# Group-deliberative competences and group knowledge

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#### Abstract

Under what conditions is a group belief resulting from deliberation constitutive of group knowledge? What kinds of competences must a deliberating group manifest when settling a question so that the resulting collective belief can be considered group knowledge? In this paper, we provide an answer to the second question that helps make progress on the first question. In particular, we explain the epistemic normativity of deliberation-based group belief in terms of a truth norm and an evidential norm, introduce a virtue-reliabilist condition on deliberative group knowledge, and provide an account and a taxonomy of the types of group competences that are necessary for this type of collective knowledge.

### 1 | GROUP DELIBERATION AND GROUP KNOWLEDGE

Deliberation is a practice or activity in which we weigh reasons to settle the question of whether p or to decide whether to  $\varphi$ . It can serve epistemic or non-epistemic purposes and be guided by epistemic or non-epistemic considerations (e.g., practical, moral, etc.). It can be done individually or in a group. In the first case, the weighing of reasons takes place entirely (or at least substantially) in the mind of an individual. In the second case, deliberation is mediated, at least in part, by a communication process, either within a group or between groups, in which beliefs, evidence, information, arguments, etc. concerning the question of whether p or the decision whether to

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Now consider group knowledge. The attribution of knowledge to groups is common<sup>2</sup>, and the idea that groups can know is prevalent in social epistemology<sup>3</sup>. Moreover, we often deliberate in groups and form collective views on that basis, and sometimes we take such views to be group knowledge. If a medical team deliberates about whether their patient has a rare form of cancer and, after weighing the best available medical evidence (observation of the patient's symptoms, test results, evidence from clinical trials, meta-analyses, etc.), correctly concludes that the patient suffers from that disease, their collective diagnosis plausibly amounts to group knowledge. Thus, an interesting question at the intersection of the epistemology of deliberation and the epistemology of groups is this:

**Knowledge-deliberation question**: Under what conditions is a group belief resulting from deliberation constitutive of group knowledge?

This question can be considered from different angles, and we want to remain neutral on several of them. In particular, we want to distance ourselves from the dispute between summativism and non-summativism about group properties. In the literature on group epistemology, there is a well-known divide between summativist and non-summativist views of group knowledge, which respectively reject and admit the possibility that a group knows a proposition when no individual member knows it<sup>4</sup>. We remain neutral in such a debate. Nor do we take a position on the controversy over whether collective views are best understood as group beliefs or group acceptances<sup>5</sup>—although the discussion that follows is premised on the non-innocent assumption that group knowledge, at least in deliberative settings, entails group belief or acceptance<sup>6</sup> (for simplicity, we will speak of 'group beliefs'). In the specific context of group belief, we also remain neutral on the question of which specific view of group belief is correct, e.g., whether a group's belief that p is to be understood in terms of individual members of the group believing p (summativism), whether it is irreducible to members of the group believing p (non-summativism), or whether middle-ground views (e.g., Lackey, 2020) are correct. The reason is that we are mainly concerned with cases in which most (if not all) group members believe what the group believes, and such cases are consistent with all views, including non-summativist ones. Finally, we assume that groups can have competences and virtues (we will distinguish several group-deliberative competences), but again remain neutral on whether it is possible for groups to be competent even though none of their members are<sup>7</sup>. In the cases of deliberation we will discuss, 'group competence' can be understood to mean that most or all group members are appropriately competent, but we do not rule out the non-summative possibility that deliberating groups have irreducible group-level competences. In sum, our approach to the knowledge-deliberation question brackets the debate between summativism and non-summativism about group properties.

Another, more negative, approach to the knowledge-deliberation question is to identify conditions under which group beliefs resulting from deliberation are *not* constitutive of group knowledge. Such conditions are varied, and several have already been identified in the philosophical and empirical literature. The most obvious case, for example, is when a group belief turns out

to be false. For if individual knowledge is factive, group knowledge should also be factive. Similarly, if individuals lose their knowledge when psychological or normative *defeaters* are present, then group knowledge based on deliberation should also be undermined by the presence of such defeaters (Carter, 2015; Lackey, 2020). And if individual beliefs do not qualify as knowledge if they are formed unreliably (as many epistemologists believe), then the same should be true for deliberation-based group knowledge. Indeed, empirical studies have shown that deliberation is unreliable (in the philosophical, not the psychological sense of the term) when it is influenced by a variety of group processes such as shared information bias in hidden-profile situations (cf. Stasser & Titus, 1985), most forms of group polarization (cf. Broncano-Berrocal & Carter, 2021a; Myers & Lamm, 1976), or the amplification of individual cognitive errors (cf. Kerr et al., 1999). Thus, the empirical literature gives us reason to think that it is not enough to deliberate in groups to acquire group knowledge, but that deliberation must proceed in the right way (Aikin & Clanton, 2010). Our claim (consistent with reliabilism) is that deliberating groups must be competent in a sense yet to be specified for their beliefs to count as group knowledge. Scientific groups, for example, are prime candidates for manifesting the kinds of group-deliberative competences that we believe are necessary to generate group knowledge. We would therefore like to take a more positive approach to the knowledge-deliberation question by examining the following, narrower question:

**Competence-deliberation question**: What kinds of competences must a deliberating group manifest when settling the question of whether p so that the resulting collective belief that p (or that not-p) at time t can be considered group knowledge of p (or of not-p)?

The result of this work will thus be an account and a taxonomy of the types of group competences that are necessary for deliberative group knowledge, which will help make progress on the knowledge-deliberation question.

