



# A Puzzle about Communication

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## Abstract

It seems plausible that successfully communicating with our peers requires entertaining the same thoughts as they do. We argue that this view is incompatible with other, independently plausible principles of thought individuation. Our argument is based on a puzzle inspired by the Kripkean story of Peter and Paderewski: having developed several variations of the original story, we conclude that understanding and communication cannot be modeled as a process of thought transfer between speaker and hearer. While we are not the first to reach this conclusion, the significance of our argument lies in the fact that it only relies on widely accepted premises, without depending on any especially controversial theory of mental and linguistic content. We conclude by drawing out the implications of that conclusion: if communication and understanding do not require thought identity, then one important motivation for the postulation of inter-personally shared thoughts is undercut.

## 1 Introduction

What conditions must be satisfied for a hearer to successfully communicate by means of a declarative utterance? This is obviously a central question for any account of linguistic communication. Unsurprisingly, the question has received a lot of attention in recent and not-so-recent discussion within philosophy of language, philosophy of mind, and other areas. Also unsurprisingly, no universal consensus has been reached, yet there are some basic principles which many philosophers working on these topics have accepted as *prima facie* plausible – basic *desiderata* that any plausible account in this area should meet.

Our first goal is to identify a set of principles that have enjoyed this privileged status, and show that they cannot all be true. We will present a puzzle about communication: having examined a set of attractive and widely accepted claims about thought and

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communication, we will show that the set is inconsistent. We also have a second, more constructive goal: offering a tentative solution to the puzzle. Our ultimate diagnosis is that an influential and popular account of communication – the so-called ‘thought-transfer model’ – ought to be rejected as the least plausible element of our inconsistent set of principles. While we’re not the first to suggest that this commonsensical view of communication must go, our argument, as will be seen, is more general – and thus more definitive – than others previously proposed.

Other authors have presented arguments in the vicinity of our puzzle. The basic idea takes inspiration from Kripke (1979) and appears in Loar (1988); to a lesser extent, Crimmins (1992) and Heck (2002) also present similar considerations. While we are obviously indebted to these predecessors, it is also important to highlight the differences. Kripke (1979) and Loar (1988) do discuss cases whose structure resembles ours, but their focus rests solely on belief attribution and not on communication – one of the original features of the present work is shifting the focus from the former towards the latter. This is not to deny that the conclusions reached by these authors may be complementary to ours, but a full assessment of this point would require examining the possible connections between belief attribution and communication – an endeavor we will have to leave for another occasion. A similar point applies to Crimmins (1992, ch. 2), whose cases do not involve communication. As for Heck (2002), he also rejects the thought-transfer model of communication – what he calls ‘the Naïve Conception’ – but his main cases and arguments are different from those presented here. Here we will only point out one difference: Heck explicitly decides to focus on indexicals (see e.g. fn. 58 in Heck 2002), while our discussion is much broader. This is particularly important – we aim at showing that the phenomenon under discussion is perfectly general, rather than being a special feature of indexical communication. So the argument only has full force when we consider a broad range of cases, something that neither Heck, nor the other authors do. Finally, we provide a detailed examination of possible responses, which is also absent in the existing literature on the topic.

The paper has the following structure. In Sect. 2 we introduce the basic case on which our argument is based. In Sect. 3 we explain why the case in question presents us with a puzzle. In Sect. 4 we devise two variants of the basic case to show that the puzzle is even more pressing than it initially seems. In Sects. 5 and 6 we consider two attempts to solve the problem by dropping some influential principles about thought preservation, communication, and individuation. Having rejected these strategies, we propose our solution to the puzzle in Sect. 7, where we identify the thought-transfer model as the weaker element of our inconsistent set and analyze the prospects of doing without it.<sup>1</sup>

## 2 Considerations on a Well-Known Kripkean Theme

Kripke (1979, 398–399) tells a famous story about Peter and his unfortunate predicament. In Kripke’s story, Peter first learns of this man called ‘Paderewski’ who is an accomplished pianist, thus acquiring the belief that he would express as:

<sup>1</sup> The arguments in this paper represent a (partial) departure from the view defended in Onofri (2018).

‘Paderewski has musical talent.’ Later, in a different context and surrounded by different people, Peter learns of somebody called ‘Paderewski’ who was a politician in pre-war Poland. Since Peter doubts that politicians ever have musical talent, he infers that this man is not the one he had previously learned about. Peter thus acquires the belief that he would – in this other context – express as: ‘Paderewski does not have musical talent’. The problem is that Peter is mistaken: contrary to what he thinks, the “first” and the “second” Paderewski are the same person. So Kripke’s question arises: does Peter, or does he not, believe that Paderewski has talent? He surely has two beliefs with incompatible truth-conditions, one which he’d express by ‘Paderewski has musical talent’, another which he’d express by ‘Paderewski does not have musical talent’. Should we then conclude that Peter believes a contradiction? Kripke never suggests a definitive answer, contenting himself with cryptic remarks such as “[when we consider these cases] our practices of interpretation and attribution of belief are subjected to the greatest possible strain, perhaps to the point of breakdown” (Kripke 1979, 269). Yet these cases can still yield fruitful philosophical reflection, even setting aside Kripke’s question about Peter’s beliefs. We suggest reframing the Kripkean case as a puzzle about communication: reporting Peter’s beliefs may be particularly tricky, but the issue of whether subjects like Peter can communicate successfully will turn out to be much more tractable.

Before presenting our variant of Kripke’s case, it is helpful to introduce some basic terminology.<sup>2</sup> Suppose speaker *S* makes an utterance directed at hearer *H*. We can then say that *S* expresses a certain thought  $t^S$  through her utterance, while *H* entertains a certain thought  $t^H$  as a result of the utterance. If *H* believes the utterance is true, then she accepts  $t^H$  as true; if *H* believes the utterance is false, then she rejects  $t^H$  as false. We take this terminology to be minimal enough that theorists of different persuasions could accept it – for instance, we are not taking any particular stance on whether thoughts are abstract objects<sup>3</sup> or mental representations,<sup>4</sup> nor are we subscribing to any particular theory of belief ascription.<sup>5</sup> We also take no stance on whether thoughts are individuated by their semantic properties only or by non-semantic features as well, such as syntactic properties in the Language of Thought. Our goal is to describe our cases and set up our discussion in a way that is compatible with different theoretical frameworks.

