

De Se Puzzles and Frege Puzzles

Stephan Torre & Clas Weber

Abstract. What is the relationship between Frege’s puzzle and the puzzle of the *de se*? An increasingly influential view claims that the *de se* puzzle is merely an instance of Frege’s puzzle and that the idea that *de se* attitudes pose a distinctive theoretical challenge rests on a myth. Here we argue that this view is misguided. There are important differences between the two puzzles. First, unlike Frege puzzle cases, *de se* puzzle cases involve unshareable Fregean senses. Second, unlike Frege puzzle cases, *de se* puzzle cases cannot be resolved by objective information alone. Further, there seem to be pure cases of each puzzle: instances of the *de se* puzzle which do not have a Fregean structure, and instances of Frege’s puzzle, which do not involve *de se* attitudes. We conclude that the two puzzles are fundamentally different and that the traditional theory of attitudes needs to be amended.

1 Introduction

One well-known version of a Frege puzzle case¹ can be given as follows:

Gottlob believes that the heavenly body he observes in the evening, Hesperus, is a planet. Gottlob believes that the heavenly body he observes in the morning, Phosphorus, is not a planet. In fact, Hesperus and Phosphorus are one and the same planet, Venus. Gottlob’s friend Bertrand informs him that Hesperus is Phosphorus, and Gottlob thereby comes to learn something new. A puzzle arises in that even though Hesperus is identical to Phosphorus, Gottlob is not being irrational when he initially ascribes incompatible properties to Venus. How do we explain this? Furthermore, how do we accommodate the fact that Gottlob learns something new when he learns that Hesperus is

¹ A note on terminology: we distinguish between “Frege’s puzzle” and “Frege puzzle case”. By “Frege’s puzzle” we refer to the *general theoretical challenge* for accounts of thought and language introduced by Gottlob Frege (1892/1952). By “Frege puzzle case” we refer to a *specific situation* which exemplifies this challenge. The same applies *mutatis mutandis* to the terms “*de se* puzzle” and “*de se* puzzle case”.

Phosphorus, even though Hesperus = Phosphorus and he already knew that Hesperus = Hesperus?

A well-known version of a *de se* puzzle case can be given as follows:

Perry is pushing his shopping cart around the supermarket and notices a trail of sugar on the floor. He sees a shopper in the mirror with a leaking bag of sugar and comes to believe of the man in the mirror that he is making a mess. Furthermore, Perry believes that he himself is not making a mess. In fact, Perry is the man in the mirror. A fellow shopper informs Perry that he is the messy shopper, and Perry thereby comes to learn something new. A puzzle arises in that even though Perry is identical to the man in the mirror, initially Perry is not being irrational when he ascribes incompatible properties to himself. How do we explain this? Furthermore, how do we accommodate the fact that Perry learns something new when he learns that he is making a mess, even though Perry is identical to the man in the mirror and he already knew that the man in the mirror is making a mess?

At least as we have presented them, the Frege puzzle case and the *de se* puzzle case, and the questions they give rise to, look very similar. The question we will investigate in this paper is how these cases, and the more general theoretical challenges they raise, are related. Are they instances of the same puzzle, raising the same theoretical issues, and requiring the same kind of solution? Or are they instances of two distinct puzzles, raising distinct theoretical issues, and requiring different kinds of solutions? Given the numerous discussions of Frege's puzzle and the *de se* puzzle in the philosophical literature, the question of how these puzzles are related is, by itself, well worth investigating. But we also maintain that how the two puzzles are related has far-reaching implications for our theory of attitudes.

According to the *Distinctness* response, Frege's puzzle and the *de se* puzzle are separate puzzles and raise independent challenges to our understanding of language and the mind. Roughly, Frege's puzzle challenges the view that propositions, i.e. the contents of attitudes and semantic values of sentences, are individuated by their referents; on the other hand, the *de se* puzzle challenges the view that propositions are both shareable and have invariant truth-values. A growing number of authors have expressed skepticism about *Distinctness* (e.g. Devitt, 2013; Cappelen and Dever, 2013; Magidor, 2015). Instead, they endorse the *Subsumption* view: the *de se* puzzle is a special instance of Frege's puzzle and can be subsumed under it; the thought that *de se* attitudes raise an independent theoretical challenge is based on a myth.

In this paper we defend *Distinctness*—we argue that Frege's puzzle and the *de se* puzzle are independent puzzles and raise separate theoretical questions. We consider and reject the core case against *Distinctness*: what we call the 'Subsumption Argument'.

The argument contends that all *de se* puzzle cases are instances of Frege puzzle cases and can therefore be explained with the theoretical resources required to solve Frege’s puzzle. This is then taken to show that, more generally, *de se* attitudes do not pose a genuine theoretical challenge and the *de se* puzzle can thus be subsumed under Frege’s puzzle.

We object to this argument on two fronts. First, there are important differences between *de se* puzzle cases and Frege puzzle cases: *de se* puzzle cases involve *unshareable* Fregean senses and cannot be *resolved* with purely objective information.² Second, a special class of situations—cases of purely perspectival differences—poses a dilemma. If these situations count as *de se* puzzle cases, not all *de se* puzzle cases have a Fregean structure. If they do not count as such, they show that giving a Fregean explanation for all *de se* puzzle cases is insufficient to defuse the challenge raised by *de se* attitudes. Either way, the argument for *Subsumption* fails.

2 Frege’s Puzzle, the De Se Puzzle, and the Theory of Attitudes

2.1 Frege’s Puzzle

Frege (1892) presented his original puzzle primarily as a puzzle about *language*: how can we explain that sentences of the form “ $a = a$ ” are trivial, whereas sentences of the form “ $a = b$ ” are informative (when a is in fact identical with b)? And more generally, how can we explain the informational differences between sentences that differ merely by substitution of co-referential expressions? There is a closely related puzzle about *thought*: how can we explain that thoughts that ascribe the same property to the same object, such as *a is F* and *b is F*, nevertheless seem to be different thoughts in that it is possible to rationally believe one without believing the other? Finally, there’s a puzzle about how we *ascribe thoughts to subjects*: how can we explain that “S believes that a is F” seems true, while “S believes that b is F” seems false?

The central intuition underlying Frege’s puzzle is that reference is not transparent—even when two thoughts or statements concern one and the same object, this may not be obvious to us. We may think, or at least consider it a live option, that the thoughts are about different objects. As a consequence, we may ascribe different, potentially incompatible properties to what we take to be distinct objects, without being inconsistent

² As we point out in §4.2, many ordinary Frege puzzle cases may already require non-objective, indexical information for their resolution. But this qualification does not support the claim that the *de se* puzzle can be subsumed under Frege’s puzzle and that the traditional theory of attitudes therefore can be maintained. If anything, it supports the converse subsumption claim, i.e. that Frege’s puzzle can be subsumed under the *de se* puzzle, and that the traditional theory of attitudes already founders on the rocks of Frege’s puzzle. However, we argue in §6.1 that Converse Subsumption is not true either.

or irrational.

