Group Belief and Justification

Analyzing Collective Knowledge
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1. Introduction

The main thesis of this essay is that groups can have knowledge of their own. *Of their own* meaning that the ascription of a knowing mental state to a group is not a mere metaphor for the knowledge held by the members in general. I argue that group belief can be explained with a theory of judgement aggregation and supervenience. I present different approaches on how groups could be considered to be justified, settling with a variant of Goldman’s reliabilism.

To establish these claims I will first describe prominent theories of knowledge in individual domain. I use these theories as a background to create theories on the justification of group belief. One of the larger task to which I dedicate the second chapter is the task of describing aggregation and group belief. This is the question of whether groups can have mental states of their own regardless of whether they are judgements, beliefs, or knowledge. This gives proper groundwork to answer the question of the third chapter, which is whether groups with beliefs and judgements of their own also are able to have knowledge of their own. Following a standard definition of knowledge, this question is the question of whether groups can justify their true beliefs.

2. Theories of Individual Knowledge

The point of this chapter is to give a short review of the field of epistemology. Later on I will describe the concept of group belief and its constituting parts in particular. An inherent topic in this chapter is thus the question of what, besides true belief, constitutes knowledge.

2.1. Justified True Belief

The classical Platonian definition of knowledge states that knowledge is belief that is both true and justified or more commonly: justified true belief - *JTB*. The three criteria for S knowing P are:

1. S believes that P
2. P is true
3. S is justified in believing P

If this is the case, we understand that providing an explanation for group belief is not enough in establishing a notion of group knowledge, we need also to explore the possibility of group justification. For individuals we imagine several different kinds of justifications such as rational deductions and sensory experience. The problem we face with groups is that none of these forms of justifications are available in our intuitive understanding of what groups are. Groups do not think, see, reason, or experience the world on their own, it therefore seems unlikely that groups could have justifications of their own and thereby knowledge of their own. (Steup 2015)
2.1.1. JTB-Problems

Edmund Gettier proposed a serious challenge to the Plato’s definition of knowledge. What if an agent has justification for a particular belief, and the belief is true by accident? (Gettier 1963, 121-123) This would be the case for Jones if he is looking at a broken watch one of the two times per day that the clock in fact is accurately showing the time. Some attempts to save JTB from this challenge have been made, adding, for instance, criteria of non-luck or non-coincidence. (see Nozick 1981, and Goldman 1961) The explanations have been criticized for being redundant or vague, defying the point of analyzing knowledge. I will not dwell further in the different arguments for and against JTB with regards to the Gettier problem because this question is far from being settled.

A second issue is the problem of unconscious knowledge or what we may call passive knowledge. We are sometimes confronted with beliefs to which our justifications are forgotten. If that justification was valid and our belief is true and non-coincidental most of us would consider it knowledge, even though we do not remember the justification and when asked “why is this true?” we would have to answer “I do not remember”. Sometimes we even claim to have knowledge without holding belief. When we forget the name of the author who wrote In Search of Lost Time and someone tells out it was Proust we might exclaim “I knew it!”. If this too counts as knowledge it seems that neither justification nor belief need to be consciously held by the agent for the agent to know. On the contrary, this might simply mean that “holding” a particular mental state does not require us to be aware of it.

Another important problem similar to the Gettier problem can be exemplified with lottery scenario (this is not the same as the lottery-paradox commonly referred to in regards to probability but pretty similar\(^1\)). If Jones buys a lottery ticket with a pretty standard chance of 0.09% of winning we might claim that he knows he is going to lose. According to most definitions of knowledge this seems to be the case. Given that Jones believes he is going to lose, the high probability of this, which he is aware of, seem to be a pretty good justification for that belief. If Jones turns out to lose the lottery, his belief would turn out to be not only justified but also true. At least in retrospect we ought to able to say that Jones knew he was going to lose, his belief is founded in the fact of the very low probability of him winning. Of course, Jones cannot be 100 percent certain. But 100 percent certainty is not a very common requirement for knowledge, and if it where the case, knowledge would be a pretty useless concept, because 100 percent certainty is pretty rare, perhaps even impossible with regards to empirical propositions. Yet, we do not consider Jones belief that he is going to lose the lottery to be knowledge. Not even in retrospect even though the same probability would be sufficient for knowledge in many other cases.

\(^1\) The probability paradox I am referring to here is that explored especially by Henry E. Kyborg. It is rational to assume for each ticket that it will not be a winning ticket since the low probability is the same for each one, from this it ought to be rational to conclude that if each ticket will not be a winning ticket, no ticket is a winning ticket, but that would be a contradiction since we know that one ticket is in fact a winning ticket. More on this in Kyborgs’ text from 1961, probability and the logic of rational belief.
2.2. Nozick’s Criteria

Robert Nozick presents an epistemological explanation to deal with the Gettier problem. Nozick presents four criteria for S knowing P:

1. P is true.
2. S believes in P.
3. If it were the case that \( \neg P \), S would not believe in P.
4. If it were the case that P, S would believe in P. (Nozick 1981, 179, 185)

The criteria avoid the problems of coincidence that are the case in, for example, the Gettier problem. We might be justified to believe a certain fact, but because of the nature of the justification, our belief would be the same regardless of whether the fact is true or not. This is the case when we are looking at a broken watch to find out the time or when we believe that our lottery-ticket is a losing ticket because of the high probability of that. We might describe Nozick’s final two criteria as a requirement of causality – a link between the belief and the fact.

Let us imagine that we buy a new watch because our old one was broken. We find a store with incredibly cheap watches and settle for neat silver watch. We check for a tick and see that the pointers are moving. This store however, happens to only sell trick-watches: watches that appear to be regular watches but do not show the actual time, some of them moving backwards, some slowing down during day-time and some slowing down during the night. The trick-watch we chose however, happens to malfunction as a trick-watch and instead functions as a regular watch. All of this is unknown to us, being lousy consumers that do not pay attention to the signs in the store clearly stating that the watches are inexact displayers of time. Our belief that the time displayed on our watch is the actual time is there for both true and causally connected to the fact (in the sense that relying on regularly functioning watches counts as causal connection). Yet we do not seem to know what time it is, rather we believe it by accident. We might just as well have chosen one of the trick-watches and believed it to show the time. This is a serious problem for the causal theory of knowledge that will be presented in the next chapter but it also provides us with a distinction between the causal theory and Nozick’s theory. According to Nozick’s criteria this is not a case of knowledge thus aligning it with our general notion of knowledge.

