

# Action-Based Indexicality

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## Abstract

Most research done on indexicality so far has focused on singular thoughts hold by a single person, and little investigation has been done on first-person plural thoughts ('we-thoughts', as I call them), like Alex's belief that «*we will meet at noon*», and joint demonstrative thoughts, like a group's belief that «*she<sub>Susan</sub> is in danger*», where the subscript gives the demonstrated object.<sup>1</sup> Here I will offer an introduction to those two kinds of thoughts. I will present issues they raise to current accounts of indexicality, and argue that they are not easily overcome. I will then develop a tentative approach to them.

## 1 Introduction

Indexical thoughts are generally characterized as thoughts the content of which is systematically dependent on the context they are entertained, in particular, dependent on a perception of the object of the thought at the moment the thought is entertained. Because of the context dependence

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<sup>1</sup>In this paper, expressions within double angle brackets ('«' and '»') and italicized stand for the content of thoughts, broadly understood.

of their content, indexical thoughts are typically expressed by indexical expressions. In addition, in Perry's [?] seminal paper, *The Problem of the Essential Indexical*, he introduces an important characteristic role indexicals play: motivating action. With his famous example of a messy shopper who takes a while to realize that *he\** was making a mess,<sup>2</sup> Perry argues that indexical thoughts are essential to explain and motivate intentional behavior. While not all indexical thoughts will actually motivate an action, I take it that, if Perry is right, they have the potential to do so in the right circumstances, that is, paired with appropriate beliefs and desires they would motivate action. Although Perry's view has not been unchallenged,<sup>3</sup> it still has many supporters.

Despite all the agreement, there still a lot of controversy on how to characterize indexical thoughts, and this has been the topic of a heated discussion. To frame the issues we-thoughts and joint demonstrative beliefs bring to the discussion, I will focus on what I take to be the most promising way of characterizing indexicality, namely, as thoughts that are Immune to Error through Misidentification ('IEM', for short), but in the discussion I will bring at least one other account, namely, the view that they are essentially first personal.

This paper is structured as follows. First I will explain how IEM is typically understood (Section 2.1), and present two accounts of the grounds of IEM in indexical thoughts (Section 2.2). I will group them under the name of 'Orthodox View'.<sup>4</sup> Then I will explain the issues raised by we-thoughts (Section 3.1) and joint demonstratives thoughts (Section 3.2) to the Orthodox View, and I will present an alternative account of IEM that I defended before (Section 4), and argue that it accommodates we-thoughts (Section 4.1) and joint demonstrative thoughts (Section 4.2).

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<sup>2</sup>Following ?, '*he\**' stands for Perry's first person way of thinking about himself.

<sup>3</sup>See ???.

<sup>4</sup>By the name 'Orthodox View' I do not mean to imply that it is or it ever was the mainstream view.

## 2 Orthodoxy

### 2.1 Immunity to Error Through Misidentification

One of the most well-developed accounts of indexicality characterizes indexical thoughts as IEM, that is, as Immune to Error Through Misidentification. IEM is typically understood as a property of thoughts<sup>5</sup> that makes them immune to a kind of misrepresentation. For instance, suppose that John sees that Susan is about to be attacked by a bear and, based on this experience, believes that «*the smartest person is in danger*». John's thought is typically not considered IEM because it could misrepresent the situation John sees, not because John is wrong that someone is in danger though, it is rather because he is wrong that the person he sees in danger is the smartest person. This would have been the case if John sees that Susan is about to be attacked by a bear, Jasmin is the smartest person, and John mistakes Susan for Jasmin. In this case, John misidentifies the person he sees as the smartest person, and his thought misrepresents the situation, even though he is right that someone is in danger.

