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Judgment's aimless heart

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Abstract

It's often thought that when we reason to new judgments in inference, we aim at believing the truth, and that this aim of ours can explain important psychological and normative features of belief. I reject this picture: the structure of aimed activity shows that inference is not guided by a truth-aim. This finding clears the way for a positive understanding of how epistemic goods feature in our doxastic lives. We can indeed make sense of many of our inquisitive and deliberative activities as undertaken in pursuit of such goods; but the evidence-guided inferences in which those activities culminate will require a different theoretical approach.

> "How will you aim to search for something you do not know at all? If you should meet with it, how will you know that this is the thing that you did not know?"
>
> —Plato, *Meno* 80d

1 | INTRODUCTION: THE TRUTH-AIMED PICTURE OF INFERENCE

At 5:04 p.m. local time, when I asked her, my friend Winifred had no opinion on whether she'd be able to pick up some gin for the fancy little dinner party I was throwing. She wasted no time, though: before 5:05 had swung around, she'd reasoned her way to a fresh new belief. First, she paused for a moment to consider. Next, she recalled some relevant beliefs she already had: "It's Sunday today," she thought. "Stores here don't sell liquor on Sundays." Then came the crucial

further step, the inference. On the basis of her pre-existing beliefs, Winifred formed a new one: "So, I can't buy gin today." This paper is concerned with that final step. What was Winifred up to, when she drew her conclusion? What are any of us up to, when by inference we pass from non-belief to belief?

Here's a popular proposal: inference is something we do in pursuit of an aim, the aim of truth. This is a version of Bernard Williams' (1973, p. 148) claim that "belief aims at truth," but it puts a particular interpretation on that rather gnomic dictum: the view I'm interested in says that *we ourselves* aim, in our believing, at believing truly. Sometimes philosophers claim that we necessarily have this aim whenever we form a belief at all, that to believe something just is "to regard it as true with the aim of thereby accepting a truth" (Velleman, 2000, p. 247), or that "believing that *p* essentially involves having as an aim to believe *p* truly" (Steglich-Petersen, 2009, p. 395). Sometimes the claim is made more narrowly about the kind of occurrent mental affirmation that is a judgment.[1] Shah and Velleman (2005, p. 531, n. 21) write that judgment, as the believer's "attempt to affirm *p* only if *p*," is distinguished by "the intention with which it is made," and Sosa likewise says that in judgment "one constitutively aims at *getting it right* on the question addressed" (2015, p. 53, cf. 2021, p. 23). Still other writers restrict the truth-aim further yet to the inferential judgments we make in conscious reasoning, the sort of thing we saw Winifred doing: if you're making an inference like that, at least, it must be the case that "you *aim* at forming a belief with a specific feature: a true belief or one that is supported by the available evidence" (Horst, 2021, p. 221; see also McHugh & Way, 2018, p. 180; Boghossian, 2018, p. 62). In order to give my argument maximum applicability, therefore, I will target this restricted category of inferential judgment, the stronghold of the truth-aimed picture: even here, I will argue, the picture is wrong. The problem isn't just that we don't always or necessarily aim at the truth in inference.[2] Rather, we don't do so at all—at least, not rationally. Our aim at truth is, to be sure, a noble one, and of no mean importance. It animates the ubiquitous activities of inquiry, from question-asking to data collection to the attentive consideration of evidence. The transition to belief itself, however, reveals a structure different in kind. In inference, at the core of theoretical reason, we find an aimless heart.

My argument for this claim is organized around two premises and a conclusion to be drawn from them:

> DOXASTIC CONSTRAINT: If someone rationally aims, in φ-ing, at ψ-ing, then her φ-ing is based on a doxastic state that represents φ-ing as a means to ψ-ing.
>
> MEANS-END GAP: When a reasoner infers that *p*, her inferring it is not based on a doxastic state that represents believing *p* as a means to believing the truth.

Therefore,

[1] Here I mean to pick out the phenomenon of judgment in as neutral a way as possible—in particular, without building the truth-aim into it. Judgment is an occurrent affirmation with a distinctive, belief-like commitment to the truth of what's affirmed, which often amounts to the formation of a belief (or perhaps to belief itself in its occurrent form). See Williamson (2000, p. 238), Shah and Velleman (2005, p. 503), Sosa (2015, p. 66), Boyle (2011, p. 11), Jenkins (2018, p. 15), and Peacocke (ms). Thanks to an anonymous referee for pushing for clarity here.

[2] From here on out, when I speak simply of "inference," I mean to refer to the personal-level, belief-forming inferential judgments picked out just above.

ALETHIC AIMLESSNESS: When a reasoner infers that *p*, she does not rationally aim, in inferring it, at believing the truth.

The argument is valid. In what follows, I defend each of its premises in turn (§§2–3), and distinguish my challenge from other worries raised in the literature (§4). Then I offer a positive account of how our aim at true belief does manifest in and around our reasoning, in a way consistent with ALETHIC AIMLESSNESS (§5). There's no denying the importance of the truth-aim, or of the investigative activities it structures; but, if I'm right, that's only a part of the story of belief-revision. Inference has its own tale to tell.

Why does that matter? My conclusion contradicts a common view in epistemology, but its consequences go further than that; for our putative truth-aim in judgment has been assigned a full agenda of explanatory tasks. Three explananda are especially important: (1) our inability to believe things at will, (2) the correctness of true belief and incorrectness of false belief, and (3) the normative power of evidence to rationalize belief.[3] It has been argued, first, that the truth-aimed picture makes sense of the limits on our doxastic control. For suppose that, in believing, we necessarily aim at the truth. Well, as Velleman writes, "believing a proposition at will would entail believing it without regard to whether it was true, and hence without the aim requisite to its being a belief" (Velleman, 2000, p. 244; cf. Williams, 1973, pp. 148–51; see also McHugh & Way, 2018, p. 179; Shah, 2003; Shah & Velleman, 2005; Steglich-Petersen, 2006). For agents to aim at the truth *and* not aim at it is logically impossible, so it's no wonder we don't find them doing it much. Second, agents' aims often establish success and failure conditions for their performances, making what they do correct or incorrect. If beliefs work the same way, then the hypothesis of a truth-aim could tell us why truth is the standard of correctness for belief, why a false belief is a wrong one: the kind of "telic" assessment involved here "is relative to the aims of a given agent" (Sosa, 2021, p. 22, see also 2011, p. 19; Steglich-Petersen, 2009, p. 395; Velleman, 2000, pp. 277–79; Wedgwood, 2002, sec. 1). Third, the truth-aimed picture might explain why evidence makes beliefs rational and irrational. Evidence indicates what is likely to be true. If truth is what we're trying to get in forming beliefs, then the norms requiring us to believe what our evidence supports might just "turn out to be instrumental norms, deriving their normative force from their ability to guide us to achieve our aims" (Steglich-Petersen, 2009, p. 396; see also Foley, 1993, ch. 1, esp. p. 20; Kornblith, 1993; Velleman, 2000, p. 246; Wedgwood, 2002, p. 276). Tempting hypotheses, all. Indeed, it's arguably the explanatory promise of the truth-aimed picture of judgment, rather than any direct introspective support, that makes it attractive in the first place (see Kelly, 2003, esp. sec. 3; Steglich-Petersen, 2013, p. 65; Carter, forthcoming, sec. 2). If my argument goes through, though, then each of these explanatory promises falls to the ground, and many an epistemological project is due for a reckoning.[4]