We distinguish three different versions of Frege’s puzzle:

Frege’s puzzle_{language}: How can we explain the apparent semantic difference between sentences that differ syntactically merely by substitution of co-referential expressions, e.g. “ $a = a$ ” vs. “ $a = b$ ”?

Frege’s puzzle_{thought}: how can we explain the apparent cognitive difference between thoughts that ascribe the same property (relation) to the same object(s), e.g. $a \text{ is } F$ vs. $b \text{ is } F$?³

Frege’s puzzle_{attitude ascriptions}: how can we explain the apparent difference in truth-value between attitude ascriptions that differ merely by substitution of co-referential terms in their complement clause, e.g. “S believes that a is F ” vs. “S believes that b is F ”?

There is a close relationship between the puzzles. A crucial premise in developing the linguistic puzzle is that sentences which differ syntactically merely by substitution of co-referential expressions typically express different thoughts—the linguistic puzzle relies on the cognitive one. However, there are also important differences and it is possible to give different responses to the puzzles. For example, while one may think different thoughts by thinking $a \text{ is } F$ and $b \text{ is } F$, our language may not reflect these cognitive differences. Combining a non-referential conception of thought with a referential account of language is indeed popular among Neo-Russellians (e.g. Salmon, 1990; Soames, 1987; Braun, 2002). Furthermore, certain moves that work in response to the linguistic puzzles, do not work in reaction to the cognitive puzzle. It is a common strategy to appeal to pragmatic factors to explain seeming differences between co-referential statements or attitude ascriptions (Salmon, 1990; Soames, 1987), or to detach semantics from the cognitive realm (Wettstein, 1986). Neither strategy works in response to the cognitive puzzle: there is no pragmatics of thought, and thoughts are essentially individuated by their cognitive signifi-
cance.

2.2 The De Se Puzzle

The puzzle of the *de se* is most closely associated with the seminal papers of Perry (1977, 1979) and Lewis (1979), who were in turn influenced by the pioneering ideas of Castañeda (1966). The central intuition underlying the *de se* puzzle is that certain attitudes are special in involving first-personal ways of thinking about oneself; such first-personal attitudes seem to present a problem for the orthodox account of attitudes. Here, too, we can in principle distinguish three different versions of the puzzle:

³ Although there are different ways in which one might understand the notion of cognitive difference, the notion may be understood in terms of difference in cognitive functional role such as differences in bringing about actions or in bringing about other thoughts.

***De se puzzle*_{language}**: how can we explain the apparent semantic difference between sentences that differ syntactically merely by substitution of co-referential, indexical and non-indexical expressions, e.g. “a is F” vs. “I am F”?

***De se puzzle*_{thought}**: how can we explain the apparent cognitive difference between thoughts that ascribe a property to an object in a first-personal way and thoughts that ascribe the same property to the same object in a third-personal way, e.g. *I am F* vs. *a is F*?⁴

***De se puzzle*_{attitude ascriptions}**: how can we explain the apparent difference in truth-value between attitude ascriptions that differ merely by substitution of co-referential indexical and non-indexical terms in their complement clause, e.g. “S believes that S is F” vs. “S believes that she herself is F”?

Perry’s and Lewis’s arguments are best understood as first articulating and then proposing solutions to the *de se* puzzle about *thought*. They aim to show that the traditional theory of attitudes does not work for *de se* attitudes. Perry’s label for the traditional theory of attitudes is “the doctrine of propositions”; he writes: “It’s clear that the essential indexical is a problem for the doctrine of propositions” (Perry, 1979/1993, p. 37). Likewise, Lewis is concerned with the *de se* puzzle about thought: “My target in this paper is the view [...] that the objects of attitudes are propositions [...]” (Lewis, 1979, p. 515). And he regards this question as separate from the linguistic question about indexical expressions and their behavior in attitude ascriptions.

Our main focus in this paper is on what Frege’s puzzle and the *de se* puzzle reveal about the mind. What is the relationship between Frege’s puzzle_{thought} and the *de se* puzzle_{thought}? In light of the puzzles, what is the right account of attitudes and their content? There are two reasons for this: First, the puzzles about thought are particularly challenging and interesting. Second, we are interested in clarifying the relationship between the puzzles and, as we just saw, the *de se* puzzle primarily concerns thought.

2.3 The Traditional Theory of Attitudes

The central tenets of the traditional theory of attitudes—the target of Perry’s and Lewis’s arguments—are the following:

Traditional Theory of Attitudes

Binarity: attitudes are 2-place relations between subjects and contents.

⁴ The relevant class of first-personal thoughts is meant to include *de nunc* thoughts, i.e. thoughts about what is occurring *now*. And plausibly, it encompasses indexical thoughts in general, as such thoughts seem equivalent to complex *ego-now* thoughts; e.g. *here*-thoughts are equivalent to thoughts about the place where *I am now*.

Absolutism: the contents of attitudes are invariant in truth-value (varying at most between different possible worlds).

Shareability: it is possible for different subjects to be related to the same content.

Propositional attitudes are typically viewed as *relations* obtaining between an attitude holder and an abstract entity called “proposition”; we will here use the more neutral term “content” instead. Contents are assumed to have *stable truth-values*, invariant between subjects and across times or places. Lastly, the traditional theory holds that contents are *shareable*: different thinkers can believe, hope, or fear the same thing by being related to the same content (assuming they have the requisite concepts and mental abilities).

“Content” is a technical term, characterized by its theoretical-explanatory role. In the case of attitudes, the relevant role is to model cognitive significance and explain or rationalize behavior. This makes *Binariness* more or less true by stipulation. On this understanding, Perry’s theory (1979) upholds *Binariness*. The entities that model cognitive significance and explain and rationalize behavior according to Perry are neither propositions, nor what he calls ‘belief states’—both only do part of the job. The full explanatory work is done by complexes of the form: <belief state, proposition>. Attitudes can then be understood as binary relations between subjects and such complex contents. The same applies to Neo-Russellians, e.g. Salmon (1990) or Braun (2002), who introduce *guises* or *ways of believing a propositions* to model belief (in contrast to belief-ascriptions). Again, neither propositions nor guises alone play the relevant role. Consequently, rather than abandoning *Binariness*, Perry and Neo-Russellians are better seen as giving up *Shareability* or *Absolutism* (or both); see also §6.3 and (Weber, 2015, 2016).

