Group belief and direction of fit

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Abstract

We standardly attribute beliefs to both individuals and organised groups, such as governments, corporations and universities. Just as we might say that an individual believes something, for instance that oil prices are rising, so we might say that a government or corporation does. If groups are to genuinely have beliefs, then they need states with the characteristic features of beliefs. One feature standardly taken to characterise beliefs is their mind to world direction of fit: they should fit the way the world is. By contrast, desires are standardly taken to have a world to mind direction of fit: they aim for the world to be a certain way and are satisfied when the world fits them. Recently, Lackey (2021) has appealed to direction of fit to argue against certain nonsummative accounts of group belief. Here, I argue that on deeper inspection, belief's mind to world direction of fit is difficult to accommodate on summative accounts of group belief including Lackey's own neo-summative account. Further, I argue that direction of fit considerations in fact motivate the main non-summative approaches to belief, namely functionalism and interpretationism. Along the way, we see how addressing the issue of the direction of fit of group beliefs raises important questions about how to understand group evidence and its relationship to the evidence of members.

Keywords Group epistemology · Group evidence · Group belief · Group justified belief

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1 Introduction

We standardly attribute beliefs to both individuals and organised groups, such as governments, corporations and universities. Just as we might say that an individual believes something, for instance that oil prices are rising, so we might say that a government or corporation does. If groups are to genuinely have beliefs, then they need states with the characteristic features of beliefs. One feature standardly taken to characterise beliefs is their mind to world direction of fit: they should fit the way the world is. By contrast, desires are standardly taken to have a world to mind direction of fit: they aim for the world to be a certain way and are satisfied when the world fits them. Recently, Lackey (2021) has appealed to direction of fit to argue against certain non-summative accounts of group belief. Here, I argue that on deeper inspection, belief's mind to world direction of fit is difficult to accommodate on summative accounts of group belief including Lackey's own neo-summative account. Further, I argue that direction of fit considerations in fact motivate the main non-summative approaches to belief, namely functionalism and interpretationism. Along the way, we see how addressing the issue of the direction of fit of group beliefs raises important questions about how to understand group evidence and its relationship to the evidence of members.

In the next Sect. (2), I introduce the notion of direction of fit. In Sect. 3 I summarise Lackey's argument that Gilbert's non-summative account of group belief fails to give group beliefs the requisite mind to world direction of fit. In Sects. 4–5 I show how summative and neo-summative accounts of group belief also have problems accommodating the direction of fit characteristic of belief. In Sect. 6, I show how direction of fit considerations in fact favour classic non-summative approaches such as functionalism and interpretationism. In Sect. 7, I deal with a number of potential objections to the argument. Section 8 concludes.

2 Direction of fit

It's standard to hold that beliefs are distinguished from desires by their direction of fit. One way to fill out the notion of direction of fit is in normative terms.[1] For instance, it is standardly claimed that belief and desire differ in their aims and are governed by different norms about how to respond to evidence. Beliefs aim at truth and are incorrect if they are false. That a belief is false is reason to discard the belief. By contrast, even though desires aim at satisfaction, that a desire is not realised is not a failing in the desire itself and not a reason to abandon the desire. Relatedly, beliefs are governed by norms of evidence in a way that desires are not. Evidence that a belief is false is reason to abandon it but evidence that a desire is false is not reason to abandon it.

While some fill out the notion of direction of fit normatively, others do so descriptively, arguing that an entity is a believer only if its states are not only governed by the relevant norms but to a sufficient degree meet those norms. Of course, many beliefs

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[1] E.g. Anscombe 1957, Humberstone 1992, Zangwill 1998.

are in fact false and a belief may be held irrationally even despite overwhelming evidence against it. Thus, Smith (1994) suggests a dispositional formulation of the direction of fit thesis which stresses how belief must be sensitive to evidence:

> a belief that p tends to go out of existence in the presence of a perception with the content that not-p, whereas a desire that p tends to endure, disposing the subject to bring it about that p (115).

Others reject the idea that there is any requirement of sensitivity to evidence on individual belief but rather endorse a more holistic requirement. Perhaps, it's constitutive of a being counting as a believer that she has a system of states that, for the most part, are sensitive to evidence. For instance, Davidson argues that it's constitutive of a person having beliefs that they are to a certain degree rational (1970:223). In ascribing beliefs to another, "we will try for a theory that finds him consistent, a believer of truths, and a lover of the good". He stresses the holistic nature of ascribing beliefs and other mental states to a person: "we make sense of particular beliefs only as they cohere with other beliefs, with preferences, with intentions, hopes, fears, expectations, and the rest". Similarly, Dennett (1987) says "what it means to say that someone believes that p, is that that person is disposed to behave in certain ways under certain conditions. What ways…? The ways it would be rational to behave, given the person's other beliefs and desires" (50).

