De Se Names
(penultimate draft)

Maite Ezcurdia[†]
Universidad Nacional Autónoma de México

Carla Merino-Rajme
University of North Carolina at Chapel Hill

Abstract

We argue that there are names with *de se* contents and that they are theoretically fruitful. *De se* names serve to challenge intuitive and otherwise plausible orthodoxies such as Stalnaker's view of communication and Bayesian views of belief update, consequences relevant even to those already sympathetic to the irreducibility of *de se* content.

Introduction

When Gottlob Frege and Bertrand Russell offered the meaning of a grammatical proper name in descriptive terms (the first by claiming its sense could be captured with a description and the second by claiming that the name abbreviated a description), they were attempting to do two things. First, they wanted to establish how a name obtained its referent. Second, they wanted to explain what made a name intelligible to speakers. After Saul Kripke's criticisms, it became clear that the way in which a name obtained its referent need not be through its semantic content, and that the semantic content of a proper name cannot always be captured in descriptive terms. However, the second task pursued by Frege and Russell still remains worthwhile, namely, to explain what makes a name intelligible to a subject. Many may claim that what makes a typical name intelligible will just be its referent whilst admitting that for certain kinds of names, like empty or descriptive ones, something else makes them intelligible.

We will call the content of a name that "makes it intelligible" for a speaker its *epistemic content*, which may be its referent or may be something else. Gareth Evans (1979) aimed at capturing this through what he called *content*, and reserved the notion of a *proposition* for the expression's modal contributions. Brian Loar (1988) makes a somewhat different proposal; and two-dimensionalists like David Chalmers (2002, 2006)

[†] This paper is dedicated to the memory of Maite Ezcurdia, beloved professor, friend, and teacher, who sadly passed away on 2018.

and Jackson (1998a, 1998b) make related proposals that also differ in some details.

If these and other proposals about (what we're calling) the epistemic content of an expression are understood as competing answers to a shared question, that's the question we mean to be expressing roughly as "what makes the expression intelligible for a speaker?" or "what guides the speaker's use of the expression?" For some theorists, this may be a question about what implicit metalinguistic beliefs control their speech behavior. Others may construe the kind of "guidance" at issue differently.[1] For our purposes, we can leave those disagreements for another day. In what follows, we will mainly be concerned with the epistemic content of a name and not with its semantic content, if these differ.

This paper has two parts. In the first part, we make the case for *de se* names. We follow Evans in arguing that certain names, such as 'Julius' and 'Vulcan', have descriptive epistemic contents. These names are known as *descriptive names*. We recapitulate some of the existing reasons for thinking that there is *de se* epistemic content that is irreducible. We then provide a novel defense of this latter claim from a recent, influential attack. With these ideas in place, we build a case—analogous to Evans' case of 'Julius'—to show that there can be names with *de se* epistemic content. We call them *de se names*.

But are *de se* names merely an oddity? In the second part of the paper we show that they are not, as they allow us to draw important consequences for current debates in epistemology and philosophy of language. In particular, we argue that *de se* names serve to challenge Stalnaker's view of communication and Bayesian theories of belief update. Our discussion shows that even those already sympathetic to the irreducibility of *de se* epistemic content can benefit from acknowledging the existence of *de se* names.

---

[1] For instance, one may think of the epistemic content of a name in terms of the contribution the name makes to the belief expressed by an utterance with that name, where such belief may be, as Stephen Schiffer puts it, "roughly, the thought the speaker has in mind in uttering the sentence, and which plays a certain crucial role in the etiology of his utterance" (Schiffer, 1981, 48).

Part 1.   The case for *de se* names

1.1   Descriptive names

Think of a descriptive name as, roughly, a name that has been introduced by a description and whose epistemic content is given by that description. Let's explore what this means.

Consider the following well-known case, introduced by Evans's (1979). Whilst ignoring who invented the zipper, Evans introduced the name 'Julius' to designate whomever was the inventor of the zipper. It then seems that if Evans, a competent English speaker, goes on to sincerely utter:

(1)   Julius was clever,

what he believes is the proposition expressed by:

(2)   The inventor of the zipper was clever.

Consider, however, a standard Kripkean modal argument against the claim that the semantic content of 'Julius' is given by a definite description.[2] Assuming 'Julius' has a referent, (3) and (4) have different modal profiles.[3]

(3)   Julius is not the inventor of the zipper.