Together, the commitments of the traditional theory comprise a powerful account. It enables us to compare the attitudes of different subjects with each other, or to trace the evolution of a single subject’s attitudes over time. It also enables us to explain how different types of attitudes, e.g. beliefs and desires, relate to each other and interact in the production of behavior. That notwithstanding, many believe that Perry’s and Lewis’s puzzle about *de se* attitudes shows that the traditional theory is inadequate.

2.4 De Se Skepticism and Subsumption

An increasingly popular view, however, maintains that *de se* attitudes fail to raise a distinctive problem for the traditional theory. Such a view has been defended in various ways by Boer and Lycan (1980), Stalnaker (1981), Spencer (2007), Stanley (Ch. 3, 2011), Devitt (2013), Cappelen and Dever (2013), Douven (2013), and Magidor (2015), (for an overview see (Ninan 2016)). Perhaps the main contention among these *de se*

skeptics is the above-mentioned subsumption claim: cases involving *de se* attitudes are merely instances of familiar Frege puzzle cases and since Frege puzzle cases can be accommodated within the traditional theory, *de se* puzzle cases likewise pose no special threat to it.⁵ Proponents of this view maintain that the examples used in the literature to motivate a distinctive problem for *de se* attitudes “pattern with” examples that give rise to standard Frege puzzle cases. Cappelen and Dever (2013), for instance, note that Perry’s well-known Messy Shopper scenario has a “Frege counterpart” where “a Frege counterpart is a case like the original one in all relevant respects except that the substitution failure involves names instead of indexicals” (Cappelen and Dever, 2013, p. 61). They provide the following counterpart of Perry’s Messy Shopper:

“Superman/Clark Kent. Pushing his cart down the aisle [Perry] was looking for CK to tell him he was making a mess. [Perry] kept passing by Superman, but couldn’t find CK. Finally, [Perry] realized, Superman was CK. [Perry] believed at the outset that CK was making a mess. And [Perry] was right. But [Perry] didn’t believe that Superman was making a mess. That seems to be something that [he] came to believe. And when [Perry] came to believe that, [he] stopped looking around and [he] told Superman to clean up after himself. [Perry’s] change in beliefs seems to explain his change in behavior” (Cappelen & Dever, 2013, p. 61)

They conclude that, in general, the cases made famous by Castañeda, Perry, Lewis, and others pattern with standard Frege cases and fail to provide motivation for a distinct *de se* puzzle: “The kinds of cases that have been made famous by Perry and others pattern with (indeed, are instances of) standard Frege puzzle cases and do not even provide *prima facie* support for [*Distinctness*].” (Cappelen & Dever, 2013, p. 59).⁶

The *de se* skeptic’s argument is based on the idea that *de se* puzzle cases are just instances of Frege puzzle cases. Of course, this claim does not by itself establish that *de se* attitudes fail to raise a distinctive problem. However, the *de se* skeptic also insists that there are no features of *de se* puzzle cases that make them unamenable to the same treatment that Frege cases have received. We can therefore explain all such cases using the means required to solving Frege’s puzzle—*de se* attitudes do not introduce any novel theoretical challenge. The reasoning can be summarized as follows:

⁵ As we will point out in §4.2, it is questionable whether Frege’s puzzle can be solved within the confines of the traditional theory.

⁶ Magidor (2015) argues along similar lines that well-known *de se* puzzle cases have Frege counterparts and fail to raise a distinctive problem. Discussing the well-known case of Rudolf Lingens lost in the library and unknowingly reading his own biography she writes, “In so far as these cases do raise a puzzle, the puzzle has nothing in particular to do with the *de se*. Suppose for example that the Stanford library has a book which contains all the true propositions concerning Hesperus. On the face of it, Lingens could read the whole book and still fail to know whether Phosphorus is a planet.” (Magidor, 2015, p. 255).

The Subsumption Argument

1. All *de se* puzzle cases are Frege puzzle cases. [Subsumption of cases]
 2. There are no features distinctive of *de se* puzzle cases that make them unamenable to the same treatment that Frege puzzle cases have received. [No special features]
 3. Therefore, *de se* puzzle cases can be explained in the same way as Frege puzzle cases. [Same explanation]
 4. If *de se* puzzle cases can be explained in same way as Frege puzzle cases, the *de se* puzzle can be subsumed under Frege's puzzle and *de se* attitudes raise no theoretical challenges independent of those raised by Frege's puzzle. [Same explanation–Subsumption]
- ∴ The *de se* puzzle can be subsumed under Frege's puzzle and *de se* attitudes raise no theoretical challenges independent of those raised by Frege's puzzle. [Subsumption]

In the remainder, we shall argue that the Subsumption Argument is unsound. In fact, all three substantial premises (1, 2, 4) are questionable. Sections 3 and 4 focus on the second premise. There are two features of *de se* puzzle cases which render them unamenable to a standard Fregean treatment: *shareability* and *resolution*. First, a standard Fregean treatment of *de se* puzzle cases is bound to introduce *unshareable* senses, while ordinary Fregean senses are essentially shareable. Second, the ignorance involved in ordinary Frege puzzle cases is *resolvable* by objective information alone, which is not the case for *de se* puzzle cases. In section 5, we present a dilemma for proponents of *Subsumption*. The dilemma involves subjects who agree in their objective thoughts, but differ in *de se* thoughts. They show that either the first or the fourth premise fails: either there are non-Fregean *de se* puzzle cases, or *de se* attitudes pose a challenge beyond that raised by *de se* puzzle cases. In section 6, we consider and reject the converse subsumption claim that Frege's puzzle can be subsumed under the *de se* puzzle and then discuss in section 7 what the distinctness of both puzzles entails for our understanding of the mind.

3 Shareability

Consider the above Clark Kent/Superman-variant of Perry's messy shopper case. On a standard Fregean approach, it can be explained by distinguishing between different *senses* that Perry associates with the one individual Clark Kent/Superman (Frege, 1892). The sense Perry associates with 'Clark Kent' differs from the sense he associates with 'Superman'. Furthermore, because the sense associated with a proposition is made up of its constituent senses, the sense of the thought that Clark Kent is making a mess differs

from the sense of the thought that Superman is making a mess. This explains why Perry can initially believe one without believing the other and it explains the informativeness of his realization that Superman is Clark Kent.

We claim that this case is *shareable* in the following way: call the sense associated with Perry's initial thought that Clark Kent is making a mess "A". Call the sense associated with Perry's initial thought that Superman is not making a mess "B". Another person, for example, fellow shopper Susan, could believe A and could also believe B. Susan could also ascribe incompatible properties to one and the same object and gain new information when she learns that Clark Kent is Superman. The Frege puzzle case is shareable in that another subject could associate the same senses with Superman/Clark Kent that Perry does and could similarly believe the same propositions as Perry both prior to and after the realization that Clark Kent is Superman.

