

# GROUP BELIEF

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## 1 Introduction

We ascribe, so it appears, beliefs and other mental states to groups and social collectivities as well as to individual persons:

“Our poetry reading group believes that Browning is more challenging than Tennyson”

“The court believes that the defendant is guilty”

“GlaxoSmithKline believes it has discovered a cure for dementia”

“Neuroscientists believe that the brain is plastic”

“The stock market believes that Brexit will be bad for British business”

“North Korea knows how to build an atomic bomb”

This article looks at different ways of understanding statements such as these. (At the outset, we should note that there may be no uniform phenomenon of group belief—it might be that different kinds of group belief statement have different correct readings.)

While the foreground topic falls within social epistemology, in the background are questions of social ontology. The nature of the individual believer and their existence are not especially pertinent questions for those trying to understand the nature of individual belief. By contrast, the nature of the group or of the collectivity and whether it really exists, and if so what makes it exist, are important background questions for those trying to understand group belief.

Consider the following statement. “With their team three-nil down, the crowd of Rangers’ fans knew that its team could not win, and began leaving the stadium before the final whistle.” In this statement, the Rangers fans are treated as some kind of collectivity—as a group they began leaving the stadium early, which is to say, roughly, that some sizeable proportion left early, not that they all or most made a move to leave early. The statement also attributes *knowledge* to the body of fans. How should we understand that? It looks clear that the simplest analysis is correct: all or most of the fans knew that Rangers could not win.

This is an instance of an analysis of attributions of a state to a group that is known as the *summative* account, as articulated by Anthony Quinton (1976: 19): “To ascribe mental predicates to a group is always an indirect way of ascribing such predicates to its members. With such mental states as beliefs and attitudes the ascriptions are of what I have called the summative kind. To say that the industrial working class is determined to resist anti-trade-union laws is to say that all or most industrial workers are so minded.” More formally:

(S) The group  $G$  has property  $\Phi$  iff all/most of the members of  $G$  have property  $\Phi$ .

While the summative account looks right for some cases, we shall see that there are reasons for doubting that it can cover all cases in which belief and other states are attributed to groups. A slightly more complex view may reject (S) for some cases while nonetheless still holding that  $G$ 's relationship to a property  $\Phi$  depends in some less simple way on the relationship of members of  $G$  to the property  $\Phi$ . Above I said that 'the crowd began leaving the stadium before the final whistle' did not mean that most members of the crowd started leaving early. Nonetheless, it does mean that some sizeable proportion of the crowd actually left the stadium early. Consider the belief expressed in "The stock market believes that Brexit will be bad for British business". This doesn't mean that the majority of the of investors in the stock market have that belief. The relevant criterion is how the stock market responded to the news of the Brexit vote—falling indicates that the market took a negative view of its implications for business. How the stock market behaves depends not just on the number of investors taking an action such a selling shares, but on the size of the holdings that they sold and at what price they sold them. So the relationship of the collective belief of the stock market is rather more like a weighted average of the beliefs of the investors constituting the market.

## 2 Rejecting the summative view

It is useful to define *mutual knowledge/belief* (Vanderschraaf and Sillari 2005) thus:

Members of a group have mutual knowledge/belief that  $p$  iff each individually knows/believes that  $p$

This is distinct from *common knowledge/belief* (Lewis 1969):

Members of a group have common knowledge/belief that  $p$  iff each individually knows/believes that  $p$  and each individually knows/believes that each individually knows/believes that  $p$  and each individually knows/believes that each individually knows/believes that each individually knows/believes that each individually knows/believes that  $p$  and ... etc.

The summative view says that group belief is mutual belief or is an approximation to mutual belief (in the case of a group belief where most but not all individuals have the relevant belief). The summative view will fail in cases where mutual belief is not sufficient for group belief. And it will fail when there is group belief without mutual belief or any approximation to it.

### Mutual belief not sufficient for group belief

(S) is refuted as a general account of group belief by cases where although all members of a group share belief  $p$ , the group itself does not believe  $p$ . Several kinds of example of such cases have been given.