But what does Nozick’s theory really tell us about knowledge? It serves as a guideline in various scenarios determining, or rather supporting our sense of what knowledge is and is not. It distinguishes knowledge from non-knowledge but it does not analyze or describe knowledge as an internal state besides from the requirement of belief. But it seems odd to say that knowledge is just belief under particular circumstances. Knowledge seems to be necessarily internally different from true belief. Compare a toddler and a mechanic’s understanding of what a car is. A toddler might be able to distinguish any car from a non-car. A car has a certain shape, some certain features and abilities and it serves a certain purpose. The car moves, carries
passengers, needs someone to control it et cetera. Even when a car lacks seemingly fundamental features a
toddler will know that it is, for instance, a car without wheels. The toddler is perfectly able to distinguish a
car but lacks the ability to explain why the car is able to move. The mechanic knows this. The mechanic knows
what components are needed for the car to move. The components might have several alternatives but for the
car to be considered a real working car it need some sort of propulsion, even a toddler knows this.

This essay is not concerned with the semantics of knowledge or how we distinguish knowledge from non-
knowledge. The aim is to analyze knowledge like the mechanic analyzes a car, to study the components of
knowledge and whether they are prevalent in a collective subject. Nozick’s definition is inadequate in this task
but not irrelevant. It distinguishes knowledge in the same sense as a toddler might be able to distinguish a car
from a non-car.

2.3. Causal theory and reliabilism
Since Alvin Goldman has done us the courtesy of already adapting his theory of knowledge to group-domain,
his theory in regards to individual knowledge will be presented just briefly. Goldman started out with the
causal theory of knowledge stating that the knowledge requirement of justification should be replaced with
having “causal connection” to the fact. (Goldman 1967, 358)

\[
S \text{ knows } P \text{ if:}
\begin{align*}
1. & \quad P \text{ is true} \\
2. & \quad S \text{ believes } P \\
3. & \quad S \text{ belief in } P \text{ is causally connected to the fact that } P \text{ in an appropriate way. (Goldman 1967, 358)}
\end{align*}
\]

This was created to solve the problems raised by Gettier. But the theory soon found its own Gettier-problems
such as the one described in the previous chapter with the broken fake watch. Jones was causally connected
with the fact in the sense that we was using a time-showing watch to determine the time, he was however
ignorant of the origin of that particular watch.

Goldman’s response to these problems was taking a step back from the requirement of causal connection and
instead stating that what was required besides true belief was a reliable belief forming process. A broken watch
or a watch bought at an untrustworthy store is an unreliable source of belief although they might be part of a
belief forming process that leads to a true belief and in the second case even does so through a causal
connection to the fact. Perhaps these three theories of knowledge do not contradict each other but serve
different purposes in describing knowledge. On the analytical internal level we use the JTB description,
knowledge is properly justified true belief. Reliabilism tells us what counts as proper justification and Nozick’s
criteria help us distinguish reliable belief forming processes from unreliable belief-forming processes.
But Nozick’s theory is not completely sufficient, as it does not account for the fact that knowledge does not require complete certainty. When it comes to a posteriori synthetical beliefs this might not even be possible. But where to draw the line between certain belief and uncertain knowledge is difficult. Nozick’s definition provides no guidance here. We might be 99.99% certain that Jones will come and visit us at five o’clock because Jones is very pedantic when it comes to appointments. We leave a 0.01% chance (the same percentage as in the lottery example) of him not arriving at five for some unforeseen reason such as him being sick or his watch being broken. If Jones does in fact arrive at five we would consider this knowledge, yet were it so that his watch was broken and he arrived an hour late, we would still have believed that he would arrive at five. This seems to contradict Nozick’s definition. It further seems to put our intuitive notion of knowledge in a contradictory state since we regarded the pessimist in the lottery example not to have knowledge even if his certainty was the same. This problem might be solved if we state that the lottery-example is an exception and that our use of knowledge in the Jones’ visit example is more typical and that lotteries serve as particular contexts in which we are persuaded to hope that we have winning tickets even though presuming it is irrational. But this only provides further problems for Nozick’s definition.

We have studied three different approaches of analyzing the concept of knowledge. None of them escape all criticisms and dilemmas. Attempts at finding a definition that denotes all the states we consider knowledge tends to come at the cost of not telling us anything about what constitutes knowledge what knowledge particular internal attributes are thus becoming redundant (knowledge is knowledge). As opposed to an explanation that tries to describe and analyze knowledge which in turn becomes susceptible to Gettier problems. One solution to this struggle is found in the knowledge-first solution which we will take a closer look at shortly. However, another possibility might be that we simply have yet to arrive at the perfect description of knowledge, corresponding with all uses of the word as well as describing its properties. The relationship between the alternatives might not be that they are conflicting theories but that they are all successful in describing knowledge in their own limited senses, they all explain aspects of knowledge, none of them being completely exhaustive. So even if we have not arrived at a perfect explanation of knowledge it seems fair to state that knowledge seems to have the properties of being constituted, or at least being related to justification and belief, being non coincidental and finally being caused in reliable ways. All of these properties seem to be significant.

2.4. Knowledge-first
The easy way out of all the troubles caused by Gettier is to cancel the project of analyzing knowledge by fragmenting it. We have already discussed the basic arguments for knowledge-first, which are the different challenges for theories that fragment knowledge in to more fundamental pieces (true belief, justification, causal link et cetera). As stated we do not yet have, and possibly never will have, a satisfying analytical definition of knowledge, but that does not mean that one does not exist. Timothy Williamson, however,
proposes something else. Perhaps we cannot analyze the different mental elements constituting knowledge (believing and being warranted) because knowledge is a basic mental element itself. Perhaps the relation between knowledge and belief is not that one of them requires the other but instead that belief is similar to knowledge, in the same way that something round resembles a circle. Perhaps knowledge is prior to belief. (Williamson 2000, 5) We do not say that circularity is roundness and perfection combined; rather we describe roundness and circularity as separate but similar things. We might even claim that circularity is the more fundamental of the two, and roundness being a failed attempt of the former. Williamson suggests that perhaps belief should be understood as a failed attempt at knowledge. When we know something, we do not believe it, because we know it. (Williamson 2000, 208) This seems to be a sense in which we already use knowledge in our every-day language. The knowledge-first definition has a certain intuitive appeal (albeit its’ staggering prospects for many epistemologists). This counter-definition is perhaps the most challenging to the classical JTB definition because it challenges the presumption that such a definition could be made in the first place. Williamson does not mean that no analysis of knowledge is possible or indeed beneficial. It is just not possible in the fragmenting way that has been done by belief-first definitions. Williamson proposes analytical statements that can be made about knowledge, namely that knowledge is the most general factive mental state²(Williamson 2000, 21)

### 3. Group Belief

In this chapter I will provide arguments for groups’ ability to have beliefs of their own. Providing the grounds for this claim will require a study of group aggregations of judgements. Aggregation describes the supervenience relationship between the overarching collective agents and their members. The discursive dilemma provides us with an example of how groups’ judgements can become something other than member’s beliefs by virtue of distributive aggregation. Some other arguments for this, based on different social factors will also be presented.