Let's get to that argument, then. I begin with a defense of my DOXASTIC CONSTRAINT.

[3] Compare the lists of explanatory motivations, and see further citations, in McHugh, 2012, pp. 427–28; Owens, 2003, pp. 283–87; Steglich-Petersen, 2009, pp. 395–96.

[4] My focus in this paper is on full rather than partial belief. It's worth noting, though, that the aims of epistemic agents have also featured importantly in discussions of rational credence, where accuracy-first epistemology holds that "norms of epistemic rationality can be explained in terms of the aim of accurate belief" (Carr, 2015, p. 67). Joyce's "A Nonpragmatic Vindication of Probabilism" (1998, p. 575), for example, claims that credences must be probabilistic because "epistemically rational agents must strive to hold accurate beliefs." See also Konek and Levinstein (2019, p. 70).

2 | THE DOXASTIC CONSTRAINT

2.1 | My criterion motivated

On the truth-aimed picture, the picture I reject, inference falls into a wider class of things we do: it's a way of φ-ing with the aim of ψ-ing. (I take this to be the same thing as aiming, in one's φ-ing, at ψ-ing, or φ-ing in order to ψ, or φ-ing in an attempt to ψ.) The structure of such activities is central to my argument; so, what is that structure? What's required for someone to φ with the aim of ψ-ing?

Here's a clue from the thesaurus: "aim" is a synonym of "end." We are talking about ends and means. Suppose for example that, while attending an auction, you raise your hand with the aim of placing a bid. In that case, placing a bid is an end of yours, and raising your hand is your means to it. To say this is to explain the raising of your hand by reference to the placing of the bid; but not just any kind of explaining will suffice. As you go about pursuing your end, you'll do all sorts of things you wouldn't otherwise have done: contract your deltoid muscle, cause certain slight disturbances in the air around you, attract the attention of other auctiongoers, feel self-conscious. Your placing the bid explains why you do these things, too, but they're not your means to that end. Means are things you're *motivated* by your end to do. You do them on purpose, and in the light of their instrumental relation to the end: you do them because you regard them as furthering or promoting or probabilifying it.

There is admittedly a more objective sort of means relation, too, which doesn't have this connection to how you regard things. An action might count as *a* means to your end just when it would in fact help bring the end about, whether you know it or not (see e.g. Bedke, 2017). But that's neither necessary nor sufficient for its being *your* means to that end, for you to be aiming at it in the action. Perhaps the auction you're at requires bids to be written on slips of paper, so that in a sense raising your hand is no means at all to placing a bid—but of course that doesn't mean you're not trying to place a bid thereby. And perhaps it turns out that raising your hand *is* a good way of accomplishing some other goal you have: it will help you find your long-lost twin, who happens to be attending the same auction and looking in your direction. If you have no idea that that's so, though, then we can't understand you as aiming at the goal of finding your twin. To know what your means are, we need to get in your head; we need to be able to attribute some doxastic state to you—if not a full-on belief, then a credence, or a seeming, or what Boghossian (2014) calls a "taking state," or something in the same family—that represents an action as helpfully connected to your goal. And just having such a means-end doxastic state isn't enough, either. Raising your hand, you very well know, is a means to burning more calories (a standing goal of yours, let's say); but we can still suppose that burning calories isn't what you're aiming at when you raise it. How come? In a natural way of imagining the case, the belief that raising your hand would be a way to burn more calories doesn't supply your reason for the action; it doesn't figure in the kind of explanation we afford to intentional performances; in a word, your action isn't *based* on that means-end belief. It is based, instead, on your belief (credence, seeming, etc.) that raising your hand is a means to placing a bid. That's the case, at least, if the aiming you do in it is rational. If you somehow raise your hand in order to place a bid, while being in no way motivated by the thought that it could help you do that, you'll be making a pretty strange mistake.

These reflections bring us to the criterion I propose, the first big premise of my argument:

> DOXASTIC CONSTRAINT: If someone rationally aims, in φ-ing, at ψ-ing, then her φ-ing is based on a doxastic state that represents φ-ing as a means to ψ-ing.

The criterion might sound more demanding than it really is, so let me specify how some of its key terms are to be read. First, the kind of motivational basing the principle concerns should be understood as partial basing: an action performed with multiple aims may be based on multiple means-end doxastic states; and actions may also be based on pro-attitudes of some kind. As for the doxastic states themselves, I'll assume they can stay quite inconspicuous; there's no need for them to be conscious, or even accessible to introspection. Then, too, don't suppose that being a means to some end is an exclusively causal relation. That's one way for it to work, but often it will make more sense for agents to regard actions as *constitutive* means to an end (see Foley, 1993, pp. 19–20; Sosa, 2021, pp. 22–23). It's not that you hope raising your hand will cause some *other* event that is your placing of a bid at auction. If all goes as planned, raising your hand *is* placing a bid.