Likewise, in discussing whether groups are agents with beliefs and desires, List and Pettit (2011) argue that "to count as an agent, a group must exhibit at least a modicum of rationality. And so its members must find a form of organisation that ensures, as far as possible, that the group satisfies attitude-to-fact, attitude-to-action, and attitude-to-attitude standards of rationality" (36). In particular, they argue that "the group must ensure, as far as possible, that its beliefs are true about the world it inhabits", where this requires that its beliefs are suitably sensitive to evidence: "If a group is to constitute an agent then it must have purposes and representations – in particular, representations that are more or less reliably responsive to evidence – and must act so as to execute those purposes reliably, using the representations to guide its behaviour. It must in general be evidentially and executively reliable" (Buchak and Pettit 2015: 216).

Here, I won't attempt to settle the controversial issue of precisely how to formulate the descriptive version of the direction of fit requirement on belief. Instead, I will examine the extent to which different accounts of group belief make group beliefs sensitive to group evidence. I will argue that summative and neo-summative accounts have the result that group beliefs are not generally sensitive to group evidence. Thus, I argue that those who endorse a descriptive version of the direction of fit requirement ought to embrace a non-summative approach to group epistemology. Now, some are sceptical about the very notion of direction of fit and/or some of its philosophical uses (e.g. Zangwill 1998, Schueler 1991, Humberstone 1992, Sobel and Copp 2001, Swartzer 2013, and Frost 2014). However, I argue in Sect. 7 that standard worries about descriptive direction of fit claims don't affect my project here about the best account of group belief. Further, I argue that the requirement that belief be sensitive to evidence could be motivated not by direction of fit but by appeal to the idea that

moral responsibility requires reasons-responsiveness. However, those who remain doubtful about descriptive direction of fit formulations can understand this paper as arguing for a certain conditional: if there is a descriptive direction of fit requirement applying to beliefs, then we ought to embrace a non-summative approach to group belief.

Before getting into the details of the argument, it's useful to contrast the argument to come with some existing arguments in the group literature which appeal to direction of fit or other rational requirements. As we will see in the next section, Lackey (2021) explicitly appeals to direction of fit to argue against prominent non-summative accounts of group belief and in favour of her own neo-summative account of group belief. By contrast, I argue that, on deeper examination, direction of fit undermines summative approaches including Lackey's own neo-summative account of group belief. List and Pettit (2011) employ rationality requirements on belief to support a non-summative approach to group belief. However, their key argument appeals to a consistency requirement (their attitude-to-attitude norm) rather than the requirement that beliefs must fit the world (their attitude-to-fact norm). In particular, they apply the requirement of consistency in belief to the discursive dilemma[2] to defend the claim that a group can have a belief that none of its members have. In contrast, my argument for non-summativism focuses on the requirement that one's beliefs should fit with how things are.

3 Lackey on direction of fit

Lackey (2021) argues against certain non-summative accounts of group belief and for her own neo-summative account by appeal to direction of fit. Summative approaches hold that whether a group believes that p is a function of whether its members do. Thus, they hold that a group believes that p if and only if some/most/all of its members believe that p. By contrast, non-summative approaches deny that whether a group believes that p is a function of whether its members do. Leading non-summativists deny that it's either necessary or sufficient for a group to believe that p that some/most/all of its members do.

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[2] For instance, consider a group whose members have the following beliefs:

	p	q	r	(p and q and r)
M1	Yes	Yes	No	No
M2	Yes	No	Yes	No
M3	No	Yes	Yes	No
Majority	Yes	Yes	Yes	No

Appealing to a consistency requirement on group belief, List and Pettit argue that the group should not determine its beliefs by proposition-wise majority voting. Instead they suggest that it should determine its belief in the conclusion by appeal to its beliefs in the premises, thus resulting in a consistent set of beliefs: p, q, r, (p and q and r).

Lackey employs direction of fit against Gilbert's influential non-summative account on which a group believes that p if and only if its members jointly commit to believe that p as a body (1987, 2013). This involves their being jointly committed "to emulate, by virtue of their combined actions and utterances, a single believer of the proposition in question" (2013: 213). For instance, in suitable circumstances, the group should assert that p and its actions should be informed by p. A standard objection to Gilbert's joint commitment account is that it makes group belief voluntary and a function of practical interests rather than evidence (e.g. Wray 2001, Meijers 2002). Lackey suggests that this reflects the deeper problem that on the joint commitment account, group belief lacks the required mind to world direction of fit (44, and 31). For instance, even if the directors of a large tobacco company believe individually that smoking is highly addictive and detrimental to health, they might all jointly agree that, because of the financial stakes, the official position of the company is that smoking is neither highly addictive nor detrimental to one's health. According to Gilbert's account, the company believes that smoking is neither highly addictive nor detrimental to health. Lackey objects that this is to give group belief the wrong direction of fit. For the tobacco company is "not aiming to conform its state to the world, or even to be responsive to the way the world is, when its members jointly accept that smoking is safe". Instead, its state is "responsive to the way it wants the world to be and thus has more in common with a desire than a belief" (44).[3]

We've seen that Lackey employs the idea that beliefs have a mind to world direction of fit to argue against Gilbert's joint-commitment account. In the rest of the paper, I examine whether other approaches to group belief might do better, starting with summative approaches.

4 Summative approaches

On a summative approach, a group believes that p if and only if some/most/all of its members believe that p. Of these options, the most popular is to hold that a group believes that p if and only if most of its members believe that p. For, requiring that all of the members believe that p seems too demanding. We might want to allow that, say, a government believes that it will meet its economic goals even if one individual member doesn't believe that. Furthermore, it seems too weak to hold that a group believes that p if some of its members believe that p. For, if some believe that p and some believe that not-p, this would have the result that the group would both believe that p and believe that not-p.