- Some groups are *established* groups—for example a court, a union, or rugby club. Established groups will often have a formal set of rules or a constitution governing their existence and means of decision making. But an established

group can also exist with an informal but widely understood set of procedures and norms. The members of an established group may all have a belief without that belief being a *belief* of the group if that belief has not been adopted by that group *as a group*. Margaret Gilbert (1987: 189) gives the example of the Food Committee and the Library Committee of a college. The two committees happen to be coextensive. All the individuals believe that there is too much starch in the college diet. But it is only the Food Committee that believes this whereas the Library Committee has no opinion on the matter. (we may imagine that the Food Committee has discussed the matter and agreed on the point, whereas the Library Committee has not.) Members of a jury or of a panel of judges may, at some point in a trial, all believe that the defendant is guilty. But until the jury or court have at least discussed the question, it would not be correct to say that they have a belief as a jury or court about the defendant's guilt.

- All members of a group believe  $p$  but for some reason deny and behave as if they do not believe  $p$ , each member thinking that they are the only one with this strange belief. In such a case it would be a mistake to say that the group believes  $p$  (Gilbert 1989: 257–8; Bird 2010).
- All members of a group believe  $p$  but this is such a mundane piece of information ('the sky is blue') that it is not distinctive of the group nor has it been discussed by the group nor do those individual beliefs stem from membership of the group (Corlett 1996: 88; Schmitt 1994: 261).

The first two reasons are compelling. The third, in my opinion, is not. That a belief is not distinctive of a group is not a reason to deny that the group has that belief—for it is not a reason for denying such a belief to an individual. Even if mundane propositions are not *adopted* as group beliefs, they may still play a role in group deliberations. It would be difficult to explain a group's reasoning without attributing to it belief in mundane propositions as well as distinctive ones. (The Library Committee believes that it will have a storage problem because the library has space for 100,000 books but recent acquisitions will lead to a collection of 107,000. How do we explain that if we deny that the Library Committee has the mundane belief that 107,000 is greater than 100,000?)

### **Mutual belief not (approximately) necessary for group belief**

In other cases, a group may have a belief without all members having that belief. The football crowd may believe that their team will not win even if a few extreme optimists believe there will be an unprecedented turnaround. The committee may take a view as a result of a vote, even if the vote is not unanimous or some members are absent. For such reasons statements of the summative view, such as (S) do not require full mutual belief but only a weak approximation to it—group belief requires only that *most* members of the group should have the belief in question.

Other kinds of case suggest that even the weaker (S) is false:

- All the members of a group may want the group to endorse  $p$  but few or none of the individuals believe  $p$ . They may have a variety of reasons for wanting the group to have a belief that they do not themselves share. It might be politically

expedient that group adopts the belief  $p$  even if the members individually believe otherwise (it may even be common knowledge within the group that they believe otherwise) (Gilbert 1987: 187; Bird 2010: 29).

- The group has decision-making rules that are not simple majorities. Certain members might have additional weight. It may even decide what it believes by deferring to a leader or policy committee. A group (such as a political party) that comes to its views in such a manner may have a belief that is the belief of only a small proportion of the individual members of the group.
- A group may come to its opinion not by aggregating the opinions of its members but by a division of labour among them. Different individuals are given different cognitive roles and feed the different bits of information to those in the group whose role it is to collate that information and take a decision based on it. (This is *distributed cognition*—see below.)

### 3 The commitment model

The committee is a paradigm of group decision making. The members of the committee meet, discuss, deliberate, and decide. They know that they are meeting as a committee and that the decision that they take is a decision of the committee. They will understand how the committee reaches its decision and will be aware of the fact that they have made that decision as a committee. The members of the committee will thereby be committed to its decision in a certain way: they will acknowledge the decision as a decision of the committee they constitute and they may even be under some obligation not to disavow that decision as an individual beyond the committee. Furthermore such commitments are not simply commitments that each takes on individually but are commitments that they jointly undertake. When the decision is a decision to endorse some proposition, then we have a case of the committee believing a proposition as a group.

