Responsibility for Collective Epistemic Harms

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Abstract

Discussion of epistemic responsibility typically focuses on belief formation and actions leading to it. Similarly, accounts of collective epistemic responsibility have addressed the issue of collective belief formation and associated actions. However, there has been little discussion of collective responsibility for preventing epistemic harms, particularly those preventable only by the collective action of an unorganized group. We propose an account of collective epistemic responsibility which fills this gap. Building on Hindriks' (2019) account of collective moral responsibility, we introduce the Epistemic Duty to Join Forces. Our theory provides an account of the responsibilities of scientists to prevent epistemic harms during inquiry.

Keywords: epistemic harm, collective responsibility, epistemic responsibility, duty to join forces, norms of inquiry

1 Collectively preventable epistemic harms

Consider the following two scenarios.

> *Biased.* During the 1980s a number of archaeologists began to notice gender bias in their discipline, resulting in androcentric archaeological accounts. Empirical research was often based on sexist presuppositions and it largely ignored microscale practices (such as those concerning households), leading to incorrect conclusions about humanity's past. Conkey and Spector, 1984 raised this problem to the attention of the wider archaeological community, which required an effort of this community as a whole to be adequately resolved (see also Conkey, 2003; Wylie, 2002). When other archaeologists learned about these issues—for example by reading Conkey and Spector's

work—did they have any moral or epistemic duties to act towards resolving the given problem, and if so, which duties exactly?[1]

Abandoned-research. In the early twentieth century the medical community was investigating two hypotheses about the cause of peptic ulcers: a) that ulcers are caused by excess stomach acid, b) that ulcers are caused by bacteria. Due to a number of factors (such as the difficulty in identifying the relevant bacteria, the success of acidity blockers in providing a relief from symptoms etc.), the acidity hypothesis became dominant and the bacterial one was abandoned (Radomski et al., 2021). However, the evidence against the bacterial hypothesis was never strong enough to definitively disprove it. Moreover, the evidence indicated that the bacterial hypothesis was still worthy of pursuit, not least because the acidity research program had not succeeded in providing a lasting cure for the disease (Šešelja and Straßer, 2014b). In the 1980s Marshall and Warren made a breakthrough discovery of *Helicobacter pylori*, which turned out to be the primary cause of the disease, indicating that the bacterial hypothesis was prematurely abandoned. This raises the question who (if anyone) is to blame for prematurely abandoning the theory?

Each of these cases concerns a situation where a scientific community faces a threat of *epistemic harm*. Moreover, each of these epistemic harms could be prevented only by a group of scientists rather than by any individual. While various scientific institutions act as organized groups that aim both at promoting epistemic goals and preventing epistemic harms, the above cases illustrate problems that typically don't fall under the jurisdiction of an existing institution. Instead, these cases require joint action from scientists working in a given domain, despite the fact that they are unorganized with respect to the specific issue. Different theories of collective moral responsibility have been developed to account for moral duties of unorganized groups in such circumstances. The basic intuition they aim to address is that the unorganized groups of people in cases like these have a duty to prevent the given harm.

What distinguishes the two cases above from others in the literature on collective responsibility is that they concern *epistemic* harms.[2] The depicted events count as harms because they make people worse off with respect to epistemic value—they impede the progress of inquiry and the acquisition of knowledge. These cases are representative of an important and overlooked class of cases of *collectively preventable epistemic harms*. Recognizing the existence of such harms is important for our understanding of epistemic normativity, and for giving the right account of epistemic responsibility.

[1] We are grateful to the anonymous reviewer for suggesting we specify our example as the case of gender bias in archaeology.

[2] While both cases also concern moral harms, each crucially involves epistemic harms as well (for a discussion on why *Biased* is a matter of epistemic concerns, such as empirical adequacy, see the work of Alison Wylie, e.g. Wylie, 1992, 2002).

We have two goals in this paper. The first is to call attention to the importance of cases like *Abandoned-research* and *Biased*, which illustrate collectively preventable epistemic harms. The second is to offer a theory of collective epistemic responsibility which applies to cases of collectively preventable epistemic harms. Our theory explains the intuitions in cases like *Abandoned-research* and *Biased* and is designed to encourage the prevention of the kinds of harms they exemplify. Our two-stage approach is inspired by Hindriks' (2019) account of collective moral responsibility. It is rooted in the idea that when a harm can only be prevented by group action, this creates a specific duty for each individual in the unorganized group: namely, a duty to join forces in order to prevent the harm.

The literature on epistemic responsibility has traditionally been belief-centric: it has primarily been concerned with justified belief-formation, and actions that lead to belief-formation (e.g., Code, 1987; Hieronymi, 2008; Kornblith, 1983a; Miller and Record, 2013; Montmarquet, 1993; Robitzsch, 2019; Zagzebski, 1996). Subsequently, accounts of collective epistemic responsibility have generally concerned collective belief-formation and actions that directly affect it (e.g., Corlett, 2007, Rolin, 2008; Rolin, 2016).[3] Our theory is distinct from these traditional projects in two important ways. First, our project concerns epistemic performances and other activities which do not bear directly on belief-formation. In particular, we focus on actions at earlier stages of inquiry. Second, our account is *preventionist*: it focuses on preventing epistemic harm.