The degree to which a summative approach can ensure that group belief is sensitive to the evidence depends on how it understands group evidence. Plausibly, those taking a summativist account of group belief would hold a summativist account of

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[3] Lackey extends this objection to the "premise-based aggregation account" (PBAA) of group belief on which "the group G believes that p if and only if the majority of the operative members' votes in the premise columns are that p" (29). While List and Pettit (2011) express sympathy for premise-based aggregation, they also endorse a functionalist-cum-interpretationist account of group belief which Lackey doesn't discuss and, as we will see, would make group belief sensitive to group evidence. Given this, it seems unlikely that they endorse the sufficiency direction of PBAA.

group evidence on which a group's evidence is a function of the evidence of its members. Thus, a summativist would hold that p is part of the evidence of a group if and only if p is part of the evidence of some/most/all of its members. It seems too demanding to hold that p is part of the evidence of a group if and only if it is part of the evidence of all of the group's members. For instance, we might want to accept that some proposition, say that unemployment is falling, is part of the government's evidence even if it's not part of the evidence of all of the members of the government (perhaps one member hasn't read the unemployment briefing). Thus, it seems that a summativist will hold either a "pooled" or "shared" account of group evidence:

> *Pooled: p is part of a group's evidence if and only if it is part of the evidence of some of the group's members.*
> *Shared: p is part of a group's evidence if and only if it is part of the evidence of most of the group's members.*[4]

However, I will argue that on either the pooled or shared account, a summativist approach to group belief has difficulty ensuring that group belief is sensitive to what the group's evidence overall supports.

Let's start by considering a group all of whose members believe that p on the same basis. For instance, perhaps all the members of a department believe that one of them, Dr X, will be the next chair of the department (or p) on the same basis, namely that it is Dr X's turn and Dr X is obviously competent. However, suppose that Dr X then receives a defeater for the belief that p, say the principal of the university tells Dr X that they will not be the next chair as the principal wants Dr X to take on a different role. On the pooled view of group evidence, as soon as Dr X gains the evidence of the principal's testimony, the group gains this evidence too. Thus, the group's evidence no longer supports the belief that p. But notice that this has no effect on the group's belief that p. The only way in which the summative approach to group belief builds sensitivity to evidence into group belief is via the sensitivity of the beliefs of members of the group to their own individual evidence. But the fact that just one individual, Dr X, gains evidence that not-p in itself has no effect on the evidence of other members of the group (unless Dr X chooses to share that information with them). Thus, even after Dr X gains evidence that not-p, it remains the case that for all of the other members of the group, their individual evidence supports their continuing belief that p. So, we would expect that each of the members of the group except Dr X would continue to believe that p. As a result, on the summative account of group belief, the group itself would continue to believe that p. That's so, even though, by the pooled account of evidence, the group's evidence supports that not-p. Thus, the summative account of group belief when combined with the pooled account of group evidence has no mechanism whereby the group's receiving a defeater for its belief that p automatically has any impact on the beliefs of the members of the group and thus the group itself.

Despite these problems, it might be hoped that the summative account of group belief would fare better with evidential sensitivity when combined with a shared

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[4] For discussion of summative and non-summative accounts of group evidence, see Brown 2022.

account of group evidence. After all, the key problem facing the pooled account of group evidence arose from the fact that it didn't contain any condition requiring that group evidence be shared amongst members. While the shared account might seem more promising, I will argue that it too has difficulty making group belief sensitive to group evidence. For, it is compatible with the shared account of group evidence that evidence is so distributed across members that the set of propositions constituting the group's evidence is distinct from the set of propositions constituting the evidence of any member of the group. As a result, the group's evidence might support that not-p, even though the evidence of each individual member of the group supports that p. If each individual believes in line with her own evidence, each believes that p and so, on a summative account, the group believes that p even though the group's evidence supports that not-p. To illustrate the problem, consider the 10-membered group whose evidence is presented in the following table:

	M1	M2	M3	M4	M5	M6	M7	M8	M9	M 10
r	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
s	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
t	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
u	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
v	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes
w	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No

Each of the six propositions, r-w, is part of the evidence of most of the members of the group (at least 80%). Thus, by the shared account of group evidence, all of these propositions are part of the evidence of the group. However, no individual member of the group has all of these propositions as part of her evidence. As a result, the group's evidence might support a proposition which is not supported by the evidence of any individual member of the group. In particular, the group's evidence might support that not-p even though the evidence set of each individual member of the group supports that p. In such circumstances, the members of the group and so, on the summative approach, the group itself, would continue to believe that p even though the group's evidence does not support that p.