Philosophers like ????, among many others, argue that indexical thoughts are immune to such kind of misidentification. According to them, there is something about an indexical mental representation that it cannot represent an object other than the one that is being perceived. This idea is often expressed by saying that the *target* object (the object represented by the mental representation) cannot differ from the *source* object (the perceived object). For instance, suppose Mark sees that Susan is about to be attacked by a bear and, based on his perception, believes that «*she<sub>Susan</sub> is in danger*». Intuitively, the mental representation «*she*» in this context will certainly be about the person Mark sees. Unlike «*the smartest person*», «*she*» cannot be employed and not represent the

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<sup>5</sup>More accurately, IEM is primarily a property of some judgments that is “transferred” to their corresponding beliefs. See ??.

object the employer sees, after all, Mark's use of «*she*» exploits his perception of Susan to represent her, and, for this reason, we will not be able to describe scenarios where Mark misidentifies Susan when he represents her as «*she*». Thus, unlike John's belief, Mark's belief cannot misrepresent in virtue of misidentification, or in virtue of a mismatch between the object represented and the object perceived. So, Mark's belief is IEM.

While the examples I gave here are mostly focused on demonstratives, IEM is supposed to be a feature of all indexical thoughts. To give a different example, suppose that I experience a headache and, on the basis of my perceptual experience, I form the belief that «*I have a headache*». Like Mark's belief, my mental representation «*I*» will certainly be about the person I perceive as having a headache. The same is not true of the belief «*the mother of Susan has a headache*», for I could misidentify myself as the mother of Susan, in which case the belief would misrepresent the situation I perceive.

## 2.2 Perception as the source of IEM

In the literature, we can find different accounts of the source of IEM. Nonetheless, they converge in the sense that a perception of the person who holds the thought has a central role in all of them. To illustrate my point, I will consider two contrasting accounts of the source of IEM: Prosser's and Recanati's (??).

Beginning with Prosser, according to him, when someone holds an indexical belief, like the belief that «*she<sub>Susan</sub> is in danger*», there are two ways the belief can be in error: (i) if Susan is not a woman; or (ii) if Susan is not the person in danger. When a belief is in error because of (i), it exhibits error through misclassification – the believer classifies Susan as a woman when she is not.

If a belief cannot go wrong in this respect, the belief is immune to error through misclassification (IEMC). When a belief is in error because of (ii), it exhibits error through misidentification – the believer sees that someone is in danger but she mistakes the person she sees for someone else. If a belief cannot go wrong in this respect, it is IEM.<sup>6</sup>

Prosser has an interesting discussion of the relation between IEM and IEMC, but, for the moment, the relevant part is his explanation of IEM. According to him, Mark's belief «*she<sub>Susan</sub> is in danger*» is IEM, when based on his experience of seeing that Susan is in danger and if Mark intends «*she*» to represent the person he perceptually discriminates as the person in danger. When this is the case, the object Mark perceptually discriminates as being in danger (that is, the object that makes Mark believe that the property of being in danger is currently instantiated) is inevitably the same object that he sees in danger. In other words, it is impossible for Mark's belief to be in error, or to misrepresent, because he believes an object to have the property of being in danger and discriminates her based on the very same property. Thus, there is no room for misrepresentation in virtue of misidentification<sup>7</sup>.

Recanati offers a different story for IEM. According to him, Mark's belief that «*she<sub>Susan</sub> is in danger*» is IEM because it is not inferred from on a belief about the identity of the object. For him, Mark's perceptual experience immediately grounds a belief the content of which is that the property of being in danger is instantiated, which can be represented as «*it is danger*» or «*danger!*». Both Mark's experience and his belief do not explicitly represent Susan because there is no representational element in them that represents her. They only *concern* her in as much as she is the object perceived

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<sup>6</sup> Following Shoemaker, Prosser distinguishes IEM into *logical* and *de facto*, where *logical* means that it is logically impossible for there to be misidentification, and *de facto* means that it is not possible in normal or ordinary circumstances. All cases discussed here are cases that are *de facto* IEM, according to Prosser's classification.