Traditional accounts of collective epistemic responsibility must be supplemented with a preventionist account because preventing epistemic harms may require actions other than those bearing directly on belief-formation. In other words, a group of agents who have engaged in responsible belief-formation may still fail to prevent other epistemic harms. Our example *Biased* is a case in point. Individual archaeologists (or a group of archaeologists) who recognized gender bias in their discipline could have engaged in a responsible belief formation about the given phenomena without doing anything to prevent further epistemic harm from happening. That is, any beliefs a responsible archaeologist (or a group of archaeologists) formed at the time could take the gender bias into account. Moreover, they could have responsibly suspended judgment rather than formed beliefs based on biased evidence. However, this is not enough to prevent further epistemic harm from occurring due to additional biased evidence being produced in their domain. An action different from a responsible belief formation, such as encouraging the entire community to do something about the prevalence of gender bias, was required to this end.

In what follows, we will offer some background discussion regarding collectively preventable harms in ethics (§2). Next, we will introduce our account of collective epistemic responsibility (§3) and show how it addresses the problem of collectively preventable epistemic harms. We will then offer additional justification for the account (§4), before addressing several objections (§5).

[3]Millar (2020) instead concerns joint responsibility for *individual* beliefs and actions which affect such beliefs.

2 Collective moral responsibility

Often, people talk as though groups have obligations, or are responsible for things. We hold governments and corporations accountable for their actions. Exxon-Mobil is responsible for various oil spills. BP is obligated to clean up the Gulf of Mexico. This suggests that there are group obligations and responsibilities. A common way to classify groups that bear such obligations is as follows. The first are organized groups with explicitly specified structures and decision procedures, like corporations and governments. The second are persistent but unorganized social groups, e.g., races, genders, and nationalities. Finally, and most controversially, there are random collectives (Held, 1970): groups of people who are only connected by the relevance of some problem or task, e.g., passengers in train car 6745, or beachgoers in Asbury Park on July 23rd.

There is something puzzling about attributions of collective responsibility. Generally, we only hold full moral agents—those capable of responding to moral reasons—responsible for their actions. So, some philosophers have argued that organized groups like Exxon-Mobil and the United States count as full moral *group* agents: their organized decision-making systems make them reasons-responsive. But this proposal is implausible as an explanation for attributions of responsibility to random collectives that lack such collective decision-making structures. Yet there are a variety of cases where it is intuitively plausible that even fleeting, unorganized groups do bear collective responsibility. Many such cases involve collective action problems, what Hindriks calls "collective harms" (Hindriks, 2019). In this section, we will discuss desiderata for a theory explaining the intuitive appeal of assigning collective responsibility in such cases.

There are two important distinctions to make when talking about responsibility. First, there is a distinction between two senses of "responsibility": accountability and positive responsibility (Williams, 2008). The former sense concerns when it is appropriate to hold someone accountable for something. The antonym of this sense is "not responsible." In contrast, the latter sense of "responsible" means a person has met their obligations. The antonym for this sense is "irresponsible." Epistemologists, especially responsibilists, have been interested in both kinds of responsibility (Baehr, 2011; Williams, 2008; Zagzebski, 1996). Here, we are primarily concerned with responsibility as accountability. The second relevant distinction concerns backward-looking responsibility, as associated with praise and blame, and forward-looking responsibility, which is associated with obligation and remediation (Smiley, 2017). Our view, like many in the contemporary literature, will seek to apply coherently to both forward- and backward-looking responsibility.

2.1 Desiderata for a theory of collective responsibility

Consider the following case:

> *Beach*: A group of twelve children are swimming in the ocean. Three of the children brought a parent with them. Suddenly, the wind

> changes and begins sweeping the children out to sea. Each adult only has time to save one child by swimming. However, there is a boat nearby that can be operated by two adults. With the boat, all the children can be saved.[4]

Intuitively, the parents have an obligation to save all the children. However, no individual adult can save all the children. Only the coordinated action of two adults together can operate the boat. Hence, the children being swept out to sea is a collective harm: it can only be prevented by collective action. Moreover, the parents are not an organized group. The only connection between them is that they happen to be at the beach at the relevant time. They are thus a random collective. Despite each individual parent's inability to save the children, and despite their lack of organization as a group, it is still intuitive that the parents are obligated to save all the children. This is an instance of what we can call the *primary intuition* about collective responsibility for unorganized groups (Björnsson, forthcoming; Schwenkenbecher, 2018).

A theory of collective moral responsibility must explain the primary intuition. However, this isn't the only requirement for such a theory. Schwenkenbecher suggests a variety of desiderata for an account of collective responsibility (2018, pp. 111-112). For one thing, a theory needs to explain additional intuitions, e.g., that each individual has responsibilities in such cases, and that their (other) individual responsibilities can sometimes come into conflict with the group responsibilities. In *Beach*, the individual parents each have an obligation to save their own children, and this might conceivably conflict with the group's duty to save all the children. At the same time, each parent also seems to have an individual duty to contribute to the collective action solution. Call these the secondary intuitions.

In addition to explaining intuitions, a theory of collective responsibility should also cohere with accepted principles of ascribing responsibility. There are four conditions on responsibility which are commonly accepted principles of this sort (Hindriks, 2019, p. 206, Schwenkenbecher, 2018):

1. **The agency condition:** Only full moral agents can bear responsibility. A full moral agent is normatively competent in the sense of being receptive and responsive to epistemic reasons (Fischer and Ravizza, 1998).
2. **The causal condition:** the agent is able to prevent the harm. This is a type of *ought-implies-can* (OiC) principle.[5]
3. **The epistemic condition:** the agent has a justified belief about the existence of the pending harm and the likelihood of the success of preventing it (potentially by means of a collective effort), or she is in an epistemic position such that she is able to have a justified belief about this.
4. **The no-defeaters condition:** The agent does not have defeating evidence that provides an excuse or a justification for not fulfilling the duty.

[4] This case is adapted from Björnsson (forthcoming). The original version of such cases is from Held (1970). See also Parfit (1984).