Let’s now introduce the first version of our case. The central idea is simple: we imagine the confused subject Peter trying to communicate with a non-confused subject – that is, someone who is aware of the relevant identity. For instance, suppose Petra knows that the pianist called ‘Paderewski’ and the politician called ‘Paderewski’ are the same person. Now imagine that Petra and Peter meet in a context ( $C^I$ ) where classical music is a salient topic, such as a concert where Paderewski has just given a performance. Petra utters ‘Paderewski has musical

<sup>2</sup> Our terminology is based on classic works in this area, most notably Frege (1892, 1918/1956) and Evans (1982). More on this in Sect. 3.

<sup>3</sup> See for instance Frege (1918/1956), Peacocke (1992).

<sup>4</sup> See for instance Fodor (1998), Margolis and Laurence (2007).

<sup>5</sup> For some recent works on the topic, see for instance Soames (2002) and Chalmers (2011).

talent', thereby expressing a thought  $t$ . Given the context of Petra's utterance, Peter thinks she must be talking about the pianist and takes her utterance to be true. So there is a certain thought  $t^1$  that Peter accepts – a thought he would express by 'Paderewski has musical talent' in contexts where the pianist was under discussion. Think now of a distinct context ( $C^2$ ) where pre-war politics in Eastern Europe is the main topic, such as a rally where Paderewski has just given a political speech. Petra utters 'Paderewski has musical talent', thereby expressing the same thought that she expressed in her previous conversation with Peter. In the new context, however, Peter thinks that Petra must be talking about the politician and takes her utterance to be false. So there is a certain thought  $t^2$  that Peter rejects – a thought he would express by 'Paderewski has musical talent' in contexts where the politician was under discussion.

What should we say about Peter and Petra's communicative exchanges in  $C^1$  and  $C^2$ ? Are their communicative efforts successful? An affirmative answer seems *prima facie* plausible. Consider for instance context  $C^1$ . The topic under discussion is the pianist called 'Paderewski' who has just given a performance, and Peter has correctly identified the referent as such – the pianist called 'Paderewski' who has just given a performance. So why should it matter that Peter also thinks there is another Paderewski? A parallel reasoning applies to  $C^2$ , where Peter correctly identifies the referent as the politician called 'Paderewski'. Peter has thus identified the referent correctly in both cases, and he has done so in a way that does not seem "deviant" or "lucky".<sup>6</sup> This suggests that Peter understands Petra's two utterances of 'Paderewski has musical talent'. But this intuitive and seemingly innocent assessment of the case can quickly lead to troubling consequences, as we will see in the next section.

### 3 The Puzzle

A widely endorsed principle holds that, whatever else one might want to say about thought individuation, it must closely track the thinker's rationality, so that it is irrational to take contrasting attitudes towards a thought  $t^A$  and a thought  $t^B$  if  $t^A$  and  $t^B$  are the same thought. In converse form, the claim is: if a subject rationally holds contrasting attitudes towards a thought  $t^A$  and a thought  $t^B$ , then  $t^A$  and  $t^B$  must be distinct. Evans provides an influential formulation of the principle, which he traces back to Frege:

[...] the single constraint that Frege imposed upon his notion of thought was that it should conform to what we might call 'the Intuitive Criterion of Difference', namely, that the thought associated with one sentence  $S$  as its sense must be different from the thought associated with another sentence  $S'$  as *its* sense, if it is possible for someone [...] to understand both sentences at a given

<sup>6</sup> For a case where the hearer identifies the right referent in a lucky way and therefore does not seem to understand, see Loar (1976).

time while coherently taking different attitudes towards them, i.e. accepting (rejecting) one while rejecting (accepting) [...] the other. (Evans 1982, 18-19)

Following Schiffer (1978), we may call the principle ‘Frege’s Constraint’. Now, the case described in the previous section is precisely the type of situation where the constraint applies. As we have seen, Peter accepts Petra’s utterance of ‘Paderewski has musical talent’ in  $C^1$ , while rejecting her utterance of the same sentence in  $C^2$ . Yet it seems incorrect to describe Peter as irrational, as Kripke himself notes – indeed, Peter might be a leading logician and thoroughly desire to avoid contradiction. This is where Frege’s Constraint comes in: if Peter is rational, then the thought that he accepts as true in  $C^1$  is different from the thought that he rejects as false in  $C^2$ . An attractive and popular principle of thought individuation thus demands that we take Peter’s thoughts as distinct.

Let’s now introduce a second influential principle: the thought-transfer model of communication. This model is based on a simple idea appearing in the work of philosophers as distinct (and distant) as Locke, Frege, and Stalnaker<sup>7</sup>: if you make an utterance and I understand you, then I must be entertaining the same thought that you expressed. Successful communication, in other words, requires that speaker and hearer entertain the same thought. The attractiveness of this simple thought-transfer model is easy to see. How could you have successfully communicated your thought to me if your thought – the one you expressed – is not the one I entertained?