<sup>7</sup>See fn. 6 for notable exceptions.

as in danger. When Mark believes that «*she<sub>Susan</sub> is in danger*», he infers it from the supporting belief «*danger!*». But, Recanati notes, this inference does not and could not depend on an identity belief of the form  $\lceil \langle a = b \rangle \rceil$ , such that ‘a’ and ‘b’ are variables that range over mental representation of individuals, simply because Susan is not represented in the supporting belief. According to Recanati, in the transition from «*danger!*» to «*she<sub>Susan</sub> is in danger*», Mark simply makes explicit an element that was left implicit in the supporting belief. In contrast, John’s belief «*the smartest person is in danger*» rests on a belief about the identity of the perceived object, namely, that «*she<sub>Susan</sub> is the smartest person*». <sup>8</sup> Since this belief could be false, there could be misidentification, which means the belief is not IEM. Since in Mark’s case there is no belief about the identity of an object to be false, Mark’s belief is IEM.

Despite the differences between Prosser’s and Recanati’s account, it is clear that in both the source of IEM is intimately connected with the believers perception of the object of the belief. In Prosser’s account, the information the believer gets from perception is used to discriminate the object of the belief, and that makes the belief IEM. In Recanati’s account, the fact that an indexical belief just makes explicit an element that was implicit in the perception makes the belief IEM. In the next section, I will raise concerns to the orthodox way of characterizing indexicality. Roughly, we-thoughts will put pressure on the claim that in indexical beliefs the source object matches the target object, as explained in Section 2.1. Joint demonstrative thoughts will raise concerns over the connection between a believer’s perception and IEM as explained here.

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<sup>8</sup>The genealogy of John’s belief according to Recanati is: (i) «*danger!*»; (ii) «*she<sub>Susan</sub> is in danger*» (from i); (iii) «*she<sub>Susan</sub> is the smartest person*» (independently justified); (iv) «*the smartest person is in danger*» (from iii and iv).

### 3 We-Thoughts and Joint Demonstrative Thoughts

#### 3.1 We-Thoughts

We-thoughts raise challenges to the view that IEM means that the source object (the perceived object) is the target object (the object represented by the mental representation). Consider the following case:

**We-Case:** Alex teaches a class with 250 enrolled students, and she is scheduling a review session for the final exam. After reserving a room for May 1<sup>st</sup> at noon, she announces that they will meet for a review session on May 1<sup>st</sup> at noon, on a day that only 200 students showed up for lecture. Since nobody complains, Alex believes that they will meet at noon, which, from her perspective, is the following we-thought: (1) «*we will meet at noon*».

(1) has all the marks of an indexical belief: (i) there is a sense in which its referent depends systematically on the context, if someone other than Alex or one of the 250 enrolled students were to think «*we are meeting at noon*», the thought would be about a different group of people; (ii) it is grounded on perception, at the very least on Alex's perception of herself; (iii) it is typically expressed by an indexical expression, if Alex were to express her belief, she would utter the sentence 'we will meet at noon'; and (iv) in the right circumstances, it may motivate actions, if Alex believes «*we will meet at noon*», «*if we leave by 11 am, we will be on time*», and desires them\* to be on time, she will be motivated to leave by 11 am.<sup>9</sup>

Yet, Alex's we-thought does not seem to fit the account of indexicality described in section Section 2.1. There, IEM is understood as the source object matching the target object. But in We-Case, they are arguably different. The source object is the group of 200 students that Alex perceives as

<sup>9</sup>Following ?, 'they\*', 'them\*', and variants, stand for a special way members of a group have to think about the group.

agreeing to meet at noon. But the target object is the group constituted by all students enrolled in the class, that is, all 250 students, considering that Alex presumably believes that the review session is for all enrolled students, and not a reward for those students who went to lecture the day she made the announcement. So the target object is a group that includes students who are not in lecture and who Alex is not seeing or otherwise perceiving. If this is correct, then there is a mismatch between target object and source object, and, for this reason, Alex's belief is not IEM. Moreover, supposing IEM is a hallmark of indexical beliefs, according to the Orthodox View, (1) is not indexical after all, contrary to our initial intuitions.

There are a couple of reactions one might have when presented with We-Case. First, one might deny that the source object is the 200 students in the classroom and insist that the source object is the group of 250 students. One way of doing it is to argue that the students in the classroom stand for all enrolled students, and that, by perceiving the students in the classroom, Alex, thereby, perceives all enrolled students.