#### 3.1 Judgement-aggregation and Belief

Aggregation is the way in which the group extracts its beliefs from the members of the group. By either a dispositional or interpretationist account at least, those judgements that explain the group’s behavior count as the groups’ beliefs. (Schwitzgebel, 2015) We cannot simply say that any beliefs or judgements of the members or even the beliefs and judgements of the majority of the members of a certain group automatically represent the collective beliefs and judgements. There is an important distinction between “general belief” and “collective/group belief”. For example, if most members of the Supreme Court believe the German soccer

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² Factive mental states being mental states that are related to facts, such as seeing, remembering. You are not actually seeing X if X is not there and you are not actually remembering H if H never occurred. If factive states do not actually relate to facts, they are false. All mental states are in a sense, a type of knowing. If you see a that a chair is in the room, you know that a chair is in the room, and if you remember where you left your keys, you know where you left your keys etc. (Williamson 2000, 33-41)
team to be most likely to win the next world championship, it does not mean that the Supreme Court itself holds that belief. The judgement that Germany is most likely to win the next world championship is not and probably never will be aggregated by the Supreme Court. The Court aggregates by reviewing and debating cases, which they later rule on by voting, the results of those votes are the aggregated judgements of the group, held by the group itself.

Groups aggregate in many different ways, meaning that there are several different methods of aggregation (also called aggregation functions). Voting is one aggregation function and distribution another. I argue that most aggregation precedes unofficially and even latent (unlike the Supreme Court). When the members of the court take a break in the afternoon, have some coffee together and bet on the world championship they realize that they all believe Germany will win. In this situation they constitute a new less formal social subject as opposed to the Supreme Court. They aggregate a different belief with a different aggregation function than the ones used by the court itself yet they are the same individual members.

3.2. Summativism and Non-Summativism

We are able to make a dichotomy between the views on the most basic premises of epistemic collective ontology. It is the distinction between the summative view; that the ascribing of doxastic and epistemic states to groups is simply metaphorical. The summative view states that groups themselves do not believe or know, only its members. Saying that a group X believes that Q should be translated to “the members of group X believe that Q”. “The members” can either be the majority or the totality or a certain members of special importance, for this case it does not matter how we define “the members”. (Quinton 1975, 10) It is however important to point out that a summative notion of a group’s belief does not necessarily require it to be a majority member belief. We might claim that a group believes a certain fact in a summative manner if the number of members who believe this fact is larger than usual, even if they do not represent a majority within the group. If 30 percent of the members of the political party “New Beginning” believe the earth to be flat we might state that they (the New Beginning) believe the earth to be flat in a summative manner, the group’s belief being a metaphor for the members’ belief. Since the belief is so common in that particular group as opposed to the electorate in general.

An opposing non-summative view (or holistic view) on the other hand states that a group’s doxastic or epistemic states are not necessarily the same as the members’. “Group beliefs” ought to be considered as held by the group itself, the group being the doxastic subject rather than the members. We sometimes describe a group’s belief in a summative manner and a group’s states may be derived or aggregated from the members, but the group (or some groups) should be regarded as its own doxastic or epistemic agent. It is within a non-summative view that group justification becomes an interesting question. A summativist could simply say that a group knows when the group’s members know. I will present the arguments for non-summativism in this
chapter aiming to show more precisely how the non-summative group aggregates its beliefs, especially when this happens in a manner where a summative explanation is insufficient.

3.3. Distribution
Edward Hutchins is notable for developing the idea of distributed groups (groups with distributed aggregation). He takes a carrier ship (the USS Palau) as an example. We may state that the USS Palau\(^3\) knows how to navigate from position A to position B. Some of us might claim that what we mean by this is that it is the captain who knows how to navigate from A to B. But the captain does not know this on his own. He does not know how to operate all the instruments on board and he does not hold all the facts necessary to perform all required procedures nor is he capable of operating the machines involved in the ship’s movements. Even if he did have all this skill and knowledge, he would not be able to do this on his own at once. The captain is dependent on various other crewmembers as well as instrument and computer systems on board. The captain acts as the spider in the web. If we study all the various tasks involved in “knowing how navigate from A to B”, we see that they are performed by several entities on board of the Palau, some of them computers, others crew members. Together they constitute the epistemic base on which the knowledge of navigating from A to B is supervening. Navigators determine the ship’s location using computers that communicate with satellites, other crewmembers determine the weather conditions, the winds and the currents in the water, other crewmembers run the engines et cetera. (see further Hutchins 1995)

The crew is not democratic. They do not vote on each decision, neither do they elect members to make decisions for them nor have conferences where everybody is heard. Regardless of this fact, they are all involved in the decisions that the “ship” makes; they are all involved in the “knowing how to navigate from A to B”. No one on his/her own knows how every aspect of navigating from A to B. Furthermore, all the specific claims involved in that knowledge are not representative of the claims generally held by the members (meaning claims held by the majority or by remarkably big parts of the crew). One cannot find out which particular judgements the Palau holds in the process of navigating by solely knowing what judgements the crew members hold, one must also be aware of the organization structure, what roles different members have in the aggregation process and their relationship to each other (how much do they trust each other et cetera). The only subject to which the knowledge can be attributed is the supervening social subject, the USS Palau.

3.4. Supervenience
To be able to understand the distributed group and aggregation in general we need to understand the concept of supervenience. Stanford Encyclopedia of Philosophy presents this definition:

\(^3\) I am here of course not referring to the physical ship itself, neither to the crew itself. I’m referring to the particular social subject of the USS Palau meaning all of its members and parts in their specific roles and relationships.
“A set of properties A supervenes upon another set B just in case no two things can differ with respect to A-properties without also differing with respect to their B-properties. In slogan form, ‘there cannot be an A-difference without a B-difference’. ” (McLaughlin and Bennett, 2014)

Why do we need the concept of “supervenience”? Supervenience has been used in the discussion of dualism in the philosophy of mind. Supervenience gives us a way of perceiving thoughts and ideas as something other than their material components, yet fully constituted in their material building blocks.