This picture of group belief finds its articulation in the commitment model, developed by Margaret Gilbert (1987, 1989, 1994, 2004). A group believes  $p$  when it is jointly committed to accepting or believing  $p$  as a body (Gilbert 2004: 100). What does this joint commitment amount to? Joint commitment requires that the individuals in question openly express their individual commitment conditional on a like commitment by others and that this open expression by each is common knowledge within the group (Gilbert 1994: 245–6; Gilbert 2004: 100). A joint commitment to accepting/believing  $p$  as a body is a joint commitment to letting  $p$  stand as the view of the group. In summary, then:

(G) A group  $G$  believes  $p$  just in case the members of  $G$  jointly accept  $p$ , where the latter happens just in case each member is openly committed to letting  $p$  stand as the view of  $G$ , conditional on a like open expression of commitment by other members of  $G$ , and this open expression is common knowledge in  $G$  (See Gilbert 1987: 195; Gilbert 1989: 306.)

Raimo Tuomela (1992, 2004) develops a similar account, differing in certain details (see also Tuomela 1984). For example, Tuomela prefers the idea of an unconditional commitment that *presupposes* the commitments of others, rather than a conditional commitment. He thinks that open expression is unnecessary—tacit acceptance may be sufficient. An important departure from Gilbert's view is the fact

that Tuomela distinguishes between operative and non-operative agents within a group. The group's structure of authority may permit a certain subset of members, the operative members, to make decisions on behalf of the whole group. The group believes  $p$  when the operative members jointly accept  $p$  and as a result the non-operative members tend, as members of the group, tacitly to accept  $p$ .

## 4 The distributed model

Above I mentioned that a group may decide to form its beliefs not by aggregating the opinions of its members on each proposition but instead by dividing the labour among its members. The aggregative approach may be the one to take when it is easy to furnish all members with the same evidence but what is tricky is to know how exactly that evidence bears on the proposition in question. In Francis Galton's (1907) famous anecdote about the crowd at a country fair, the average of the individual guesses of the weight of an ox was very accurate (and more accurate than the large majority of individual estimates). In this case the evidence is available to all the crowd was for the most part the same—they could all see and inspect the ox. What is tricky is to infer the weight from that information. In other cases the problem is not one of making the inference from the evidence, but is a matter of gathering the evidence accurately and deploying it in a timely fashion. Edwin Hutchins (1995a) gives the example of the problem of navigating a large warship, the USS *Palau*, into harbour. This is an information-driven exercise: the ship's crew needs to gather information about the ship's location relative to landmarks, about the ship's current course and speed, about tide and wind, and so forth. With this information the problem of plotting the ship's course, while a technically skilled task, is not one that required debate and discussion but is, relatively speaking, mechanical. What is important is that the information employed is accurate and delivered in good time. Clearly a bad way of solving this problem would be for many crew members to take a view on each of the relevant input propositions concerning location, speed, and such like, then to come to a conclusion about the proper course, and finally to aggregate those individual conclusions into a group view. The individuals' views on the input propositions would be too inaccurate and so would their conclusions, and they would not be able to do the required work rapidly enough to navigate a moving ship.

Clearly the best way of solving the problem of plotting a ship's course is to divide the task into parts. Different sailors and officers have distinct roles in collecting the various pieces of information required, while others have roles in collating the information and using it to plot the course. In this case specialization increases accuracy as well as speed. This model of group belief formation, with its division of cognitive labour, is known as *distributed cognition* (or the *distributed model*). This model is not inconsistent with the commitment model. For the group could satisfy the commitment model by committing themselves individually to whatever conclusion the distributed system produces. The two models are easiest to reconcile on Tuomela's conception of the commitment model. For Tuomela holds that a group's commitment to the group belief may be tacit rather than explicit; in a distributed system the individuals may well have no knowledge of the conclusion reached by the system. And Tuomela's model implies the possibility of the division of cognitive labour to the extent that it allows for operative members of a group to determine the group's belief; in the distributed model the operative members (in Tuomela's sense)

would be those who draw the relevant conclusions from the evidence gathered by other members.