The paper is organized as follows. In §2, we explain how the normativity of deliberation can be explained by various epistemic norms of deliberation-based group belief and, in particular, by a truth norm and an evidential norm, and how group-deliberative competences can be understood. In §3, consistent with these norms, we introduce a virtue-reliabilist condition on deliberative group knowledge, distinguish between good and bad evidence and between relevant and irrelevant evidence, and identify some possible truth-related and, in particular, evidence-related factors that contribute to epistemically adequate deliberation. In §4, we offer a taxonomy of different types of reliabilist group-deliberative competences based on insights from this case, and discuss which of them are necessary for deliberative group knowledge of a proposition at a given time, thereby providing an answer to the competence-deliberation question. We distinguish this question from the broader question of what kinds of competences deliberating groups must have in order to know many propositions in a domain in the long run. In §5, we make some concluding remarks.

#### 2 | THE EPISTEMIC NORMATIVITY OF DELIBERATION

Answering the competence-deliberation question contributes not only to answering the knowledge-deliberation question, but also the more general question of when collective beliefs

based on deliberation are epistemically adequate. How can we assess the epistemic normativity of such beliefs? In what follows, we provide an answer to this question that will contribute to a better understanding of group-deliberative competences and virtues.

Not all groups that deliberate do so in a way that we would call epistemically appropriate, which has a bearing on the epistemic adequacy of its outcomes. This is not surprising: deliberation can serve epistemic or non-epistemic purposes and be guided by epistemic or non-epistemic considerations. In some cases, a collective opinion about whether p or whether to  $\varphi$  is formed primarily on the basis of non-epistemic considerations (e.g., financial reasons, preferences and desires, moral considerations) or in pursuit of non-epistemic goals (e.g., practical, political, financial goals, protecting the group's identity, preserving or not disrespecting certain moral values). For example, the board of a tobacco company might hold opinions that contradict established scientific truths or that is refuted by the best scientific evidence simply because of what is financially at stake (Lackey, 2020). There is a trivial reason why such beliefs fall short of epistemic adequacy: they are based on non-epistemic considerations in pursuit of non-epistemic goals.

One way to assess the epistemic adequacy of deliberation-based group beliefs is to appeal to the fulfillment or violation of norms formulated in terms of the epistemic goals to which deliberation contributes. In particular, groups whose collective beliefs are upheld or maintained only if certain epistemic goals are achieved can be considered epistemically permissible according to these norms. An obvious epistemic goal is truth, and a corresponding norm for deliberation can be formulated as follows:

**The truth norm**: Believing p as a group on the basis of deliberation is epistemically permissible only if p is true<sup>8</sup>.

Consider two examples of groups that are prone to comply with the truth norm. A group of medical researchers might debate whether a randomized clinical trial of 1000 subjects is sufficient to prove the safety of a vaccine, or whether the number should be increased. In doing so, the scientists would not collectively adopt any view unless they believed it to be true (or likely to be true, or the one that best approximates truth). Similarly, participants in a team game show might debate the correct answer to a million-dollar question and would undoubtedly agree on a collective answer only if they believed it to be true<sup>9</sup>.

Deliberation can also serve other (not necessarily incompatible) epistemic goals, such as promoting evidential support. To illustrate, if certain forms of epistemic luck undermine individual knowledge, the same should be true of deliberative group knowledge (Barba & Broncano-Berrocal, 2022), e.g., when several people who have no evidence and are largely ignorant about a domain of propositions containing p believe that p as a group after discussing whether p is true and guessing p correctly. One way to explain why such a collective belief is not epistemically adequate, even though it satisfies the truth norm, is to invoke the violation of the following norm:

**The evidential norm**: Believing p as a group on the basis of deliberation is epistemically permissible only if p is supported by the group's evidence and the group's belief that p is properly based on that evidence<sup>10</sup>.

The two norms are independent: as we have seen, groups can satisfy the truth norm without satisfying the evidential norm, and likewise the evidential norm can be satisfied when the truth norm is violated (when a group forms a false belief supported by the group's evidence)<sup>11</sup>. In general, however, satisfying the evidential norm makes the satisfaction of the truth norm likely (at

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least in normal circumstances, i.e., not in scenarios of massive deception). Moreover, as we shall see in §3, the achievement of more specific epistemic goals regarding how groups handle their evidence contributes to the fulfillment of the evidential norm and thus to the fulfillment of the truth norm.

However, truth and evidential support (and knowledge) are not the only epistemic goals deliberation can aim at, and therefore the truth and evidential norms are not the only epistemic norms to which deliberation can be subject. Another goal of deliberation can be understanding. Thus, another possible epistemic norm is the following: believing p as a group on the basis of deliberation is epistemically permissible only if group members understand why p is true. In other contexts, however, truth considerations may not be the most important epistemic considerations, and the focus is rather on whether the view held by the group, or the way in which deliberation proceeds, would give rise to epistemic injustices (Fricker, 2007), so that deliberation-based belief in p is considered epistemically permissible only if p, the fact that the group believes that p, or the way in which deliberation proceeds, does not wrong group members specifically in their capacity as epistemic subjects (e.g., as givers of knowledge, in their capacity for social understanding, etc.) or any other person outside the group in that capacity<sup>12</sup>. A full account of the epistemic normativity of deliberation-based group belief would have to take into account the full range of epistemic norms—and whether some of these norms are more fundamental than others.

The idea that deliberation is subject to a plurality of epistemic norms not only allows us to account for the epistemic permissibility or impermissibility of deliberation-based beliefs, but also provides a framework for understanding group-deliberative competences. In general, we can think of *group-deliberative competences* (or virtues) as dispositions of groups or their members to reliably achieve the kinds of epistemic goals featured in the epistemic norms that underlie deliberation. In this way, a complete taxonomy of group-deliberative competences and virtues would need to distinguish different kinds of group- and individual-level competences and virtues according to whether they are conducive to achieving the epistemic goals of all such epistemic norms<sup>13</sup>. In this paper, we focus only on group competences necessary to achieve deliberative group knowledge.