But Perry's original Messy Shopper case seems unamenable to this sort of treatment. Suppose initially Perry and fellow shopper Susan both observe Perry pushing the cart with the leaking bag of sugar. Both have a thought that they would express as "That shopper is making a mess". It seems plausible that we can associate the same sense, call it "C", with their thought. Then Perry learns that he himself is making a mess. He learns something new. Call the sense associated with Perry's newly acquired thought that leads him to adjust his bag of sugar "D". If we stipulate that Susan also acquires D, it is difficult to see what new information she learns in addition to C. We can present the following challenge to the theorist who maintains that Perry's thoughts are shareable: Perry and Susan both initially believe C. If we grant that Perry and Susan both come to believe D when Perry realizes that he himself is making a mess, what new information does Susan learn? What change in belief does she undergo?

One suggestion is that Susan comes to believe that she herself is making a mess. However this response is ruled out on the Fregean theory since, according to the theory, sense determines reference. The reference of D is the truth-value *the True*; it is true that Perry is making a mess. But by stipulation Susan is not making a mess and, so, she cannot believe D and thereby believe that she herself is making a mess since this is false. Even if we abandon this sacred Fregean doctrine and allow that D is shareable, there is a different problem for the traditional theory: *Absolutism* fails since one and the same content, D, is true when evaluated at Perry and false when evaluated at Susan.

An alternative suggestion is that when Susan acquires D, she acquires a belief that, like C, is about Perry, but is about Perry in a new way. Perhaps, in acquiring D she acquires a belief she would express by saying "You are making a mess". When both Perry and Susan initially believe C they both have a belief that they would express by saying "that man is making a mess"; but when they both acquire D, Perry would express this by saying 'I am making a mess' and Susan would express this very same belief by saying "You are making a mess".

This suggestion is problematic for at least two reasons. First, we could redescribe the case in such a way that both Perry and Susan initially already have a belief they would express by saying “You are making a mess”. Perry, not realizing that he is looking in a mirror at his own reflection, tries to warn the messy shopper by claiming “You are making a mess”. Susan directly sees Perry making a mess and is about to exclaim “You are making a mess” before Perry realizes that he himself is making a mess. This variant merely reintroduces the original challenge: if we associate Perry’s and Susan’s initial belief that they would express as “you are making a mess” with the same sense, and we wish to claim that Susan acquires a new belief with the same sense as Perry’s once Perry realizes that he himself is making a mess, we are left with the difficulty of explaining what new information Susan learns.

Secondly, it is problematic to claim that the same belief would cause one subject to utter “I am making a mess” and another to utter “You are making a mess”.⁷ It is plausible to assume that identical beliefs have identical functional roles, and therefore result in the same action-types (assuming that other relevant beliefs and desires are the same). Plausibly, however, Perry’s belief results in an action that tokens a different action-type from Susan’s: Perry bends over and adjusts the sugar in his shopping cart; Susan informs Perry that his sugar is leaking. Consider other cases in which the belief that one would express with the I-sentence leads to a very different action-type from the belief that one would express with the you-sentence. If instead of spilling sugar, Perry’s pants caught fire, his I-belief would lead him to stop, drop and roll, whereas Susan’s “you”-belief might lead her to run and get the fire extinguisher. So the difference in resultant action-types suggests that the content of the belief Perry would express with an “I” utterance is not the same as the content of the belief Susan would express with a “you” utterance.

Perhaps we’ve been too demanding in claiming that there is some shared sense that

⁷ The objector might deny that this is a case in which Perry and Susan initially have a belief with the same sense, C, since Perry acquires his belief by perceiving his reflection in the mirror and Susan acquires hers by directly perceiving Perry. This raises the following dilemma for the objector: deny that it is possible for Perry to acquire a belief with the same sense as Susan’s belief gained by directly perceiving Perry or grant that it is possible for Perry to acquire a belief with the same sense as Susan’s belief. If the objector adopts the first horn, then the de se puzzle case is not shareable in virtue of the initial belief that both would express as ‘You are making a mess’ not being shareable. The Frege Puzzle case involving Superman doesn’t have this feature and so we’ve reached our desired conclusion. Adopting the second horn means granting that it is possible for Perry to acquire a belief with the same sense as Susan’s belief. This is the horn that we find most plausible. Perry could acquire the belief by directly perceiving himself in the same way as Susan, perhaps because his brain sometimes receives visual information from Susan’s optic nerves, or maybe his eyes are not located where he is. Adopting this second horn, re-raises the original challenge: when Perry later realizes that he himself is making a mess and we suppose that Susan acquires a new belief with the same sense as Perry’s, we are left with the difficulty of explaining what new information she learns. Thanks to an anonymous referee for pressing this objection.

both Perry and Susan can express.⁸ Let's call the new sense Perry acquires when realizing that he himself is making a mess 'PerrySense'. One who insists that *de se* puzzle cases are shareable might simply insist that Susan also acquires PerrySense, even if she has no way of expressing it. And so *de se* puzzle cases such as this one are shareable since both Perry and Susan can believe PerrySense. This sort of response seems unmotivated and mysterious. It raises more questions than it answers. How does PerrySense differ in content from Susan's original belief that she would express by saying "That shopper is making a mess"? What is it about PerrySense that makes it ineffable for Susan or for one who wishes to ascribe thoughts in an informative way to Susan? PerrySense leads to no change in Susan's behavior and seems to result in no change in causal role to Susan's beliefs about the messy shopper, so what motivates positing it other than a desire to hold on to shareability at all costs? We deny that this response provides a viable way of upholding shareability in *de se* puzzle cases.

The fact that the Frege counterpart of the messy shopper case involves shareable thoughts, whereas the *de se* version of the case does not, is not a unique feature of this pair of cases, but rather a feature that generally distinguishes *de se* puzzle cases from their Frege counterparts. So the fact that Frege puzzle cases are shareable and *de se* puzzle cases are not, is a feature that distinguishes the two kinds of cases. This shows that the Subsumption Argument is unsound because the second premise is false: there are features distinctive of *de se* puzzle cases that make them unamenable to the same treatment as Frege puzzle cases. Introducing unshareable thoughts would be especially problematic for *de se* skeptics, as they aim to defend the traditional theory with its commitment to *Shareability*.

4 Resolution

Another difference between the two kinds of cases concerns the manner in which they can be *resolved*. Both Frege and standard *de se* puzzle cases involve ignorance of identities.⁹ To resolve a puzzle case is to resolve this ignorance. Frege puzzle cases can be resolved with sufficient *objective* information; *de se* puzzle cases cannot be so resolved. This means that *de se* puzzle cases are unamenable to a standard Fregean treatment and we

⁸ One could apply Cappelen and Dever's (2013, Chapter 3) proposed explanation for why having the same belief can lead to differences in action: the same belief does lead to Perry and Susan performing different actions, however this is explained by the fact that different actions are available to each of them. Bending Perry's body down to adjust the spilling sugar is an action-type available to Perry, but not to Susan. Persuasive discussions as to why this 'action inventory' response is inadequate can be found in (Lima, 2018, §4; Ninan, 2016, pp. 105-107; Torre, 2018, §2; Valente, 2018, §5).