Imagine a pixelated image of an apple. The apple is A properties and the pixels are B properties. We can have B-difference without changing A by imagining another picture of the same apple, or the same image with lesser quality. The apple in the image is the same while the pixels are different. But we cannot change the image of the apple in any way without changing the pixels. If the relation was the same in both directions, if A-difference meant B-difference and B-difference meant A-difference it would be pointless to distinguish A from B. We would say that the apple is nothing other than the pixels. But with supervenience, the apple in the image is allowed to be something other than the pixels, at the same time being nothing more than pixels, materially speaking. In theory of mind, supervenience can be used to explain the relation between neurological circumstances in the brain and the ideas memories and thoughts of a human. In theory of collective mind, on the other hand, it can be used to explain the relation between the group’s beliefs and its members.

3.5. The Discursive Dilemma

Different groups, of course, aggregate in different ways. But as Pettit and List have proven, for groups that are in some sense non-dictatorial, a straight forward extraction and summary of the beliefs of members stands the risk of making the group contradictive. This is described by List as followes, the figures 1-4 are originally his. (List 2005, 226-227)

A, B and C are part of committee that is to make statements on the following claims: “P”, “if P then Q” and “Q”. “P” and “if P then Q” are premises and “Q” is a conclusion. They decide to make their collective statement by voting on each claim thus the majority view on each claim in particular is aggregated:

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>If P then Q</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member A</td>
<td>True</td>
<td>False</td>
<td>False</td>
</tr>
<tr>
<td>Member B</td>
<td>False</td>
<td>True</td>
<td>False</td>
</tr>
<tr>
<td>Member C</td>
<td>True</td>
<td>True</td>
<td>True</td>
</tr>
<tr>
<td>Result</td>
<td>True</td>
<td>True</td>
<td>False</td>
</tr>
</tbody>
</table>

(Figure 1)

As we can see, each member holds a consistent set of beliefs but the result with this method of aggregation becomes illogical on the collective level. The collective judgement results in holding both premises true but
the conclusion false by this simple summative means of aggregation. Pettit presents three ways of solving this issue. The first two are by becoming premise-oriented or conclusion-oriented, this means the group only votes on conclusions, or only votes on premises, i.e. only voting on “P” and “if P then Q” or only voting on “Q”. In the premise-oriented solution, the group must let the aggregated premises logically determine the conclusion. In the conclusion-oriented solution the conclusion is determined in the same way as in the first example and the premises are left out so that the group is not making any statement with regards to them. The result would be:

Premise orientation:

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>If P then Q</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member A</td>
<td>True</td>
<td>False</td>
<td>-</td>
</tr>
<tr>
<td>Member B</td>
<td>False</td>
<td>True</td>
<td>-</td>
</tr>
<tr>
<td>Member C</td>
<td>True</td>
<td>True</td>
<td>-</td>
</tr>
<tr>
<td>Result</td>
<td>True</td>
<td>True</td>
<td>True</td>
</tr>
</tbody>
</table>

(Figure 2)

Conclusion orientation:

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>If P then Q</th>
<th>Q</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member A</td>
<td>-</td>
<td>-</td>
<td>False</td>
</tr>
<tr>
<td>Member B</td>
<td>-</td>
<td>-</td>
<td>False</td>
</tr>
<tr>
<td>Member C</td>
<td>-</td>
<td>-</td>
<td>True</td>
</tr>
<tr>
<td>Result</td>
<td>-</td>
<td>-</td>
<td>False</td>
</tr>
</tbody>
</table>

(Figure 3)

The choice of method is problematic. Both methods are equally “democratic” but depending on which one we choose, the results will differ completely (Figure 2 & 3). There is thus democratic, majority-support for both the validity and falsehood of the claim Q within the group. This is what makes the discursive dilemma a dilemma, but the third solution is more interesting for this essay. The third option is distribution\(^4\). This means that the different tasks are distributed to different members, ideally those who are best equipped to solve them. The result would thus be, if the question whether “P” is distributed to member “B”:

Distribution:

|       | P   | If P then Q | Q   |

\(^4\) Pettit counts “dictatorship” as a fourth option but I regard that as a form of distribution where everything is distributed to the same spot, although I realize how that seems paradoxical
The discursive dilemma is a dilemma only with regards to the project of achieving democratic member representation in groups. But in regards to epistemology, what the discursive dilemma shows us is the different ways in which a group may aggregate judgements. What it tells us is that groups judgements cannot be understood as member judgements alone, knowing member judgements does not necessarily produce knowledge of groups’ judgements, one also needs to know how the group aggregates its judgements from the group. Groups’ judgements are therefore distinct from member judgements.

### 3.5.1. Distribution argument against summativism

Here we should pay special attention to the distributive solution. When a group aggregates a judgement by delegating various aspects of the cognitive task to various group members, it is possible for the group to make rational judgements, independent of its members. It is able to make judgements of its own which cannot be explained as a summative generalizations. This is more notable in a larger group with a more intricate pattern of distributions.

To understand this I propose we imagine a group with members 1-6. They all agree that if all propositions; a, b, c, d, e and f are true, it follows that the preposition x is true, i.e. that they agree on the proposition $(a \land b \land c \land d \land e \land f) \rightarrow x$. Each member is an expert on a different preposition (member 1 on a, member 2 on b and so on...). The group therefore decides to distribute the tasks of promoting each preposition to the corresponding expert in the group. They do this to determine what their collective stance on x should be in the same way as in figure 2 and 4, letting the conclusion x be determined logically by the aggregated premises a-f. Everyone believes the preposition of their expertise to be true and all other propositions to be false. The following aggregation pattern emerges. (The individuals’ judgements that are left out of the aggregation functions stand in parenthesis while those involved are written in bold.)

\[
\begin{array}{cccccc}
\text{Member A} & - & \text{False} & - \\
\text{Member B} & \text{False} & \text{True} & - \\
\text{Member C} & - & \text{True} & - \\
\text{Result} & \text{False} & \text{True} & \text{False} \\
\end{array}
\]
The result of the aggregation on the group level for all the premises $a-f$ is that they are true. The single most capable member promoted each premise. Since all premises are held to be true on the group level, the members decide that the conclusion $x$ also must be true, or at least should be held as true on the group level. The belief that $x$ is true does not correspond with any member belief at the moment of aggregation (we might imagine that this changes afterwards). The whole set of beliefs held by the group does not resemble any credible generalization of the members beliefs. Speaking of the aggregated propositions as the group’s beliefs is therefore not in any way a metaphor for member beliefs, in contradiction to a summative account of group belief.