To illustrate this possibility, suppose that a group of 10 detectives is investigating a murder. Each member of the team and so, on the summative account, the team itself, believes that a local criminal Bill is guilty of the murder. In addition, relevant evidence is distributed across the group in the pattern of the table above, where r-w stand for the following propositions:

r: Bill has confessed to the murder and his fingerprints were found on the victim's wallet.

s: The murder took place at 11am at Edinburgh Waverley station.

t: The suspect was in Inverkeithing at 10.25am.

u: There is a local train from Inverkeithing to Edinburgh Waverley at 0, 20 and 40 min past each hour which takes 10 min.

v: The Aberdeen to London train due at Inverkeithing at 10.30 was running 30 min late.

w: When the Aberdeen to London train runs 30 min late, local services from Inverkeithing run 30 min late as well.

Propositions r-w together with the background knowledge had by every member of the team that the train is the fastest way to get from Inverkeithing to Edinburgh entail that Bill cannot have committed the murder. Thus, given the distribution of evidence across the members of the group, between them, the members have evidence which supports Bill's innocence. However, consistently with that, the evidence of each member of the detective team may well support Bill's guilt. After all, each member has evidence that strongly supports Bill's guilt, namely r (Bill confessed and his fingerprints were found on the victim's wallet). Furthermore, none of the members of the team individually has all of the propositions r-w as part of their evidence. Each of them is missing some crucial bit of information so that none of them individually realise that Bill couldn't have got to the murder location in time. In particular, it's not part of the evidence of M1 and M2 that s (the murder took place at 11am at Waverley). It's not part of the evidence of M3 and M4 that t (Bill was in Inverkeithing at 10:25am). It's not part of the evidence of M5 and M6 that u (there is an Inverkeithing to Waverley train at 0, 20 and 40 min past each hour which takes 10 min). It's not part of the evidence of M7 and M8 that v (the Aberdeen to London train due 1030 at Inverkeithing was running 30 min late). It's not part of the evidence of M9 and M10 that w (when the Aberdeen to London train runs 30 min late, local services from Inverkeithing run 30 min late as well).

I've now argued that a simple summative approach to group belief when combined with the summative approach to group evidence has no mechanism to ensure that group belief is sensitive to the evidence. The key problem is that, on the summative approach to group belief, the only way in which evidential sensitivity is built into group belief is via the sensitivity of the beliefs of individual members to their own individual evidence. But, on both the pooled and shared accounts of group evidence, it's possible that the evidence of every member of a group supports that p although the group's evidence doesn't support that p, or even supports that not-p. Thus, even if individual members of the group are disposed to adjust their beliefs to their own individual evidence, it doesn't follow that the group is disposed to adjust its beliefs to the group's evidence. Further, it seems that the only way to ensure that a summative approach to group belief would make a group disposed to adjust its beliefs to its evidence would be by endorsing a summative approach to group evidence on which p is part of the evidence of a group only if it is part of the evidence of every member of the group. But, we earlier saw that any such requirement is implausible.

In the light of the difficulties facing summative approaches to group belief, in the next section I consider Lackey's neo-summative account of group belief.

5 Lackey's account

In her recent monograph, *The Epistemology of Groups*, Lackey rejects summative accounts of group belief because of her concern with cases in which members of a group each believe that p but for different individual reasons which cannot be coherently combined to support that p. To rule out such cases, Lackey endorses her group agent account of group belief:

A group, G, believes that p if and only if: (1) there is a significant percentage of G's operative members who believe that p, and (2) are such that adding together the bases of their beliefs that p yields a belief set that is not substantively incoherent. (49)

However, we will see that even with the addition of this coherent bases condition, Lackey's account of group belief doesn't ensure that groups are disposed to adjust their beliefs to what the total evidence of the members supports. For, she holds that not all of the evidence a member possesses need be part of the basis of that member's belief that p. Thus, even if the bases of members' beliefs that p are coherent when combined, the total evidence of members might not support that p. We can illustrate this possibility using her non-conflicting bases version of her museum guard example.

In this example, all of 100 museum guards each justifiably believe that it was a man who was responsible for the inside theft of a famous painting although they do so on different non-conflicting bases (85). Each of guards M1-20 justifiably believes that the thief exited the men's bathroom right before the theft from which they infer that it was a man who committed the theft. The remaining 80 guards do not believe and are not justified in believing that the thief exited the men's bathroom. Each of guards M21-40 justifiably believes that the thief has a goatee and so infers that it was a man who committed the theft. The other 80 members do not believe and are not justified in believing that the thief has a goatee. Each of M41-M60 justifiably believes that the thief was greeted as "Sir" on entry to the museum and infers that it was a man who was responsible for the theft. The other 80 do not believe and are not justified in believing that the thief was so greeted on entry. Each of M61-80 justifiably believes that the thief talked in a baritone voice and so infers that it was a male thief. The remaining 80 members do not believe and are not justified in believing that the thief talked in a baritone voice. Each of M81-100 justifiably believes that the thief's name is William and so infers that the thief was a man. The other 80 guards do not believe and are not justified in believing that the thief's name is William. However, crucially, each subgroup of 20 guards has counterevidence for the basis of the justified belief of a different subgroup. For instance, M1-20 justifiably believe that the thief didn't have a goatee because they've got evidence that the goatee is fake. M21-40 justifiably believe that the thief didn't exit the male bathroom since they have evidence that the relevant bathroom is in fact a family bathroom and so on.