While overall I am not against the idea that some members of a group can stand for the whole group in certain circumstances, I think that in the case of perception this does not work. If it makes sense to say that Alex perceives the 50 students not in the classroom in the We-Case, it is clearly not in the same sense as she visually perceives the students in the classroom in front of her. Moreover, even if we grant this point, it stands to be argued that perceiving in this different sense can play the role perception plays in indexical thoughts, specially when it comes to the grounds of IEM.

Second, one might deny that the target object of Alex's we-thought is the group constituted by all 250 enrolled students, and argue that it is actually only the 200 students in the classroom. While



this is possible, it is implausible to suggest that it is the case in all cases. Instructors may hold review sessions for all enrolled students, and we can assume it to be the case in the We-Case.

Alternatively, one might think that, according to the view in Section 2.1, (1) should be analyzed as a complex indexical thought, perhaps similar to complex demonstratives thoughts.<sup>10</sup> According to this suggestion, Alex's thought is somehow composed of her *de se* mental representation and a non-indexical representation of all students enrolled in the class. In this way, Alex's belief «*we will meet at noon*» just is her *de se* belief «*the students enrolled in the class and I will meet at noon*». In this case, Alex's belief is IEM because of the *de se* part is IEM, even though there can be a mismatch between target and source object in the part that represents Alex's students.<sup>11</sup> However, I doubt this analysis of Alex's belief goes very far. Presumably, some of Alex's students (if not all) believe that they\* will meet at noon, and they all should hold the same belief as Alex's belief. But it is not possible for them to hold the same belief if it is a *de se* belief, because one of the essential features of *de se* beliefs is that they are not beliefs that can be shared.

Given the inability of the Orthodox View of accommodating Alex's we-thought, a question arises: in which sense could (1) be IEM? I will address this question in Section 4. For now I want to talk about how joint indexical thoughts raise problems for accounts about the source of IEM.

### 3.2 Joint Thoughts & Perception

As I explained in Section 2.2, accounts of the source of IEM in demonstrative beliefs tend to emphasize the relation between a perception and a demonstrative thought a person holds. This emphasis is not without reason. Ordinarily, when a person holds demonstrative thought, she is

<sup>10</sup>See ?.

<sup>11</sup>More accurately, the belief «*we will meet at noon*» can be logically analyzed as a composition of Alex's *de se* belief «*I will meet at noon*» and her non-indexical belief «*the students enrolled in class will meet at noon*».

perceiving and paying attention to the object of the thought; and if she is not, she cannot entertain the thought. But joint demonstrative thoughts raise a puzzle for the Orthodox View. Consider this case:

**Joint-Case:** Deja teaches Bio 101, and is taking her class for a hike at the Yellowstone Park. She is walking in front of the group when she turns back and sees that Susan is about to be attacked by a bear. This prompts her to say to the students (2) ‘she is in danger’, while pointing at Susan.

Assuming Deja’s students believe her, it makes sense to say that *the class* or *the group* believes that «*she<sub>Susan</sub> is in danger*». The group’s belief is indexical and, consequently, should be IEM. If the accounts of the grounds of IEM in Section 2.2 are on the right track, IEM in indexical beliefs is grounded on the believer’s perception, which in this case is the group’s perception. But what is a group perception?

Groups cannot perceive objects as presupposed by the Orthodox View, namely, as an object being causally related with a perceptual system, considering that groups do not have such perceptual system. Nonetheless, perhaps, one could argue that talk of a group’s perception – and, by extension, the grounds of IEM in joint demonstrative beliefs – can be reduced to the perception of the members of the group. There are, roughly, two ways to further develop this line of reasoning.

First, one can say that for Deja’s class to perceive that Susan is about to be attacked by a bear, each student has to individually perceive it. In this way, the perception of each student collectively grounds IEM in the joint belief that «*she<sub>Susan</sub> is in danger*». This suggestion parallels a suggestion in discussions of group thinking, where a group’s belief is reduced to a collection of beliefs of all of its members. However, similar objections will appear in the case of perception: we are inclined to

say that the class perceives that Susan is about to be attacked by a bear even if one or two students do not individually see her because they are not at the hike or are distracted tying their shoes when Deja says (2). Furthermore, to endorse such an account of group perception, we need to develop an account to distinguish between people jointly perceiving an object from people who individually (i.e. not jointly) perceive the same object.