### 3.6. Social factors

The question whether List and Pettit’s descriptions of aggregation are realistic are relevant. Their descriptions are based on the presumption that groups maintain three standards:

<table>
<thead>
<tr>
<th>Member 2:</th>
<th>(false)</th>
<th>True</th>
<th>(false)</th>
<th>(false)</th>
<th>(false)</th>
<th>(false)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member 3:</td>
<td>(false)</td>
<td>(false)</td>
<td>True</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
</tr>
<tr>
<td>Member 4:</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>True</td>
<td>(false)</td>
<td>(false)</td>
</tr>
<tr>
<td>Member 5:</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>True</td>
<td>(false)</td>
</tr>
<tr>
<td>Member 6:</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>(false)</td>
<td>True</td>
</tr>
</tbody>
</table>

| Group: | True | True | True | True | True | True | True |

(Figure 5)

**Universal domain** – The procedure accepts as admissible input any logically possible combinations of complete and consistent individual judgements on the propositions

**Anonymity** – The judgements of all individuals have equal weight in determining the collective judgements

**Systemacy** – The collective judgement on each proposition depends only on the individual judgments on that proposition, and the same pattern or dependence holds for all propositions. (Pettit 2004, 226)

The discursive dilemma shows how these criteria come in to conflict if one desires the resulting set of judgements aggregated from member with conflicting views to be logically consistent. Distribution means giving up anonymity. But members of groups tend to want their groups to hold consistent sets of beliefs. They are also generally aware of eventual conflicts between their views and the groups, being able to accept this dissonance. This means that in many cases, members will not promote their personal judgements but judgements they believe fit into their perception of what the group wants or ought to have. They see the larger picture and perhaps trust in the group having greater epistemic capacity than themselves. The result of this member self-negation is a second reason for groups being non-summative.
Cass R. Sunstein discusses another type of social factors when arguing against the epistemic ability of what he calls deliberating groups (meaning groups that aggregate judgements through discourse and debate) in favor of predicing markets (markets perhaps being yet another method of aggregation). He suggests that the sources of epistemic failure in these groups are different social facts. Members being afraid to promote minority views, the tendency of prejudices and other cognitive errors being amplified (hearing someone else speak of the same prejudice you hold tends to legitimize it), and a few similar social behaviors cause groups to aggregate less than the available knowledge held by the group. (Sunstein 2007, 320-328) What is relevant to us here (since we are not interested in finding out which type of group is the best, epistemically speaking) is that these social behaviors might cause groups to aggregate other judgements than the general judgements of the group, again suggesting summativism to be false.

A simple example of this is the traditional family at Christmas. When asked privately, none of the family members will say they believe in Santa. The parents will claim that they just pretend to preserve the innocence of their children and for them to enjoy Christmas. The children on the other hand will say that they just pretend not to break their parents’ hearts and to get the presents. The belief in Santa is therefore in some sense held within the group. The group acts as if Santa is real, they put out porridge for him and lights a candle in the window. All members of the group perceive this belief in the group and yet there is no single corresponding individual belief within the group. The belief is clearly aggregated from the members even though they do not share it. This instance might seem trivial but it gives us a good description of this type of member-group dissonance.

### 3.7. Conclusions about group belief

In this chapter I have presented a non-summativist theory for group belief. We may call this the aggregation theory of group belief. I am arguing that groups have beliefs of their own. The main argument for this is that groups hold aggregated beliefs and furthermore that some aggregation functions, namely distribution, give rise to supervening beliefs held by the group yet not resembling any generalization of what beliefs the members hold. The second argument is that social pressure within a group might provoke members to promote beliefs that they do not hold themselves. Social pressures are by no means epistemic virtues and group beliefs effected by social pressure are likely to be delusions. On the other hand, there are several examples of distributed aggregations serving as a means of overcoming limits of individual knowledge creating well-performing epistemic groups.

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5 This is how Swedes traditionally greet Santa Claus.
6 This joke about the family at Christmas I recall from some seminar with Slavoj Zizek, but my experience says that he has probably stolen it to.
7 Such a general member-beliefs could be beliefs held by a majority of the members or remarkably popular beliefs within the members of the groups
8 Alexander Bird (2014) describes the epistemic function and virtues of the scientific community as an distributed group, Fallis (2006) analysis of Wikipedia is another example
Hutchins discusses “cognitive distribution” which presupposes that groups are cognitive. I try to avoid such claims meaning that cognition is not a necessary requirement for having beliefs or knowledge, leaving it open that “group belief” might still be a metaphor in the sense that it is not referring to “belief” in the same sense we use when speaking of individual’s cognitive belief. Groups might very well be cognitive but I argue that this is a slightly different question (as is the question of what “cognitive” is).

The aggregation theory of group beliefs is not meant to be used as an instrument in figuring out what beliefs a specific group might have. Supposing that this is the case is a misunderstanding of the theory. I would argue that we find out what beliefs groups hold by studying the actions of those groups. Once we have an idea what these are we might speculate on how they were aggregated from the members, not the other way around. Otherwise we might arbitrarily claim that a certain group uses a certain aggregation function, using this to support the claim that a group holds some belief. This is not my intention. Determining what beliefs certain groups have is an entirely different question, requiring entirely different theories and methods. That is an epistemological question: “how do we know what groups know?” I am answering the ontological question: “how do groups know?”

4. Group Justification

In this chapter I will compare three different theories of group knowledge starting with the ones I find most intuitive. By presenting counterarguments to these theories I will progress and arrive at the final theory I find most compelling: reliabilism. This is similar the equivalent theory in individual domain. I will show that it solves some problems exclusive for the collective domain. The first two theories I have developed on my own on basis of what we have discovered about groups and aggregation this far, the final one is an adaptation of Goldman’s reliabilism. The three theories are:

- **Generalization theory**
  Groups have beliefs of their own but lack knowledge of their own. Group knowledge is a generalization of member knowledge.

- **Aggregated judgement theory**
  Groups are able to aggregate justifications along with aggregated judgements. The aggregated justifications serve as support for the claims forming a basis for knowledge according to a JTB definition.