So interpreted, DOXASTIC CONSTRAINT is in the spirit of widely accepted requirements on intention in action (Anscombe, 1957, pp. 35–38; Audi, 1973, p. 387; Davidson, 2001, p. 85; Setiya, 2018, sec. 2); but it's weak enough to be plausible even when full-blown intentions might seem out of place. Maybe a quarterback could aim to win the game with a desperate Hail Mary pass, even if—the odds being so bad—he shouldn't *intend* so to win it.[5] My criterion handles data like that easily. It requires only that the quarterback throw the pass because he believes, at least implicitly—or he has some credence that, or it seems to him as if—it's a means to winning the game; and surely that's true. In other cases, naturally, it won't be so easy to tell whether the constraint is satisfied. When you buckle your seat belt in the car, do you do it because you think it's a good way to avoid serious injury, or is that thought absent from the motivational story? Hard to say; but then, as DOXASTIC CONSTRAINT predicts, it's also hard to say whether you're really aiming at injury-prevention in that action or just obeying a well-ingrained habit. Borderline cases like this, I think, just help confirm the linking principle.

One last point here: I'm not saying that every kind of aiming is regulated by DOXASTIC CONSTRAINT. For one thing, it isn't a criterion for what we aim to do, *simpliciter*, but for what we aim at *in* doing something, when we φ in order to ψ. Thus the criterion doesn't require all intentional actions, for instance, to be based on means-end doxastic states.[6] Also importantly, remember that the principle is restricted to the aims of *agents*. I'm happy to allow, for instance, that in virtue of evolutionary history your gallbladder aims (i.e., functions), in releasing bile, to aid digestion, or that your heliotropic houseplants turn toward the sun with the aim of maximizing light absorption—and this despite their pitiable lack of doxastic states. Your judgments, too, may inherit some aims from the processes of natural selection, or for that matter from a higher power's design, quite apart from your own views on means and ends. But those aren't the kinds of aims at stake in my argument, the aims believers themselves have. As we saw in §1, these agential aims are the kind often invoked to explain the phenomena of belief; and not for nothing. The phenomena in question have to do with the motivation and rationality of persons themselves.

[5] See Adams (2007) for a catalog of views on doxastic requirements for rational intention.

[6] That is, it will allow intentional actions without such a basis so long as the agent doesn't perform them in order to accomplish some goal. I assume such actions are possible, that there are intentional "final" actions not performed as a means to anything. Another view might be that intentional actions are necessarily aimed by their agents at *something*, even if it is only the performance of those actions themselves. Assuming we can make sense of that, it shouldn't be a problem for DOXASTIC CONSTRAINT: if the agent really aims her φ-ing at the goal of φ-ing, we can easily suppose her to know that φ-ing is a means to φ-ing.

It's understandable that, in developing their explanations, epistemologists have reached for personal teleology, for aims "undetachable from the agent and their agency" (Sosa, 2021, p. 30). To these aims, though, we apply a special rubric of intelligibility, situating them within networks of doxastic and motivational states. DOXASTIC CONSTRAINT, I claim, is part of that rubric.

2.2 | Rival criteria for agential aims

Constraints like this one have featured in epistemological discussions, before. Sosa (2011, p. 24) has it that "if you do something in pursuit of a certain aim, you do it for the reason that it will (you think) contribute to that end." Velleman (1992, p. 15) applies a similar principle to the teleology of belief, specifically: "accepting a proposition with the aim of accepting what's really true must entail regarding the proposition's acceptance as a means to that end" (see also Boghossian, 2018, pp. 61–62; Sosa, 2010, p. 44; Steglich-Petersen, 2013, p. 68). Other writers, however, while still wanting to make use of the agent's aims in epistemology, have tried to avoid such requirements. McHugh and Way (2018: 180) propose that reasoners can aim at the truth just by manifesting sensitivity to where the truth lies, and so offer "a dispositional account of the aim-directedness of reasoning" (p. 182). Horst (2021: 226) makes a similar move, but, unsatisfied with mere dispositions, he avails himself of an agent's "self-actualizing power" to believe the truth—a power that, unlike dispositions (which are dependent on triggering conditions), is supposed to fully explain its own exercises.

Each of these proposals, if accepted, would undercut DOXASTIC CONSTRAINT. There will be no need for the means-end doxastic states I've insisted on, if an agent's dispositions or self-actualizing powers are enough to give her an aim; so, I want to convince you that they're not enough. You've already seen part of my argument: the support offered for DOXASTIC CONSTRAINT above is some reason to reject the incompatible proposals we have here. Given the importance of the point, though, I'll consider these competing views more directly. They would result, I argue, in a hollowed-out form of aiming, a teleology of mere tendency. First, it's implausible that tendencies like these really do count as agents' aims. But, second, even if we condescend to treat them as such, they're inadequate for the theoretical work that the truth-aimed picture of inference was supposed to do.

2.3 | First complaint: Implausible criteria

First, say I, the alternative criteria these authors give for agential aims are not plausible. Begin with McHugh and Way's (2018) account. They hold that reasoners aim, in general, at forming fitting attitudes; in particular, in theoretical reasoning, they aim at forming true beliefs. But this kind of aim is supposed to come cheap, without the need for guiding doxastic states: "agents can be sensitive to fittingness-preservation without representing their reasoning as fittingness-preserving. They thereby count as aiming at fittingness" (2018: 180). This sensitivity consists in an agent's dispositions to reason in accord with certain rules rather than others, and in the higher-order dispositions that guide them when rules conflict or lead to absurdities (pp. 180–183).

The problem with this account is that mere dispositional sensitivity does not in general suffice for aims. However disposed a window is to shatter when struck, it doesn't aim at shattering when struck. It's not enough, either, when the disposition-bearer is a human being. Take me, for example: I'm a human being. And I'm disposed to feel drowsy upon inhaling chloroform. Still, when

that disposition manifests, I don't count as *aiming* at chloroform-responsive drowsiness. Adding higher-order dispositions doesn't automatically fill the gap, either. Maybe I'm disposed to become more sensitive to chloroform over time, so that my drowsiness correlates ever more reliably with its presence; but that doesn't make it seem any more purposive. Why not? What's missing? You'll already know what I think. I've claimed that, when agents really are doing something with an aim, as a means to an end (see McHugh & Way, 2018, p. 180), they do it because they regard it as such.[7] Until we can understand them that way, we can't make sense of them as aimers. And indeed, McHugh and Way sometimes do understand reasoning behavior on this model. "[A] reasoner who sees that affirming the consequent does not preserve truth will not be indifferent to this fact. They will stop using this rule" (p. 182). Or, if a valid rule of inference would lead to an absurdity, you might decline to follow it because "you see that doing so will lead you astray" (p. 183). These do begin to sound like truth-directed behaviors. That's no argument against DOXASTIC CONSTRAINT, though. The means-end doxastic states it requires—agents' "seeing" what their behavior will result in—have crucially been brought back into play.