Nonetheless, many actual examples of distributed cognition do not satisfy the commitment model because commitment is not required in the distributed model. It is simply not relevant to understanding how the USS *Palau* knows its correct course to consider whether the crew members are committed to the conclusion reached by those plotting the course. All that matters is that they perform their allotted tasks in collecting the required information and passing it on in the appropriate manner.

Another important difference between the two models concerns the role of inanimate objects in the cognitive system. Hutchins emphasizes the importance of various tools for representing information in distributed systems. In another of his examples, 'How a cockpit remembers its speed', Hutchins (1995b) explains that the cognitive task of landing a passenger aeroplane involves not only a division of cognitive labour between the two pilots but also the use of various mechanisms for the representation of data. For example, the correct airspeeds for the different stages of the descent are determined by one of the pilots (the 'pilot not flying') who represents these speeds with moveable 'speedbugs' around the rim of the airspeed indicator. The other pilot (the 'pilot flying') is able to use these in real time to adjust the aeroplane's speed as it descends as well as the configuration of flaps and slats on its wings. The airspeed indicator and its speedbugs are a key part of the cognitive system. Cognition is distributed not only among the human parts of the system but also its inanimate components. Hutchins regards the result as a cognitive state of the system—it is the *cockpit* that remembers its correct speeds.

## 5 Some key issues in understanding group belief

### The discursive dilemma

Let us return to the committee as the paradigm of the commitment model. It forms its opinions by simple majority vote on the proposition in question. As Pettit and others point out, this can lead to the group forming inconsistent beliefs. Imagine a committee made of three individuals, A, B, and C, who consider three propositions,  $p$ ,  $q$ , and  $p \wedge q$ . A holds  $p$  to be true but  $q$  to be false, and so holds  $p \wedge q$  to be false. B holds  $p$  to be false but  $q$  to be true, and so also holds  $p \wedge q$  to be false. C holds both  $p$  and  $q$  to be true and so holds  $p \wedge q$  to be true. A, B, and C now vote on the propositions in order to decide the committee's views on each. Accordingly they regard  $p$  as true (A and C vote in favour), and  $q$  as true (B and C vote in favour), and they also regard  $p \wedge q$  as false (since A and B both vote for the falsity of  $p \wedge q$ ). Consequently the group beliefs are inconsistent. This is the discursive dilemma.

According to Pettit (2003) a group becomes a 'social integrate', which is to say an institutional person capable of intentional action and intentional states such as belief, only if it adopts a belief aggregation procedure that can avoid the dilemma. If the latter is correct, the discursive dilemma constitutes a refutation of (S), insofar as (S) allow the group view to be determined by the majority of individual beliefs. It does not refute (G) in its general form, since (G) says nothing about how the group belief is formed. But it does constrain how (G) is implemented. Group belief cannot be formed in all cases by simple majoritarian voting. (G) is, however, consistent with there being a single guru who fixes the group belief—so long as the other members

of the group are jointly committed to accepting whatever the guru opines. The distributed model in effect bypasses the discursive dilemma—it simply does not face the question of aggregating multiple opinions on the same proposition, because different individuals are given different proposition to focus on.

## **Supervenience**

A feature of both the summative account and the commitment model is that they analyse group beliefs in terms of the mental states of the individuals in the groups. In the summative account the analysis is in terms of individual beliefs. According to the commitment model the analysis is in terms of a wider range of mental states, including the intentions and commitments of individuals. Either way, group belief satisfies a supervenience claim:

(SUP) The beliefs of a group supervene on the mental states of the individual members of the group.

The commitment model appears to require (SUP) or something much like it. The requirement for the open expression of individual commitment, which Gilbert promotes but Tuomela rejects, goes beyond the mental states of individuals, but not beyond their actions. So a slightly weaker version of (SUP) remains true for the different versions of the commitment model:

(SUP\*) The beliefs of a group supervene on the mental states and actions of the individual members of the group.