#### 3 | KNOWLEDGE-CONDUCIVE DELIBERATION

We form beliefs by using methods of belief-formation or by trusting epistemic sources. A common way of thinking about methods and sources is that they produce *deliverances* that we may or may not accept, and some virtue reliabilists such as Sosa (2007, Ch. 5) explain (individual) knowledge in precisely this way: "Acceptance of a deliverance thereby constitutes knowledge only if the source is reliable, and operates in its appropriate condition" (Sosa, 2007, p. 103). We can use the same kind of virtue-theoretic framework to explain how deliberating groups arrive at collective knowledge, with a slight modification: instead of deliverances, we can speak of evidence. While it is true that virtue reliabilists do not use evidence talk, their understanding of deliverances is in terms of what most people in the literature would call evidence. Here is Sosa: "Examples of deliverances are test results, indicator readings, eyewitness reports, media reports, perceptual appearances, and even rational intuitions and ostensible conclusions" (Sosa, 2007, p. 103). Of course, we should not worry about ruling out the kind of externalism that virtue reliabilism presupposes, because we do not need to accept that knowing on the basis of evidence requires that we become aware of having such evidence through introspection, i.e., we do not need to understand 'evidence' in an internalist way<sup>14</sup>. Nor should we worry about committing ourselves to eviden-



condition for this kind of collective knowledge:

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**Virtue reliabilism about deliberative group knowledge**: Believing p as a group on the basis of deliberation is constitutive of group knowledge only if p is true, p is supported by the group's relevant good evidence, and the group's belief that p is competently based on that evidence.

Deliberation-based group beliefs that satisfy this virtue reliabilist condition are also epistemically permissible group beliefs according to the truth and evidential norms. In the latter case, virtue reliabilism about deliberative group knowledge interprets the *proper* basing of a group's deliberative belief as *competent* basing. But before distinguishing the types of epistemic competence that a deliberating group must exhibit in order for the group's belief to be competently based on the group's relevant good evidence, and thus the types of epistemic competence necessary for deliberative group knowledge, we need to clarify what *relevant good* evidence is.

### 3.1 | Evidence: Good and bad, relevant and irrelevant

There is good and bad evidence (or if you prefer: good and bad information). In a nutshell, the labels 'good' and 'bad' reflect the epistemic goodness or badness of methods and sources. Accordingly, by *good evidence*, we mean evidence that comes from reliable belief-forming methods—such as evidence provided by reliable cognitive faculties (e.g., perception, good reasoning, memory) or by scientific inquiry (e.g., meta-analyses, randomized clinical trials, cohort studies)—as well as evidence that comes from trustworthy sources (e.g., reliable informants, peer-reviewed journals, experts).

By *bad evidence*, we mean evidence that comes from unreliable methods—i.e., evidence generated by unreliable belief-forming or scientific methods (such as cognitive biases, motivated reasoning, wishful thinking, limited or impaired perceptual ability, flawed experiments and clinical trials)—as well as evidence from untrustworthy sources (e.g., evidence from obscure or predatory publishers, hearsay, rumors, speculation, biased online forums, homeopathic or anti-vaxxer sites). Bad evidence also includes *misleading evidence*, i.e., evidence from seemingly trustworthy sources or reliable methods that are in fact untrustworthy or unreliable, as well as irrelevant good or bad evidence mistakenly taken to be relevant (see below for an example of this type of misleading evidence)<sup>16</sup>. The externalist-friendly claim, then, is that if you believe p on the basis of bad or misleading evidence alone, you do not know p. For, if you did, you would be believing p on the basis of *unreliable* sources or methods.

This does not mean that the good evidence on the basis of which one knows cannot involve bad or misleading evidence. To illustrate, in some cases higher-order evidence that some evidence for p is misleading is good evidence if it comes from a reliable method or source. For example, evidence from a reliable source that an allegedly reliable witness has asserted p and that the witness is in fact unreliable is good higher-order evidence of the bad quality of that piece of testimonial evidence. That such a piece of higher-order evidence involves bad evidence does not mean that it is not good evidence or that one cannot know on its basis. Relatedly, this view of good and bad evidence in terms of the epistemic goodness or badness of the methods or sources of evidence is consistent with cases in which evidence for p can be considered 'good' even if that evidence is based in part on evidence from unreliable or untrustworthy sources or methods. For example, evidence that a reliable liar has asserted p can count as good evidence for not-p if you have good evidence for believing that the one making the assertion is a reliable liar, and if you can therefore *competently infer* that the liar's assertions that p are reliably indicative of not-p. Similarly, the fact that many independent, unreliable witnesses independently claim that p can become good evidence for p if you have good evidence that it is highly unlikely that all of them have spoken falsely. In this case, you can *competently infer* that p is probable from the fact that they all independently assert p and the fact that it is highly unlikely that they all do so if p is not the case. In both cases, then, it is *good reasoning* that leads to 'good' evidence for p or not-p even if that reasoning is based on premises that involve evidence from unreliable sources or methods.