[5] This does not require that the agent be able to prevent the harm "at will". The ability to do so reliably enough is adequate; what degree of reliability is required will vary with context.

Explaining the primary intuition without violating these principles is difficult. In particular, it is hard to explain the intuition in cases like *Beach*, as there are no agents who satisfy both the agency and causal conditions. The unorganized group is not an agent, while no individual parent can save all the children.

In addition, many philosophers have thought that a theory of collective responsibility for unorganized groups should be action-guiding, particularly in that accepting the theory and following its dictates should lead to moral improvement. A theory vindicating the idea that groups are responsible should enable us to argue that people are required to take part in collective action solutions such as preventing climate change. To this end, a theory should not only posit collective responsibility of groups, it should explain how individuals' responsibilities are derived from (or related to) collective responsibility.

Finally, theories of collective responsibility should be evaluated in part based on more generic explanatory virtues. A theory will thus be better insofar as it is, more parsimonious, consilient, or has greater explanatory power.

2.2 The duty to join forces

There are two important choice points for a theory of collective responsibility. The first is reducibility. Reductive accounts explain away intuitions about collective duties by reducing them to duties of individuals. Non-reductive accounts suggest that collective responsibility is irreducibly ascribed to a collective as such. The second choice point concerns how to deal with the agency condition.[6] Conservative theories attempt to accommodate the agency condition. They seek to explain away the primary intuition by appeal to responsibilities of either individual or group agents.[7] Revisionist theorists, following Held (1970), argue that being a full-fledged, reasons-responsive moral agent is not a requirement for bearing responsibility. Wringe (2016; 2019), for instance, takes the primary intuition to be strong motivation, by itself, for discarding the agency condition. Finally, joint (or shared) theories ascribe moral obligations and responsibilities only to individual agents. However, they suggest that the *content* of those responsibilities is distinctively shared, as these call for irreducibly joint actions.[8]

Each of these choices introduces problems for meeting the desiderata. Reduction requires denying the primary intuition, while anti-reduction requires explaining who or what has the non-reducible responsibility. Conservatives often deny the primary intuition. Revisionists must deny the very plausible agency condition. Joint/shared theorists postulate a mismatch between the individuals who bear the obligation and the entities obligated to carry it out, and so they must motivate a variety of novel explanatory machinery to vindicate the coherence of this idea.

[6] Here we follow the taxonomy of Schwenkenbecher (2019).

[7] See, e.g., Darby and Branscombe (2014), Feinberg (1968), List and Pettit (2011), McGary (1986), Pettit and Schweikard (2006), and Tollefsen (2015).

[8] See, e.g., Björnsson (2014), Green (1991), Miller (2015b), Pinkert (2014), and Schwenkenbecher (2019).

Hindriks (2019) proposes the *Duty to Join Forces* theory as a hybrid of the above approaches, which avoids their pitfalls while keeping their strengths. The central idea of his account is that collective responsibility is explained as a duty in two stages: first, as a duty to join forces, and second, a duty to prevent the harm. Hindriks starts from the idea that "a random collective has a duty to prevent an outcome only if enough of its members are ready to suitably combine their preventive efforts. Furthermore, such a collective often acquires this duty only after a sufficient number of members have been mobilized." (p. 205).

Thus, the view proposes two stages of responsibility that together comprise the duty to join forces:

1. Mobilize others
2. Collectively prevent the harm.

The first stage of mobilizing others consists in a responsibility of individuals. This is a responsibility of each member of the group to communicate with the other group members and convince them to join the effort necessary for preventing the harm. In addition, individual group members have a responsibility to be receptive to others who attempt to mobilize them. The first stage is successful if an adequate number of group members have been suitably mobilized to join the collective effort.

The second stage is a conditional norm: the duty only exists if the first stage duty is fulfilled. If the stage I duty is satisfied, then the collective as a whole has an obligation to prevent the harm. The mobilized collective now has a duty to engage in the joint action needed to avert the bad consequences.[9]

We can illustrate the duty to join forces by appeal to *Beach*. First, the parents have a responsibility to mobilize: to communicate and agree about what they should do. In this case, each should communicate with the others about the presence of the boat, and how they can work together to use the boat for rescuing all the children. Once there is agreement among enough of them about what course of action to take, and that they should take it, they have successfully mobilized. This mobilization makes the group capable of operating the boat and saving all the children. This activates the second stage: the mobilized group of parents now has a responsibility to to save all the children. At the time they have an obligation (forward-looking responsibility). If they fail to do so they can be held accountable (backward responsibility) for this failure. If both stages are completed successfully, then the parents will have fulfilled their duty to join forces, i.e., their collective duty. Thus, the account explains the primary intuition as applied to this case.

The status of a random collective after enough people have been successfully mobilized to engage in collective action (other things being equal) is left largely unexplored by Hindriks' discussion. Hindriks highlights the difference in ontological status between group agents and groups that have joined forces. This

[9]This norm is conditional in a narrow scope sense. If the stage I duty is satisfied, then the obligation obtains, i.e., *G is mobilized*$\rightarrow O($*G prevents the harm*$)$. A wide scope reading of ought here would make the view incoherent.

much seems right to us, as we do not think such a group qualifies as a full moral agent. As we discuss below, however, we think there is an important distinction between the random collective before and after joining forces (Hindriks, 2019, p. 211).