While Tuomela (2004: 112) explicitly commits himself to a supervenience claim about group states and Schmitt (2003: 2) regards it as ‘nearly uncontroversial’, I (Bird 2010, 2014) argue that it is false. The distributed model, as Hutchins presents it, also very clearly rejects both (SUP) and (SUP\*). For that model is happy to regard inanimate objects as parts of systems that have cognitive properties such as belief, knowledge, and memory. The airspeed indicator and the speedbugs showing the correct speeds are a part of the cognitive system required to fly and land an aeroplane. In this respect the distributed model can be seen as moving even further away from the summative account than the commitment model.

## **Social ontology**

According to Quinton (1976: 19), the use of ‘belief’ is metaphorical when applied to groups. Insofar as the summative account applies, there is no such thing as the group to which doxastic and epistemic attitudes can appropriately be ascribed in a non-metaphorical way. Those rejecting the summative account may be thought of as advancing two claims (i) there really is some non-trivial entity that is the group, and (ii) genuine doxastic and epistemic states may be possessed by that entity. In this section I address (i) and in the next section I look at (ii).

Trivial conceptions of group existence would be conceptions that apply to almost any collection of objects: e.g. the group as the set of its members or the group as the mereological sum of its members. In going beyond trivial conceptions of a group we are looking for a principle of composition for groups that does justice to their being social entities, and furthermore which permits them to be possessors of doxastic and epistemic states. The commitment model and the distributed model may both be seen as supplying putative principles of composition for groups. The

commitment model regards the group's existence as consisting in the joint commitment of its members, whereas the distributed model regards the group being constituted by those members being connected in a network of cognitive dependencies.

One might see this as a disagreement about what the correct principle of composition of a group is. Alternatively, one might also think that both are genuine ways in which individuals may be bound together into a social entity. In which case one might think that there are importantly two different kinds of group—the bound-by-joint-commitment kind and the linked-by-a-cognitive-network kind. And maybe there are further types too, corresponding to other modes of social composition, if there are other modes. (One perhaps should think that there are, insofar as we have been considering modes of composition that are explicitly doxastic/cognitive. And presumably there should be modes of composition that are not doxastic/cognitive. For example, a group can be united by shared grief or joy.)

One might then also wonder whether the term 'group' is properly applied to both (or all) such kinds. For while it seems appropriate to think of a poetry reading group, a rugby club, a court, or the British cabinet, as a 'group', it is less clear that the USS *Palau* or the cockpit of a commercial airliner are appropriately termed a 'group'. And so, if we are talking about *group* belief specifically (and that is the title of this article), then is not the commitment model the correct account (while the distributed model is an account of something else other than groups)? While that may be a correct observation about the term 'group' and what it applies to, our broader interest ought to be with social entities more generally or at least that subset of social entities to which doxastic and epistemic states can be attributed. Some such entities may be called 'groups' and others may be better termed 'institutions' or something else.

## Analogy with individual belief

A further question is whether it is appropriate to attribute *beliefs* to social groups or institutions. The summative account does not regard the groups as (non-trivial) entities and a fortiori does not ascribe *beliefs* to them. The use of the term 'belief' is just a transference from the states of the individuals in the group. The commitment model and distributed model claim to describe states of genuine social entities. But why regard them as beliefs?

The best reason to regard the states in question as beliefs is that they bear a sufficiently close analogy to the beliefs of individuals.

An individual believer has a certain kind of commitment to a proposition: they will be disposed to assert that proposition and to deny its negation. The commitment model of group belief mirrors this feature of individual belief; the group's members are jointly committed to letting the proposition stand as the belief of the group. Furthermore, this is reinforced by requiring some degree of commitment by the individual members to the proposition. Gilbert emphasizes that members of a group that believe  $p$  should not disavow  $p$  and may be rebuked by the group if they do.

Asserting what one believes is a special case of a more general relationship between belief and action. While the commitment model does not directly mention action (other than openly expressing commitment, according to Gilbert), the model is typically accompanied by a corresponding account of social action (Tuomela 1984, 1995; Gilbert 2013). Just as a group may be committed as a group to a belief it may similarly be committed to an action, and presumably, if the individual members are rational and the group's decision making is appropriately organised,



the group's beliefs and actions will be related just as individual belief and action (assuming also that the decision making process ensures avoidance of the discursive dilemma).