The second distinction we want to make is between *relevant* and *irrelevant evidence*. Sometimes a source or method may provide evidence that has no bearing on the question of whether p, i.e., evidence that does not support belief, disbelief, or suspension of judgment on p. Such evidence is simply irrelevant to whether p, and is orthogonal to whether the evidence is good or bad, i.e., whether it comes from a trustworthy source or from a reliable method. To illustrate, evidence that Neptune has 14 moons (the Hubble telescope discovered the 14th moon in 2013) is irrelevant to the question of whether your patient has a rare form of cancer. The results of a blood test, on the other hand, are relevant evidence to that question. Of course, irrelevant evidence with respect to whether p can become misleading evidence for p if you mistakenly believe it to be relevant. For example, if you mistakenly believe that there is a connection between cancer and the alignment of Neptune's moons, evidence from the Hubble telescope can become misleading evidence about whether someone has cancer. As such, it cannot be the ground for knowledge.

#### 3.2 | A paradigmatic case of knowledge-conducive deliberation

With the previous distinctions in mind, consider the following case of knowledge-conducive deliberation (adapted from Broncano-Berrocal & Carter, 2021a):

GOOD SCIENTISTS. Scientists in a medical research group individually gather evidence for hypothesis H (e.g., that Covid 19 vaccines are at least as safe for adults as other widely used vaccines). Initially, the scientists may have differing opinions on the subject, e.g., some suspect that H is true, others withhold judgment on H, some even suspect that H is false, and still others may have no propositional attitude toward H at all. After a thorough and reliable investigation, every single scientist finds several pieces of high-quality evidence in favor of H and no good evidence against it. Each also makes sure to reliably reject any bad evidence for or against H, as well as any evidence (good or bad) that is not relevant to the question of whether H. Based on their good private evidence (and because they reliably recognize how good it is), all scientists individually conclude that H is true. They meet, fully disclose, and discuss their good evidence. They make sure that no non-epistemic influences cloud their judgment during deliberation and that they are interested only in the confirmational

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GOOD SCIENTISTS is a clear-cut case, not only of epistemically adequate deliberation, but also of group knowledge. What possible factors contribute to the epistemic adequacy of the medical research group's deliberation and the resulting group belief? One obvious factor is that the group's belief is true. However, for our purposes, the factors of interest are those that make it likely that the group's belief is true *and* competently based on the group's evidence, i.e., factors that make it likely that the group satisfies the truth and evidential norms and that plausibly contribute to the group's belief being constitutive of group knowledge. Here are some candidates in light of the example:

- 1. Group members reliably gather enough relevant and good evidence.
- 2. Group members reliably and correctly assess the confirmational import of their private evidence.
- 3. Group members reliably reject any bad or irrelevant evidence.
- 4. During deliberation, the relevant good evidence that group members possess privately is fully disclosed.
- 5. Deliberation is not affected by non-epistemic influences and is guided by a general interest or by an aggregation of individual interests in correctly judging the confirmational import of the evidence put on the table.
- 6. Group members reliably and correctly assess the confirmational import of the evidence shared by other group members.
- 7. Group members reliably seek out and discuss relevant good evidence against the views being discussed, reliably assessing its confirmational import and the most plausible ways to prove and disprove such views, and update their beliefs about those views accordingly.

In what follows, we will give an answer to the competence-deliberation question drawing on some insights from GOOD SCIENTISTS.

# 4 | EPISTEMIC COMPETENCE IN KNOWLEDGE-CONDUCIVE DELIBERATION

First, in §4.1, we will distinguish different group-deliberative competences in light of 1–7. Then, in §4.2, we will discuss which of them are necessary for deliberative group knowledge of a proposition at a given time.

### 4.1 | A taxonomy of reliabilist group-deliberative competences

A useful way to distinguish group-deliberative competences is to think of 1–7 as satisfying or contributing to the satisfaction of corresponding collective goals (cf. Broncano-Berrocal & Carter, 2021a):



- (E1) Evidence gathering goal: Enough relevant and good evidence is collected.
- (E2) **Private evidence assessment goal**: The confirmational import of the private evidence is correctly assessed.
- (E3) **Evidence filtering goal**: Bad and irrelevant evidence is successfully filtered out so that it does not enter the group discussion.
- (E4) **Evidence disclosure goal**: During deliberation, enough relevant and good evidence privately possessed is fully disclosed.
- (E5) **Shared evidence assessment goal**: The confirmational import of the shared evidence is correctly assessed.
- (E6) **Non-epistemic influences filtering goal**: Non-epistemic factors are successfully prevented from influencing the group discussion and the corresponding formation of a group belief.
- (E7) **Counterevidence scrutiny goal**: Relevant good evidence against the views being discussed is seeked out and discussed and its confirmational import as well as the most plausible ways to prove and disprove such views are correctly assessed, and all beliefs about the views being discussed are updated accordingly.

For each epistemic goal, a group may be competent or incompetent at achieving it, and we can distinguish several group-deliberative competences on this basis. Note, however, that the type of reliability used to define these epistemic competences is not reliability in the standard unconditional sense (i.e., high ratio of true to total beliefs), but (unconditional) goal-reliability, which we can define as follows:

**Goal-reliability**: For any individual or collective method M for achieving epistemic goal E, M is goal-reliable if and only if its ratio of achievement of E to total attempts to achieve E (when operating in the relevant domain) is sufficiently high.

How can competent deliberation be truth-conducive and thus how can it produce group knowledge if group-deliberative competences are to be understood in terms of goal-conduciveness rather than truth-conduciveness? The answer is that if a deliberating group reliably achieves goals E1-E7, then the group's views are likely to satisfy the evidential and the truth norms. It is plausible that deliberating groups whose beliefs satisfy the truth and evidential norms *in this way* (i.e., by manifesting the relevant evidence-related competences) will generally achieve group knowledge.