We can now formulate the puzzle this work is about. Return to Peter and Petra’s communicative exchanges in  $C^1$  and  $C^2$ . As we have seen, both exchanges seem successful, yet this is incompatible with the two influential principles we have just introduced – namely, Frege’s Constraint and the thought-transfer model. To see why, note that, if Peter and Petra successfully communicate in  $C^1$ , then, by the thought-transfer model, he entertains a thought  $t^1$  that is the same as Petra’s; *mutatis mutandis* for  $C^2$ . So, if Petra expresses the same thought in those two conversations, that thought will be identical with each of Peter’s thoughts  $t^1$  and  $t^2$ . By the transitivity of identity, Peter’s  $t^1$  and  $t^2$  will then be the same thought; but that is incompatible with Frege’s Constraint, which holds that Peter’s thoughts are distinct. Here is a more precise formulation of the argument – what we’ll refer to as ‘the puzzle’:

The puzzle

1. Petra expresses the same thought  $t$  by uttering ‘Paderewski has musical talent’ in  $C^1$  and  $C^2$ .
2. Peter and Petra’s communicative exchanges in  $C^1$  and  $C^2$  are successful.
3. As a result of Petra’s utterances in  $C^1$  and  $C^2$ , Peter entertains a thought  $t^1$  (in  $C^1$ ) and a thought  $t^2$  (in  $C^2$ ) which are both identical with Petra’s thought  $t$  [by 1, 2, and the thought-transfer model].
4.  $t^1$  and  $t^2$  are identical [by 3 and the transitivity of identity].

<sup>7</sup> See Evans (1982, 21–22) on the ‘Fregean model of communication’ and Heck (2002, 6) on the ‘Naïve Model of Communication’. See also: Stalnaker’s (1978) influential account of assertion, Egan (2007) and Torre (2010) on the ‘belief-transfer model of assertion’, Onofri (2018), and Kindermann (2019).

5.  $t^1$  and  $t^2$  are distinct [by Frege's Constraint].

(4) and (5) are contradictory, so something must have gone wrong – but what? Several strategies are available. One could reject premise (1) by arguing that Petra does not express the same thought in  $C^1$  and  $C^2$ . One could reject (2), claiming that Peter and Petra's exchange is unsuccessful in one or both contexts. One could reject the thought-transfer model and thereby block the step from (1)-(2) to (3). Finally, one could reject (5) by rejecting Frege's Constraint.<sup>8</sup> We'll discuss each of these possible solutions in what follows.

#### 4 Does Peter Understand?

Let us start by considering premise (2). One could simply rule out our initial assessment of the case as incorrect, holding that people who are as confused as Peter do not get to successfully communicate with non-confused people like Petra.

If one is sympathetic to Stalnaker's (1978, 1981) influential treatment of assertion, for example, one might argue that Peter and Petra's contexts are *defective* because their presuppositions do not line up – Petra presupposes, but Peter does not, that there is only one person called 'Paderewski' who is both a pianist and a politician.<sup>9</sup> Defective contexts do not allow for successful communication, so we have a principled objection against premise (2). But this is too quick. Why should  $C^1$  and  $C^2$  be defective in a strong sense? These are contexts where either Paderewski's pianistic abilities or his political prowess matter, but not both at the same time. And Stalnaker (1981, 85) himself notes that 'a context is CLOSE ENOUGH to being nondefective if the divergences do not affect the issues that actually arise in the course of the conversation'. Given our assumptions,  $C^1$  and  $C^2$  seem to fit the bill.

One may also appeal to Cumming (2013a, b) in order to reject (2). Roughly, Cumming holds that communication is only possible between subjects who *coordinate* their thoughts, where this requires a one-to-one mapping between their interpretation strategies. If Petra always expresses a single thought by a sentence ('Paderewski has musical talent'), but Peter sometimes interprets her utterances of that sentence through one of his thoughts, sometimes through another, then their thoughts are not coordinated even if, as a matter of fact, the three of them have the same truth-conditions:

To take a familiar example, suppose Peter has two symbols,  $P_1$  and  $P_2$ , referring to Paderewski, where Speaker has one. In this case, Speaker simply doesn't have the required number of symbols to line up one-to-one with each of Peter's. Even if one makes enough distinctions, and hence has a suf-

<sup>8</sup> For now, we set aside premise (4) and the transitivity of identity, but we'll return to this in Sect. 7.

<sup>9</sup> Thanks to an anonymous referee for bringing up this possible response.

ficient *number* of symbols, coordination still fails if the mapping between them is not one-to-one. (Cumming 2013a, 10-11)

There is much that is of promise in Cumming's proposal, but should we so easily accept that any two thinkers that happen to be in Peter and Petra's situation won't be able to successfully communicate? An obvious worry is that it is very easy to find oneself in Peter and Petra's situation, so that Cumming's account will predict communicative failure where it shouldn't. Imagine that Paderewski himself overhears his friends say 'Paderewski has musical talent', but given his humble personality he infers they must be talking about "some other Paderewski". Now Paderewski surely failed to understand his friends on that occasion, but Cumming's view also seems to have a much more drastic consequence: Paderewski will now *always* fail to understand his friends' utterances involving his name. This is so because Paderewski now finds himself in a situation which is analogous to Peter's predicament: in some contexts (when his friends are not speaking highly of him), Paderewski correctly interprets their utterances as being about himself; in others (when they are praising him), he interprets them as being about "the other Paderewski". The one-to-one mapping is thus disrupted, and this could certainly go on unnoticed for quite some time. Should we then conclude that Paderewski is unable to understand *any* of his friends' utterances, even in ordinary contexts where they are clearly and unequivocally talking about him, and where Paderewski is rightly acknowledging them to do so? Cumming's view seems to force us to conclude just that.

There is, however, an even more fundamental problem with rejecting premise (2): our puzzle also arises with other kinds of expressions, and in those cases it is very clear that the hearer understands the relevant utterance. The first variant involves indexicals. Suppose Peter is at a party, talking to a group of guests. The guests are talking about their respective talents and one man says: 'I have musical talent'. Peter trusts the guest and accepts the utterance as true. Just a few hours later, the same man is giving a speech at a political rally. Peter is also attending, but – being far from the stage – he does not recognize the speaker as the man he met at the party. While boasting about his own qualities, the speaker says: 'I have musical talent.' Peter is convinced that the speaker must be lying or exaggerating, so he rejects the utterance as false.

As in previous cases, Peter is confused – having failed to recognize the speaker as the party guest, he takes one thing to be two. The crucial question then is: has Peter understood the man's two utterances in spite of being confused? It seems clear that he has. Both at the party and at the rally, Peter identifies the referent correctly – at the party, he identifies the referent as the guest in front of him; at the rally, he identifies the referent as the man on stage. Of course, Peter has made a mistake: he has failed to recognize the man, so he now holds two incompatible beliefs about him. But this mistake cannot possibly impair his understanding of the utterance; if it did, then communication would fail whenever the first-person pronoun was being used by a speaker that we have failed to recognize.