- **Reliabilism**
  Aggregated true beliefs are knowledge if they are caused in an appropriate and reliable way, meaning that they have to be aggregated in an appropriate and reliable way.
4.1. Generalization
The generalization model of group knowledge is basically summativism in regards to knowledge. Yet it is different from summativism in that it agrees to aggregated supervening judgements and beliefs. The argument is that the leap from true beliefs to knowledge is impossible for groups to make. This does not make it completely irrelevant to speak of group knowledge. If a group knows that A, this seems to mean either that the group believes A on its own, that A is true, and that the members know A or simply that the members know A. Groups’ true beliefs will be able to accommodate Nozick’s third and fourth criteria. This makes it meaningful and gives us grounds to distinguish epistemic groups from non-epistemic groups (epistemic groups being groups with members holding knowledge, accommodating Nozick’s criteria). This has an intuitive appeal to it; knowledge seems to require mind and cognition, which groups seem to lack. None of the different sources of knowledge (perception, communication, reason) seem to be available for groups. All of the methods of acquisition seem to be limited to members of groups rather than groups themselves. It can be supported with an argument founded in, but not limited to, the knowledge-first theory. More precisely, Williamson’s point that knowledge is the most general factive mental state. (Williamson 2002, 33-41)

4.1.1. Factive mental states
Factive mental states (FMS) are mental states that relate to facts. If what they are relating to is not factual, they are not factive mental states. “Seeing” is an example of a FMS. If you are truly seeing a chair in the room, there has to be a chair in the room. If there is not a chair in the room, you are not seeing it. You are then doing something entirely different. The fact that “there is chair in the room” is necessary for you to be able to be see a chair in the room. If “there is chair in the room” is false, you are not truly seeing a chair in the room but imagining a chair in the room or seeing a hallucination of a chair in the room. “Seeing that X” as well as “remembering that X”, “learning that X by testimony”, “concluding that X” and “realizing that X” et cetera are all specific FMSs that require X to be true (X being a proposition) and they are all specific alterations of the general mental state “knowing that X”. If you see that X, you know that X. If you remember that X you know that X and so on. Some mental states on the other hand are not factive. You may for example truly think that X even if X is not a true proposition. (Williamson 2002, 33-41)

The point of this argument is that groups do not have any specific FMS. Groups do not themselves have experiences, neither do they have cognitive rational processes required for deductions. Of course, some of these are obvious. When we claim that a group of people sees a painting, we clearly mean that it is the members of that group, not the group-on-its-own that sees the painting. Groups-on-their-own do not have eyes-of-their-own. For other FMS, it is less clear that groups lack them. I will look closer at memory, a specific mental state that we sometimes ascribe to groups.

4.1.2. Memory
Let us imagine a fraternity club at a university. It is older than any of its current members and over the years the members have kept track of the activities of the group in records. Let us call one of these activities “event
This activity turned out to be a failure and the members at the time decided to write “rule K” to prevent anything similar to happen again. None of the current members have any memory of event F. Not even any currently living previous member remembers event F. Rule K on the other hand is still in play, all members are aware of it and it is agreed upon to be a good rule worth following. It is also the case that any member has access to the clubs records and could thereby find out about event F.

Some might want to claim that this fraternity group has memory of event F and it seems clear that if there is someone remembering event F, and if it is not a member, presumably, it would have to be the group on its own. But one would argue that traditions and records are something very different from memories as a mental state. We sometimes ascribe “memory” to non-cognitive entities for poetic reasons. We say that a building remembers a war because there are bullet holes in the façade, but this is an entirely different sense of “memory” than if we were to say that Sally remembers the war in which she was wounded. Sally’s memory is a mental state, the building’s “remembering” describes its physical traces from the past. This is also the case for the fraternity club. Poetically speaking we might say that the club has memories of event F but what we really mean is that there are traces of event F in the fraternity in the shape of rule K and in the records. But the main argument does not state that because groups lack a specific factive mental state, they are also unable to have the most general FMS. Because groups do not experience the world, nor do they think rationally, they cannot have any mental state relating to a fact, general or specific. The lack of true specific mental states we can ascribe groups supports this claim.

4.1.3 Arguments against the FMS argument
The previous argument builds on the fact that groups lack both direct experience as well as the ability to think rationally, thereby lacking any valid means of achieving knowledge. The problem is that this means that we are studying groups as if they were individuals and we are using individual knowledge as the standard for group knowledge. We have never claimed that groups form their beliefs by thinking or experiencing, but by aggregating their beliefs from their thinking and experiencing members. Aggregation is a way of transmitting experiences from several subjects, to one. In a way, aggregation is a form of communication. Groups do not see, remember or realize by themselves but they are constituted of seeing, remembering, realizing beings, and they are able to, by themselves aggregate their own judgements from those beings. This does not leave us with a complete idea of group knowledge but we know that to determine whether it is possible or not, we have to study aggregation. If groups have FMS, they clearly are different from the FMS in the individual domain and we might not have any expression describing those states.⁹

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⁹ A possible knowledge first approach to groups and a specific mental state groups might have is testimony. When individuals inquire facts from testimony of other individuals it is in a sense not they, in the first hand that experience the fact, rather the sensory or cognitive experiences of someone else is transmitted to them. Similarly we could consider “group knowing” as the more general translation of groups inquiring facts from the testimony of their members by means of aggregation. This way leaving the analytical requirements of proving the existence of belief and warrant separately.
4.2. Aggregated justification

As groups aggregate beliefs it seems plausible that if they have justifications, these are aggregated too. Aggregations seem to be the only way for groups to achieve supervening states of their own. As our previous attempt at understanding group knowledge was unsatisfying partly because it did not fully account for the significance of aggregation this seems like the logical next step. This follows the classic JTB definition of knowledge.

In the solution to the discursive dilemma we were provided with the premise based procedure as an example of an aggregation procedure. In this procedure, the group voted on premises and then let their premises determine their conclusion (List 2005, 12-13). One should note that the group already had a notion of the conclusion, a hypothesis. The procedure did not help the group to find out the conclusion on its own, only validate it. The point here is that the group’s justification for believing Q was the fact that it had aggregated P and if P so Q. The question about how the group justifies the beliefs in those premises on the other hand remains unanswered. If the group knows Q because it knows P and if P so Q, how does it validate its belief in P and if P so Q?

4.2.1. Latent knowledge and manifest knowledge

Groups often seem to be able to provide reasons and arguments for their claims if they expect them to be criticized or challenged. Imagine a mining company claiming, to its owners, that there is a mineral in a certain location and they should start a mining project there. If the company is competent it will provide aggregated justifications along with this claim such as research findings and expert comments.