⁹ The cases of purely perspectival differences described in §5 do not essentially involve such ignorance; however, it is not entirely clear whether they count as *de se* puzzle cases.

have a further reason to reject premise 2 of the Subsumption Argument.¹⁰

Objective information is information that can be fully captured by sentences expressing absolute propositions. It is of two kinds: qualitative (e.g. $\forall xFx$; $\exists x\exists yRxy$) and singular (e.g. Fa , Rab). Here the exact nature of objective information is not that decisive. What is important is that objective information, whatever its precise nature, holds equally for different subjects, or at different times, in the same world. That much should be uncontroversial. It is important to note that we're not begging the question against the traditional theory. The traditionalist is committed to the claim that indexical attitudes ultimately encode objective information, since, according to her, even indexical attitudes are relations between subjects and absolute propositions.

Consider again the case of Gottlob. Gottlob is ignorant of the identity claim that *Hesperus = Phosphorus*. On a standard Fregean analysis, his predicament shows that object reference is mediated by senses. Senses are best understood as conditions on reference, specifying identifying properties of the referent. Identity claims of the form $a = b$ get analysed as *the F = the G*, where F and G are the identifying properties associated with a and b . For instance, the sense of Hesperus is Phosphorus can be understood as *the bright celestial object visible in the morning sky = the bright celestial object visible in evening sky*.¹¹

The Fregean analysis entails that once a subject has enough information about the instantiation of properties, they can determine the truth of the corresponding identity claim. When Gottlob learns that the same object has the property of being the bright celestial object visible in the morning sky and the property of being the bright celestial object visible in evening sky, he can conclude that Hesperus is Phosphorus. This point generalises: the relevant identity claims are knowable given sufficient information about the instantiation of properties. This information seems objective, i.e. it can be captured in terms of absolute propositions.

Typical *de se* puzzle cases also involve ignorance of identities. For instance, in the Messy Shopper case, Perry is unaware of the thought: $I = \text{the man in the mirror}$. In general, the relevant claims are of the form: $I = \text{the } F$ or $I = a$. The crucial difference with Frege puzzle cases is that subjects are not in a position to learn these indexical claims from objective information. We can see this by reflecting on Perry's (1979) point that indexical claims like $I \text{ am } G$ are not equivalent to thoughts expressing qualitative propositions like *the F is G*, since I may know that the F is G but fail to realise that I am G. Neither are they equivalent to thoughts expressing singular propositions of the form $a \text{ is } G$ as I may know that a is G but fail to notice that I am G. Since objective

¹⁰ We will see in §4.2 that things are not that straightforward. It is doubtful whether all Frege puzzle cases can be resolved by objective information alone. But this offers no relief for the defender of *Subsumption*.

¹¹ In fact, the relevant identifying properties may be more complex; also, it is not required that senses are always expressible in natural language.

information is either qualitative or singular, indexical claims cannot be settled on the basis of purely objective information.

4.1 Scrutability

The above considerations can be made more precise by using the notion of *scrutability* (Chalmers and Jackson, 2001; Chalmers, 2004, 2012). The central idea here is that knowing a certain class of truths may put one in a position to know truths of another type. For instance, when given a complete microphysical description of the world (plus a ‘that’s all’-clause), one can determine the macrophysical truths. The microphysical description of the world contains, say, the information that there is a pebble-shaped collection of quartz molecules at location l ; this allows one to infer the macrophysical claim *there’s a pebble at l* .¹²

We can now reformulate the above point accordingly: identity claims involved in Frege puzzle cases are scrutable from a base O of objective truths, whereas indexical identity claims are not scrutable from O . This makes *de se* puzzle cases unfit for a standard Fregean explanation: Frege puzzle cases rely only on objective information, whereas *de se* puzzle cases require postulating additional indexical information.

The Scrutability Argument I

1. Fregean identity claims are scrutable from objective truths.
 2. Indexical identity claims are not scrutable from objective truths.
 3. If Fregean and indexical identity claims differ in scrutability in this way, then there are features distinctive of *de se* puzzle cases that make them unamenable to the same treatment as Frege puzzle cases.
- ∴ There are features distinctive of *de se* puzzle cases that make them unamenable to the same treatment as Frege puzzles.

Above, we have in effect already made the case for premise 1. Claims like $a = b$ are analysed as *the $F = the G$* . The base O specifies whether or not F and G are uniquely instantiated by a single object. Hence, O entails whether or not *the $F = the G$* is true. For example, in Gottlob’s case O contains the claim: *there is one and only one object which is the bright celestial object visible in the morning sky, there is one and only one object which the bright celestial object visible in the evening sky and they are identical*. With this, Gottlob can conclude that *Hesperus = Phosphorus*. (In order to avoid trivialisation, we have to exclude from O statements involving the terms “Hesperus” and “Phosphorus” themselves, such as *Hesperus = Phosphorus*.)

¹² This example is purely for illustration. For our argument, it does not matter whether macrophysical truths are in indeed scrutable from microphysical truths.

Why are the corresponding indexical identity claims not scrutable from O? Because indexical claims in general are not scrutable from O. Whether a truth about a world w is scrutable from a base B, depends on whether a rational subject is in a position to know that truth by relying solely on information in B, i.e. without knowing anything else about w .¹³ In the case of indexical truths, this seems infeasible. Consider two subjects: S1 who is F, and S2 who is not F. For S1 the claim *I am F* holds, while for S2 *I am not F* holds. Can S1 and S2 infer these truths about themselves from O? It does not seem so. They know nothing about w beyond what is given in O—both start from complete ignorance and are then given the same information. Further, the assumption that contents are shareable suggests that both subjects have equal access to all the information contained in O. They end up with the exact same epistemic resources, as all truths in O hold equally for both (that’s what it means to be an objective truth). It would then be odd if one subject rationally concluded *I am F*, while the other judged *I am not F*. Of course, if they differed in their initial knowledge, e.g. if S1 knew $I = S1$ and S2 knew $I = S2$, they might well reach different conclusions from the same information. But we are here assuming that this is not the case. It therefore seems that indexical truths are in general inscrutable from a base of purely objective truths.¹⁴

The difference in scrutability reveals a fundamental difference in how the two kinds of cases can be resolved: Frege puzzle cases are resolvable by objective information alone, while *de se* puzzle cases also require indexical information for their resolution. This shows that *de se* puzzle cases cannot be accounted for using standard Fregean resources.