This variant is of course modelled on the case examined in the previous section. One might suspect that the reason why we have been able to reframe the

puzzle has something to do with the peculiarity of the first-person indexical and its mental analogue: the self-concept. Much has been written about the *sui generis* character of first-person thought,<sup>10</sup> so one may think that any argument based on this puzzling type of representation cannot be so quickly applied to a wider range of cases.

But the argument just presented does not at all depend on the first-person indexical – it can very easily be reformulated with other context-sensitive expressions, like the second-person pronoun. Again, suppose Peter is at a party, talking to a group of guests. Petra is also present and at one point she says to one of the guests, a man: ‘You have musical talent.’ Peter trusts Petra’s judgment and accepts her utterance as true. A few hours later, the same man is giving a political speech. Peter and Petra are in the audience; Petra knows that the speaker is the man from the party, but Peter fails to recognize him. At some point, Petra says to the speaker: ‘You have musical talent.’ This time, however, Peter thinks that Petra must be wrong, so he rejects her utterance as false. This case does not involve the first-person indexical, but the same problem arises: through a perfectly ordinary interpretation process, Peter has assigned the right referent both to Petra’s first utterance (the man at the party) and to her second utterance (the man on stage). It thus seems clear that Peter understood both utterances.

The puzzle is also not unique to singular terms. Consider the following scenario, inspired by classic externalist thought-experiments – most notably Putnam’s (1975) Twin-Earth – and by some insightful cases from Loar (1988).<sup>11</sup> Petra and her friend are two perfectly ordinary speakers, as similar as you please in their conception of water. As in Putnam’s original argument, it is 1750 and the chemical structure of water is still unknown to the great majority of people – including Petra and her friend. Now suppose that a third subject, Peter, is one of the few who know about water’s chemical structure. And suppose he has the following extravagant – and incorrect – belief: he thinks Petra has just arrived from Twin Earth – unbeknownst to everyone including herself – so that her uses of ‘water’ do not refer to H<sub>2</sub>O, but to a different substance XYZ.<sup>12</sup> Now, Peter knows very well how Petra and her friend think of water: they have no conception of its chemical structure and simply think of it as the liquid, transparent, drinkable (etc....) substance in their environment. He just thinks that – unbeknownst to both of them – they refer to different substances when e.g. they say ‘There’s water in the glass’: Petra’s utterance is true just in case there is XYZ in the glass, while her friend’s utterance is true just in case there is H<sub>2</sub>O in the glass.

<sup>10</sup> See, for example, Perry’s (1979) discussion of Frege’s (1918) view that first-person thought is unshareable.

<sup>11</sup> Segal (2003) also takes inspiration from Loar (1988) in devising related cases purporting to show that cognitive content is holistic. His case involves no communication between the subjects and also presents other important differences from ours.

<sup>12</sup> A less extravagant version can be obtained if Peter thinks there are two different substances on our planet, with chemical structure H<sub>2</sub>O and XYZ respectively. He might then think that Petra and her friend unknowingly refer to different substances because of their different causal histories – they are from different parts of the planet and neither of them has interacted with “the other substance”.



Peter's curious mistake is intuitively innocuous: he understands both Petra and her friend when they say 'There's water in the glass', even though he wrongly thinks they refer to different things with 'water'. Furthermore, Petra and her friend presumably express the same thought when they say 'There's water in the glass', for surely they understand each other well and each of them is able to say the same as the other. Yet Peter may of course rationally take different attitudes towards their respective utterances – if he thinks there is H<sub>2</sub>O in the relevant glass, he will reject Petra's claim as false but accept her friend's claim as true. So the thoughts Peter entertains upon hearing the two speakers' respective utterances must be distinct; yet they cannot be distinct, for he understands both and they express the very same thought. Once more, we are led into a contradiction.

Summing up: in the indexical and general term cases, it seems entirely implausible to claim that the hearer misunderstands – in those cases, premise (2) is safe. Our puzzle thus turns out to be more general – and more difficult – than one might have thought at first. It is not only a puzzle about names, for it also arises with indexicals; it is not only a puzzle about singular terms, for it also arises with general terms; and we cannot solve it in full generality by dropping premise (2), since that premise cannot plausibly be rejected in indexical and general terms cases.

## 5 Belief Retention and Communication

One strategy that might look promising at this point is rejecting premise (1). Why think that the speaker is expressing the same thought in  $C^1$  and  $C^2$ ? The answer is that (1) is supported by some very plausible principles concerning the retention and communication of belief.

Start with belief retention. Ordinary subjects like Petra presumably retain their beliefs across time. In all of our cases, there is a belief that the speaker retains throughout her two exchanges with Peter. Consider the first variant, where Petra asserts 'Paderewski has musical talent' in both  $C^1$  and  $C^2$ . At some point, Petra formed a belief about Paderewski's talent, a belief she expressed in  $C^1$  and then expressed again in  $C^2$ . In her second conversation with Peter, Petra intends to re-express a belief that she holds from before, not a "new" belief she formed after their first conversation.

This natural and appealing description of the case assumes that the same belief was formed and then retained – there hasn't been a succession of *distinct* beliefs, but rather a *single* belief that persisted across time. This claim is not just pre-theoretically plausible; the idea of belief retention also allows us to distinguish two very different ways in which a subject might think about the same object at different times. One can think about the same object without representing it *as* the same,<sup>13</sup> failing to recognize it as the object that she was previously thinking about. Suppose I assert 'He is a lawyer' upon meeting Bob. Days later, I see someone on the street,

<sup>13</sup> For discussion of the distinction, see Fine (2007), Recanati (2016). The present paragraph owes much to Perry's (1980) discussion of belief retention.

and while I fail to recognize him as Bob, I assert again ‘He is a lawyer’ (because of his demeanor, say). Here I have clearly not retained a single belief across time, but rather formed two separate beliefs, since I am thinking about the same object without acknowledging that it is the same object I am thinking about. The notion of belief retention thus allows us to capture an important theoretical difference: unlike the subject in our last case, Petra has retained her belief about Paderewski, since she knows that she is thinking about the same person throughout  $C^1$  and  $C^2$ . In light of all this, premise (1) of our argument appears very plausible.