Now come to Horst's (2021) alternative criteria. He endorses

> AIM: In A-ing, you aim at B just in case: (i) B sets a standard of success, such that, roughly, your A-ing is assessable depending on the extent to which it helps bring about B, and (ii) B explains why you undertake A-ing. (Horst, 2021, p. 228)

Dispositions, Horst allows, set a kind of standard of success: events can be appraised as more or less successful manifestations of them. Where a merely dispositional account fails, on his diagnosis, is at AIM'S second conjunct—here interpreted to require *full* explanation. The thing is, a disposition can only be actualized when some independent triggering condition obtains: a baseball strikes the fragile window, or a hapless philosopher drops the chloroform bottle. Dispositions, then, can't *fully* explain the behavior that manifests them; the trigger plays an ineliminable role. Enter self-actualizing powers, which are so defined as to require no such external trigger. Among these, says Horst, is the power to believe truly, and it is this power that is exercised in our reasoning. Not only does this power set a standard for our reasoning, then, but it can also "fully explain its own exercises and, therefore, meet the conditions on aim-directedness." (Horst 2021: 230).

So, why not be satisfied with this? To begin with, I have my doubts about the idea that our powers of reasoning are really exhaustively explanatory in the way Horst claims. Even if the beliefs that reasoning operates on are exercises of the very same power as the reasoning itself, rather than external triggering conditions (see Horst's arguments at pp. 231–33), it seems inevitable that at some point the operations of this power will be explained by things outside it. If I see a chipmunk in front of me, believe there's a chipmunk in front of me, and infer that there's a mammal in front of me, my powers of belief and reasoning can do a lot to explain how I got to my conclusion; but eventually the chipmunk himself will have to feature in the story, too.

More importantly, exhaustiveness of explanation simply seems irrelevant, where aims are concerned. Horst grants, after all, that intentions are "our primary model for understanding aim-directedness" (p. 229). But even intentions don't hog the explanatory spotlight in the way self-actualizing powers are supposed to. After you tell me you flew to Nepal because you intended

[7] Of course, it might still be that the notions of doxastic states and basing used in DOXASTIC CONSTRAINT are themselves best understand in terms of agents' dispositional patterns. That's fine. I'm not arguing that aims can't be understood as sets of dispositions; I'm just against trying to get them on the cheap, without resorting to those very particular kinds of dispositions that are (by hypothesis) an agent's means-end doxastic states.

to climb Everest (see pp. 228–29), there's still plenty of explanation left to give, for those who want it: why did you intend to climb Everest, in the first place? Why did you intend it just exactly then? And why did it lead to your taking that particular means to your end—how did you know that flying to Nepal would help you accomplish it? In order to fully answer questions like that, we will at some point have to mention things outside you: intentions can provide only partial explanations of the actions they guide. But that much can be done by mere dispositions, too (see pp. 238–39, n. 17). Horst's account therefore faces a dilemma. If AIM is interpreted strictly as requiring full explanation, then it will rule out intentions—an unacceptable result. If the principle is interpreted more leniently, though, then it doesn't rule out dispositions, and the problems for the simple dispositional view haven't been dealt with. Either way, it seems to me that the superexplanatory machinery of self-actualizing powers is only a distraction.

2.4 | Second complaint: Inadequate aims

Thus far my first complaint against these two rival accounts: they're implausible. Now for the second problem with them: even if their criteria do suffice for a kind of agential aiming, it won't be able to do the theoretical work that the truth-aimed picture of belief and judgment promised to do. For, remember, there's a reason why agents' aims were being invoked in epistemology in the first place. They were supposed to help us account for (1) our inability to believe at will, (2) the correctness of true belief and incorrectness of false belief, and (3) the rationality of believing in accord with one's evidence. But that's not going to happen, if we cast the aim only as a disposition or self-actualizing power to believe truly.

To start with, how could the inability to believe at will be explained by a disposition or power to believe truly? It can't just be that this disposition or power is too overwhelmingly strong and effective to be diverted from its course. It misfires all the time, resulting in poor reasoning and false beliefs (see Horst, 2021, p. 228; McHugh & Way, 2018, p. 182). The strange thing is that we seem unable *intentionally* to disregard truth-conduciveness in our reasoning, to form beliefs simply because we think they will help attain our other ends. But the accounts we have now surveyed have expressly set out to understand the truth-aim without reference to agents' intentionality, or to patterns of means-end doxastic states. They're poorly positioned, therefore, to account for this psychological asymmetry.[8]

The problems are as serious for the normative phenomena. As we see with the tendency to get drowsy on exposure to chloroform, meaningful standards of correctness and rational norms don't proceed from dispositions just as a matter of course. I can in a sense "succeed" in manifesting such a disposition, or "fail" to do so, but this doesn't amount to "anything genuinely normative" (Horst, 2021, p. 228). It's not for lack of explanatory comprehensiveness, either: give me a real metaphysical heavyweight of a tendency toward chloroform-induced drowsiness, build a self-actualizing power for it right into the causal foundations of the universe, and it still won't feel rationally authoritative. Once they've been divorced from my doxastic and motivational states, these putative aims of mine seem in fact to have little to do with me at all.

It isn't just a terminological stipulation, then, when I say that anything worth calling an agent's aim would have to observe DOXASTIC CONSTRAINT. Rather, I think that only a kind of aiming that respects my requirement, the kind that works together with our beliefs to issue in goal-directed

[8] See Shah (2003, pp. 460–465), who builds a similar argument on the distinction between "doxastic deliberation" and other methods of belief-formation.

activity, could bear the weight epistemologists have wanted it to bear. That sort of agential teleology is what gives the truth-aimed picture of inference its explanatory allure. If, in defending that picture from the problem I am going to raise, epistemologists swap it out for a teleology of mere tendency, it will be a sneaky bait-and-switch.

3 | THE MEANS-END GAP

3.1 | The missing basis of inference

The previous section has left us with a test for the aim-guided activities of agents in general. But we're interested in inference in particular, of course, with its putative aim at the truth. Let's waste no time, then, in administering the test here. Do agents have the necessary doxastic basis for their reasoned judgments?