According to Lackey's group agent account of group belief, the group of museum guards believes that it was a man who was responsible for the inside theft of the famous painting (or m). For most – indeed all – of the members believe that m on bases which can be coherently combined. However, if we were to combine all the evidence of the members it would not support that m. Thus, on the pooled conception of group evidence, the group believes that m even though its evidence does not support that m. Furthermore, although Lackey doesn't explicitly provide an account of group evidence, her discussion of the above museum guard example and the way it shapes her account of group justified belief suggests that she favours a pooled account of group evidence. Lackey argues that in the above non-conflicting bases case, the group of museum guards does not justifiably believe that a man was responsible for

the inside theft. For, she says, "there is no basis that would survive full disclosure: were all 100 members to fully disclose all of their evidence and counterevidence, there would be no remaining reason to believe that the thief is a man" (86). Instead, she argues that a group justifiably believes that p only if the bases of individual members' beliefs that p when added to the evidence that members in fact have and ought to have had sufficiently support that p (97).[5]

It seems, then, that on Lackey's account of group belief, a group's beliefs are not disposed to reflect what the group's evidence supports. For as the museum guard case illustrates, the conditions in her group agent account of a group's believing that p can be met even though the group's evidence does not support that p. Furthermore, the only way in which evidence sensitivity is built into her account of group belief is via the sensitivity of the beliefs of individual members to their own individual evidence. But on the pooled view of group evidence, that each individual member is disposed to conform her beliefs to her evidence does not ensure that the group is disposed to conform its beliefs to what its evidence supports.

6 Re-examining non-summative approaches

I have now argued that both a simple summative account and Lackey's neo-summative account of group belief have difficulties making group belief sensitive to group evidence. Further, we earlier saw that Lackey levelled a similar objection about sensitivity to evidence to Gilbert's joint commitment approach. This might seem to leave us with the problematic conclusion that both summative and non-summative accounts of group belief have difficulties making group belief sensitive to group evidence. However, before endorsing any such pessimistic conclusion, it's worth examining non-summative approaches in more detail. First, the discussion so far has worked with a summative approach to group evidence which a non-summativist would likely reject. Second, there are non-summative approaches to group belief that we haven't yet considered, including interpretationist and functionalist approaches. Let's examine these points in order.

So far, we've been assuming a summative view on which a group's evidence is treated as a function of the evidence of its members. Such a summative approach to evidence fits naturally with summative approaches to group belief. By contrast, it would be natural for a non-summativist about group belief to adopt a non-summative approach to group evidence which denies that a group's evidence is a function of the evidence of its members. On a non-summative approach to group evidence, a proposition, p, may be part of the evidence of a group even if it's not part of the evidence of any of the members of the group. Further, even if some proposition p is part of the

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[5] See the second condition of her account of group justified belief: "A group justifiably believes that p if and only if 1) a significant percentage of the operative members of the group a) justifiably believe that p, and b) are such that adding together the bases of their justified beliefs that p yields a belief set that is coherent; and 2) full disclosure of the evidence relevant to the proposition that p, accompanied by rational deliberation about that evidence among the members of G in accordance with their individual and group epistemic normative requirements, would not result in further evidence that, when added to the bases of G's members' beliefs that p, yields a total belief set that fails to make sufficiently probable that p." (97).

evidence of every member of the group, it doesn't follow that p is part of the evidence of the group.

Indeed, given a further popular assumption, it is inconsistent to adopt a non-summative account of group doxastic states and a summative account of group evidence. The relevant assumption is the following widely held doxastic constraint on evidence:

> Doxastic constraint: p is part of S's evidence if and only if S bears the appropriate doxastic relation, D, to p.[6]

The doxastic constraint is motivated by the thought that facts outside one's own ken are not part of one's evidence. For instance, that some of the sandwiches at the wedding buffet are infected with salmonella isn't part of my evidence if I am completely unaware of the fact. Given the doxastic constraint, a non-summative approach to the relevant doxastic relation D yields a non-summative approach to group evidence. For instance, non-summativism about group evidence results from a non-summative account of group knowledge and the identification of group knowledge and group evidence (e.g. Hedden 2019). Of course, E=K is contentious for some endorse a non-factive approach to evidence. But the argument can be rerun on any view of the nature of the relevant doxastic relation, D, when combined with non-summativism about that doxastic relation.

We have now seen how someone who adopts a non-summative approach to group doxastic states should endorse a non-summative approach to group evidence. Relatedly, even if a group's belief is not supported by the set consisting of the total evidence of its individual members, it doesn't follow that it is not supported by the group's evidence. For the non-summativist denies that these two are equivalent. In addition, a non-summativist needn't accept Gilbert's joint commitment approach to group belief. She has other options, of which the most popular are functionalism and interpretationism. I will argue that both of these approaches to group belief do better on evidence-sensitivity than summativism or Gilbert's own account. As we will see, functionalism builds sensitivity to evidence into the functional role definitive of belief. And on interpretationism, an agent's beliefs are a matter of the best interpretation which is itself constrained by certain rationality considerations.