## 6 Rejecting Frege’s Constraint?

We initially presented Frege’s Constraint as an all-or-nothing thesis: *whenever* a subject rationally holds contrasting attitudes towards a thought  $t^A$  and a thought  $t^B$ , then  $t^A$  and  $t^B$  must be distinct. However, some think it’s desirable to enable special circumstances in which a thinker’s rationality is unaffected by her taking contrasting attitudes to *one and the same thought*. In order for that to be possible, one has to accept the possibility that rational thinkers could be mistaken about the identity conditions of their own thoughts – sometimes, perhaps only in very unfortunate circumstances, taking one thought to be two, or two thoughts to be one.

Now, the possibility that is of interest to the present discussion is the former (rationally taking one thought to be two), not the latter (taking two thoughts to be one). Still, a large amount of discussion on these issues – usually under the banner of debates about the “transparency” of thought<sup>14</sup> – focuses on the second problem, i.e. cases where, due to unlucky circumstances, a subject treats two concepts that do not even co-refer as being the same. Examples usually involve mistakes in tracking objects perceptually. For instance, a subject is tracking a bee flying in her visual field and thinks ‘this bee is buzzing’; unbeknownst to her, she starts tracking a second bee as the first swiftly crosses its path; so she thinks ‘this bee is [still] buzzing’ and then infers ‘one and the same bee was buzzing all along’, assuming she has successfully kept track of the same bee throughout the perceptual episode. It seems that the premises leading to the conclusion do not even refer to the same bee, so that the reasoning is simply invalid. But the inference seems rational – in an intuitive sense, the subject was unlucky in drawing an invalid inference. It has thus been suggested that we simply accept that this subject is rational, despite falsely believing that she is referring to the same bee all along (Gerken 2011; Schroeter 2007).

If we accept that one can rationally take two different thoughts to be one, should we also accept that one can rationally take one thought to be two? It is not clear that we should. One might hold that taking two thoughts to be one can be rational, while taking one thought to be two is always irrational – this is the view of Schroeter (2007, 602, fn. 6), for just one example.

<sup>14</sup> The term ‘transparency’ comes from an influential paper by Boghossian (1994). For a recent survey of the debate, see Wikforss (2015).

In any case, there are authors who explicitly argue for the possibility of rationally taking one thought to be two. For instance, this is how Sainsbury & Tye (2012, 131–138) analyze the Kripkean story about Paderewski. Their own account of the case rests on the claim that Peter accepts and rejects what is in fact the very same thought; however, Peter is not irrational, since he thinks (wrongly) that the thought he accepts is distinct from the thought he rejects. Peter’s rationality is thus safeguarded, because of his ignorance about the identity of his own thought.

There is no space to go into the deeply ramifying implications of this view. It will be enough for our purposes to invoke the indexical variant of the Kripkean puzzle. More specifically, we believe that, even if Sainsbury & Tye’s story about Kripke’s original case works, it does not seem to extend to the indexical variant. It is not hard to see why this is so.

Sainsbury & Tye’s interpretation of the Kripkean story is based on their own originalist theory of concepts. According to originalism, two concepts are the same if and only if they have the same origin. We do not need to go into the details of their view to see that, in a very intuitive sense, Peter’s two thoughts  $t^1$  and  $t^2$  in the first variant of the puzzle are constituted by concepts of Paderewski that have the same origin. There is a network of interconnected uses of the single name ‘Paderewski’ that causally and historically descend from a single original use – for instance, Paderewski’s parents “baptizing” the child with that name. In simpler terms, Peter’s concepts derive from two uses of the *same name*. So the two concepts have the same origin; therefore, they are the very same concept. So far, so good.

The problem is that this strategy doesn’t generalize to the indexical variant. In that variant, there is no public name that Peter takes to be two distinct names. Instead, Peter is interpreting Petra’s two utterances of ‘You have musical talent’, which crucially involve the second-person pronoun ‘you’. Now, the second-person pronoun is clearly not a proper name like ‘Paderewski’; it is an indexical, one which is often treated as analogous to demonstratives like ‘this’, ‘that’ and ‘s/he’ (in its deictic uses).<sup>15</sup> But, as Sainsbury & Tye (2012, 51–53) themselves acknowledge, concepts that correspond to indexical expressions are unlike other concepts in many respects:

It’s a feature of indexical concepts that a speaker can introduce them for himself, independently of other thinkers. This contrasts with public concepts acquired by immersion, like the concept PADEREWSKI. It’s not up to individual users to settle anything about the nature or semantics of that concept. (Sainsbury & Tye, 52, fn. 15)

One consequence of this asymmetry is that, according to Sainsbury & Tye, the identity conditions of indexical and demonstrative concepts are much more closely connected to their thinker’s beliefs and intentions. One can argue that Peter’s ‘Paderewski’-utterances express the same concept even though he thinks they don’t, since the concepts expressed by proper names are “public” and “insulated” from the thinker’s idiosyncratic intentions. But this is much harder to

<sup>15</sup> For instance, Kaplan (1989) classifies the second-person pronoun as a demonstrative.

defend when indexical and demonstrative expressions are concerned. According to Sainsbury & Tye, we can only determine whether two demonstrative concepts are the same by first inquiring whether the thinker herself takes them to be the same. Consider for instance Perry and Evans's famous case of a subject who thinks he is looking at different ships, when in fact he is looking at one very long ship that is visible through different windows. Sainsbury & Tye say:

The two uses of the complex demonstrative concept-template THAT SHIP involve distinct specific demonstrative concepts [...]. This can be inferred from the speaker's intentions and reactions. For example, he has no inclination to bring forward the information *was built in Japan* when having the thought associated with the view from the second window. [...] two concepts, concepts originating in distinct acts of concept introduction. (*ibid.*, 51-52)

We can now apply Sainsbury & Tye's view to our case. Upon hearing Petra's two utterances of 'You have musical talent', does Peter entertain the same thought? As we have seen, that depends on Peter's beliefs and intentions: does Peter take himself to be thinking the same thought? In our case, he does not: upon hearing Petra's second utterance, Peter fails to recognize the referent as the same person that she was talking about earlier, so he takes himself to be thinking a *different* thought about a *different* person; just like the subject in the ship case, he therefore has 'no inclination to bring forward the information'. So Sainsbury & Tye would have to grant that Peter's two concepts are distinct, as they do with the subject in the ship case. In Sainsbury & Tye's terminology, Peter's token concepts have distinct origins – his two independent encounters with the referent – so they are distinct *tout court*.

Now, Sainsbury & Tye could respond that, when Peter interprets Petra's two utterances, his thoughts somehow have Petra's thoughts as their origin; but Petra expresses a single thought through her two utterances (Sect. 5), so Peter's thoughts have the same origin and count as identical after all. The first problem is that this is simply incompatible with Sainsbury & Tye's own account of indexical concepts. As we have seen, Peter is just like the subject in the ship case: they both fail to recognize the object they're in perceptual contact with, thus failing to "bring forward" the information acquired in their first encounter with the referent. In the ship case, Sainsbury & Tye postulate distinct concepts because of the subject's failure in bringing forward the relevant information, so they would have to do the same in Peter's case. But there is a second, more fundamental problem: Peter's concepts *do not* originate in his exchanges with Petra. At the party, Peter sees a man and forms a demonstrative concept for him; then Petra makes her utterance and Peter identifies the referent as the man in question, someone he is thinking about in a demonstrative manner. At the political rally, Peter sees the man on stage and forms a demonstrative concept, then Petra makes her utterance and Peter identifies the referent as the man he is thinking about demonstratively. So the origins of Peter's concepts are not Petra's two utterances, but his two independent sightings of the same man; and surely these are *different* origins by Sainsbury & Tye's own lights.

Summing up, even if Sainsbury & Tye's originalist account helped with the first variant of the puzzle, it would still fail to apply to our indexical variant, where there is no reason to postulate a single origin for Peter's concepts. So it remains much more plausible to hold that Peter's thoughts  $t^1$  and  $t^2$  are distinct, as Frege's Constraint predicts. Like previous attempts, then, rejecting Frege's Constraint fails to solve our puzzle in its full generality.

## 7 The Thought-Transfer Model

There are two further assumptions in our puzzling argument that have not been examined yet: the thought-transfer model and the transitivity of thought identity. Both principles are necessary for the argument to go through; reject one of them, and the puzzle will disappear. Could that be the solution?

Before answering that question, note that rejecting the transitivity of thought identity is just one way of abandoning the thought-transfer model. Since numerical identity is transitive, we cannot hold that two thoughts are numerically identical without the relation between them being transitive. What one *could* hold is that, when we say that two agents entertain 'the same thought', we do not mean that there is a single thought that they both entertain. But then what *do* we mean? The proponent of this move will need to find an alternative – a relation  $R$  that holds between the thoughts of different subjects and is weaker than numerical identity. Before discussing some options, note that this has consequences for the thought-transfer model, which claims that communicating subjects express the same thought: if 'same thought' expresses a non-transitive relation  $R$ , the model requires something weaker than numerical identity. Rejecting transitivity thus turns out to be one way of weakening the thought-transfer model.<sup>16</sup> We will therefore focus the rest of our discussion on the possibility of rejecting thought-transfer.

The thought-transfer model has been recently criticized on various fronts. First, the model has been rejected by authors who, for independent reasons, subscribe to particular theories of thought, such as Lewis or Frege's views about *de se* thought. So friends of the Lewisian view find that view independently plausible, see it as incompatible with the thought-transfer model, and conclude that the latter has to go.<sup>17</sup> Similarly, authors like Heck (2002), who subscribe to Frege's thesis that *de se* thoughts are unshareable, embrace the conclusion that the thought-transfer model must be abandoned, otherwise indexical communication would be simply impossible. Proponents of conceptual/inferential role theories

<sup>16</sup> The same applies to another possible response to the puzzle, which goes as follows: when we say that Petra expresses the same thought in her two exchanges with Peter (premise (1) of the puzzle), 'same thought' expresses a non-transitive relation between her thoughts at different times. It would then be invalid to derive our contradictory conclusion by applying the transitivity of identity, as our argument does. One author who rejects transitivity even in the intrapersonal case is Prosser (2019).

<sup>17</sup> See for example Torre (2010), Ninan (2010), Weber (2013), and the essays in the second part of García-Carpintero & Torre (2016).

and internalist theories of content<sup>18</sup> are also often critical of the model, which should come as no surprise: these views individuate thought by criteria that are highly specific and therefore rarely shared by distinct thinkers. For similar reasons, psychologists working on concepts often deem the thought-transfer model implausible, since people's concepts are radically distinct and they even diverge within the same subject across slightly different contexts. Again, their reasons for skepticism are based on a picture of thought as being individuated by the bodies of information that individuals retrieve when exercising higher-order cognitive capacities, such as categorization, where these bodies of information have been shown to be highly variable from individual to individual (and from context to context).<sup>19</sup>

All of the reasons for rejecting the thought-transfer model described above have a feature in common: they depend on some specific theory of thought. But while such theories have certainly been influential, they have also been rejected by some important figures in the debate. For instance, Stalnaker (1981) objects against Lewis's theory of belief content precisely *because* it is incompatible with the possibility of entertaining the same content in communication. So the conflict between the thought-transfer model and the aforementioned views can cut both ways, depending on how plausible one finds the model to be.