We ought to have an example case on hand. Remember Winifred, from the introduction? I asked her to buy some gin before my party, for the cocktails, and she reasoned like this:

> Argument A, Original Form
>
> (1) It's Sunday today.
> (2) Stores here don't sell liquor on Sunday.
> (3) So, I can't buy gin today.

When she did so, she formed a belief in the conclusion on the basis of her belief in the premises. That's the uncontroversial structure of inference. And notice: her premises, and the premises reasoners work from generally, don't represent the inference to her conclusion as a means to believing the truth. They aren't even about the inference, or about the prospective belief: the first premise is about the day of the week, and the second is about the mercantile practices of liquor vendors. In this respect Winifred's inference isn't peculiar. We can make the same point about any old case. When you infer to a geometrical conclusion about the radius of a circle, say, you base your judgment on other geometrical beliefs, not on beliefs about potential radius-beliefs. What moves you to judge that Mom hasn't left for work yet is the fact that her car is still in the driveway, not the fact that it would be true to believe she hasn't left.[9]

But I'm not just saying that our views about how to attain the truth *don't* appear among our premises, when we make inferences. The key point is that they *couldn't* appear there: it is only by making these inferences that we come to hold such views. For the role of inference, like other methods of belief-formation, is to change what we think is true. From having no position about the gin-buying possibilities for today, Winifred moves via inference to adopting a decided stance on the matter. From the darkness of our geometrical ignorance, we come into the light by judging that $r = 5$. We're undecided about Mom's whereabouts, until we figure out she's at home. The beliefs we form in such transitions are precisely ones we hadn't yet come to think of as true, beforehand. After the whole affair of the inference is over, of course, when the dust has settled, we're

[9] McGrath (2022) presses an objection like this, but without extending it as I do below. His worry, like the worries mentioned in §4, is not about the truth-aim in particular but about aiming in general; and he relies on judgments being *directly* based on the evidence for them. I think that assumption is correct, but argue below that denying it won't save the truth-aimed picture.

free to look back happily on the alethic progress we've made. "I can't buy gin today," Winifred can say, with a satisfied grin, "so, believing that I can't buy gin today was a fantastic way for me to attain my alethic goals." That insight comes a moment too late, though, to explain what has happened. It is the inference that gives her the means-end insight, and not the means-end insight that prompts her inference. That's the line of thought behind the second big premise of my overarching argument.

> MEANS-END GAP: When a reasoner infers that *p*, her inference that *p* is not based on a doxastic state that represents believing *p* as a means to believing the truth.

It is no mere accident of standard form, then, that our argument schemas do not include the truth-aptness of the conclusion among the premises. What we have run up against here, I suggest, is instead a serious mismatch between the structure of theoretical reasoning on the one hand and the structure of truth-aimed activity on the other.

3.2 | Can the means-end gap be filled?

The considerations above are meant to motivate MEANS-END GAP directly. But the premise receives indirect support, too, when we look at what it would take to reject it, and how little that rejection would do to salvage a truth-aimed picture of inference.

Consider what it would take to fit Winifred's reasoning into the truth-aimed structure. Going beyond her foregrounded premises, we could attribute some background means-end doxastic states to her, and so allow her to be aiming at the truth in making her concluding judgment. This won't fix the basic structural issue, though. The problem we've found is that to view belief in a conclusion as a good way to get the truth is tantamount to believing it already, and that problem will continue to manifest in this way: if we credit the reasoner with background doxastic states sufficient to fill the means-end gap in her inference, we will be able to do so only by supposing that, in fact, she has already made a crucial movement toward her conclusion by coming to see it as true—and she has made *this* movement *without* aiming at the truth. It is possible to fill one means-end gap in reasoning; but doing so opens up a new means-end gap further back in the process. Even if MEANS-END GAP itself is denied, then, the truth-aimed picture won't escape a serious blow. The aimless transitions of thought can't be eliminated, only presupposed.

To see what I mean, begin with a simple fix: just augment Argument A, above, with the means-end basis it was missing. Setting this means-end belief alongside the premises, for ease of inspection, we then get this:

> *Argument B, with Means-End Belief*
>
> (1) It's Sunday today.
> (2) Stores here don't sell liquor on Sunday.
> (3) *Background belief*: Believing that I can't buy gin today is a means to believing the truth.
> (4) So, I can't buy gin today.

The trouble with this revision is easy enough to see. It would indeed falsify MEANS-END GAP; it would allow Winifred to aim at truth in her final judgment, in (4). But it would do so only

by treating her as already believing the conclusion to be truth-conducive, in (3)—and where does that means-end belief come from? Does she have it from the start, before she ever begins to reason on the topic? Surely not: she doesn't come pre-loaded with a supply of means-end beliefs for the conclusions she is to draw in inference. (The thought recalls the *Meno*'s doctrine of recollection, introduced to solve a related problem; but I take it that this is out of bounds for us.) So, she acquires the means-end belief, too, in her reasoning. How do we account for that transition to (3), which begins to look very like an inference, itself? In particular, we can ask, in making that transition, does Winifred aim at the truth? If so, then (by DOXASTIC CONSTRAINT) she must have had yet another means-end doxastic state to base the belief-formation on. But how did she get *that* doxastic state? Was its formation also aimed at the truth? If so, it too will need a preceding means-end basis—and you see where this is headed. You remember that refractory tortoise (Carroll, 1895). Somewhere along the line, one of Winifred's means-end doxastic states must have been formed without any direction from yet another, still-higher-order means-end belief. On pain of infinite regress, we must at some point allow a doxastic transition that points her toward her conclusion for the first time. That's where we'll find a means-end gap, yawning wide as ever.[10]

Watch the same thing happen again when we try a more sophisticated fix. It might be thought that the means-end gap can be filled in by the reasoner's reliance on trusted inferential rules (see Boghossian, 2014, pp. 11–18; Broome, 2013, pp. 242–44; Horst, 2021, pp. 225–26; McHugh & Way, 2018, p. 182; Wedgwood, 2002, sec. 4). Winifred's argument could be recast in a formally valid modus ponens form. If she's a normal adult she'll believe from the start (perhaps tacitly) that modus ponens is a reliable form of reasoning, a good way to acquire true beliefs. We might then model her reasoning like this.