(4)   Julius is not Julius.

Whilst there are situations in which Julius was not the inventor of the zipper—e.g., Julius died before inventing anything—there are no situations in which Julius is not self-identical. In other words, (3) is true in some possible worlds but (4) is false at every possible world. Importantly, the subject can discover this modal difference by reflection alone, which reveals that the description *the inventor of the zipper* is also not what makes the expression intelligible for the subject or what guides their use of 'Julius'. But then the epistemic content of 'Julius' is not given by this description.[4] The standard reply is to

---

[2] While Kripke's original worry concerned the semantic content of names, the argument and its reply can be extended to cover their epistemic content, as explained in the main text.

[3] Strictly speaking, for Evans 'Julius' refers to whomever invented the zipper *if anyone did*. For ease of exposition we leave the existential condition out.

[4] This can be put more explicitly in terms of Kripke's epistemic argument by noting that

    (*)   Julius could have failed to be the inventor of the zipper

and

    (**)   Julius could have failed to be Julius

have different truth values—(*) is true while (**) is false—and this is something that Evans can know *a priori*. For Evans can come to see by reflection alone that, *e.g.*, Julius could have died before inventing anything and, thus, that Julius could have not been the inventor of the zipper. Even in that case, however,

rigidify the relevant definite description.[5] Thus, although the modal profile of (3) differs from that of (4), it does not differ with respect to (5): (5) is necessarily false just as (4) is.

(5)   Julius is not the *actual* inventor of the zipper.

So, what Evans believes when he sincerely utters (1) is not the proposition expressed by (2) but rather that expressed by (6).

(6)   The *actual* inventor of the zipper was clever.

That *the actual inventor of the zipper* is, for Evans, the epistemic content of 'Julius' is further supported by the following considerations. First, Evans does not have any way of thinking of Julius other than as the actual inventor of the zipper. Second, upon reflection, Evans would sincerely assert that (6) expresses what he believes in believing (1).[6] Third, Evans would not be rational if he believed (1) but not (6). Fourth, if Evans believes (1), he would gain no new information by being told (6). Finally, any evidence that Evans could gather in favour of (1) would also be evidence for (6), and vice versa.[7]

Consider thus the following characterization of a descriptive name:

DESCRIPTIVE NAME   a name *n* is a *descriptive name* for a period of time *p* iff, at least for a subject *s*, during *p* the epistemic content of *n* is given by a description *d*, where *d* may be rigidified.[8]

DESCRIPTIVE NAME is a permissive characterization. By relativizing the notion to a period of time, it allows for descriptive names to evolve into ordinary proper names, names whose epistemic content ceases to be, for the relevant subject, a particular description. For example, had Evans met Julius, the description used to introduced 'Julius' would no longer be needed for Evans's *Julius*-thoughts to be contentful. For meeting Julius would provide Evans with many other ways of thinking of Julius independent from the

---

Julius would not fail to be Julius. But then, 'Julius' and 'the inventor of the zipper' do not have the same epistemic content. Thanks to an anonymous referee for prompting us to explain this.

[5] We use italics for emphasis and to indicate contents of beliefs, sentences, and/or utterances.

[6] As suggested by Kripke, it seems reasonable to take the sentences that a competent speaker would reflectively and sincerely assent to as expressing what she believes. See (Kripke 1979). For ease of exposition, we shall say that a subject believes (1), (2), …, etc., when what we mean is that she believes the content of utterances of (1), (2), …, etc.

[7] For different views about the semantic content of descriptive names, see Jeshion 2004 and Reimer 2004.

[8] One could also relativize DESCRIPTIVE NAME to subjects as follows:

DESCRIPTIVE NAME*   A name *n* is a *descriptive name* for a period of time *p and for a subject s* iff, for *s* and during *p* the epistemic content of *n* is a description *d*, where *d* may be rigidified.