Functionalists hold that what makes something a mental state of a particular type is not its internal structure, say that it is a certain kind of neurological state. Instead, what makes something a mental state of a particular type are facts about its actual and potential causal relations to inputs, outputs and other mental states. Or, as it is sometimes put, what makes something a mental state of a particular type is that it is a state which plays a certain functional role. To illustrate, consider the state of being in pain. Pain is a state that has typical causes and effects. If one is in pain, one is in a state which is apt to be caused by bodily damage and that, in turn, is apt to cause certain behaviour (e.g. signs of distress, avoidance of the cause of the pain), and further mental states (such as the belief that one is in pain and the desire to avoid the cause

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[6] E.g. the view that one's evidence is one's knowledge (e.g. Williamson 2000); or that a proposition is part of one's evidence if and only if one justifiably believes it, or has a particular kind of justified belief in it (e.g. Goldman 2009, Littlejohn 2013).

of the pain). On a functionalist account, one is a state of pain if and only if one is in a state which has this functional role.

Functionalist accounts of group mental states have been defended, inter alia, by List and Pettit 2011, Bird 2014, Hedden 2019, and Strohmaier 2020. All this requires is that the group should be in a state with the relevant functional role. Adopting a functionalist account of group belief helps make group belief sensitive to group evidence. For, crucially, it's part of the functional role of beliefs to be disposed to interact with other mental states, including those states which constitute the subject's evidence. For instance, consider what a functionalist might say about the belief that it is raining. The belief that it is raining has dispositional causal relations to evidence, behaviour, and other mental states. For instance, evidence of rain is disposed to cause the belief that it is raining. The belief that it is raining in turn disposes one to further beliefs and actions, e.g. believing that the washing will get wet and bringing the washing in if one desires that it not get wet. Functionalists employ these dispositional causal relations to provide an account of the causal role which, on their view, is constitutive of the relevant belief. Thus, functionalism builds evidence-sensitivity into what it is for a state to be a belief.[7]

Another popular approach to group mental states is interpretationism (e.g. List and Pettit 2011[8], Tollefsen 2015, Brouwer et al. 2021). The key idea of interpretationism is that an entity has beliefs if we can gain predictive power by applying what Dennett calls "the intentional stance" (1987). The intentional stance involves attributing beliefs and desires to an entity and predicting that it will behave rationally given those beliefs and desires. The intentional stance contrasts with two other stances, the "physical stance" and the "design stance". The physical stance involves predicting the behaviour of an entity by appealing to its physical states and our knowledge of physical laws. For instance, we can predict the trajectory of an olympic diver from her mass and size and the laws of gravity. By contrast, the design stance involves predicting the behaviour of an entity by appeal to its design or biological function. For instance, we can predict what will happen when we place slices of bread into a toaster by appeal to the fact that it's designed to toast bread. Of course, we could predict what the toaster will do by applying the intentional stance (e.g. by supposing that the toaster wants to produce toast and believes that heating the bread for 1½ minutes will toast it). But this gives us no more predictive power than applying the design stance. By contrast, in some cases applying the intentional stance provides predictive power that we don't get from the physical or design stance. This is true of human beings: in many cases, attempting to predict how a human being will behave from the physical or design stance is hopeless. By contrast, when we apply the intentional stance to a human being, their behaviour falls into recognisable patterns that enable us to predict their future behaviour relatively easily with high if not perfect accuracy.

Crucially, interpretationism makes being rational constitutive of having beliefs. As Dennett explains, "what it is to be a true believer is to be an intentional system,

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[7] Of course, on a functionalist account a subject is disposed to revise her beliefs not only in the light of her evidence but also what she mistakenly takes to be evidence. But that's true of any view on which a subject can be mistaken about her evidence and so no objection to functionalism in particular.

[8] They express sympathy for both functionalism and interpretationism.

a system whose behaviour is reliably and voluminously predictable via the intentional strategy" (1987: 15). And applying the intentional strategy to a system involves assuming that it is rational: "first you decide to treat the object whose behaviour is to be predicted as a rational agent; then you figure out what belief that agent ought to have, given its place in the world and its purpose. Then you figure out what desires it ought to have, on the same considerations, and finally you predict that this rational agent will act to further its goals in the light of its beliefs" (17).[9] Since its constitutive on an interpretationist approach that believers are rational, an interpretationist account of group belief makes group belief sensitive to the group's evidence.

I've now argued that direction of fit considerations are best met by certain popular non-summative approaches to group beliefs, namely functionalism and interpretationism. Before concluding, I consider a number of objections in the next section.

7 Objections and replies

A number of objections might be made to the argument of the paper, including (1) objections to the descriptive direction of fit claim used to motivate a non-summative account of group belief; (2) the suggestion that summative accounts of group belief can be made consistent with the descriptive direction of fit claim; and (3) a question about how groups can arrange themselves so as to meet the descriptive direction of fit requirement. I discuss these in order.

7.1 Objections to descriptive direction of fit

Some authors reject descriptive direction of fit claims and instead endorse normative direction of fit claims. We have already seen and discarded one motivation for rejecting descriptive direction of fit claims, the possibility of an individual belief which is not disposed to fit the evidence. For instance, someone might persist in a belief in a conspiracy theory even despite overwhelming evidence against it, and have no disposition to alter their belief in the face of the evidence. To accommodate worries of this kind, we saw that the descriptive direction of fit claim should be understood holistically.