Hindriks' account fares well regarding the desiderata introduced above (section 2.1). It explains the primary intuition. It also explains the secondary intuitions regarding individual duties: individuals have duties to mobilize others, and then to engage in the joint action required to prevent the harm. It coheres well with the previously accepted principles of ascribing responsibility, with the notable exception of the agency condition (a caveat to be discussed in §5). It is parsimonious in that the only novel things it proposes are the collective obligations which are needed to satisfy the primary intuition. It does not require appeal to novel types of reasoning (Schwenkenbecher, 2019) , or commitment to anything particular about moral motivation (Björnsson, 2014). The claim that individuals have obligations to mobilize others makes no additional ontological commitments, as individual responsibilities are commonly accepted and necessary to vindicate the secondary intuition.

3 Collective epistemic responsibility

In this section, we propose a theory of collective *epistemic* responsibility designed to explain the intuitions in our motivating cases, and to promote better inquiry. Our theory is a hybrid account inspired by Hindriks' Duty to Join Forces. We propose it as a paradigmatic illustration of a theory of epistemic responsibility for collective epistemic harms. Even if the specific account we offer is in some respects deficient, many of the points we make should be useful for the construction of alternative accounts. At the very least, we hope to call attention to the importance of offering some account of preventionist responsibility for collective epistemic harms.

We start from the idea, supported by our two motivating cases, that there are certain epistemic harms that can be prevented only by a collective, rather than by any of its members on their own. Let's specify these notions:

Epistemic harm: a harm affecting the epistemic status of a subject, group of subjects, or epistemically important social system.

This characterization intentionally leaves open the substance of epistemic harm and is thereby compatible with different theories of epistemic value, justification, scientific progress, etc.[10] For the purposes of illustrating an epistemic harm, we can adopt a veritistic, reliabilist account (Goldman, 1979, 1986). On such a view, a harm involves causing subjects to hold false beliefs, or undermining the reliability of their individual or social methods of belief formation.

[10]Our view is compatible with the leading theories about epistemic value, including truth, knowledge (Williamson, 2002), understanding (Elgin, 2017; Kvanvig, 2003), problem solving (Laudan, 1977), and answers to interesting questions (Millson and Khalifa, 2020).

Generally, a harm is an event that leaves a person worse off with respect to some value.[11] What makes epistemic harms distinctly epistemic is that they are harms with respect to the particular goals, values and standards of epistemic normativity. That is, they are cases where one is worse-off from the perspective of epistemic normativity. They are harmful in that they impede inquiry, impede knowledge, undermine justification, lead to error, etc. They need not additionally cause non-epistemic harms. For instance, according to veritism, doing well epistemically is assessed in terms of maximizing true beliefs and minimizing false ones. Epistemic harms then consist in being made worse-off in this respect. In *Biased*, scientists are harmed epistemically due to biased research practices impeding their inquiry and leading them to false beliefs. Whether this happens in fundamental research such as theoretical physics, or in the application-driven one such as medicine, is beside the point. What matters is that scientists' epistemic performance is worse-off.[12] While epistemic harms may trigger moral harms, they should not be conflated with them. Of course, epistemic harms often do lead to moral harms since being epistemically worse-off may affect other aspects of one's welfare, and in particular will make one prone to mistakes in decision-making.

We are interested in a specific type of epistemic harm: the kind that can only be prevented by group action. Thus:

Collective epistemic harm: an epistemic harm that can be prevented only by a joint effort of several individual agents, rather than by any single individual on their own.

The existence of such harms, as illustrated by our motivating cases from section 1, shows the need for a theory of collective epistemic responsibility that applies even to unorganized groups. Each of those cases elicits an intuitive judgment analogous to the primary intuition in *Beach*. For instance, in *Biased*, a collective epistemic harm results from the use of biased approaches that lead to mistaken accounts of human past. The intuition is that the collective comprised of scientists in this field is responsible for negligently following biased practices. Call this the *primary epistemic intuition*. There is also a secondary intuition: that individual researchers who are members of the collective bear their own, individual responsibilities for failing to contribute to a joint solution to these biased approaches. Moreover, there are other secondary intuitions. For one, individual scientists may bear other responsibilities that may conflict with their duty to help avoid collective harms, e.g., duties to support their graduate students, the fulfillment of which would leave little time for work on community issues.

[11] Here, we adopt a comparative account of harm, though our view is compatible with a non-comparative account. For discussion of the large literature on harm, see Purves (2019) and Rabenberg (2014).

[12] Our notion of epistemic harm is closely related to the notion of epistemic failing and epistemic blame (Boult, 2021). Similarly, Goldberg (2016) appeals to epistemic harms of lacking evidence. The epistemic injustice literature includes rich discussion of other types of epistemic harms, see e.g., Barker et al. (2018), Dotson (2011), Fricker (2007), Kidd et al. (2017), McKinnon (2016), and Medina (2013).

The existence of collective epistemic harms, and the primary and secondary epistemic intuitions, also leaves social epistemology with a problem similar to that of collective moral responsibility in ethics. This is one upshot of our discussion worth highlighting, even for those who will disagree with our specific account: there is a problem that requires a solution.

In view of this we propose a theory of collective epistemic responsibility based on a two stage duty:

Epistemic duty to join forces: an obligation of an unorganized group to prevent a collective epistemic harm. It consists of the following sub-duties:

- **D1**: a duty of individuals to communicate with other agents about the epistemic harm, express willingness to prevent it, and encourage others to do the same;
- **D2**: a duty of those who have fulfilled D1, and thereby formed a mobilized group, to prevent the epistemic harm.

The epistemic duty to join forces (EDJF) is a two stage-view, like Hindriks' account of collective moral responsibility. It is a conditional norm: D2 is triggered when for a sufficient number of involved individuals D1 is successfully fulfilled. The first stage is a responsibility of individual agents to mobilize others. This requires communication and organization. If D1 is successful, then the mobilized collective is responsible for preventing the harmful outcome, first in *prospective* sense, meaning there is a collective epistemic duty to follow the norm, and subsequently in the *retrospective* sense, meaning the group is epistemically praise- or blame-worthy.