Argument C, with Rule Beliefs

(1) It's Sunday today and stores here don't sell liquor on Sunday.
(2) If it's Sunday today and stores here don't sell liquor on Sunday, then I can't buy gin today.
(3) *Background belief*: From the preceding beliefs, it follows by modus ponens that I can't buy gin today.
(4) *Background belief*: Believing what follows from my beliefs by modus ponens is a means to believing the truth.
(5) *Background belief*: So, believing that I can't buy gin today is a means to believing the truth.
(6) So, I can't buy gin today.

There will be other ways of arranging the formal structure, but the important thing is that Winifred's reliance on modus ponens in general is parlayed into a means-end belief respecting her particular argument's conclusion, like her belief in (5).

There's the rub, though. What are we to make of the formation of that means-end belief? We have to have it, to falsify MEANS-END GAP and satisfy DOXASTIC CONSTRAINT: only when she gets to (5) does Winifred see which conclusion to draw, in order to believe the truth. But she arrives at (5) through an auxiliary belief-formation like the one found in Argument B, above, and so the question can be posed again: does Winifred aim at the truth, when she takes that auxiliary step? If so, the means-end basis for that aim is not yet accounted for in the structure given above: the beliefs represented by (3) and (4), while they may be good premises from which to draw (5) as a conclusion, are not means-end beliefs about (5). Yet another means-end belief must

[10] Glüer and Wikforss (2014, sec. 4) also present an argument like this, objecting to a view of belief-formation as essentially rule-guided.

have been formed, then, in yet another auxiliary belief-formation, which must itself have been based on another means-end belief—and so on forever, until we have learned to permit unaimed belief-formation in reasoning. At some pivotal juncture, Winifred will just have to jump the means-end gap.

Now, there's one more complication to consider. So far we have only tried supplying Winifred with extra means-end *beliefs*. But DOXASTIC CONSTRAINT would permit agents to base their aimed activity on other doxastic state types, like credences or the kind of intellectual seeming that Boghossian (2014) calls a "taking state." We might think that these less committal attitudes can help smooth out Winifred's course of reasoning and fit it into the truth-aimed form. That, though, would show that we haven't quite grasped the shape of the problem. Suppose, for instance, Winifred develops a taking state along the way.

Argument D, with Taking State

(1) It's Sunday today.
(2) Stores here don't sell liquor on Sunday.
(3) *Background taking state*: Believing I can't buy gin today is a means of believing the truth.
(4) So, I can't buy gin today.

Boghossian has proposed that all inferences involve a taking state like (3). Others think this requirement would over-intellectualize reasoning, or fail to pull its theoretical weight (Hlobil, 2014; McHugh & Way, 2016). For our purposes, though, what matters is that there is no great structural difference between Argument D and Argument B, above. Whether the doxastic state represented in (3) is a belief or a taking state, or a credence sufficiently high to serve as a basis for her concluding judgment,[11] Winifred still takes an important step in forming it—indeed, it seems to jump-start the whole inferential process—and this step is taken without any means-end basis for it (cf. Wright, 2014, p. 32).

So, however we set things up, Winifred's reasoning will have to traverse a means-end gap. It may happen in her final judgment or just before it, but she will form a key doxastic state without thereby aiming at the truth. Not only that, but this doxastic state will exhibit the very same properties that that the truth-aimed picture was meant to explain (refer to §1). First, you can no more believe at will that believing *p* is a means to believing the truth than you can believe at will that *p*; and that goes for forming taking states or high means-end credences, too. Second, these means-end doxastic states are correct if true and incorrect if false (or, for credences, correct insofar as they are accurate). Third, they are made rational or irrational according to evidential norms.[12] The agent's aiming was going to illuminate these features, we thought, but here they're cropping up again when that aiming is absent. The truth-aimed picture has led us a merry chase; but at its end, here at judgment's aimless heart, all our explanatory work is still waiting for us.

[11] The sort of low credence in the truth of her conclusion that could be attributed to Winifred even before she begins her reasoning can't explain that reasoning in the way required to be a basis for it. For instance, we could suppose that, as a general policy, she assigns a default credence of 1/7 to the proposition that believing she can't buy gin today is a means to believing the truth (since it's true every seventh day). But since we would then also want to attribute her a credence of 6/7 that the *opposite* judgment is the proper means to that goal, her credences won't account for her inference as goal-directed behavior—or anyway not as a rational instance of it.

[12] An exception might be made here for taking states: maybe they aren't rationally evaluable. But if it's not irrational to take a badly fallacious argument to be truth-preserving, then why would it be irrational to be guided by that taking state in aiming at the truth, and so to draw the argument's conclusion? I think the truth-aimed picture's explanatory project fails in any case.

The rejection of MEANS-END GAP, then, isn't a promising way of resisting my argument. It would require complicating the structure of inference in defense of a picture that has lost its chief explanatory motivations—and with what result? Only that the reasoner's aimless transitions of thought are made to come a little earlier.

4 | THIS PROBLEM DISTINGUISHED FROM OTHERS

The premises defended in the previous sections bring us to my conclusion without further ado.

> ALETHIC AIMLESSNESS: When a reasoner infers that *p*, she does not rationally aim, in inferring it, at believing the truth.

The spirit of the argument might be expressed in the following way. In order to aim at some good, like truth, we have to work from our current views about where that good is located: our doxastic states are, in Ramsey's phrase (1931, p. 146), "the map by which we steer." But it is part of the point of judgments that they *change* where we think the truth is located: they revise our maps. And, just as a map doesn't itself tell you how to correct it for geographical accuracy, so too our current doxastic states don't tell us which new judgments will gain us the truth. In making those judgments, therefore, we go beyond our truth-aiming capacity. Moreover, slight variations on the same argument will show that we can't aim in inference at anything that *depends* on the conclusion's truth, like knowledge.[13] What we have seen gestures rather toward an account of judgment that forgoes altogether the structures of agential aims.