Contrasting with the commitment model, the distributed model makes the relationship to the action of a social entity more central to its conception of belief but does not place any special emphasis on the 'commitment to a proposition' aspect of belief. The best way to see the analogy implicit in the distributed model is in terms of the analogy between social institutions and organisms originating with Émile Durkheim (1893) and developed as 'structural functionalism' by Talcott Parsons (1961) and others. At the grand scale this view sees the whole of society as an organism, with the various institutions (the law, parliament, business, the security services, etc.) performing different functions in order to contribute to social cohesion. The analogy may also be applied to social entities below the level of society, such as the institutions themselves. The institution will have a set of roles or goals it pursues. It will do so by giving distinct functions to sub-groups or to individuals. This parallels the different functions of the systems and organs of a biological organism that contribute to its organic unity and stability and to the pursuit of its overall goals. Furthermore, those functions in the social entity may have direct analogues with specific functions in the individual organism. In particular the pursuit of institutional goals (itself involving the analogue of action) will require social analogues of belief and desire or intention. An institution cannot pursue its goals without institutional beliefs.

One may think that this relationship to assertion and other kinds of action do not exhaust what is essential to belief. (After all, one would get the same pattern of behaviour in someone who is just pretending that *p* is the case.) Also important is a connection to the *truth*. Belief involves thinking that a proposition is true. Furthermore, normally beliefs are somewhat sensitive to evidence. If you see clouds and heavy rain, you do not believe that it is currently sunny and dry. While it is possible for an individual to hold on to a belief in the face of counter-evidence, such a belief may be thought to fail in some important way. Such a belief is not sensitive to the truth. Some philosophers try to capture this by saying that it is in the nature of belief to *aim* at the truth. One feature of the commitment model is that there is no clear connection of group belief to the truth. Since that account does not tell us how or why a group belief is formed, it is no part of the account that the group-belief formation process is even normally sensitive to the truth. Tuomela (1992: 291) notes that this is a point of disanalogy between group and individual belief. The distributed model, on the other hand, starts from the idea of a cognitive system—a system whose function it is to gather and process information in order to guide action. So that model has the connection to truth as well as to action built into its account of group belief.

There is a clear parallel between the distributed account of group belief and the account of individual belief given by the functionalist theory of mind. Indeed one might suppose that this parallel could support the claim that both individual and social beliefs are states of one and the same more general type *belief*. In my view, this functionalist approach to group belief—and quite probably to other properties of groups also—promises to be a fruitful avenue for future inquiry.

## Biographical note

Alexander Bird is professor of philosophy at the University of Bristol. His research covers the philosophy of science, metaphysics, and epistemology; he is author of the books *Thomas Kuhn* (2000) and *Nature's Metaphysics* (2007).

## Further reading

Bird, A. J. (2014) "When is there a group that knows? Scientific knowledge as social knowledge" in J. Lackey, editor, *Essays in Collective Epistemology*, Oxford: Oxford University Press. (Focuses especially on scientific knowledge as an example of group knowledge. Rejecting, the supervenience thesis, Bird emphasizes the importance of the distributed model for understanding group belief.)

Gilbert, M. (1987) "Modelling collective belief" *Synthese* 73: 185–204. (A classic of the group belief literature, articulating the commitment model. The starting point for many subsequent discussions.)

Hutchins, E. (1995b) "How a cockpit remembers its speeds" *Cognitive Science* 19: 265–88. (The source of the idea of distributed cognition.)

Pettit, P. (2003) "Groups with minds of their own" in F. F. Schmitt, editor, *Socializing Metaphysics*, Lanham, MD: Rowman and Littlefield. (Pettit starts from the discursive dilemma and discusses its implications for thinking of groups as having intentions and beliefs.)

Tuomela, R. (1992) "Group beliefs" *Synthese* 91, 285–318. (Another classic of the group belief literature promoting a version of the commitment model that, among other things, allows for 'operative members' of a group to determine a group's belief.)

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