Note that if the members of a random collective fail to fulfill D1, then D2 is not triggered. In this case, individual members of the group will be blameworthy for failing to join forces (for failing D1). But since the collective has never been adequately mobilized, the collective is never capable of preventing the harm, and so never obtains a duty to prevent the harm. Thus, according to EDJF, duties to prevent collective harms remain conditional: the collective duty only obtains once the individual duties to join forces have been fulfilled. This has the benefit of ascribing duties in such cases (i.e., cases where D1 duties are unmet) only to agents who fulfill the conditions of all four standard principles of responsibility. Only at the second stage is responsibility born by the collective. If the collective is never suitably mobilized to prevent the harm—i.e., there is no joining of forces—then D2 simply never obtains. Nonetheless, EDJF does predict that members of the collective bear epistemic responsibility in such a case, and will thereby be epistemically blameworthy as individuals for failing to fulfill D1 (unless they have some excuse). Moreover, the view suggests a sense in which the unorganized collective is responsible: all of its members have a duty to join forces. This helps to vindicate the primary intuition. D1 is thus a *reducible* group responsibility. The sense in which the group is responsible is reducible to the fact that its members are.[13]

[13]Lackey (2016) offers a view of justified group belief with interesting similarities, in that

A group which has successfully joined forces, and met its D1 duty, must be importantly different in its structure and capabilities than it was prior to mobilization. This new structure will generally fall short of what is required for group agency. However, a group that has successfully communicated, agreed to join forces, and agreed to a plan, will be importantly different in its abilities than it was prior to joining forces. This is what makes it reasonable to ascribe D2 to a mobilized group: the group satisfies the causal condition for D2, whereas the random collective did not. Coordinating on a plan of action increases the groups capabilities. We propose that groups which have completed their stage one duty to join forces be called *mobilized groups*. Such groups have distinct membership, greater organization, and greater capabilities than a random collective. However, they need not incorporate into a full-fledged, reasons-responsive group agent.[14] For instance, if two of the three parents in *Beach* succeed in joining forces and agree to use the boat, they become a mobilized group. So mobilized, they are able to use the boat, and thereby satisfy the causal condition of the second stage duty to save the children. Similarly, after other archaeologists in *Biased* raised awareness about androcentric assumptions and the lack of research into microscale practices and past cultural situations in which women were likely to have been present (Conkey, 2003), they formed a mobilized group, capable of combating gender bias in archaeology by endorsing the above aspects of research, emphasizing them as relevant through peer-review, etc.

EDJF and its associated benefits can be illustrated by appeal to *Abandoned-research*. In that case, a plausible and (it turned out) true theory,[15] the bacterial hypothesis, was dropped from active research. The question is who is accountable for this premature abandonment? The case thus concerns retrospective responsibility. EDJF analyzes this case using its two stages. In particular, D1 is active as a requirement for the group. Assuming that the epistemic and the no-defeaters conditions were satisfied (which is a historical matter), the medical community had a duty to join forces in order to prevent the epistemic harm that resulted from abandoning the bacterial hypothesis. The individual members of the community had a duty to communicate about avoiding the harm ahead of time. This could have been accomplished by an agreement to fund new research specifically on the bacterial theory. Or it could involve a research fund to ensure that pursuitworthy theories are rescued more generally. Either option would require communication and agreement on some reformulation of the organization of the medical research community. Since researchers in the community failed to engage in this communication, or make any attempt to get others to join forces, the community has failed to fulfill D1. It is retrospectively responsible for this failure.

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it also seeks a middle ground between reductionism and no-reductionism. For Lackey, this means requiring some individual beliefs while also requiring collective acceptance.

[14] This distinguishes EDJF from an epistemic version of Collins' "duty to incorporate" (2013).

[15] Note that even if the bacterial hypothesis had been false, EDJF would still apply: abandoning pursuitworthy theories *risks* epistemic harm (for discussions of such situations see Fleisher, 2018; Šešelja et al., 2012; Šešelja and Straßer, 2014a).

Now, consider a variant of the case:

> *Abandoning*: Here we imagine a case like *Abandoned-research*, except we consider the situation in the early twentieth century just before the bacterial hypothesis was abandoned. Suppose that it was apparent that this abandonment would occur soon, as all recent publications, PhD work, and grants had gone to proponents of the acid theory.

In *Abandoning*, EDJF suggests that there is a *prospective* responsibility of type D1: the research community is obligated to communicate about how to save the bacterial hypothesis. Each member is responsible for attempting to convince others that the theory should be rescued, and they must be receptive to similar entreaties. If the community in *Abandoning* does fulfill its obligation to join forces, it thereby obtains a D2 obligation: to prevent the abandonment of the theory.

Consider two more variations of the case:

> *Rescued*: This case is just like *Abandoning*, but now we imagine the community has in fact succeeded at joining forces. There is widespread communication and agreement that the bacterial hypothesis must be saved. The community agrees to create new grants to fund research into the bacterial hypothesis.

> *Failed rescue*: This case also proceeds just like *Abandoning*, and here the community also succeeds at joining forces, achieving widespread agreement that the bacterial theory must be saved. However, after this agreement is reached, the community spends too long deliberating about how to organize and award the new grant-funding scheme. Research is stalled, and the theory is effectively abandoned anyway.