Furthermore, the inscrutability of indexical truths grounds a more general objection against the traditional theory of attitudes which undermines the fourth premise of the Subsumption Argument. According to *Absolutism*, all (graspable) contents are ultimately objective contents—indexical truths are just a special class of objective truths. And according to *Shareability*, every subject should in principle be in a position to grasp any absolute truth. On this view, indexical truths should be scrutable from a base of objective truths. But the above shows that they are not. Therefore, the traditional theory fails.

The Scrutability Argument II

1. The traditional theory of attitudes entails that all graspable truths are scrutable from objective truths.
2. Some graspable truths (i.e. indexical ones) are not scrutable from objective truths.

¹³ Chalmers (2012) distinguishes various notions of scrutability: inferential, conditional and *a priori* scrutability. Here, these details do not matter and we can here work with a rough-and-ready notion of scrutability.

¹⁴ This argument may not apply to indexical claims that *a priori* apply to every individual, such as *I am here now*. However, the relevant indexical claims are not of this form.

∴ The traditional theory of attitudes is flawed.

Thus, beyond revealing distinctive features of *de se* puzzle cases, scrutability considerations show that the nature of indexical information poses a general challenge to the traditional theory, independent of the explanation of concrete *de se* puzzle cases.¹⁵¹⁶

4.2 Standard and Indexical Fregeanism

As indicated before, there are doubts whether Fregean identity claims are scrutable from O (i.e. about the first premise of Scrutability Argument I). They concern the viability of the standard Fregean analysis. Standard Fregeanism is problematic both for contingent/empirical and more principled reasons. According to standard Fregeanism, senses encapsulate identifying, qualitative properties of objects.

Standard Fregeanism

Senses encode purely qualitative, identifying properties of their referents.

The contingent/empirical problem with Standard Fregeanism is that ordinary thinkers often do not have enough information to avail themselves of purely qualitative properties which are also identifying. The principled problem concerns duplication scenarios, e.g. symmetrical worlds, in which there simply are no identifying qualitative properties to be had.

A more promising version of Fregeanism holds that reference is often mediated by *egocentric relations*. For instance, I might refer to a person as *the man I met in the shop this morning*, instead of *the man with the following DNA sequence: A-T-C-C-A-...* Further, this relation allows me to pick him out even in a duplication scenario where he has an identical counterpart.

Indexical Fregeanism

Many senses encode egocentric relations between thinker and referent.

¹⁵ For more on this line of argument see (Torre and Weber, forthcoming, §3).

¹⁶ One might question the argument in the following way: Scrutability is closely associated with Chalmers' two-dimensional semantic framework (e.g. Chalmers, 2013). A truth may be scrutable from a given base relative to one dimension of content (e.g. primary intensions), but inscrutable relative to a different dimension (e.g. secondary intensions). While this is correct, as we have pointed out above, we are here working with an intuitive notion of scrutability, which can be explained without recourse to the two-dimensional framework (see e.g. Chalmers (2013, Chapter 1)). Further, since the argument is intended as a *reductio* of the traditional theory of attitudes, it only appeals to the traditionalist's absolute and shareable conception of content, and hence the distinction between different dimensions of content (i.e. primary vs. secondary intensions) is not available to her. She therefore cannot challenge the argument on these grounds. Thanks to an anonymous referee for raising this point.

Assuming Indexical Fregeanism, the first premise of Scrutability Argument I fails: Fregean identity truths are not in general scrutable from objective truths. Rather, we often need indexical information to judge statements like *Hesperus = Phosphorus*.¹⁷ On this view, the *de se* is already deeply involved in typical Frege puzzle cases. Obviously, this does not support the claim that *de se* attitudes do not raise a theoretical challenge and that the *de se* puzzle can therefore be subsumed under Frege’s puzzle. If anything, it supports the converse claim that Frege’s puzzle can be subsumed under the *de se* puzzle. In §6.1, we will argue that this claim is false too. Frege’s puzzle and the *de se* puzzle are distinct and highlight different cognitive phenomena, which are, however, often tightly interwoven in our actual mental lives.

5 Purely Perspectival Differences

Our final objection has the form of a dilemma, involving cases of *purely perspectival differences* (ppd-cases). Such cases feature subjects who agree on what the world is like objectively, but differ in their perspectives on the world—they see things alike, but from different points of view.

Purely perspectival differences

Cases of purely perspectival differences are situations involving two or more subjects who agree in their objective beliefs, but differ in at least one *de se* belief.

Examples with a ppd-structure have played a role in discussions of the *de se*; Perry’s famous bear-attack case is perhaps the most prominent one.¹⁸ We will here focus on the cognitive side of *de se* attitudes, rather than on their connection with behavior, and consider a slight modification of Lewis’s (1979) two gods story.

The dilemma is this: Either ppd-cases count as *de se* puzzle cases or they do not. If they do, there are non-Fregean *de se* puzzle cases; i.e. the first premise of the Subsumption Argument fails. If they do not, they pose an independent challenge to the traditional theory; i.e. the fourth premise fails. Either way, the argument is unsound.

5.1 Non-Fregean De Se Puzzle Cases

On the first horn, ppd-cases count as *de se* puzzle cases. This is not implausible; for instance, Cappelen and Dever (2013, Ch. 4) introduce *de se* puzzle cases mostly by pointing to relevant examples from Perry (1979) and Lewis (1979).¹⁹ One might accordingly

¹⁷ This is indeed the position of Chalmers (2004, 2012).

¹⁸ Other ppd-cases can be found e.g. in (Perry, 2006), (Weber, 2015, 2016), and (Stalnaker, 2015).

¹⁹ In fact, Cappelen and Dever (2013, Ch. 4) characterise *de se* cases as essentially involving opacity phenomena concerning indexicals in attitudes ascriptions. We believe that the focus on attitude ascriptions is misguided, see §2.

give a liberal characterisation of “*de se* puzzle case”:

***De se* puzzle cases_{liberal}**

A *de se* puzzle case is a situation which involves one or more subjects with *de se* attitudes, provides a *prima facie* obstacle to the traditional theory of attitudes, and is sufficiently similar to the examples featured in (Perry, 1977, 1979) and (Lewis, 1979).

With this characterisation in hand, we can launch the following argument:

The ppd argument against Subsumption

1. Some ppd-cases are *de se* puzzle cases.
 2. Some such cases are not Frege puzzle cases.
- ∴ There are *de se* puzzle cases that are not Frege puzzle cases.

To see that the first premise holds, consider a slight modification of Lewis’ (1979) two gods story. Lewis describes the two gods as objectively omniscient, but subjectively ignorant—neither knows whether he’s the one on the highest or on the coldest mountain. Our variation assumes that the gods have resolved this ignorance and are now completely omniscient. As the gods know every objective truth (and do not believe any falsehood), they completely agree on what the world is like objectively. Still, they have different points of view: one thinks *I am the one on the highest mountain*; the other *I am the one on the coldest mountain*. Their situation is as a ppd-case: they agree in their objective beliefs, but differ in their *de se* beliefs.