The consequence would be that names would be descriptive for some but not all subjects. What we argue below is unaffected by this.

description he used to introduce the name—Evans can now point to Julius, identify him by his looks, refer to him as the person with whom he had such and such conversations, etc.—any of which would suffice for the name to be intelligible to Evans, allowing him to have contentful *Julius*-thoughts.[9] Furthermore, a descriptive name need not share 'Julius''s etiology—that is, it need not be introduced via the description that provides its epistemic content. There may be different ways for a description to come to be the epistemic content of a name.[10]

The above supports the idea that the content of Evans's thought that the actual inventor of the zipper was clever and the content of his thought that Julius was clever are one and the same. Corresponding claims can be offered for other descriptive names.[11] Still, the fact that Evans's *Julius*-thoughts are just thoughts about the actual inventor of the zipper does not entail that nothing has been added with the introduction of 'Julius'. An appeal to mental files is useful to illustrate this.[12] Upon introducing 'Julius', Evans's intention is to introduce a name, the effect of which is the creation of a mental file labelled 'Julius'. This file stores the information that up to that point Evans has gathered about its referent: in this case, the only information stored is that of being the actual inventor of the zipper. Nonetheless, the file remains poised to receive other information that need not be related to this description. For example, if Evans were to meet Julius (while knowing that he is Julius), the perceptual information that he would gather about Julius would be stored in his 'Julius' file. This would enable him to later doubt that Julius

---

[9] Note that DESCRIPTIVE NAME is non-committal about what happens when the introducer of a name forgets the crucial description. She may still have contentful thoughts with it by deference to her past uses when she knew its descriptive content, or it could be that her beliefs with the name become contentless because no such deference is possible. Moreover, DESCRIPTIVE NAME does not require that *all* subjects know the relevant description to use it intelligibly and have contentful thoughts with it. In this way, it allows for other competent users of 'Julius' to use this expression without knowing the description used to introduce it, for example, by deferring to others' uses of the name that are ultimately connected to the moment of the name's introduction.

[10] This allows for the possibility that an ordinary proper name evolves into a descriptive name.

[11] For example, 'Vulcan' is a name introduced by Le Verrier with the intention to refer to the actual unobserved planet causing certain disturbances in the orbit of Mercury. The content of Le Verrier's belief that Vulcan will be observed and the content of his belief that the actual planet causing such-and-such disturbances on Mercury will be observed are one and the same, despite the different expressions used to report it.

[12] Mental files are popular. Both Evans (1973, 1982) and Perry (1980, 2001a, 2001b and 2002) have used them in their accounts (*notions* and *buffers* for Perry) of reference and singular thought. More recently, Recanati (2013) has made a similar use of them. We don't necessarily endorse them, but use them to illustrate various points along the way.

is the actual inventor of the zipper while still having contentful *Julius*-thoughts—something that Evans could not do if he had rather introduced 'Julius' as a mere abbreviation of the description 'the actual inventor of the zipper'.[13]

This concludes our discussion of descriptive names. Henceforth, we will assume that there are descriptive names, i.e., names with descriptive epistemic contents.

1.2   *De se* **epistemic content**

De se epistemic contents involve self-locating elements that are crucial for action. Consider John Perry's (1979) famous example. While in the supermarket, Perry believes that the person pushing the cart with the torn bag of sugar should clean the mess left behind. It is not until Perry comes to believe that *he himself* is the one with a torn bag of sugar that he will fix his bag. Similarly, while looking at someone in the mirror, Ernest Mach (1886) might think *He is a shabby pedagogue*. Yet, he will not clean himself up unless he believes that *he himself* is the shabby pedagogue. The latter but not the former beliefs are known as *de se* beliefs.

Contents can also be "centered" in the way that *de se* beliefs are through their relations to times. Like first-person *de se* contents, these contents allow a subject to think about a time *t* by exploiting the fact that *t* is the subject's current temporal location. We will call these *temporal de se* contents.[14] These temporal *de se* contents are thought to be crucial for action, just like first-person *de se* contents are. Perry may know that his meeting is at noon while calmly awaiting in his office. It is not until he realizes that *now* is noon that he will leave his office to join the meeting.

Using Perry's (1977, 1979) insights, let us turn to argue that what characterizes *de se* beliefs is that they have *de se* contents.[15] Consider Perry's *de se* belief as he realizes that he himself is leaving the trail of sugar, which he reports by uttering:

---

[13] It is assumed here that merely having the file does not affect the epistemic content of the belief.

[14] Rather than categorizing them separately as, for example, *de nunc*.