A different worry about descriptive direction of fit claims is that they are either false or circular since they need to appeal to the very notion of belief (Zangwill 1998; Humberstone 1992, Sobel and Copp 2001). On the one hand, to the extent that a defender of descriptive direction of fit claims that it is constitutive of belief that it is sensitive to the evidence and characterises evidence non-doxastically, then the relevant claims are not universally true. For, a subject might believe that p and not be disposed to change her belief even despite an experience as of not-p if, say, she

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[9] Dennett (1987) suggests that alleged cases of irrationality reinforce the idea that rationality is constitutive of being a believer. For, "an intentional interpretation of an agent is an exercise that attempts to make sense of the agent's act, and when acts occur that make no sense, they cannot be straightforwardly interpreted in sense-making terms. Something must give: we allow that the agent either only "sort of" believes this or that, believes this or that "for all practical purposes", or believes some falsehood which creates a context in which what had appeared to be irrational turns out to be rational after all" (87).

dismisses that experience as illusory. On the other hand, if descriptive direction of fit claims characterise evidence doxastically, e.g. in terms of the subject believing that she sees that not-p, then they appeal to the very notion of belief. However, even if one is attempting to characterise belief in part by appeal to direction of fit understood descriptively, it seems that one could avoid the circularity worry by appeal to some of the standard theoretical moves employed by functionalists to characterise belief: appealing to the Ramsey sentence of a theory to characterise all mental states simultaneously in terms of their relationships to each other.

Other objections challenge particular philosophical uses of the notion of direction of fit. For instance, direction of fit considerations have been used to support a Humean theory of motivation and to argue that all mental states fall into one of two fundamental categories: belief and desire/pro-attitude (for challenges to these theoretical uses see, e.g. Schueler 1991, Schwarzer 2013 and Frost 2014). However, these motivations are no part of my project here and so don't undermine it.

For those who remain sceptical about descriptive direction of fit, it's worth noting that the idea that beliefs need to meet an evidence-sensitivity requirement can be motivated not only by the idea that beliefs have a mind to world direction of fit but also by a popular approach to moral responsibility, the reasons-responsiveness account. According to this approach, an agent is morally responsible for her actions in virtue of being reasons-responsive, i.e. having the capacity to respond to reasons. The latter capacity is understood modally: a reasons responsive agent would do what the balance of reasons recommends in a suitable range of counterfactual scenarios in which the balance of reasons is slightly changed (e.g. Fischer and Ravizza,1998, Vihvelin 2004). Given the role of beliefs in generating action, this at least partly involves an agent's beliefs being responsive to reasons for belief, and thus her evidence. Thus, while this paper has focused on direction of fit considerations as motivating an evidence-sensitivity requirement on group belief, a different way to motivate it would be via consideration of moral responsibility. If groups are to be morally responsible for their actions, then their beliefs must be suitably responsive to reasons for belief, that is evidence. Thus, even those who are unsympathetic to direction of fit considerations might well want to endorse an evidence-sensitivity requirement as part of a reasons-responsiveness approach to group moral responsibility.

7.2 Can the summativist meet the descriptive direction of fit requirement?

Assuming, then, that beliefs need to be suitably responsive to evidence, the only way for a summativist to defend her approach to group belief would be to argue that, when properly understood, summativism is compatible with the evidence-sensitivity requirement. A summativist might try to defend that suggestion by pointing out that to be plausible, the evidence-sensitivity requirement must be compatible with obvious failures of evidence-sensitivity in the case of individual beliefs. As we've already seen, on occasion, subjects have beliefs which are not even disposed to reflect the evidence (e.g. beliefs in conspiracy theories). Furthermore, more systematic problems affect individual beliefs. Given the failure of luminosity, subjects don't always know what their evidence is or what it supports. Furthermore, not all of these mistakes are recoverable. Due to cognitive finitude, no subject has time to review all the

evidence she has and what beliefs it supports. Furthermore, it might be beyond the intellectual capacity of a subject to understand the complex relations between the different elements of her evidence and so what her total evidence supports. Thus, even if beliefs are subject to an evidence-sensitivity requirement, that requirement must be understood in such a way as to accommodate these obvious facts about individual subjects. Why, then, it may be said, can't we see the failure of summativist accounts of group belief to make group belief sensitive to group evidence as analogous to the ways in which individual beliefs are not always evidence sensitive, and so compatible with any plausible version of the evidence-sensitivity requirement?

While the summativist is right to point out ways in which an individual's beliefs may fail to be sensitive to her evidence, the problems the summativist faces in making group beliefs evidence-sensitive don't seem to be of the same kind as the familiar ways in which an individual's beliefs may fail to be evidence-sensitive. The problem faced by summativism is plausibly not a matter of finite cognitive powers, or limited intellectual capacity. To see that, reconsider some of the problems earlier discussed for the summativist viewpoint. For instance, reconsider the example in which all of the members of the department initially believe that Dr X will be the next chair. Dr X herself then receives a defeater for the belief that she will be the next chair in the form of an assurance by the principal. According to the pooled account of group evidence, the group thereby has a defeater for the belief that Dr X will be the next chair. However, since Dr X does not share this information with other members of the department, none of the other members of the Department revise their belief that Dr X will be the next chair. As a result, the group still believes that Dr X will be the next chair. Here, there's no plausibility to the suggestion that the epistemic import of the defeater is too complicated for the group to grasp. Nor is the problem one of finitude, that the group doesn't have the time to review all of its relevant evidence and assess its epistemic import. Here, we simply have two bits of relevant evidence: the proposition which initially justifies the belief that Dr X will be the next chair (it's Dr X's turn and Dr X would be very good at the job) and the defeater (the principal has told Dr X that she wants Dr X to play a different role for the university). It seems, then, that the problem for the summativist does not concern sophisticated evidential relations amongst very large bodies of evidence, but rather even the simplest evidential relations amongst very small bodies of evidence.