The following are the group-deliberative competences possessed by the medical research group of GOOD SCIENTISTS. Given a set of propositions in a domain D (e.g., propositions related to differential diagnosis, a particular theoretical question, an empirical phenomenon, etc.):

- (C1) **Evidence gathering competence**: A group G has evidence gathering competence if and only if G is reliable at collecting enough relevant and good evidence about D rather than insufficient, irrelevant or bad evidence<sup>17</sup>.
- (C2) **Private evidence assessment competence**: A group G has private evidence assessment competence if and only if G is reliable at assessing the confirmational import of the evidence about D privately possessed by group members.
- (C3) **Evidence filtering competence**: A group G has evidence filtering competence if and only if G is reliable at filtering out bad and irrelevant evidence so that it does not enter the group discussion<sup>18</sup>.



- (C4) **Evidence disclosure competence**: A group G has evidence disclosure competence if and only if G is reliable at fully disclosing enough relevant and good evidence about D privately possessed by group members during deliberation.
- (C5) **Shared evidence assessment competence**: A group G has evidence assessment competence if and only if G is reliable at assessing the confirmational import of the evidence about D shared during deliberation.
- (C6) **Non-epistemic influences filtering competence**: A group G has non-epistemic influences filtering competence if and only if G is reliable at preventing non-epistemic factors from influencing the group discussion and the corresponding formation of a group belief.
- (C7) **Counterevidence scrutiny competence**: A group G has counterevidence scrutiny competence if and only if G is reliable (i) at seeking out and discussing relevant good evidence against the views being discussed and its confirmational import, (ii) at correctly assessing the most plausible ways to prove and disprove such views, and (iii) at updating all beliefs about the views under discussion accordingly.

Given GOOD SCIENTISTS, one might think that the natural reading of these competences is summativist, in the sense that a group possesses them because all or most individual members are appropriately competent, which does not mean that group members must be competently disposed in general to achieve epistemic goals E1-E7, but only when fulfilling their role within their group. In some groups, however, only a few members may be appropriately competent, while the majority of group members may not be so competent but still contribute to the proper evidence base of the group's belief by contributing relevant good evidence (while being unable, for example, to judge its confirmational import). Thus, these competences may be asymmetrically distributed among group members. But even in cases of asymmetric distribution, the relevant group competences are understood summativistically, since the group is considered competent only if at least one of its members is appropriately competent. We do not commit to such a claim, however, because we do not want to rule out the possibility that some of these competences may become group-level competences that arise from joint commitments among group members to use reliable methods to achieve goals E1-E7-goals that these members may not be able to reliably achieve on their own (see Gilbert (1987) for the notion of joint commitment and Fricker (2010) for some examples of non-summativist group competences understood along these lines)<sup>19</sup>. Be that as it may, as mentioned at the outset, we leave aside the dispute between summativism and non-summativism about group competences and about group properties in general. In the next section, we will instead illustrate with examples how these group-deliberative competences contribute to the fulfillment of the evidential norm (and thus the truth norm). More importantly, we will analyze which of them are really necessary for deliberative group knowledge of a proposition at a time, thus providing an answer to the competence-deliberation question.

# 4.2 | What kinds of group-deliberative competences are necessary for deliberative group knowledge?

If we consider GOOD SCIENTISTS as a paradigmatic case of deliberative group knowledge, where the group members, and thus the group, exhibit competences C1–C7, we might conclude that knowing a proposition as a deliberating group requires the manifestation of all these competences. However, this conclusion is too hasty. We must distinguish the competence-deliberation question (hereafter, the *narrow competence-deliberation question*), which refers to what

competences a deliberating group must manifest in order to acquire group knowledge of a proposition at a particular time, from the following question:

**Broad competence-deliberation question**: What kinds of competences must a deliberating group manifest when settling questions related to a domain of propositions  $p_1, p_2... p_n$  so that the group can know many of those propositions at times  $t_1$ ,  $t_2... t_n$ ?

In what follows, we will argue that some of the distinguished competences in §4.1 are crucial for a deliberating group to *consistently* acquire knowledge of many propositions in a domain over time, but are not necessary for deliberative group knowledge of a proposition at a particular time— a point that plausibly also applies to the many deliberative virtues distinguished in the literature (see note 13).

We can test whether a particular group-deliberative competence is necessary for deliberative group knowledge of a proposition at a time as follows. Let E be one of the epistemic goals E1–E7 that competences C1–C7 reliably contribute to achieving. Now, imagine plausible cases in which (i) a group G comes to believe that p based on deliberation, (ii) the goals other than E are competently achieved, and (iii) E is *successfully but incompetently* achieved, e.g., due to luck or the intervention of an external agent. We can then ask: does the group know that p? If the answer is positive, then the competence corresponding to E is not necessary for G to know that p. If the answer is negative, then it is (assuming there are no other conceivable plausible cases in which the answer is positive).

Consider *evidence gathering competence* (C1). At first glance, one might think that a group's competence in gathering evidence is necessary for deliberative group knowledge because it ensures that the group's deliberations revolve around enough relevant and good evidence. After all, if the members of a group are able to judge the confirmational import of the evidence, but all the evidence they have regarding whether p is irrelevant or bad, the group should not take any doxastic stance on whether p. However, this does not show that this kind of competence is necessary for deliberative group knowledge of a proposition at a particular time (narrow competence-deliberation question).

To begin with, just as it is consistent with knowing p to obtain evidence for p by luck (e.g., you might know that Jesse James is the bank robber because his mask happened to slip for a few seconds (cf. Nozick, 1981)), it is consistent with collectively knowing p if a group obtains enough relevant good evidence for p by luck. Indeed, the history of science is replete with examples of serendipitous evidence (cf. Yaqub, 2018), and it is not difficult to imagine how such evidence might have been the subject of deliberation leading to group knowledge.