To avoid a stalemate, we propose using our puzzle to provide a fresh perspective on the issue. The puzzle we have proposed does not presuppose highly controversial views about the nature of thought – we have presupposed neither Lewisian centered contents, nor the Fregean thesis that some thoughts are unshareable, nor conceptual/inferential role semantics, nor semantic internalism, nor the view that concepts are retrievable bodies of information. Instead, we have shown how a puzzle can be generated from a set of premises that are widely accepted and highly plausible; furthermore, our puzzle does not depend on a narrow selection of cases, since it can be generated with multiple kinds of expressions (names, indexicals, general terms).

In light of these considerations, the thought-transfer model now seems to face considerable pressure. The model is not only incompatible with some influential – but controversial – accounts of content; it also appears incompatible with a set of basic principles that theorists of different persuasions accept. It thus seems natural, almost inevitable to reject the model. That would block our puzzling argument, but at what price? Do we have a viable alternative to thought-transfer?

One popular alternative to the thought-transfer model appeals to similarity.<sup>20</sup> Why think that speaker and hearer must share the *very same thought*? Why can't they just have *similar* thoughts in order for communication to be successful? The idea is attractive, but there is an obvious challenge. Any similarity view has to specify

<sup>18</sup> See for example Block (1993), Prinz (2002), Schneider (2011), Chalmers (2011), Pagin (forthcoming), Valente (2019).

<sup>19</sup> See e.g. the essays collected in Marques and Wikforss (2020). Whether the psychologists' notion of a concept is the same as the one we're concerned with is a controversial matter that need not concern us here.

<sup>20</sup> See for instance Harman (1993), Prinz (2002), Pagin (2020).

what properties are relevant when evaluating the similarity of two thoughts. Without this specification, any two thoughts could count as sufficiently similar in virtue of some common properties that are simply irrelevant to communicative success. On the other hand, the notion of similarity cannot be too stringent, for then the opposite problem would arise. Take general thoughts, for instance. Must two individuals be disposed to apply a general term to exactly the same objects for their thoughts to be sufficiently similar? Many think the answer is negative (see Pagin 2020 for a forceful recent defense). The fact that I count Secretariat (the famous racing horse) as an athlete, for example, should not preclude me from communicating with somebody who doesn't. But if some discrepancy in use must be tolerated, then how much?<sup>21</sup>

Many recent contributions to this debate prefer steering away from a similarity-based solution and opt instead for the notion of *thought coordination* (e.g. Fine 2007; Heck 2012). The insight underlying these authors' works is that we can see communication as a coordinative activity, where no appeal is made to the notion of thought identity between speaker and hearer as long as their contributions to the conversation fit together according to the rules of the communicative game.

Of course, talk of coordination is just as moot as talk of similarity if one does not do more to flesh out what coordination amounts to. When are the individual thoughts of two interlocutors coordinated? Answers might vary. One could appeal to community-wide dispositions to trade on the co-reference of each other's words, like Schroeter (2012) and Prosser (2019). Perhaps more simply, one could argue that all speaker and hearer need in order to communicate is to know that they co-refer, in accordance with an influential tradition that includes Evans (1982) and Heck (1995) and was recently defended by Onofri (2018) and Peet (2019). These authors claim that, as long as "interlocutors coordinate on truth values in a non-lucky and non-deviant way" (Peet 2019, p. 3304) then they will be able to acquire knowledge from each other's testimony and communication will thus be successful. Knowledge-based views of communicative success accord not only with our pre-theoretical intuitions but also with the role that is often deemed essential to communication: the transmission of knowledge.

They also yield the right prediction in our problem cases. At the concert, Peter knows Petra is referring to the pianist called 'Paderewski' who is playing that night; at the rally, he knows she is referring to the politician called 'Paderewski' who is giving a speech. This puts him in a position to acquire knowledge from Petra's testimony about Paderewski. One could wonder whether Peter isn't somehow "lucky" to have identified the right referent, given that he is confused about Paderewski's identity. Could he easily have identified the wrong referent in at least one of the exchanges? Not really – there is no nearby world where the conversational context is different in a way that leads Peter to identify the wrong person as the referent. His knowledge of Petra's communicative intentions is detailed enough for their communicative channel to be stable and reliable; he is not just being lucky.<sup>22</sup>

<sup>21</sup> Peet (2019) and Pagin (2020) make much of similar arguments using subjects that attach slightly distinct meanings to 'tall' and 'tree' (respectively) but can still successfully communicate.

<sup>22</sup> For cases where the hearer *is* lucky and knowledge thus fails to be transmitted, see for instance Loar (1976, p. 357) and Heck (1995, p. 95).

Similarity, coordination, or knowledge of co-reference allow for the type of transitivity failure we encountered in our puzzle cases, and thus look like suitable candidates to account for communicative success. But these views have one interesting feature in common: none of them depend on thought sharing. As long as subjects have their own thoughts, and there are either similarities or coordinative links between them, then all tools are on the table to explain inter-personal phenomena like communication and understanding. But if communication and understanding, arguably the paradigmatic intersubjective relationships between thinkers, do not require that speaker and hearer share their thoughts, then we seem to have lost one important motivation for conceiving of thoughts as intersubjective entities *tout court*.<sup>23</sup>

To be sure, other phenomena have also been taken to require interpersonally shared thoughts – what we may refer to as ‘Thoughts’ with capital ‘T’. Are these phenomena also amenable to an account that does away with Thoughts? We don’t have space to sufficiently develop this point here, but we want to suggest a positive answer.