[15] Strictly speaking, for Perry (1979) the indexicals used in reporting self-locating beliefs are essential because without them there is a loss in the explanatory force of the belief-reports. In and of itself, this doesn't show anything about content. For Perry, the difference between believing (7) and believing (8)-(10) below consists in a difference in belief states, not belief contents. Despite Perry's skepticism, as Evans (1981) and Lewis (1979) show, the difference can be captured as a difference at the level of content. Stalnaker (2008) defends a view along Perry's lines motivated greatly by his insistence on the impossibility of TWO GODS (see below), against which we argue in section 1.5. Thanks to an anonymous referee for prompting us to clarify this.

(7)   I am the one making the mess.

What he believes in believing (7) is not the same as what he believes in believing:

(8)   Perry is the one making the mess.

For while Perry believes (8), he has momentarily forgotten that he himself is Perry. But then, even if he wants the mess to be cleaned, believing (8) will not motivate him to clean it up. Believing (7), however, would suffice for this. Similarly, believing (9) is not enough to motivate Perry to clean the mess.

(9)   The person making the mess should fix it.

For even if he is the one making the mess, he does not believe this. But then, neither 'Perry' nor 'the person making the mess' capture what makes 'I' intelligible to Perry, what guides his use of this expression in (7). But then neither (8) nor (9) capture the epistemic content of (7). Futhermore, while pointing to an image in a mirror Perry may believe (10).

(10)   That man should clean the mess.

Still, failing to realize that the person he is pointing to is himself, he may continue walking without cleaning his mess. But then, again, (10) and (7) do not have the same content.

More generally, for any proper name *n*, any definite description *the F*, any demonstrative *Dem* that does not already have a *de se* content, and any predicate *G*, a thought of the form ***n is G***, ***The F is G,*** or ***Dem is G*** need not capture the content of ***I am G***.[16] For there are possible situations in which the subject can rationally have a belief with the content of ***I am G*** but fail to believe that she is the referent of the name *n*, the object satisfying the description ***the F***, or the object being referred to by the demonstrative ***Dem***.[17] The same goes for temporal *de se* contents such as ***Now is G***. These reasons support the claim that there are genuinely *de se* contents.

___

[16] We use bold italics instead of corner quotes.

[17] There are demonstrative beliefs to which this might not apply but which do not serve to challenge the existence of *de se* contents. These would be demonstrative contents that essentially involve *de se* ways of thinking. Perry cannot rationally fail to believe (7) whilst believing *This man should clean the mess* if what determines the object of his demonstrative concept is his first-person *de se* way of thinking. In the case of (10), Perry relied on perception to determine the referent of the demonstrative, but in this case he is relying on his first-person *de se* way.

From now on, we follow David Lewis's (1979) way of formalizing the distinction between *de se* and non-*de se* epistemic contents.[18] Think of non-*de se* epistemic contents as merely reflecting what the subject believes the world to be like, while *de se* epistemic contents are also about who the subject believes they are and when they believe they are in the world. To capture this distinction, Lewis models epistemic contents not through the coarse-grain notion of a proposition or a set of worlds, but through the finer-grain notion of a *centered* proposition or a set of *centered* worlds. A *centered world* is a triple consisting of a world, a subject, and a time where the subject and the time are known as *the center*. Centered propositions can be divided into two mutually exclusive kinds: *de dicto* and *de se*.[19] A *de dicto* proposition is a set of centered worlds such that, if the set includes a centered world that contains w then it contains every other centered world that also contains w. To illustrate, suppose that the only worlds are w_1 and w_2, the only times are t_1 and t_2, and the only subjects are s_1, s_2, and s_3. A *de dicto* proposition that includes the centered world $<w_1, t_1, s_1>$, also includes $<w_1, t_1, s_2>$, $<w_1, t_1, s_3>$, $<w_1, t_2, s_1>$, $<w_1, t_2, s_2>$, and $<w_1, t_2, s_3>$. In this way, in a *de dicto* proposition all the work of ruling out possibilities is done by the world coordinate, making the center irrelevant. To capture a subject's *de dicto* belief the subject and time coordinates do not matter. In contrast, a *de se* proposition is a set of centered worlds that is not *de dicto*: here, the center contributes towards capturing the content of the subject's epistemic state by ruling out some possibilities. Under the previous scenario, a *de se* proposition might have as its only member $<w_1, t_2, s_1>$, which signifies that the subject takes w_1 to be her world, t_2 to be her current time, and s_1 to be the subject she is. For another example, the *de se* proposition consisting of $<w_1, t_2, s_1>$ and $<w_1, t_2, s_2>$ would serve to capture her epistemic state if she instead believed that she is not s_3 but were uncertain as to whether she is s_1 or s_2 (while believing that the world is w_1 and the time is t_2). In this way, the model aims to capture the idea that a *de dicto* proposition is only about what a subject takes the world to be like