Moreover, in some contexts, such as education, where deliberation plausibly produces group knowledge, the intervention of external agents (e.g., professors) can compensate for the lack of competence to gather evidence in groups of otherwise competent students. The situation is not unfamiliar: a group of students is assigned to give a paper on the question of whether p (e.g., how does Sosa understand the notion of epistemic virtue?). They are quite incompetent when it comes to finding literature, so each of them asks their professor for relevant good references on this question. The professor gives each student different good references, and they all share this evidence with the others so that everyone can think about it and then discuss it. If the students are competent in the other dimensions, that is, if they are competent at reading, discussing, and understanding the material provided by the professor, they can figure out the answer to the question. Outside of these epistemically engineered environments<sup>20</sup>, deliberating groups that want to acquire knowledge about many propositions in a domain over time must of course be competent

in gathering enough relevant good evidence about that domain of propositions for their inquiries to succeed (broad competence-deliberation question). Similarly, a group's knowledge of a proposition at a time may be undermined if the group members are not competent enough to gather evidence they *should* have. This is the one exception to our claim that evidence gathering competence is not necessary for deliberative group knowledge of a proposition at a time (more on this later).

Consider next evidence filtering competence (C3). Suppose our good professor wants to know whether her students are capable of judging the confirmational import of the evidence shared during deliberation. So she decides to give each student various bodies of bad and irrelevant evidence along with good evidence and instructs them to share all their evidence with the group. The result is that different pieces of bad and irrelevant evidence along with good evidence enter the group discussion. Assume that the students are able to assess the strength of their evidence so that they can identify the bad and irrelevant evidence as such and know the extent to which their good evidence supports p and whether this evidential support is sufficient to believe, disbelieve or suspend judgment on p. Under these conditions of competent evaluation of the group's evidence, a group may come to know p despite being unable to prevent its bad and irrelevant evidence from entering group discussion (narrow competence-deliberation question). In contrast, a group lacking this kind of evidential filtering competence is unlikely to acquire knowledge about propositions in a domain over time (broad competence-deliberation question). The reason is that unless the group is very competent at gathering enough relevant good evidence, its deliberations will almost always be contaminated by bad or irrelevant evidence. Thus, if the group members are not competent in judging the evidence, the group is likely to arrive at incorrect beliefs; if they are competent, the group is likely to suspend judgment. In either case, not much knowledge will be gained in the long run.

Although they are independent, evidence filtering competence and evidence disclosure competence (C4) are the two sides of the same coin. While evidence filtering competence prevents bad and irrelevant evidence from entering the group discussion, evidence disclosure competence supplies the group discussion with enough relevant good evidence, provided that the group members have it. At first glance, one might think that this kind of competence is necessary for deliberative group knowledge of a proposition at a time, since groups that fail to disclose their relevant good evidence are unlikely to know much. However, deliberative group knowledge of a proposition can be acquired without this kind of competence. Again, educational contexts provide a good illustration. Just as juries have legal constraints on the evidence they can discuss, a professor may impose epistemic constraints on the evidence that can be disclosed and discussed. For example, a professor may instruct a group of students not to share any private evidence they may have collected and may directly supply them only with relevant good evidence for them to discuss. While the students would not demonstrate competence in disclosing good evidence in this epistemically engineered environment (because the evidence being discussed is provided entirely by the professor, an external agent), the group may come to know if the students are competent in evaluating that evidence.

The question arises as to whether, for a deliberating group to know a proposition at a given time, it is necessary for the members of the group to privately have sufficient relevant and good evidence prior to deliberation. Given the previous example, the answer is negative. In any case, it is clear from the preceding discussion that *competence in evaluating the evidence of the group* (whether private or shared) is necessary to gain deliberative knowledge of a proposition (**C2** and **C5**). This is not surprising: if individuals or groups are unable to evaluate the confirmational import of the evidence on which they base their beliefs, those beliefs cannot become knowledge<sup>21</sup>.

This is consistent with the virtue reliabilist condition we proposed in §3, according to which a

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group's deliberative knowledge of a proposition requires that the group competently believe the proposition on the basis of relevant good evidence. This implies that a deliberating group that believes a proposition on the basis of bad or misleading evidence does not know it. For, according to our interpretation of 'bad' and 'misleading' evidence, it basically means that the proposition is believed unreliably (see §3.1).

In the most typical, plausible cases, claiming that a group is competent in evaluating its evidence amounts to claiming that all or most members are competent in this respect (e.g., GOOD SCIENTISTS). But even in these cases, the fact that a group is competent in evaluating its evidence is no guarantee that the group discussion, and thus the resulting beliefs, will not be influenced by non-epistemic factors. For example, ingroup-outgroup comparisons may cause the group's opinion to stray from the truth, even if the evidence was competently assessed. Such non-epistemic factors appear to undermine group knowledge even when they do not actually occur but could easily do so. The reason is that they could easily make the group's belief false. Accordingly, deliberative group knowledge of a proposition at a time (and even more so about many propositions at different times) requires that the group be able to prevent such factors from influencing the group discussion and the corresponding formation of a group belief—non-epistemic influences filtering competence (C6). Of course, it may be difficult to prevent such influences, let alone on a reliable basis. If any deliberating groups are ever able to do so reliably, the groups more likely to manifest this kind of group-deliberative competence are, in our opinion, scientific groups (such as the medical researchers of GOOD SCIENTISTS) or groups in which group discussion is deliberately structured to control for the influence of those factors.