Take speech reports and attitude attributions, for example. Perhaps attributing to John the belief that the cat is on the mat requires me and John to possess the same Thought? We are suspicious of any attempt to provide different success conditions for attitude ascriptions and linguistic communication, but in any case it seems that an account of attitude ascriptions requires Thoughts even less than communication does. For one thing, we can truly ascribe attitudes to people who are far away in the past or in the future, and in ways that go against what these subjects would assent to.<sup>24</sup> Now, it is notoriously difficult to spell out what requirements should be met for the ascription to be true; indeed, according to some influential theories those requirements vary with context, with some contexts demanding greater fidelity than others in the way we represent the ascriber’s perspective on things.<sup>25</sup> But this would actually bolster our suggestion further: in a number of contexts, the relevant

<sup>23</sup> Our appeal to coordination in this section might seem inconsistent with our earlier argument against Cumming’s coordination-based account (Sect. 4). In fact, there is no contradiction. Cumming defines coordination as an equivalence relation among mental symbols, which underlies content identity in successful communication (see Cumming 2013b, pp. 386–87). As Cumming himself notes (*ibid.*), this is *distinct* from Fine’s coordination-relation: Fine’s coordination is not transitive, so it is not a form of content identity (see Fine 2007, ch. 4). In Sect. 4, we argued that Cumming’s coordination delivers incorrect results *because* it is an equivalence relation, so that objection doesn’t apply to Fine’s account. More generally, it remains open to us to endorse any coordination-relation that is not a form of content identity. Thanks to an anonymous reviewer for pushing us to clarify this.

<sup>24</sup> Consider e.g. ‘Serena believes Ann can learn to play tennis in ten lessons’, said to Ann’s father so that he’ll sign up 6-year old Ann for tennis lessons with Serena, who’s never heard of little Ann, but whose marketing strategy is centered on the promise that 6-year-olds can master tennis that quickly (Recanati, 2012 p. 152; Blumberg & Lederman, 2021). Of course Serena has no singular thought about Ann, who she doesn’t know of. This suggests that Ann’s father and Serena don’t need to share a Thought – namely, the one expressed by the complement clause of the ascription, ‘... Ann can learn to play tennis in ten lessons’ – to make the ascription true.

<sup>25</sup> Influential proposals along these lines were put forward by Crimmins and Perry (1989), Richard (1990), Crimmins (1992). The idea was recently given a more detailed formal treatment by Aloni (2005).



ascription will be true even though plausibly speaker and ascriber will not have a Thought in common.

What about intentional explanations? One might think that we need Thoughts to account for the generality of intentional explanations and psychological laws. But here too the prospects for Thoughts seem dim. To give just two recent examples, both Heck (2012) and Almotahari & Gray (2020) convincingly argue that psychological laws can be properly described in purely referential terms, as long as we supplement them with coordination relations – an approach we have already glanced at. Since coordinative links between a subject’s internal representations are themselves internal and not intersubjectively shared, these accounts of intentional explanations bypass the need for Thoughts.

At this point, one could try a different response: instead of saying that thinkers’ thoughts are not shared but *only* similar or coordinated, one could instead claim that sharing a thought *just is* having thoughts which instantiate these relations (see e.g. Prosser 2019). This would guarantee – even if by force – a determinate meaning for ‘sameness of thought’. But two questions loom. First, would this stipulative notion be able to play any important theoretical role? Second, given that similarity and coordination are non-transitive, wouldn’t it be misleading or at worst contradictory to call them a form of ‘sameness’? Prosser (2019) remarks that there exist cases where philosophical argumentation showed that an ‘identity’ relation was actually better conceived as a non-transitive one—e.g. cases of fusion/fission often turned psychological theories of personal ‘identity’ into theories of personal continuance.<sup>26</sup> It would take us too far afield to do justice to the topic, but we can at least conclude that, if one desires to keep applying the terms ‘sameness’ and ‘identity’ to a relation that was found to be non-transitive, then one should explain the epistemic benefits of that terminological choice while at the same time alleviating its confounding effects.

Summing up, our puzzle about communication puts the traditional thought-transfer model under pressure and forces us to look for alternatives. We have presented a few in this section: similarity, coordination, and knowledge of co-reference. These proposals avoid the troublesome consequences of thought-transfer because they allow for transitivity failures, while still yielding the right predictions in our puzzle cases. Furthermore, these proposals put doubt on the idea that ‘thought sameness’ has a significant theoretical role to play.

Given that neither communication nor other related phenomena seem to require thinkers to share their thoughts, then one should either try to give substance to the idea that a non-transitive relation may be called ‘thought sameness’ (which form of sameness would that be?), or simply scrap the idea that there is a transitive identity relation holding between thoughts.

<sup>26</sup> Prosser (2019, p. 480) insists that taking the same-mode-of-presentation relation to be intransitive is compatible with saying that thinkers retain their beliefs across time, and share their beliefs with one another. His argument works mostly by analogy: if we can continue calling personal identity ‘identity’ even when fusion/fission cases show that it is an intransitive relation, then we might as well do the same for thoughts and modes of presentation.

## 8 Conclusion

We have presented a puzzle about communication. Our argument was based on a set of cases where a confused subject is interacting with a non-confused one. The puzzle derives from the plausible idea that these two subjects would be able to understand each other, plus a set of attractive, widely accepted principles concerning thought and communication. The problem arises for different kinds of expressions – names, indexicals, general terms. It is thus a general problem which requires a general solution – as we have seen, some strategies seem to work with one variant of the puzzle but turn out to be completely implausible with others.

In order to provide a solution to the problem, we have suggested sacrificing the thought-transfer model of communication (encapsulated in premise 3). This strategy, we have argued, is theoretically more parsimonious than the other candidate solutions: denying that Petra expresses the same thought in both contexts (premise 1), claiming that confused subjects like Peter are not able to successfully communicate (premise 2) or rejecting the deeply entrenched Frege's Constraint on thought individuation (premise 5).

As we have seen, rejecting the thought-transfer model is not a novel proposition in itself; what makes the claim interesting is our argument for it. Our puzzle arises from a small set of claims which are widely endorsed in the literature, not from particular theories such as Lewis's centered-content model. So the reasons we have offered against thought-transfer ought to have more dialectical force than other, more parochial considerations against it.

The rejection of the thought-transfer model should not be taken lightly. Indeed, as soon as one admits that communicative success might be accounted for without any direct involvement of thought sharing and the corresponding notion of 'thought sameness', then it seems the door is open for doing away with that notion altogether. The postulation of inter-personally shared thoughts that are more fine-grained than referential contents then either needs to be justified on other grounds, or simply let go.

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