A lot of seemingly epistemic group will however, not aggregate justifications along with their judgements. We can imagine the USS Palau being one of them. The aggregated set of judgements of the Palau is restricted to propositions about weather conditions, speed, currents, and ship positions et cetera. The data and evidence for those claims are not concerns of the supervening social entity. Only the individual parts of the collective hold them. Indeed, trust is crucial for most epistemic groups to function. The crew is not anticipating scrutiny for its beliefs and it is simply interested in navigating effectively. Of course, the ship’s activity could be questioned in retrospect if, for instance, if there is an accident. In such a scenario the ship would aggregate the data and evidence supporting its decisions in hindsight and it may very well show that the Palau and all the members on board had made correct and justified decisions at the time. But it begs the question whether the group knew this at the time when justification was not aggregated. This would appear unsatisfying and the solution is to say that a group is not required to have aggregated its justification for an aggregated belief to know it, just being able to aggregate such justification is enough. The only cases in which groups aggregate their justifications seem to be when they expect to have to defend their claims. This does not seem to capture all cases of group knowledge. We may therefore distinguish latent knowledge where justification is not aggregated (but could be if needed), from manifested knowledge where justification has been aggregated.
4.2.2. Counterarguments against aggregated justification

The theory of aggregated justifications does satisfy many of our expectations on an analysis of knowledge and we achieve a structure of group knowledge, which is very similar to the structure in the individual domain. There are however some issues. The mining company might be able to persuade its owners to support the mine and the claim about the minerals might be true, but does this mean that the group knew about the location of the minerals? And if so, did they know this because they were able to provide arguments for their claim? This appears to be odd. Argument is a relevant epistemological subject, but an agent’s *argument* in support for a claim is something different from the agent’s *justification* for the belief that the claim is true. Agents can have arguments without justification and vice versa. Having good arguments might seem to incline justifiedness, but in the case described, this is questionable. A second point is the concept of group knowledge when the same judgement is aggregated from different members having different justifications. Alvin Goldman (2001, 5-7) gives an example:

Let us imagine a group of 100 guards guarding the paintings at the British Museum. 20 guards are justified to believe the preposition “Albert, who is a guard at the British museum, is planning to steal a painting” (A). From this they draw the conclusion: “A guard is planning to steal a painting” (T). Another 20 guards believe that “Bernard, who is a guard at the British museum, is planning to steal a painting” (B) concluding (T), a third separate group of 20 guards believe that “Cathy, who is a guard at the British museum, is planning to steal a painting” (C) concluding (T). As shown in this diagram:

<table>
<thead>
<tr>
<th>Individual beliefs on premises</th>
<th>Individual beliefs on conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 members justifiably believe (A)</td>
<td>60 members justifiably believe (T)</td>
</tr>
<tr>
<td>80 members do not believe (A)</td>
<td>40 members do not believe (T)</td>
</tr>
<tr>
<td>20 members justifiably believe (B)</td>
<td>20 members justifiably believe (C)</td>
</tr>
<tr>
<td>80 members do not believe (B)</td>
<td>80 members do not believe (C)</td>
</tr>
</tbody>
</table>

*(Figure 6)*

The method of belief aggregation in this group happens to function by majority rule so the following sets of beliefs are aggregated to the group level:

<table>
<thead>
<tr>
<th>Group level beliefs on premises</th>
<th>Group level beliefs on conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group does not believe that (A)</td>
<td>Group believes that (T)</td>
</tr>
<tr>
<td>Group does not believe (B)</td>
<td></td>
</tr>
<tr>
<td>Group does not believe (C)</td>
<td></td>
</tr>
</tbody>
</table>
As we can see, the group is able to aggregate the belief in (T), this belief seems to count as knowledge, all the members that believe (A), (B) or (C) do so justifiably. Yet the group is unable to unify around the justifications for (T). (A), (B), and (C) do not contradict each other so we could perhaps solve this problem by imagining that the group aggregates the following propositions as justification: “(A) or (B) or (C)”. But let me strengthen the example by stating that the members who do not believe in (A), are not simply neutral but forcefully reject (A) believing ¬(A), the same being true, vice versa, for the members that do not believe in (B), and (C). The preposition “(A) or (B) or (C)” is therefore prevented from being promoted in a majority aggregation. But even with the members rejecting each other’s premises, we still consider the groups belief in (T) justified. This poses a serious problem to the idea of aggregated justification. Just because the group cannot agree on the premises does not mean they are unknowing if their conclusion belief and at least one of the premises turns out to be true.

A final counterargument comes from groups polling themselves. A group might perform an anonymous vote to find out the general opinion on a controversial topic in the group. No member knows what this general opinion is. The poll serves two functions: aggregating the judgement and at the same time being the evidence supporting that judgement. If a group decides to use an anonymous poll to determine what the groups stance on smoking should be (since the group wants the official stance to represent the members’ stance). The function of this poll should also be considered as an aggregation of a judgement/belief on what the member’s stance on smoking is. So if the poll shows that the members disapprove of smoking, we could say that the group has aggregated a belief that its members disapprove of smoking. And this group belief seems to be pretty well justified and true. But if justification needs to be aggregated for a group to have knowledge, we need to describe this as the group aggregating the belief that the members disapprove of smoking by means of the poll, once the results of the poll are presented to the members they in turn form the justified belief that the members disapprove of smoking and that justification is somehow aggregated to the group level. The complexity of this description seems unmotivated. In this case it appears unnecessary for the justification to be aggregated, instead the poll itself serves as the group’s justification even before the members are aware of the results.

4.3. Group reliabilism
The theory of reliabilism for individuals states that an individual S knows P if the true belief in P is formed by a reliable belief-forming process. (Goldman 1975, 358) There are of course many different kinds of belief-forming processes for individuals: introspection, inference, testimony, memory et cetera. Adapting this model for groups does not require much tweaking, the general description remains the same, but the different types of belief-forming processes for groups are, as we have learned, different from those of individuals.

Groups gain beliefs by aggregation and there are a few different methods of aggregating beliefs from group members. Some methods of aggregation are undoubtedly unsuited for founding knowledge but other
aggregation methods are able to produce knowledge beyond the summative account of member knowledge. Group knowledge becomes a question about whether a group’s beliefs are properly and reliably aggregated. Whether an aggregation function is sufficient or not is relative to the task at hand. Almost any method of aggregation is sufficient for simple tasks such as determining the color of the sky.

4.3.1. Wikipedia

Don Fallis (2011) provides good evidence for the fact that Wikipedia, contrary to popular belief is quite capable at aggregating correct judgements, even to an extent where it is competing with traditional encyclopedias such as Encyclopedia Britannica. Encyclopedia Britannica is able to aggregate correct judgements by virtue of quality and member competence. There is also some distribution structure preventing individual bias and providing objectivity, namely, by entries being reviewed and edited by other members.

Wikipedia is able to aggregate correct judgements by virtue of member quantity and method of distribution. Any schmuck of the web can publish an article on Wikipedia. There are no requirements of merit. But because of the amount of contributors, and because of the structure of the group in which truth and evidence is encouraged the aggregated judgements result in an assortment of knowledge well surpassing any estimate of the typical knowledge within the group. (Fallis 2011, 301-302) No single contributor of Wikipedia knows all the facts in the Wikipedia and if the totality of the members where to be polled on the various topics of Wikipedia they would provide fewer facts and more fallacies compared to the Wikipedia. The fact being that the Wikipedia community is able to hold knowledge exceeding the sum of member knowledge by having one method of aggregation instead of another. The point being that the justification for the aggregated knowledge does not lay with the individuals, rather it emerges from the reliability of the aggregation process.