Finally, consider *counterevidence scrutiny competence* (C7), i.e., competence in seeking out and discussing relevant good evidence against the views being discussed and its confirmational import, in correctly assessing the most plausible ways to prove and disprove such views, and in updating all beliefs about the views under discussion accordingly. While it would be too much to ask for this kind of competence from all deliberating groups (e.g., in educational contexts, where deliberative group knowledge is plausibly achieved thanks in part to the epistemic engineering of the environment), we also believe that there are contexts in which it is necessary. To illustrate, if a team of medical practitioners attempting to make a differential diagnosis for their patient arrives at a correct diagnosis based on a correct assessment of their good evidence, but fails to consider good countervailing evidence of which they should be aware (e.g., a widely known meta-analysis about the nature of the patient's disease), such that if they had considered this good counterevidence, they would have suspended judgment, their diagnosis is not justified and therefore does not constitute knowledge (cf. Goldberg, 2017). In short, whether counterevidence scrutiny competence is necessary for deliberative group knowledge depends critically on whether there are normative defeaters for the kind of question a group wants to resolve in its deliberations. As indicated earlier, the same plausibly applies to evidence gathering competence: this type of competence is necessary if there is evidence that the group should have. Therefore, to gain deliberative group knowledge in cases of normative defeat, groups must have competences that are not necessary in less epistemically demanding scenarios. But this is not surprising: to know in the presence of defeaters, whether normative or doxastic, one must defeat those defeaters.

#### 5 | CONCLUDING REMARKS

In this paper, we have addressed one important aspect of the knowledge-deliberation question, namely, the nature of the competences that deliberating groups must exhibit in order to acquire

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group knowledge. We have offered a taxonomy of reliabilist group-deliberative competences, arguing that only those competences concerned with assessing the confirmational import of the group's evidence (C2 and C5) are necessary in all cases for deliberative group knowledge of a proposition, along with competences for neutralizing or circumventing the influence of nonepistemic factors (C6). In cases of normative defeat, special competence in gathering evidence (C1) or in considering countervailing evidence (C7) is also required, but not in cases where there are no such defeaters. This is consistent with the proposed virtue reliabilism about deliberative group knowledge: deliberative group knowledge of a proposition requires that the group competently base its belief in that proposition on relevant good evidence, and this competent basing always requires the manifestation of C2, C5 and C6, and in cases of normative defeat, C1 and/or C7. In the broader normative picture we presented at the beginning of the paper, these group competences help ensure that collective beliefs based on deliberation conform to the evidential and truth norms and thus contribute to group knowledge. Moreover, we have seen that the other types of group competences whose absence is consistent with deliberative group knowledge of a proposition at a given time-evidence filtering competence (C3) and evidence disclosure competence (C4)—are nonetheless crucial to acquiring deliberative group knowledge of many propositions in a domain over time, and the same point is plausibly true of many of the deliberative virtues distinguished in the literature (see note 13). Such competences and virtues are tools for maintaining and expanding deliberative group knowledge over time. This is, of course, consistent with the claim that some of them are necessary to achieve other important epistemic goals at a given time, such as that of understanding or epistemic justice. A pluralist approach to the epistemic normativity of deliberation is probably the best way to account for all of these possibilities<sup>22</sup>.

#### ENDNOTES

- <sup>1</sup>It is an open question what types of groups may engage in intra-group or inter-group deliberation. The clearer cases are those of small groups such as juries, research groups or committees, but perhaps larger groups such as countries or the scientific community can deliberate as well (see, e.g., Bird, 2014). We limit our discussion to the clearer cases.
- <sup>2</sup>Consider some examples of attributions of knowledge to groups in common usage: (1) "Exxon knew about climate change almost 40 years ago." (https://www.scientificamerican.com/article/exxon-knew-about-climate-change-almost-40-years-ago/); (2) "Facebook knows literally everything about you." (https://techcrunch. com/2018/03/23/facebook-knows-literally-everything-about-you/); (3) "The Trump administration knows the planet is going to boil. It doesn't care." (https://www.theguardian.com/commentisfree/2018/oct/02/trump-administration-planet-boil-refugee-camps).
- <sup>3</sup>See Tollefsen (2019) for a review of the literature.
- <sup>4</sup>Discussions of group knowledge are often framed in the context of collective scientific knowledge (see Fagan, 2012 for a review of the literature). Perhaps this is why not many explicit analyses of group knowledge in general have been offered, a notable exception being Tuomela (2004, 2011). On the other hand, many authors have argued against the summativist idea that a group knows p only if at least one of its members knows p (see Corlett, 1996 for a summativist account along these lines). In particular, they have offered non-summativist arguments aimed at showing how joint acceptances or joint commitments can lead to group knowledge (e.g., Hakli, 2007; Tuomela, 2004, 2011; Wray, 2007), or else arguments that appeal to the idea that cognition can be distributed among individual members in such a way as to produce collective states whose epistemic properties extend beyond the epistemic properties of individual members' doxastic states (e.g. Bird, 2014; Klausen, 2015; Tollefsen, 2006; see Tollefsen, 2015: ch. 4 for a review of the literature on group cognition).
- <sup>5</sup> For discussion of the notions of group belief and group acceptance and the debate between so-called believers and rejectionists, see Gilbert (1987, 2002), Hakli (2006), Lackey (2020), Meijers (2002), Tollefsen (2003, 2015), Tuomela (1992, 2000), and Wray (2001, 2003).

<sup>6</sup>See Koscholke (forthcoming) for an example of group knowledge without group belief.