In *Rescued*, EDJF is completely fulfilled. The community successfully fulfills its D1 obligation to join forces and mobilizes, thereby obtaining a D2 obligation to prevent the collective epistemic harm of abandoning the bacterial theory. The D2 obligation is fulfilled when some members of the community agree to pursue the theory. This illustrates successful fulfillment of prospective responsibility. Moreover, this version of the community subsequently is responsible for preventing the harm, and is thereby praiseworthy.

Failed rescue, however, illustrates a community which fulfills D1, but still fails to meet its collective obligation. In this case, the EDJF suggests that the community has failed a collective duty. The mobilized group is collectively responsible for failing to prevent the harm. It is culpable, qua group, for this failure.

These variant cases show the flexibility and nuance offered by EDJF. The theory distinguishes normatively relevant differences between circumstances. The group in *Failed rescue* does seem to have done better than the one in

the original version of *Abandoned-research*: it has at least recognized the problem and joined collective forces with the aim of solving it. It just fails this final step. At the same time, the *Failed rescue* group has a duty that the original group lacks. This makes sense, since their mobilization gives them the capability to prevent the harm which original group lacks. A disorganized collective is not able to solve such a problem, while a mobilized collective is. EDJF prescribes duties only to groups capable of fulfilling them, as required by *the causal condition*.

4 Justifying EDJF

Our first goal in this paper was to raise awareness of the issues surrounding collective epistemic harms, as illustrated by our motivating cases. A second goal was to give an example of a theory which addresses the responsibilities and obligations that arise from such harms. Even if one doubts that EDJF is correct, we hope they are convinced that responsibility for collective epistemic harms should be addressed by an adequate theory of epistemic responsibility. In this section, however, we argue more specifically for the benefits of EDJF, based on the way it meets the desiderata discussed above (§2.1) before defending it from potential objections (§5).

First, let's consider the primary intuition as it applies to *Biased*. Here, the primary intuition is that the random collective comprised of archaeologists has a collective responsibility to eliminate the gender bias in their domain. One interpretation of the primary intuition here is that *each* scientist has a duty to eliminate the biases in the field. However, since the scientists form a random collective, and since no individual one of them controls the others, no individual was plausibly capable of eliminating these biases alone. Hence, this individual-responsibility interpretation of the primary intuition conflicts with the causal condition and the "Ought implies Can" principle. Another interpretation of the primary intuition is that scientists *as a group* have a duty to eliminate the biases. However, this interpretation also conflicts with OiC. The scientists are not organized, so there is no group with the proper structure and causal powers to be held responsible. Without organization, the group is incapable of fixing the bias problem. Thus, there is no entity in this case that satisfies the causal condition for eliminating the gender bias.

We suggest that a precise way to explicate the primary intuition in cases like *Biased*, without violating the causal condition or OiC, is as follows: *each scientist has a duty to mobilize other scientists in order to reform the field and eliminate bias, and once mobilized the given scientists have a duty to engage in that reform.* EDJF explains the primary intuition explicated this way: D1 assigns a duty to individual scientists to mobilize in order to reform their practice, while D2 assigns a duty to the mobilized collective to actually implement those reforms. This explanation vindicates the primary intuition, while ensuring its compatibility with the causal condition and OiC principles more generally.

Next, we consider secondary intuitions. We noted above two important

secondary intuitions for a theory to address. First, that individuals also have responsibilities to contribute to preventing collective harms. Second, that other individual responsibilities can come into conflict with the group responsibilities. The epistemic duty to join forces offers explanations for both of these secondary intuitions. According to EDJF, individuals have D1 responsibilities to communicate with others, attempt to enlist them in a coordinated effort, and to be receptive to others attempts to do the same. These are individual responsibilities to contribute to the collective action solution. At the same time, individuals may have other obligations. For instance, in *Abandoned-research*, a researcher may have had a responsibility to continue work on the excess acid theory given the funding they received, or because their lab was better positioned to test that hypothesis. This is a conflicting responsibility, because it at least suggests that the researcher should continue such work at the expense of spending time enlisting others to save the bacterial hypothesis. Which obligation is the more important for an individual to follow will depend on the details of their situation. But any plausible theory will need to allow for such a conflict, and EDJF does so.

We now turn to the harmony of EDJF with existing principles of responsibility (from §2.1: the agency, causal, epistemic, and no-defeaters conditions. The no-defeaters condition requires no modification or special consideration as applied to collective epistemic responsibility. The causal condition states that an agent bears a responsibility to prevent a harm only if they are able to do so. As we have seen, compatibility with the causal condition is one of the main motivations for two-stage accounts like EDJF. In EDJF's analysis of *Abandoned-research*, the causal condition was fulfilled for D1, since each individual scientist is plausibly able to communicate about joining forces. In *rescued*, the condition is also fulfilled for D2, since after joining forces the mobilized group is capable of preventing the abandonment of theory by, e.g., agreeing to create new funding for researching the theory.

The epistemic condition requires that an agent must have a justified belief about the existence (or risk) of pending harm. Moreover, they must have a justified belief about some reasonably probable way of preventing it. EDJF respects this condition at both stages: at D1, each individual must be in a position to have such beliefs; at D2, every member of the mobilized group must be in a position to have them. One might wonder whether there is potential circularity in applying an epistemic condition to an account of epistemic responsibility. The worry is that epistemic responsibility is required for justified belief, while justified belief is required for epistemic responsibility. However, this worry can be assuaged by two points: first, as we noted above (§1) the preventionist, accountability sort of responsibility EDJF represents is distinct from traditional accounts of positive epistemic responsibility for belief. Satisfying EDJF is not required for justified belief-formation. Second, even if satisfying EDJF were required for some justified belief, this is not unusual. Responsibly believing one proposition often involves a prior requirement of responsibly believing another. Any problems this causes are in no way specific to our account: they are a form of the traditional regress of justification (Hasan and Fumerton, 2016) to which

many solutions have been offered.

