developed in Moffett (unpublished ms).

⁵ It is not essential that this belief be caused by the support intuition. Perhaps the belief is, instead, based on testimony. This doesn't affect the theory of inference. Plausibly, however, it marks the distinction between following an inference and understanding it.

The final question to address is how justification gets *transmitted* on this model. There is a temptation for the moderate dogmatist to rely on the justificatory power of seemings. But it is not, as it stands, adequate since it fails to accurately calibrate the degree of justification of the resulting belief to the degree of justification of the premises.⁶ This arises from the fact that moderate dogmatism doesn't *transmit* the justification of the premises to the conclusion but, rather, *generates* its own, independent justification. This is the intended function of moderate dogmatism, but it is inappropriate for inferentially justified beliefs.

What is needed is, rather, a principle that specifies the degree of justification of S's belief in q occurring on the right-hand side of the conditional. It follows from probability logic that the uncertainty of the conclusion of a (deductively) valid argument cannot exceed the uncertainty of the sum of its premises (e.g., Adams 1998). This result might be co-opted to provide a lower bound for the degree of justification provided for the resulting belief. And similar considerations might be used to provide an upper bound. Other approaches here might also be useful. But unfortunately, I will have to leave the discussion there.

References

- Adams, E. 1998. *A Primer of Probability Logic*. New York: Cambridge
- Bealer, G. 1992. The incoherence of empiricism. *Proceedings of the Aristotelian Society, Supplementary Volume*, **66**: 99-138
- Bengson, J. 2015. The intellectual given. *Mind*, **124**: 708-760.
- Boghossian, P. 2014. What is inference? *Philosophical Studies*, **169**: 1–18
- . 2019. Inference, agency, and responsibility. In Jackson & Jackson (Eds.), *Reasoning*. New York: Oxford
- Carroll, L. 1895. What the tortoise said to Achilles. *Mind*, **4**: 278-280.
- Chudnoff, E. 2013. *Intuition*. Oxford: Oxford University Press
- Dancy, J. 2000. *Practical Reality*. New York: Oxford.
- Frege, G. 1979. Logic. In *Posthumous Writings*. Chicago: University of Chicago Press.
- Fumerton, R. 1995. *Metaepistemology and Skepticism*. Rowman & Littlefield.
- Huemer, M. 2001. *Skepticism and the Veil of Perception*. Rowman & Littlefield.
- . 2016. Inferential appearances. In Coppenger & Bergmann (Eds.), *Intellectual Assurance*. New York: Oxford.

⁶ I am using the terminology of “degree of justification” informally as a stand in for how strong the justification is.

- Mitova, V. 2015. Truthy psychologism about evidence. *Philosophical Studies*, **172**: 1105–1126
- Moffett, M. A. forthcoming a. *The Indispensability of Intuition*: Cambridge Elements in Epistemology. New York: Cambridge
- . forthcoming b. Action-theoretic foundations for epistemology. *Southwest Philosophical Studies*
- . unpublished ms. Basic epistemic reasons: An action-theoretic proposal.
- Pryor, J. 2000. The skeptic and the dogmatist. *Noûs*, **34**: 517-549.
- Smith, N. 2009. Frege's judgement stroke and the conception of logic as the study of inference not consequence. *Philosophy Compass*. <https://doi.org/10.1111/j.1747-9991.2009.00219.x>
- Williams, B. (1981 [1979]). Internal and external reasons. Reprinted in *Moral Luck*. New York: Cambridge.