4.3.2. Insufficiently aggregated justifications

An insufficient method of aggregation in accordance to the task could provide an aggregated justification, which according to a JTB account or even a causal account ought to be considered knowledge. Imagine a school cafeteria that is serving chili. A group of 6th graders making a game of guessing what the cafeteria will be serving. They do this by letting each student submit their guess on a note into a hat they consider magical, they then chose one of the notes at random believing it to envision what food it will be, due to the hats “magical” powers. Perhaps the student who submitted the chosen note did not guess but justifiably believed that it would be chili. He even wrote the justification on his note “Chili, because it smelled like it”. The group has aggregated a belief and aggregated justification with that belief. According to our previous account this would be considered knowledge but according to reliabilism it is not. The correct answer was not chosen because it was correct or because of its justification. It is not even believed in because of its justification; instead the students believe it (or pretend to believe it) by virtue of the hat’s magical powers. Magical hats are not especially reliable when it comes to determining a cafeteria menu, nor are random choices between random submissions, even with the exception of one justified guess. Notice also how this is in accordance with
Nozick’s criteria. The group would have believed it even if it were a false, unjustified note that was picked from the hat.

We have considered cases of supposed group knowledge without aggregated justification, these where explained as latent knowledge where justification could be aggregated if need be. In this case however, we are looking at a case of group non-knowledge where the group holds true belief as well as valid justification. In a sense, this is a Gettier-problem for groups. Some might consider this example an exception but I would argue that albeit be it unrealistic, it is in no way broken. The solution to this problem is to leave the theory of aggregated justification and instead turn to reliabilism. The question of whether a group holds (or potentially could hold) justification is irrelevant to the question of whether the group has knowledge. The problem of the 6th grade example is that the group aggregates its belief in an unreliable way. The task of challenging group-reliabilism is thus finding a case of group knowledge without a reliable aggregation or a case of true reliably aggregated group belief that would not count as knowledge. I have not found any example of either one of those scenarios.

4.3.3. Deductions?
In the premise oriented solution of the discursive dilemma as well as the distributive solution, it appears as if groups draw conclusions of their own. This raises the questions whether groups are capable of deductions and something similar to rational thinking, a claim that I disregarded in 4.1. I have left the question of group rationality unanswered only focusing on the group’s equivalent to empirical knowledge. Answering the questions whether groups are able to perform rational task of their own or hold rational justifications for some beliefs would require a whole different essay on that topic. I would however like to suggest that the members perform the rational conclusions made in premise and distribution aggregation. Consider the case of the FBI in the following 9/11:

“In the wake of 9/11, there has been much commentary on what the C.I.A. and the F.B.I. did or didn’t know about terrorist plans before the event itself. The following remark by Sandy Berger, national security adviser under President Clinton, is illustrative of a readiness to apply the “knowledge” predicate to an organization: ‘We’ve learned since 9/11 that not only did we not know what we didn’t know, but the F.B.I. didn’t know what it did know’.” (Goldman 2004, 12)

This seeming contradiction is an attempt to describe the fact that agents on the field held and reported various parts of fragments that if reviewed and compared correctly, predicted 9/11. None of the agents had the total information to be able to conclude this on their own. But someone who held all these facts would have been able to connect the dots and conclude that there was that risk. The FBI community held all those separate facts, and in retrospect they could see that the event could have been predicted, had they correctly evaluated the reports from agents in the field. Thus: the FBI did not know what they knew.
This is a failure in the aggregation function of the FBI. The FBI could not have made this conclusion on its own. It needed a member promoting the hypothesis that an attack against the World Trade Center involving planes was about to be carried out, presumably this promotion would be performed by someone within the intelligence aware of the various bits of information about this held by agents in the field. Had this hypothesis been aggregated, the FBI would probably have been able to confirm it. Groups do not connect the dots on their own and draw new conclusions on their own, they are dependent on their members’ creative ability to promote good hypotheses.

5. Concluding Remarks

I have already summarized my conclusions on the possibility and independency of groups’ beliefs on page 16. Therefore I limit myself to the conclusion on group justification. Three different possibilities for group justification and knowledge have been discussed proposing different arguments for and against them. I settle for reliabilism, which has been proposed as the solution to the problem of group justification by Alvin Goldman. My complete account of group knowledge however, differs slightly from Goldman’s in that I make a stronger claim for independency of group beliefs in relation to member beliefs, in for example the case of poll-aggregation where I claim the groups have knowledge even though no member has justified belief as opposed to Goldman’s example with the royal guard where gr

My arguments for reliabilism come from a study of several examples and cases of group’s knowledge, comparing different explanations of knowledge and finding out which one fits best. The idea that groups aggregate and hold justification in the same way as beliefs have an intuitive appeal, this is what most of us refer to if we say that a group is justified. But this description proves dissatisfying in special cases and does not seem to accurately describe the actual knowledge of groups; rather it describes their ability to be persuasive or trustworthy sources. In comparison, Goldman’s reliabilism appears much better suited for explaining group knowledge.

It is important to note that group reliabilism in no way entails reliabilism for individual knowledge. The virtues and problems of group reliabilism are to a large extent native to collective domain such as its ability to describe knowledge without invoking experience or rationality. One general problem of reliabilism however should be addressed. It is the question of what counts as reliable. How do we draw the line between reliable and unreliable? Perhaps Nozick’s criteria serves some function here. An aggregation function is reliable if it aggregates true beliefs and where it the case that the belief would have been false, it would not have been aggregated. But this does not completely answer the question. To start off with, aggregations can be quite complicated procedures and it is not necessarily obvious that a group would not have aggregated a certain belief if it had been false. This does not mean we consider the aggregation procedure unreliable. Secondly,
Nozick's solution faces a large challenge from skepticism both in individual and collective domain. Perhaps everything we think we know is an illusion caused by an evil spirit. Does that mean that we do not know anything regardless of whether such a spirit exist since we would believe what we believe either way? Every empirical proposition we know could for some unimaginable reason have been false.

But the question of what aggregations are reliable is merely an epistemological question of when and if we are able to know that groups know. Perhaps this may remain hidden and vague to us for several reasons regarding the complexity of social subjects and others. The onthological point, however, remains; groups are able to have knowledge of their own.
References