---

[18] It should be noted that, while influential and widely discussed, Lewis's formalization has some substantive commitments that not everyone can accept—for one, it assumes that there are no genuinely *de re* epistemic contents; for another, it assumes that all beliefs are ultimately self-ascriptions (and in this sense—different from the one discussed in the text—it assumes that all beliefs are *de se*). Perhaps other views can be translated into Lewis's framework, perhaps not. We leave this debate aside. We further note, however, that the features of Lewis's framework is commonground amogst the positions here discussed.
[19] See also Moss (2012) for this way of characterizing Lewis's view. Presenting Lewis in this way facilitates our discussion of Moss's view below.

while a *de se* proposition is also about who and/or when they take themselves to be in the world.

Appealing to this way of distinguishing *de se* from *de dicto* propositions, we now turn to argue that:

DE SE IRREDUCIBILITY   *De se* content is irreducible to *de dicto* content.[20]

DE SE IRREDUCIBILITY is relevant for our purposes because if *de se* content were reducible to *de dicto* content then the claim that the content of a name is *de se* would ultimately amount to the claim that its content is *de dicto.* But we already knew that there are names with *de dicto* contents, namely, descriptive names. Moreover, DE SE IRREDUCIBILITY will allow us to argue in the last section that *de se* names are theoretically fruitful.

1.3   Lewis's argument for DE SE IRREDUCIBILITY

Lewis supports DE SE IRREDUCIBILITY by noting that it is possible to have a subject who knows all *de dicto* truths but still lacks some *de se* knowledge. But if *de se* content were reducible to *de dicto* content there could be no such subject. Here is his famous case (for simplicity, times are ignored):

TWO GODS   Take a world with two gods, both omniscient of every *de dicto* proposition true at their world. One of them throws down manna from the top of the tallest mountain while the other throws down thunderbolts from the top of the coldest mountain. In every other respect, the gods are indistinguishable. Despite knowing all truths about their world, each of them is ignorant of which of the two gods he is.

Consider one of the gods. Since he knows all *de dicto* propositions true in his world, he knows which world he inhabits—say it is w_1. Still, the god is ignorant of which of the two gods he is. Since no other worlds are compatible with what he knows, the god's ignorance cannot be captured through the world coordinate of a centered proposition. Still, it can be captured through its subject coordinate. For example, if Castor is the god in the tallest mountain—represented by s_c—and Pollux is the god in the coldest mountain—represented by s_p—the *de se* proposition $\{<w_1, s_c>, <w_1, s_p>\}$ represents the

---

[20] See also Egan (2007).

god's total epistemic state. That both centered worlds have w_1 as their world coordinate represents that the god knows he is in w_1; that the subject coordinates are s_c and s_p represents that while the god has ruled out being any of the other subjects, he is still ignorant of whether he is Pollux or Castor. Since the god's epistemic state can be captured through a *de se* proposition but not through a *de dicto* one, Lewis concludes that *de se* content is irreducible to *de dicto* content, that is, that DE SE IRREDUCIBILITY is true.

Lewis (1979, 141) further argued that appealing to haecceitism, the view that there can be non-qualitative facts that distinguish qualitatively indistinguishable worlds, would not serve to capture the god's total epistemic state in a *de dicto* proposition. For suppose w_1 and w_2 are qualitatively identical worlds but such that Castor and Pollux have switched roles. What distinguishes them are the non-qualitative difference between these individuals. Still, the gods can know which world they inhabit while remaining ignorant of who they are. For let Castor know all *de dicto* truths, qualitative *and* non-qualitative, about his world w_1, including that in w_1 Castor lives in the tallest mountain and Pollux lives in the coldest mountain. Still, this does not suffice to resolve Castor's *de se* ignorance, for he can still ignore whether he himself is Castor or Pollux.