Now, the problem I have raised for the truth-aimed picture of inference can appear as the threat of regress, as we saw in §3.2. It isn't to be mistaken, though, for the "familiar regress and/or circularity worries" (Horst 2021: 223) that related literature has grappled with. McHugh and Way (2018: 180), for instance, warn us against an explanatory circle in which reasoning and aim-guidance are each understood in terms of the other. If we suppose that all reasoning is guided by an aim, and also suppose that, to be guided by an aim, an agent must first reason from it to a new intention, then—oops—we set off an interminable involution of practical syllogisms (see Boghossian, 2008, pp. 492–93; Hlobil, 2014, p. 424; McHugh & Way, 2018, p. 180; Müller, 1992, p. 167). Similarly, a regress will be generated if we require that, when an agent infers to a conclusion, she does so because she first infers that she ought to (Boghossian, 2014, pp. 13–14; Broome, 2009, p. 67; Setiya, 2013, p. 186). These worries stem from the structure of reasoning and aiming as such, irrespective of what the agent is supposed to be aiming at. They would arise just the same for the thesis that agents aim their inferences at psychological well-being, or at cold hard cash, as for the thesis that they aim them at truth. And there might be a simple way to lay them to rest: maybe we can lighten up about aim-guidance, and not require reasoning for it (Besson, 2021, p. 347; Boghossian, 2018, p. 63; cf. McHugh & Way, 2018, p. 180). Then we could use agents' aims to explain their reasoning without getting stuck in a loop.

[13] McHugh (2011), Sosa (e.g. 2021, p. 23), and Jenkins (2021, p. 420) speak in favor of the knowledge-aim. Again, though, in cases like Winifred's it is only by making our inference that we gain a view about which conclusion will amount to knowledge. Once more, by the time we're able to pursue an epistemic good, it's ours already. Boghossian (2014: 5) says instead that the reasoner aims at believing what her evidence supports. This support doesn't hang on the truth of the supported belief, but there is a structurally similar objection to be raised. Since the reasoner doesn't start out, before her reasoning, *already* having a view about what her evidence supports, she will have to form one in the process; and so, at some point, she'll be forming some view without aiming at rationality in doing so.

The problem I'm pressing, in contrast, has gone mostly unremarked.[14] It is a problem for the aim at truth, specifically; and it isn't so easily dealt with. On the face of it, of course, truth seems like a more suitable candidate for the aim of inference than psychological well-being or cold hard cash. In fact, though, there is a peculiar structural problem with the hypothesis of a truth-aim which doesn't arise for independent aims. It's easy to see how, without believing in the afterlife, say, you could come to view that belief as a means to happiness or wealth. You might just bump up against an empirical study or an eccentric billionaire with a surprising offer. If your doxastic states were more responsive to your psychological or financial ends than they actually are, and if consequently you did form a belief in the afterlife, we could then understand your belief as directed to those ends. As I have tried to show, though, it's much harder to see how you could come to view believing in the afterlife as a means to believing truth, without yet believing in it. Not despite the close link between truth and belief, but because of it, an aim at truth can't drive belief-forming judgments.

It can drive many of our other activities, though, without any structural problem arising; and this brings me to one final attempt at persuasion. I have defended my argument in full, but some readers may simply find its conclusion too counterintuitive. Isn't it just obvious (they might think) that when we reason to some conclusion we're trying to get to the truth? When we watch Winifred coming to a belief about gin-buying, don't we plainly see that she's led on by her truth-aim? If someone feels that intuition strongly enough, they might just reject whatever premises I put in an argument against it.[15] I can't force them not to do that, naturally: such tollensing is their sacred right. I'll try to deter it here, though, by offering a positive account of how the aim at truth fits into our cognitive lives. It is indeed plausible to think that reasoners aim at the truth in their reasoning, and, on one way of understanding that, I allow that this is true—nay, I insist on it. Indeed, while some have tried watering down the reasoning agent's aim at truth into a mere dispositional pattern (see §2.2), I demand that it be kept robust, fully integrated into her motivational network of desires and beliefs. But we can have this, I'll demonstrate, without attaching the truth-aim to inference itself.

5 | RE-HOMING THE AIM AT TRUTH

5.1 | A distinction in reasoning

Make a distinction between two things we might describe as "reasoning to belief." We might be talking about performing an inference, making a judgment based on other doxastic states. This is the topic that has chiefly concerned us, the thing MEANS-END GAP and ALETHIC AIMLESSNESS are about. It's what Wedgwood (2006, sec. 3) calls a "basic step in reasoning," since it is not accomplished by means of any simpler steps, at least on the folk-psychological level of description. You

[14] Setiya (2008, pp. 50–51) briefly presents a worry like this one as blocking efforts to understand judgment as intentional belief-formation. Gibbard (2008, p. 145) touches on the problem in passing, writing that a person's supposed aim of believing the truth "is empty in a way: if he thinks he knows what to believe in pursuit of it, that's what he already believes." Rather than try to resolve the problem, though, he abandons any serious claims about the aims of agents, and asks only whether it is "as if" agents aimed at the truth. Sosa (2011, pp. 31–34) considers and answers a similar challenge, but I think his discussion is unsatisfying. It adequately shows that we can aim at the truth by *forbearing from interfering* in our own belief-forming processes, but that's a far cry from showing that we can aim at the truth in forming the particular beliefs we form.

[15] This is one way of reading Müller (1992).

can't break up inferring that *p* into bite-size pieces, to take it at a more leisurely pace: it's an all-or-nothing affair. We can refer to this basic step also as the transition to a new belief, or the derivation or revision of a doxastic state; but, if we do that, we have to clarify that we're designating only the final movement in that transition or derivation or revision, the one that isn't composed of further folk-psychological events. Your transition to believing that Santa Claus was really just your parents all along could be thought of as an extended process lasting for years. It might include phases of acquiring evidence and wrestling with your doubts before finally concluding in judgment. But only that last event—the simple crossing over to belief that you pull off in a judgment, excluding the lead-up to it—is eligible for being an inference.

I think the simple step of inference fully deserves the focus we give to it in epistemology. But we shouldn't forget that, in our actual cognitive lives, it's surrounded by a host of other mental and physical activities closely related to it. Think of what happens, for example, when you sit yourself down to work on a problem from your math homework. Hopefully there will come a point when you make the leap to a belief about the answer. Before you get there, though, you might ramble down all sorts of rabbit trails of thought. You might walk through some problem-solving methods you learned. You might close your eyes and try to remember the quadratic formula. You might jot down some new equations, or repeat the question to yourself, or, at minimum, focus your attention on the problem. All of this, this unruly collection of mental goings-on, we might also be inclined to call "reasoning," and even (in view of its results) "reasoning to a belief." It is, broadly, thinking purposefully about a question—"reflection" (Harman, 1986, p. 2), or "reasoning in the folk sense" or "deliberation" (Pryor, n.d.)—and it shades into the still broader activities of inquiry generally. You can choose which memories to focus your attention on, in reflection, rather as you can choose which page of your notes to look at, rather as you can choose which of your sources to interview.