The situation with the agency condition is more complicated. The agency condition requires that only full moral agents—agents who are normatively competent and reasons-responsive—can be the bearers of responsibilities and obligations. This principle has traditionally been the sticking point for theories of collective moral responsibility. It is plausible that organized groups, like corporations, have the requisite decision-making structure and sensitivity to reasons required for counting as full moral agents. However, *ex hypothesi* random collectives do not constitute group agents.

Advocates of the idea that random collectives can be morally responsible for preventing collective harms have argued that the agency condition is false, at least as it is traditionally understood (e.g., Wringe, 2019). Hindriks (2019) argues that the agency condition is too restrictive. It was intended to rule out holding animals, small children, and other non-competent agents as responsible. It was never meant to apply to the collective cases. He opts for a revised version which allows that either full moral agents or groups made up of such can bear responsibility. Analogously, we suggest that this kind of modified agency condition should apply also to epistemic responsibility: that either normatively competent (reasons-responsive) agents or groups made up of such may bear epistemic responsibility.[16]

In addition to its explanation of the intuitions and its coherence with the four principles, we may also evaluate EDJF based on more general theoretical virtues such as parsimony. While EDJF does require two kinds of duties to explain the relevant cases, the theory only requires types of responsibilities that we already have independent reason to accept. D1 duties are simply ordinary obligations of individuals, and are not particularly exotic. D2 obligations are similar to those suggested independently for organized groups such as corporations and research labs. As we have noted, D2 is also similar to views about collective responsibility of persistent social groups. Given EDJF's explanatory power in a range of cases, as illustrated above, any loss of parsimony seems minimal.

Finally, we also think that EDJF has the potential to provide helpful action guidance, and that following this guidance will lead to epistemic improvement. A community where individuals followed EDJF, and held others responsible in the way it prescribes, could potentially avoid epistemic harms, and may thus have better epistemic outcomes. This last claim depends on further empirical claims which we are not in a position to defend here. But this idea points to fruitful lines of future research. This research could employ agent-based modeling, case-studies, or behavioral experiments to inquire into whether groups that follow EDJF are better at learning more and better at avoiding epistemic harms.

The epistemic duty to join forces thus does well when evaluated according to

[16] We think that the original restricted agency condition is even less plausible in the epistemic case. There is a long history of appeal to epistemic evaluation of entities other than individual agents, including both groups (Fagan, 2012; Gilbert, 2000; Miller, 2015a; Rolin, 2008; Tollefsen, 2004; Wray, 2007) and social systems (Goldman, 1999; Longino, 1990; Solomon, 2001).

the main desiderata of a theory of collective responsibility. The only potential issue regarding these desiderata is the agency condition, and there is reason to doubt that condition in its original form.

5 Potential objections and replies

One might wonder whether EDJF is the best available theory. Instead of appealing to the duty to join forces, one could instead build a theory of collective epistemic responsibility by modifying a different account of collective moral responsibility—such as those proposed by Björnsson (2014) and Schwenkenbecher (2018). Indeed, if proponents of joint views did build epistemic versions of them, this would fulfill the first goal we established for this paper: recognition of collective epistemic harms and the importance building a preventionist theory of responsibility to account for them.

However, we prefer EDJF to joint responsibility views. One reason for this preference is that we worry joint views involve an apparent mismatch between the kinds of agents who bear obligations (individuals), and the kinds of agents capable of fulfilling the obligations (the groups). For joint views, the agent that has the capability is not the same as the agent who bears the obligation. This commitment seems at least *prima facie* in tension with ought-implies-can principles and the causal condition on assigning responsibility. This is one of the primary motivations of the two-stage approach pioneered by Hindriks. While we don't take this to be a knock-down objection to joint views, we do think it is a reason to prefer the duty to join forces.

Another potential worry for the duty to join forces view, both the epistemic and moral versions, concerns the status of the mobilized group. One might worry that once a group has mobilized (i.e., the group has communicated, agreed on a plan, and agreed to carry out the plan), it will count as a full-fledged moral agent. Why not think that is what is going on in all these cases: the duty to join forces just is a duty to incorporate into a full-fledged group moral agent? In fact, Collins (2013) proposes a rival account of collective responsibility in terms of just such a duty to incorporate into a group agent.

However, Collins admits that in cases like *Beach* it is implausible that the random collective must incorporate into a full-fledged moral agent (like a government or corporation) in order to save the children. This seems correct, as the parents need not develop any long-term, established procedures for decision-making. This is unnecessary: all they need is to quickly agree on a single plan of action. Moreover, we suspect that any theory of group moral agency would be too permissive if it counts making a single plan of action as constituting incorporation into a full moral agent.[17] Thus, even if there is sometimes a duty to incorporate, this duty does not explain all the cases we are interested in. In particular, we don't think it accounts well for *Abandoned-research* and *Biased*.

[17] Even List and Pettit's highly permissive view of what it takes for group agency does not have this consequence, as they note explicitly regarding Held's beach case (2011, p. 34).

Hence, ascribing responsibility as prescribed by EDJF will do a better job of preventing collective epistemic harms in a variety of cases.

A second potential worry takes the opposite track, suggesting there is no need to posit any form of collective responsibility in cases like *Beach* and *Abandoned-research*. Instead, these can be understood as cases where individuals have duties to use other people as means to fulfilling their goals (Collins, 2013). On this account, in *Beach*, each parent has a duty to use the help of the other parents, in the same way they have the duty to use boat. So parent A has a duty with content: *use the parent B and the boat to save the children*. However, we think this suggested alternative suffers from a similar worry to the one we suggested above for shared responsibility accounts: it posits a mismatch between the agent who bears the obligation and the agent capable of carrying out the duty. Parent A doesn't have the capability, on her own, to ensure an action is taken that satisfies the duty. This picture thereby fails to cohere with the causal condition for assigning responsibility. While this is again not a knock-down objection to such a view, we do think avoiding this worry is an advantage of the duty to join forces.