1.4   Stalnaker's challenge to Lewis

Robert Stalnaker (2008) has objected that TWO GODS is impossible; in particular, that the gods cannot know all the truths about their world whilst remaining ignorant of who each of them is. His challenge purports to show that there is no way for Castor to learn all the relevant haecceitistic facts that would allow him to know that he lives in w_1 but remain ignorant that he himself is Castor—that is, there is no way for Castor to come to be in an epistemic state with content $\{<w_1, s_c>, <w_1, s_p>\}$. Consider this haecceitistic fact about w_1: Castor, that very individual, lives in the tallest mountain. This fact involves predicating of Castor himself, and not of whomever satisfies a certain descriptive condition (such as being the god who lives in the tallest mountain, who throws down manna, or who is named 'Castor'), that he lives in the tallest mountain. Knowledge of this non-qualitative fact requires knowledge *of* Castor himself and not only knowledge *that* things are this or that way. Thus, if Castor knows every *de dicto* proposition true in

his world, he must know this haecceitistic fact. But, how can he learn it? Stalnaker (2008, 58) considers two ways:

WAY ONE   Someone tells the god that 'Castor' will now name him and then informs him that Castor lives in the tallest mountain.[21] (Alternatively, Castor thinks to himself *Let 'Castor' be my name*.)

WAY TWO   Someone says to Castor "Let 'Castor' be the name of the god living in the tallest mountain". (Alternaltively, Castor himself introduces 'Castor' as the name of the god in the tallest mountain).

WAY ONE allows Castor to know *of* Castor that he lives in the tallest mountain. In this way, Castor learns the non-qualitative fact needed to know that he inhabits w_1. But crucially, WAY ONE also resolves Castor's self-locating ignorance. For telling him that 'Castor' is his own name (or letting him introduce 'Castor' to name himself) and then telling him that Castor lives in the tallest mountain is enough for the god to learn who he is. After learning who 'Castor' refers to in this way, the content of his epistemic state is captured by the set of centered worlds $\{<w_1,\ s_c>\}$.

Consider WAY TWO. Informing Castor that the god in the tallest mountain has been dubbed 'Castor' (or letting him dub the god in the tallest mountain 'Castor') doesn't resolve his self-locating ignorance, for it tells him nothing about who he is. But, crucially, WAY TWO also does not resolve the god's *de dicto* ignorance. For WAY TWO does not allow him to know *of* Castor that he lives in the tallest mountain, but only *that* the god in the tallest mountain, whoever he happens to be, has been named 'Castor'. In this case— as Stalnaker rightly points out—'Castor' functions as a descriptive name. But then WAY TWO is not a way for the god to learn the non-qualitative facts needed to know that he inhabits w_1 and not w_2. Thus, WAY TWO leaves the god being ignorant of both which of the two worlds he inhabits and which of the two gods he is. The content of his epistemic state is now captured by the set of centered worlds $\{<w_1, s_c>, <w_1, s_p>, <w_2, s_c>, <w_2, s_p>\}$.[22]

---

[21] We have been using single quotes to mention expressions and sentences; we use double quotes to indicate utterances.

[22] Against this, one could argue that WAY TWO, after all, involves knowledge *of* Castor himself, since this knowledge is easy to come by—it does not, for instance, require acquaintance with Castor himself. (See, for instance, Hawthorne and Manley (2012)). But then WAY TWO would allow the god to know all *de dicto* truths, qualitative *and* non-qualitative, about his world w_1, including that in w_1 Castor lives in the tallest

In none of these ways has the god learned something that puts him in an epistemic state with content $\{<w_1, s_c>, <w_1, s_p>\}$. Assuming that there are no other ways for the god to learn that he lives in w_1, Stalnaker concludes that a situation where the god has all *de dicto* knowledge while still having *de se* ignorance is impossible.

1.5   Our reply to Stalnaker

Against Stalnaker, we argue that there is a further way for the god to learn *of* Castor that he lives in the tallest mountain; a way that, crucially, allows the god to know that he lives in w_1 but not who he is.

WAY THREE   While pointing to the god's reflection in a mirror, you tell the god "Let 'Castor' be his name" (alternatively, you let the god say this). You then tell him that Castor lives in the tallest mountain. All along, the god fails to realize that he himself is the god reflected in the mirror.