Alternatively, one can argue that a group's perception is reduced to the perception of only some of its members. According to this suggestion, for Deja's class to perceive that Susan is about to be attacked by a bear, only some of the students have to see Susan. But, now, a further question arises: how many students have to perceive Susan? One? Two? The majority? Any specific number or percentage we fix will doubtless be subject to counterexamples.

It seems to me that the correct answer is that IEM in joint demonstrative beliefs is grounded on the perception of *some* of the members of the group, specifically on those who actually see Susan. But we need a principled reason to pick out the "right" members, and the accounts in Section 2.1 do not have the resources to offer such a principled reason. Although, we could supplement them with a thesis to address the issue at hand, the modified theories will be *ad hoc*. Ideally, a correct account of indexicality would have embedded in it a principled reason to pick out some of the group's members. And I believe I have one to offer.

## 4 Action-Based Indexicality

My suggestion to accommodate we-thoughts and joint demonstrative thoughts is to change the way we understand IEM. I have argued elsewhere that indexicals are special because they are the only kind of beliefs that, when motivating action, guarantees that an agent will target the object of the

belief. Without going too much into the details of the argument, the overall reasoning is that, for agents to perform actions that intentionally satisfy a motivating desire, they need to have beliefs and desires that guarantee the agent manipulates the object they are about. If agents do not have such beliefs, they do not intentionally satisfy their motivating desires. Rather, they are lucky to have satisfied them. For instance, if John believes that «*she<sub>Jasmin</sub> is in danger*», «*if I stand in front of her, she will be safe*»,<sup>12</sup> desires her to be safe, and performs an action based on these beliefs and desires, he will assuredly stand up in front of *Jasmin*, the object of his motivating belief, and not some other person. It is virtually impossible for John to hold these beliefs and desire and think they are about a person other than the person he sees, that is, *Jasmin*.

In contrast, the same desire paired with John's non-indexical beliefs that «*the smartest person is in danger*» and that «*if I stand in front of the smartest person, she will be safe*» might not make him to stand in front of the right person, because he might not believe that the person he sees is the smartest person, even if she is. Moreover, if John sees Susan in danger and falsely believes that Susan is the smartest person, his beliefs and desires would prompt him to target Susan and not *Jasmin*. These cases suggest that, while a non-indexical representation of an object may motivate someone to perform actions, they do not guarantee that the right object, that is, the object of the belief, will be targeted. Because of that, when John ends up targeting the right person on the basis of non-indexical beliefs, she satisfies the motivating desire only accidentally. If I am right, only indexical thoughts prevent this from happening, which is why we need them for intentional (bodily) actions.

To sum up, in my view, IEM means that actions motivated by IEM beliefs guarantee the agent

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<sup>12</sup>In the conditional belief, «*she*» has an anaphoric use and is not an indexical.

targets the right object, that is, the object of the motivating belief. And only indexical beliefs are like that. In the next sections, I will explain how this view accommodates we-thoughts and joint demonstrative thoughts

#### 4.1 We-Thoughts

The problem with we-thoughts for the Orthodox View is to explain how Alex's belief «*we will meet at noon*» is IEM despite the mismatch between source object and target object. In my view, Alex's belief is IEM if actions motivated by her belief «*we will meet at noon*» will assuredly manipulate or target the right group, that is, she and her students. And it should be virtually impossible for Alex to hold the belief and, in the appropriate circumstances, target the wrong group. I will argue that this is the case by arguing that (i) by performing actions that target her, Alex is targeting the group; (ii) Alex's we-belief can motivate actions that target her, and (iii) that they can only motivate actions that target her.

For the sake of the arguments to be developed here, suppose Alex believes that everyone lives about an hour from the university where she teaches. Because of that, she believes that «*if we leave by 11 am, then we will be on time*».<sup>13</sup> Moreover, suppose that she desires the review session to be on time, so they will have time to go over every topic that will be on the final exam.