A different objection concerns whether EDJF involves genuinely *epistemic* duties. One might wonder: Why do we need a separate notion of collective epistemic responsibility to go along with the more general moral notion?

EDJF fits into a general shift in epistemology that takes epistemic normativity to involve more than evaluating or constraining how a subject responds to their evidence. This strand of research developed as an alternative to the traditional, evidentialist view of epistemic norms (Feldman, 2002, Conee and Feldman, 2004, Shah, 2006; Shah and Velleman, 2005). According to evidentialism, norms are epistemic only if they concern how to respond to evidence with an appropriate belief state . The main problem with evidentialism is that it excludes from the purview of epistemic evaluation the greater portion of our epistemic pursuits, including the activities of inquiry. In contrast, the literature on epistemic responsibility has long sought to broaden the notion of epistemic normativity to include norms, standards, and virtues concerning the acquisition of adequate evidence prior to belief formation (Kornblith, 1983b, Miller and Record, 2013, Robitzsch, 2019).[18] Subsequent literature has sought to expand the notion of epistemic normativity to include norms governing other aspects of inquiry (Fleisher, 2018; Friedman, 2020; Goldberg, 2018; Šešelja and Straßer, 2013). Our account aims to contribute further to this broadening of the conception of epistemic normativity. EDJF extends the notion of epistemic responsibility to actions other than those directly involved with the formation of beliefs.

Ultimately, however, if one is keen to reserve the term "epistemic responsibility" for a narrow set of belief-forming norms, our account should nonetheless be distinguished from theories of moral responsibility. Whether one wishes to devise a new term for it—such as 'zetetic responsibility', on the model offered by (Friedman, 2020)— is a terminological issue. The key point here is that if

[18] For additional discussion see Robitzsch (2019).

one cares about the *epistemic* aims of inquiry, they should care about this sort of responsibility as well. Responsibility for preventing epistemic harms should be considered an important aspect of the internal norms and standards of the activity of inquiry.[19] This is why we think the term "epistemic" is appropriate, but the term itself is unimportant. What matters is that this is a distinctive kind of normativity associated with inquiry, and should be distinguished from other kinds of norms.

Another potential objection is that EDJF involves an inappropriate imposition on scientists research choices. For one thing, EDJF's duties might seem to conflict with academic freedom. However, we note that EDJF is a theory about what epistemic duties individuals and groups have, while academic freedom concerns what legal or institutional enforcement mechanisms are permissible. It is compatible with EDJF being an accurate account of epistemic responsibility that legal or institutional enforcement of EDJF is impermissible. Academic freedom protects scientists from institutional sanction based on what they believe or research. But this is compatible with their having epistemic duties not to believe a theory based on inadequate evidence.

Alternatively, one might worry that EDJF will lead to a loss of efficiency in inquiry. That is, a scientific community that follows EDJF will be ordering scientists to work on specific theories via a kind of "central planning", rather than allowing scientists to compete in a scientific marketplace. And we might worry that such central planning will perform poorly compared to allowing individual scientists to follow their own judgment. However, EDJF does not require this kind of planning. As we tried to emphasize in discussing variants of *Abandoned-research*, a collective solution may be implemented using the kinds of systems already in place for guiding research: grant-funding schemes. Such a scheme uses market mechanisms to guide the direction of research, without ordering individual scientists to do anything.

6 Outlook and conclusion

One of our primary goals in this paper was to highlight the existence of collectively preventable epistemic harms. *Abandoned-research* and *Biased* exemplify an important class of cases which have not been adequately recognized by social epistemologists. We argued that these cases call out for an account of collective epistemic responsibility for preventing such harms. We then offered an account of collective epistemic responsibility, the epistemic duty to join forces, which explained how to make sense of this kind of responsibility. This collective, preventionist account complements existing theories of epistemic responsibility.

We conclude the paper by highlighting the significance of our account for discussions on both collective epistemic and collective moral harms. First, the success of EDJF provides support for the fruitfulness of the moral duty to join forces as a theory of collective responsibility. Furthermore, EDJF offers a successful

[19]This point is inspired by Maguire and Woods' account of traditional epistemic reasons which appeals to the internal standards of the activity of belief-formation (2020).

account of epistemic responsibility that also appeals to a weakened agency condition, which offers additional justification for weakening that condition. Our notion of a mobilized group also helpfully supplements the moral DJF theory by explaining how it satisfies the causal condition. EDJF also suggests future lines of fruitful research regarding the effects of mobilizing to prevent future harms, and on the best means for doing so.

Finally, our account can be useful in the analysis of some additional cases, including those outside of scientific inquiry. For instance, EDJF offers a helpful supplement to theories of epistemic injustice[20] since many cases of epistemic injustice will count as collective epistemic harms. Similarly, our account can help in addressing epistemic duties arising from the threat of "fake news" typical for epistemically pernicious groups, such as epistemic bubbles and echo chambers (Boyd, 2019).

Other scientific cases to which EDJF may apply are examples of radically collaborative research involving large groups of scientists. This kind of research is epistemically distributed, and involves groups that are decentralized and interdisciplinary (Kukla, 2012; Winsberg et al., 2014). Collective epistemic harms can easily occur in such contexts.

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[20] See fn. 12.

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