Is it also a *de se* puzzle case? According to the above liberal definition: yes. It features subjects with *de se* attitudes, and is only a slight variation of one of Lewis’s central examples. It also presents an obstacle to the traditional theory of attitudes: the gods are identical in their relations to absolute contents; the traditional theory seems therefore unable to account for their perspectival differences, as it aims to explain all cognitive differences as differences in relations to absolute contents. The example therefore ticks all the boxes of the definition of “*de se* puzzle case”. Hence, some ppd-cases are *de se* puzzle cases.

It is equally clear that the scenario is not a Frege puzzle case. Frege puzzle cases involve individuals that assign incompatible properties to the same object and are ignorant of certain identity claims. In contrast, the two omniscient gods do not assign incompatible properties to anything, nor are they ignorant of anything. That means that there are non-Fregean *de se* puzzle cases and the first premise of the Subsumption Argument fails.

5.2 Special Challenge

On the second horn of the dilemma, we employ a stricter characterization of “*de se* puzzle case”, which excludes the scenario. Still, the example shows that the traditional

theory fails and thereby spells trouble for the Subsumption Argument. We just saw how the conflict arises:

The ppd argument against the traditional theory

1. The traditional theory of attitudes entails that there are no cognitive differences between subjects who are alike in all their relations to absolute contents.
 2. The two gods are alike in all their relations to absolute contents.
 3. There are cognitive differences between the two gods.
- ∴ The traditional theory of attitudes fails.

First, the traditional theory claims that a subject's cognitive state can comprehensively be described in terms of his/her relations to absolute contents. Hence, there shouldn't be any cognitive differences between individuals that are identical in this respect. Since the two gods know everything, and do not believe anything false, they stand in the same relation to absolute contents. Still, their doxastic states differ in that one thinks *I am the god on the highest mountain*, whereas the other thinks *I am the god on the coldest mountain*.²⁰ This perspectival contrast appears to be a cognitive one; it corresponds to differences in the gods' conceptions of how things stand, and it grounds differences in inferential and behavioural dispositions, e.g. one god is disposed to utter "I am on the coldest mountain" while the other one isn't. Consequently, the scenario shows that the traditional theory of attitudes fails.²¹

On the stricter way of classifying *de se* puzzle cases, it turns out that giving a Fregean explanation for all *de se* puzzle cases is insufficient to discharge the challenge of the *de se*. Cases of purely perspectival differences pose an independent challenge to the traditional theory, and thereby undermine the fourth premise of the Subsumption Argument. In conclusion, whether or not we count cases of purely perspectival differences as *de se* puzzle cases, they show that *Subsumption* fails.

²⁰ One might deny that there is a difference in the god's doxastic states. Where one god has a certain *de se* belief, e.g. *I am on the god on the coldest mountain*, the other has a corresponding *de te* belief: *you are the god on the coldest mountain*. We agree that one might type (indexical) beliefs such that both gods are counted as having the same beliefs. However, there is *also* a way of typing (indexical) beliefs such that there is a difference between the gods: one has a first-personal belief, the other has a second-personal belief. And it is this difference that grounds a perspectival difference between the two gods. Thanks to an anonymous referee for raising this point.

²¹ Stalnaker, an early *de se* skeptic, seems to now share this assessment. From his discussion of a ppd-case he concludes that "It's a mistake to conclude [...] that there is no special problem of self-locating attitudes." (Stalnaker, 2016, p. 122).

6 Distinctness

6.1 Converse Subsumption

The *de se* puzzle cannot simply be subsumed under Frege’s puzzle. Does that show that the two puzzles are distinct? Not on its own. *Distinctness* may still fail in case the converse subsumption claim is true:

Converse Subsumption

Frege’s puzzle can be subsumed under the *de se* puzzle.

A potential case for *Converse Subsumption* might mirror the initial Subsumption Argument, starting off from the idea that all Frege puzzle cases are instances of the *de se* puzzle. We have seen evidence for this: the plausibility of Indexical Fregeanism indicated that Frege puzzle cases typically involve egocentric senses.

However, *Converse Subsumption* fails as well, because there are pure Frege cases. The failure of both subsumption claims then demonstrates that the puzzles are indeed distinct. Even though the puzzles are distinct and directed at different aspects of mentality, we often find these aspects intimately intertwined in actual thinkers. The *de se* puzzle targets a conception of thought that adheres to both absolute and shareable contents (remember the proviso about *Binariness*); Frege’s puzzle targets a referential conception of thought and shows that reference is mediated by senses. Ordinary thinkers often exploit the special features of first-personal thought when referring to external objects via senses. This is how the two puzzles intersect. In spite of their intimate connection, it seems possible to isolate the underlying mental features and to find pure cases of each puzzle. In §5, we have encountered plausible candidates for pure *de se* cases: ppd-cases. We will now consider pure Frege puzzle cases. They show that *Converse Subsumption* also fails.

Real-life examples of pure Frege puzzle cases are somewhat hard to come by, as most of our thoughts about external objects seem to involve some indexical element or other (e.g. see (Putnam, 1975) on the hidden-indexical nature of natural kind concepts). However, we can artificially create a pure Frege puzzle case by introducing two descriptive names, DN1 and DN2, using purely qualitative descriptions. For instance, one may stipulate that “DN1” refers to *the rational being who proved the completeness of 1st order logic* and “DN2” to *the rational being who proved the incompleteness of elementary arithmetic*. Someone who does not know that both names pick out the same person, Kurt Gödel, may think that DN1 is a woman, and that DN2 is a man.

Further, the sparseness of pure Frege puzzle cases is to some extent due to contingent features of our world. Consider the following possible world: God creates exactly one instance of each of the five regular polyhedra, also known as “Platonic solids”. Further, each polyhedron has a different mass: 1 kg, 10 kg, 100 kg, etc. Lastly, each object moves

at a different speed. Gottlob, the only other inhabitant of this world knows as much. He introduces purely qualitative singular concepts for each object, either relying on its geometric or mass features, and thinks: *Cube moves at 30km/h* and *10-kg moves at 40km/h*. Unbeknownst to him, *Cube = 10-kg*. Gottlob ascribes incompatible properties to the same object, instantiating a pure Frege case.