The actions that can be reasonably motivated by Alex's beliefs «*we will meet at noon*», «*if we leave at 11 a.m., then we will be on time*» and her desire that they\* be on time are actions where the group leaves at 11 a.m. In this case, it is reasonable to say that for the group to leave at 11 a.m. is for the members of the group to *individually* leave at 11 a.m., presumably motivated by the we-belief

<sup>13</sup>Recall that '«we»' in the conditional belief has an anaphoric use connected to «we» in the indexical belief «*we will meet at noon*», and it is not an indexical.

«*we will meet at noon*». If this is right, when a member of the group leaves at 11 a.m., they are targeting the group since that is their contribution for the action of the group leaving at 11 a.m. Thus, (i) when Alex is motivated by we-beliefs and desire to perform actions that target herself, she is, thereby, targeting the group.<sup>14</sup>

That we-beliefs can motivate Alex to perform actions that target herself could be surprising for some philosophers but it makes sense. It is surprising because the vast majority philosophers typically think that only a *de se* belief can motivate Alex to act. But it makes sense to say that we-beliefs can motivate Alex to act because if someone asks why Alex left at 11 a.m., a perfectly good answer is to refer to Alex's we-beliefs and desire: Alex left at 11 a.m. because she believes that they\*<sub>Alex and her students</sub> will meet at noon and that if they leave at 11 a.m., they will be on time, and she wanted them to be on time.<sup>15</sup> There are undoubtedly other sets of beliefs and desire that could explain Alex's action, but this is not a problem as long as the one I proposed could explain as well. My claim is not that the set of beliefs and desire I offered is the only possible explanation for Alex's behavior, but only that it is *a* possible explanation. And that is the case. So, (ii) is vindicated.

Lastly, I need to argue that (iii) Alex could not be reasonable motivated to perform actions that do not target her. As I argued before, the only kind of action that can be reasonably motivated by the beliefs and desire in question, are actions of the group leaving at 11 a.m., which is understood as the members of the group individually leaving at 11 a.m. But Alex cannot perform actions that other members leave, since Alex is not them. So, if Alex is motivated by the beliefs and desires under

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<sup>14</sup>There is a question about how many members of the group have to leave for it to count true that the group left at 11 a.m. While this is an interesting question, but I think it is tangential to my point here, so long as we have an intuitive grasp of the idea that a group action depends on individual actions.

<sup>15</sup>As in previous examples, 'they' in the conditional belief ascription has an anaphoric use connected to 'they\*' in the first belief ascription, and is not considered an indexical.

discussion, she will not perform actions to target other people simply because she cannot target anyone else but herself.

## 4.2 Joint Demonstrative Thoughts

Recall that the problem with joint demonstrative thoughts is that we need a principled reason to select the students of Deja's class the perception of whom grounds IEM in the belief «*she<sub>Susan</sub> is in danger*». I believe my proposal offers one. According to it, the group's belief is IEM because, when it motivates *the group* to act, it will ensure that the group targets the right person, that is, Susan. Let us suppose, for the sake of the argument, that the motivated action is to stand in front of Susan to save her from the bear. But note that for *the group* to stand in front of Susan, not every member needs to individually stand in front of her. It is enough that some (depending on the case) do it on the group's behalf.<sup>16</sup> If this is right, then only the members who stand in front of Susan have to perceive her. My suggestion, then, is that IEM in the group's belief is based on the perceptions of the members who could be motivated by the belief to stand in front of Susan. Evidently, those who could be motivated by the belief are precisely those who perceive Susan. But in my view there is a principled reason for why only the those who see Susan are relevant to group IEM, so it should avoid criticisms that it is *ad hoc*.

## 5 Conclusion

There are many questions on we-thoughts and joint demonstrative beliefs that I left unanswered. But as I said at the beginning, this is a first approach to these topics. There is still a long research road ahead for a full account of those indexical thoughts.

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<sup>16</sup>See fn. 14.