Now, it's only fair to point out that, when philosophers have spoken of the aims of reasoning, they haven't always distinguished scrupulously between the different phenomena we might have in mind. Their conclusions often target the narrow transitions of inferential judgment, the basic steps of reasoning. According to McHugh and Way (2018: 180), for example, "the transitions you make in reasoning [are] made as a means to an end." Boghossian (2018: 63) has it that anything with the minimal features of an inference would have to be a goal-directed action. And Sosa (2015: 52, italics removed) says that judgment itself is an "alethic affirmation, in the endeavor to get it right on whether *p*." In practice, however, it's hard to restrict one's attention to simple inferential steps. Other components of deliberation creep into descriptions of our subject: in reasoning you "bring some existing attitudes to mind, saying their contents to yourself" (McHugh & Way 2018: 167); you "presumably ask yourself" the question you want an answer to (Boghossian 2018: 65); or, "you may first take out pencil and paper" (Sosa 2015: 51). These events are not parts of the inference, but of the process of reflection in which it is lodged. The categories have been blurred together.

It's not hard to see why that might be. As I've said, inference typically comes accompanied by and mixed up with the manifold events of reflection. It's hard even to imagine a pure, isolated case of it, one in which the reasoning subject doesn't focus on a particular question, doesn't so much as direct her attention to anything. So, when the topic of reasoning is introduced, as it frequently is, by way of example, it is often unclear just what items in the reasoner's stream of thought are supposed to be included in our category. A real effort is needed to tease apart the basic step of inference from the deliberative motions tangled up with it. Only when that has been done can we properly locate an agent's aim at the truth.

5.2 | The truth-aim in inquiry and deliberation

Having done the necessary work, we can distinguish now between three things: the activities of inquiry in general, the mental process of reflection (or reasoning in the broader sense), and inference itself. I have denied that inference is guided by an agent's aim at the truth. The other two categories, however, make excellent homes for that aim.

Take inquiry first. When the detective sends a blood sample off to the lab, or the reporter meets up with her inside source, they take these steps with the aim of figuring out who killed Jones, or how much the governor knew about corruption in the state house. Their aim at truth (or at related goods like knowledge and understanding) may even be required to make those activities inquiries (Friedman, 2019, p. 298); but at minimum, it is obvious that inquirers often have such an aim. The principles I appealed to above, therefore, had better allow us to say so; and in fact they do. DOXASTIC CONSTRAINT makes no trouble for us here. If, in meeting with her source, our intrepid reporter is aiming at figuring out how high up the scandal goes, then DOXASTIC CONSTRAINT tells us she views the meeting as a means to figuring that out; but this seems exactly right. Notice in particular: it's easy to understand how she could see the meeting as a way of getting her answers, without *already* having a view about how high up the scandal goes.

The same approach works for the deliberative activities of reasoning in the folk sense, thinking about a question. There may be such a thing as "idly wondering" about something, with no aim at all at finding an answer (Shah & Velleman 2005: 505). Very commonly, though, in reflection and many of its component events, what an agent does is indeed "clearly undertaken with and guided by the aim of reaching a true belief" (McHugh & Way 2018: 179). When, solving for x, you decide to cross-multiply, there is a very natural explanation for this: you probably think that cross-multiplying is a good way of getting to the right answer. If someone asked you why you're going about things that way, you could tell them; and you don't need already to have a view about what the right answer is for us to make sense of your strategy. Likewise for your pausing to remember the quadratic formula, and writing down equations, and asking yourself questions. Your aim at the truth can motivate a lot of what happens, even in your head, when you're doing your homework. Inference is the frequent result of these truth-aimed activities, activities which usually are also crowding up against it on every side, and so it's no wonder that it has been taken for a truth-aimed phenomenon of the same sort. Still, an error is an error.

Winifred's a good friend. She'd be glad to help me out with my dinner party situation, if she can; and at the same time she'd hate to let me down after making a commitment to me. Accordingly, she takes care in considering my request, and aims to believe the truth about whether she can pick up gin today. That aim shows itself in the way she addresses herself to the question: in so much as posing it to herself, first of all; in casting about for what she remembers of the liquor store hours; in double-checking her impression that today really is Sunday; in collecting other important facts, if need be. She knows that's a good start. There is a limit, though, on how far it can get her. When in inference she switches from inquiring to believing, she has to do it without the truth-aim's help.

6 | CONCLUSION

The argument in this paper, then, if successful, has driven a wedge between inquiry and the inferential judgments that may conclude it. Our lives teem with activities aimed at believing truth and shunning error. Judgment itself, however—the very thing, often, to which these activities are

directed, in which they culminate—is another matter. It can't be explained or evaluated as our attempt to pursue epistemic goods. If we are already quite sure that only the pursuit of epistemic goods could be of interest in epistemology, then this finding will disappoint. Judgment may now seem an inscrutable blip in cogitation, an ateleological irruption into what was for the most part such a nicely behaved goal-seeking process. Ah, well; we can hive it off from the more harmonious phenomena and try not to think about it. We will perhaps learn to be content with examining other components of inquiry and deliberation, and reassure ourselves that the epistemological picture remaining to us is at least "tidy and theoretically robust" (Friedman, 2020, p. 532).

My own inclination, however, is entirely to the contrary. I see the aimlessness of judgment as the special mark of its epistemological importance, the key to understanding belief on its own terms rather than dressing it up as a kind of action. Too often, theoretical reasoners are thought of as deciding what to believe rather in the way they might decide what to eat: as if, from a menu of doxastic options, they were picking beliefs to have. Such belief-selections, like other choices of what to do and how to be, would have to be made sense of in the light of our aims; but since (I've argued) this can't be done, we need to find a different way of understanding things. Here there is room only for a suggestion. I think the phenomena of theoretical reason will begin to make sense when we see it as addressed not to a choice of *which beliefs to have* but to the properly theoretical question of *how things are*—a question to which truth is the decisive answer and to which evidence is directly relevant, without any mediation from our aims.[16] When we aim, we make the world as we want it. But in belief, and paradigmatically in reasoned inference—when all goes well, I mean—we find it as it is.

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[16] See Vermaire (ms). I owe this perspective on belief and reasoning to the work of Pamela Hieronymi (e.g. 2005, 2020) and to conversations with David Sosa.

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