While these cases are hypothetical, they do reveal something about our own actual mental lives by allowing us to disentangle what is at the core of the two puzzles: Frege’s puzzle suggests that thoughts are non-referential; the *de se* puzzle shows that thoughts are either i.) non-absolute or ii.) unshareable.²²

7 Shareable Relativism and Unshareable Absolutism

If, as we have argued, there is a distinct puzzle of the *de se*, the traditional theory of attitudes needs to be amended. In the remainder, we discuss the two ways of modifying it: abandoning *Absolutism* or abandoning *Shareability*.²³

7.1 Shareable Relativism

The first response to the *de se* puzzle rejects *Absolutism*: the contents of attitudes are not invariant in truth-value. We call this option ‘shareable relativism’. Rather than simply being true or false at worlds, contents are true or false at circumstances of evaluation within worlds such as individuals; individual, time pairs; or spacetime points. This solves the problem of shareability raised by *de se* puzzle cases by denying that sameness in contents determines sameness in truth-value. Perry’s fellow shopper can believe everything that Perry believes and thereby believe falsely that she herself is making a mess. It also responds to the problem of scrutability from objective information by straightforwardly denying that all information is objective information: a scrutability base of purely objective information fails to provide all the information there is. In addition to objective information, characterized by contents that are invariant in truth-value, there is also subjective information, characterized by contents that vary from individual, time or location.

A number of influential theories of content can be seen as adopting this option. The view that Lewis (1979) argues for is a type of shareable relativism. Contents, on Lewis’s account, are (Lewisian) properties which are evaluated at individuals rather than worlds.

²² Could one abandon *Shareability* already in response to Frege’s puzzle? We do not see how abandoning *Shareability* would solve Frege’s puzzle. The puzzle suggests that *a is F* and *b is F* are different thoughts. Claiming that instead there really is only a single unshareable thought seems like a non-starter. This indicates a further disanalogy between the two puzzles.

²³ It is of course in principle possible to abandon both *Absolutism* and *Shareability*. However, this seems unmotivated (at least as a reaction to the *de se* puzzle), since both of the above options already provide a viable response to the puzzle.

The content of Perry’s belief that he himself is making a mess is the property of making a mess which is true at all and only those individuals who are making a mess. Furthermore, contents are shareable in that it is possible for different subjects to be related to all the same content. As Lewis (1979) notes, on his conception of properties, the view is equivalent to a centered worlds account according to which the contents of attitudes are sets of centered worlds rather than sets of possible worlds.

Adopting the shareable relativism option is not without difficulties. First, an account of communication for relativistic contents is not simple and straightforward. When Perry communicates what he has learned when he realizes that he himself is making a mess, his fellow shopper does not come to believe the same relatively true content that Perry believes, but rather a different content, perhaps that the shopper she is currently acquainted with is making a mess.

There is a related problem for a relativistic account of belief retention and updating. Belief contents are no longer true once and for all. We have to update our beliefs not only in the face of new information (as classic conditionalization would have it), but also in light of our changing position in time. For instance, my belief that it is 12 o’clock now will cease to be true in 5 minutes; in order to retain it, I will have to adopt a new belief that represents the original belief from my future perspective; e.g. it was 12 o’clock 5 minutes ago.

However, these appear to be challenges, rather than insurmountable obstacles. And there are already promising proposals for how to meet them: for relativistic accounts of communication, see e.g. (Ninan, 2010; Torre, 2010 ; Weber, 2013.); for relativistic accounts of belief updating, see e.g. (Meachem, 2010; Schwarz, 2012). If successful, the rewards are significant, as shareable relativism preserves many of the benefits of the traditional theory. For example, it allows us to compare attitudes across subjects, to trace attitudes of individuals over time, to explain and rationalize behavior, and to account for the link between thought and speech content in communication.

7.2 Unshareable Absolutism

The second response to the *de se* puzzle rejects *Shareability*: some contents are not graspable by more than one subject. We call this option ‘unshareable absolutism’. Unshareable absolutism maintains that the contents of attitudes are invariant in truth-value. It responds to the shareability problem raised by *de se* puzzle cases by simply endorsing unshareable senses. In response to the Scrutability Argument, it contends that the information contained in a scrutability base of objective truths can only be partially grasped by different subjects. As different subjects have varying access to the information in the base, they may well reach different conclusions.

Several influential accounts of content adopt unshareable absolutism. It seems to be what Frege advocates when claiming that each of us is “presented to himself in a

particular and primitive way in which he is presented to no-one else.”²⁴ Senses associated with *de se* thoughts involve a mode of presentation only available to the subject of the thought. One can also interpret Perry’s (1979) account as a version of unshareable absolutism. If we understand Perry as upholding *Binaricity*, we can construe contents as ordered pairs of belief states (which we might classify using indexical sentences) and singular propositions. The content of Perry’s belief when he believes that he himself is making a mess is the ordered pair <“I am making a mess”, JP is making a mess>. Although others can be related to the singular proposition that JP is making a mess, and can also be in a belief state classified by the indexical sentence “I am making a mess”, only Perry can be related to the content <“I am making a mess”, JP is making a mess>.

Adopting the unshareable absolutism option has a distinct set of challenges. Again, one difficulty concerns communication. What Perry communicates when he claims “I am making a mess” cannot be identical to the content that he believes, since only he can believe that. It must be that some surrogate content is communicated. There are similar problems with belief updating and retention. Beliefs about a particular time are only accessible at that specific time. One cannot later access one’s past temporal beliefs, or literally retain them through time. Once more, special surrogate contents must step in to do the job. A promising proposal for how to meet these challenges is to mirror the relativistic responses (Weber, 2015).

There is an additional challenge that unshareable absolutism faces that the alternative option does not: the challenge of explaining why certain contents are unshareable. Unshareability of content is *prima facie* mysterious and calls out for explanation. What is it about thoughts about the self that makes them inaccessible to someone else? On Perry’s conception of content from above there may be a response to this worry. The first element of content (belief states) determines the second element (singular propositions). Only for the individual JP will the belief state “I’m making a mess” determine the singular proposition that JP is making a mess. That’s why only JP can be related to this content.

So, as in the case of shareable relativism, it seems that the problems faced by unshareable absolutism are challenges that can in principle be overcome.

8 Conclusion

We have argued that the *de se* puzzle is not simply a special instance of Frege’s puzzle; the puzzles raise distinct theoretical challenges, requiring separate responses. One way to see this is by focussing on the situations that exemplify the puzzles. Two features distinguish *de se* puzzle cases from Frege puzzle cases: they are unshareable and require

²⁴ See (Frege, 1918/1997); also (Chalmers, 2011).

indexical information for their resolution. Furthermore, there seem to be pure instances of each puzzle: pure *de se* puzzle cases that do not have a Fregean structure, and pure Frege puzzle cases that do not involve the *de se*.

The *de se* puzzle shows that a conception of the mind that views thoughts as absolute and shareable is untenable. We have to abandon the traditional theory, with its appealingly simple accounts of communication and belief updating, and embrace either shareable relativism or unshareable absolutism, together with their accompanying theories of communication and belief updating. While these theories are more complex and less intuitive than their traditional counterparts, both seem to be viable paths forward.²⁵

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