- <sup>7</sup>For discussion of the notions of group competence and group virtue, see Fricker (2010), Kallestrup (2016), Lahroodi (2007), Palermos (2020), and Pino (2021).
- <sup>8</sup>Weaker truth norms may be formulated in terms of p approximating truth or p being likely to be true.
- <sup>9</sup>The truth norm can be violated, for example, if the participants in the show agree on a false answer that they believe to be true. But their deliberation remains epistemic, since their criterion for collective belief is determined by truth considerations. The norm can also be overridden (e.g., when collectively believing p, a true proposition, would lead to persecution by a regime) or can even be instrumentalized for practical goals, such as the goal of becoming filthy rich—where answering p in the show makes group members filthy rich only if p is true—, or the goal of winning a Nobel Prize—where answering p to an empirical question makes research teams win such a prestigious award only if p is true.
- <sup>10</sup> In cases where a group believes p because all or most group members believe p under conditions of common knowledge (this is the kind of case we will mainly focus on), properly basing the group's belief that p on the group's supporting evidence E amounts to the individual beliefs of the group members being properly based on E.
- <sup>11</sup> For example, a group's evidence for p may be that a million independent experts claim that p, where p is a false proposition that no one knows to be false. The fact that the group knows that its evidence comes from a million independent reliable sources is a good reason to increase its confidence in a false proposition.
- <sup>12</sup>For similar norms in the context of group disagreement, see Broncano-Berrocal & Carter (2021b) and in the context of political deliberation, see Peter (2021).
- <sup>13</sup>Tanesini, for example, offers a broad characterization of deliberative virtues along these lines: "[Deliberative] virtues are character traits and skills that promote the epistemic ends of debate and discussion including understanding, the full articulation of reasons and arguments, the dissemination of information, the reduction of epistemic injustices and convergence on the truth" (Tanesini, 2021, p. 331). More specific deliberative virtues distinguished in the literature, as surveyed by Tanesini, include argumentative virtues such as the willingness to engage in argumentation, listen to others, modify one's own position, and question the obvious (Aberdein, 2010; Cohen, 2005, 2019), cooperative and adversarial virtues, such as the willingness to create an open environment of mutual understanding and support to help others develop their ideas, but also the ability to recognize weaknesses and offer criticism (Stevens, 2016), the willingness to learn from others (Tanesini, 2021), the ability to judge well whether and how to respectfully offer reasons to another person (Tsai, 2014), the virtue of testimonial injustice, i.e., the ability not to give speakers lower credibility than they deserve due to identity prejudices (Fricker, 2007), and other character traits of individual deliberators whose manifestation helps develop deliberative dynamics that reliably put the group on the track of truth and create the background conditions for conducting future deliberations in the right way, including group-deliberative virtues such as deliberative wit, friendliness, courage, charity, humility or sincerity (Aikin & Clanton, 2010).
- <sup>14</sup>See Moon (2012) for criticism of the internalist notion of evidence.
- <sup>15</sup>Indeed, in the case of deliberative group knowledge further conditions may be needed, such as anti-luck conditions (see Barba & Broncano-Berrocal, 2022).
- <sup>16</sup>This use of the expression 'misleading evidence' differs from the way it is used in the literature. If a million independent experts tell you that p, where p is false, many call that 'misleading evidence' for p (see, e.g., Kelly's diagnosis of his professional mathematician case; Kelly, 2010). In our terminology, that's 'good' evidence for a false proposition.
- <sup>17</sup> A group that aims to reach an evidence-supported belief about whether p need not collect all the good evidence relevant to whether p, but enough of it, at least when it comes to knowing whether p is the case (as opposed to having certainty about whether p). Indeed, there is a threshold of support by evidence such that the justification for a belief it provides becomes knowledge-level justification. Beyond this threshold, the relevant knowledge-level justification becomes overdetermined. If the testimony of a million independent experts that p is true already provides sufficient justification to know p, the testimony of another expert that p becomes superfluous to the goal of gaining knowledge about p—which, of course, would not be the case if the goal were to obtain certainty about p. Without enough relevant and good evidence to support p, the belief that p of a deliberating group cannot satisfy the evidential norm.
- <sup>18</sup>Note that evidence filtering competence may not be needed if the group's competence to gather evidence is working properly. After all, if no bad or irrelevant evidence is collected, no bad or irrelevant evidence can be shared.

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- <sup>19</sup>To illustrate, members of a group may jointly commit to using technological means that improve the epistemic quality of their deliberations. For example, when it comes to sourcing good evidence, group members can collectively commit to using software that reliably filters out bad evidence, such as committing to using only certified databases (e.g., PhilPapers (philosophy), PubMed Central (biomedical and life sciences), RePEc (economics)) and using the fine-grained filters they contain (e.g., filtering articles published in peer-reviewed or prestigious journals, articles with many citations or high impact, etc.) rather than committing to consult untrustworthy sources on the Internet. Similarly, members of a group who are unable to assess the epistemic significance of their private or shared evidence (e.g., a set of clinical trials, papers on a technical philosophical topic) may collectively commit to relying on the assessment of credible meta-sources (e.g., meta-analyses, respected encyclopedias and handbooks, etc.). Similarly, they can jointly commit to letting the group discussion be structured in such a way that non-epistemic factors, including biases of all kinds arising from social identity pressures, prejudices, and the like, do not influence their deliberations and their outcomes (e.g., by committing to use methods such as the Delphi technique or collaborative software platforms such as MeetingSift that guarantee anonymity, among other favorable anti-bias conditions).
- <sup>20</sup>An epistemically engineered environment, according to Goldberg (2020), is an environment that has been deliberately designed so as to decrease the cognitive burden on individual subjects in their attempts to acquire knowledge.
- <sup>21</sup>Especially in cases where group members base their individual beliefs on reasons that are not coherent with each other. See Lackey (2020) for an example.
- <sup>22</sup>We are very grateful to Deborah Tollefsen and John Greco for their helpful comments.

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