7.3 How can groups make their beliefs evidence-sensitive?

Even if it's agreed that the summativist cannot meet the evidence-sensitivity requirement for group belief, it might be wondered how easy it is for the non-summativist to do so. True, both functionalism and interpretationism make it constitutive of belief that it is governed by rationality requirements, including the requirement of evidence-sensitivity. But, still it might be wondered how groups manage to have states with the appropriate evidence-sensitivity to be beliefs.

In fact, there are a variety of ways in which a group can ensure that its beliefs are sensitive to its evidence. One way in which it could do so is by employing automated systems, such as computers, which take as input group evidence and output group belief depending on what the group's evidence supports. We see this kind of

solution in a range of groups undertaking enquiries which require the gathering and processing of large amounts of information, e.g. a population commission. While use of such automated systems is especially useful when gathering and processing large amounts of data, a group could solve the problem of evidence-sensitivity not by using an automated system but by employing agents, whether members of the group or not. Just like the computer, the agent or agents could each be given all of the group's evidence and be tasked with determining the group's beliefs in the light of what that evidence supports. This style of approach is exemplified in popular depictions of crime investigation in which a team works together to gather relevant evidence and then some member, or members of the team, sit down to figure out what the team's evidence supports.

The examples provided so far of how a group can ensure that its beliefs are sensitive to the evidence involve some agent or system having all of the group's evidence and determining the group's beliefs in the light of that evidence. But, one might wonder whether a group needs to adopt a solution in which all the evidence comes together in a single agent/system. Discussion of distributed cognition suggests that this need not be the only model. To illustrate this possibility, consider the mathematical proof of the Classification theorem as presented in Habgood-Coote and Tanswell (2021).[10] In outline, the Classification theorem states that all finite simple groups fall into one of the four main families or one of the 26 sporadic groups. Habgood-Coote and Tanswell stress how the proof of the theorem was a radically collaborative effort undertaken by over a hundred mathematicians over many years (primarily the two decades from 1961 to 1981, though elements were completed in the early 2000s). True, one central player, Gorenstein, did propose a 16-step plan for proving the theorem in 1971 and this gave structure to the later stages of the collaborative effort. But, despite this, they say, "the network of mathematicians who contributed work to the proof was decentralised, with no central managerial team, or clearinghouse for results" (10). Nor is the lack of a central planner or a place where it all comes together accidental. In particular, "the sheer size and complexity of the proof means that at no point could any individual claim to be in a position to validate the whole proof" (11). When the completion of the proof was announced, Gorenstein estimated it ranged between 300 and 500 individual papers, running to between 5000 and 10,000 pages.

Despite the radically social nature of the process of proving the Classification theorem, Habgood-Coote and Tanswell stress that it allows the belief of the mathematical community in the Classification theorem to be sensitive to relevant evidence. First, the collaborative effort enabled the building blocks of the proof to be produced. Mathematicians involved in the collaboration had a broad understanding of the kind of work which needed doing, and between them collaborated to produce this work, sometimes changing the direction of their individual research to do so (18). Second, even if no single individual could understand or validate the entire proof, across the mathematical community different individuals understood what was relevant to the

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[10] While the group theory community which produced the proof is arguably not sufficiently internally coherent to count as a robust group agent with beliefs and desires of its own, it nonetheless usefully illustrates how a group could ensure that its position on an issue is sensitive to evidence in a highly distributed way.

assessment of the various building blocks and in this way belief in the proof is sensitive to relevant evidence. Habgood-Coote and Tanswell present the way in which the community's belief in the theorem is epistemically supported as involving what Goldberg (2010) calls "coverage supported beliefs". Even if no individual mathematician could check the entire proof, their belief in the Classification theorem is supported by following counterfactual: if there had been a serious error in the proof, someone would have noticed it by now.

8 Conclusion

If groups have beliefs, then they should have the characteristics distinctive of beliefs in general. Here, I have focused on one such characteristic: the mind-to-world direction of fit of beliefs. Lackey appealed to direction of fit to argue against one prominent non-summativist account of group belief, Gilbert's joint commitment account, and in favour of her own neo-summative account. However, I have argued that on deeper reflection, it's difficult for summative or neo-summative accounts of group belief to make group belief sensitive to group evidence. Instead, I have argued that the required evidence sensitivity is more easily accommodated on popular non-summativist accounts of group belief, namely functionalism and interpretationism. For these accounts build evidence-sensitivity into the very notion of belief.

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