Unlike WAY TWO, WAY THREE allows the god to recognize the referent of 'Castor' independently from any description such as 'the person living in the tallest mountain': he can see Castor, point to him, remember him, and so on. Stalnaker should then agree that the god can thus come to know *of* Castor, that very individual, that he lives in the tallest mountain and not just *that* Castor lives in the tallest mountain. But then the god can learn the non-qualitative facts needed to know that he is in w_1. The god is thus *de dicto* omniscience. Moreover, unlike WAY ONE, through WAY THREE the god does not also learn that he himself is in the tallest mountain, for he doesn't learn that he himself is Castor. Thus, WAY THREE leaves the god ignorant of who he is. So, after learning who 'Castor' refers to in this way, the content of the god's epistemic state is captured by $\{<w_1, s_c>, <w_1, s_p>\}$.[23]

---

mountain and Pollux lives in the coldest mountain. But while learning who 'Castor' refers to in this way may allow the god to know that he lives in w_1, it would not suffice to resolve his *de se* ignorance, for he can still ignore whether he himself is Castor or Pollux. But then Stalnaker is mistaken: the content of the god's epistemic state could be captured by $\{<w_1, s_c>, <w_1, s_p>\}$ and Lewis's TWO GODS is indeed possible. The argument against Stalnaker that we present below, however, does not rest on the assumption that knowledge *of* Castor (*de re* knowledge) is easy to come by.

[23] Note further that even if Stalnaker were correct that, in learning which world he inhabits, the god resolves his *de se* ignorance, this would still not prove Lewis wrong. For the god could still forget some of his *de se* knowledge while maintaining all of his *de dicto* knowledge. For instance, Castor may know of Castor that he conquered the tallest mountain, but forget that he himself did it.

To sum up, Lewis argued that TWO GODS is possible, defending thus the idea that a subject can know all *de dicto* truths but lack some *de se* knowledge. Stalnaker challenged this by arguing that any way of learning the haecceistic fact that Castor lives in the tallest mountain also resolves Castor's *de se* ignorance. We have shown that this is not so. Through WAY THREE, Castor can learn of Castor, that very individual, that he lives in the tallest mountain while remaining ignorant that he himself is Castor. But then, contrary to what Stalnaker claims, Lewis's TWO GODS is indeed possible: there is a way for the god to be *de dicto* omniscient while having *de se* ignorance, which would be impossible if *de se* content were reducible to *de dicto* content (for having *de se* ignorance would amount to having *de dicto* ignorance which would be incompatible with being *de dicto* omniscient). Thus, DE SE IRREDUCIBILITY has been vindicated.

1.6 *De se* names

Consider the following case.

'JULIA' Jane had a terrible accident. She is amnesiac, not knowing her name or any other information about herself. Her limbs are set in casts and she can't move or feel her body. Due to a temporary damage to her eyes and ears, she cannot see or hear. Also, a tracheotomy prevents her from using her voice. Upon awakening, Jane is able to think about herself. Realizing that she doesn't know her own name, she introduces a name for herself. She thinks: *I shall call myself 'Julia'*.[24]

Jane's situation right before introducing 'Julia' is an extreme version of Perry's in the supermarket. Due to her extreme amnesia, Jane has no *de dicto* ways of thinking of herself. She doesn't remember her own name so there is no proper name *n* such that she can think of herself with a thought of the form ***n is G***. She also lacks a purely descriptive way of thinking of herself. For let us further stipulate that even if she believes that she is an amnesiac who cannot move or feel her limbs, who can't see, etc., she believes truly that others are as injured as she is. More generally, for any *purely* descriptive content of the form ***the F***, Jane cannot think of herself by having a thought with the form ***the F is G,***

---

[24] As we saw earlier, Stalnaker (2008) discusses the case of introducing a name for oneself, though he puts it to a different use and reaches conclusions different from ours. Millikan (1990) had also considered the mental vehicles of first-person *de se* thoughts to be what she calls *active self-names*.

for she believes that others are *F*, too. Also, Jane cannot think of herself in a *de dicto* way through a demonstrative thought for she cannot demonstrate objects and, even if she could, she can rationally doubt that the object she has demonstrated is herself. One might be tempted by the thought that, even if Jane cannot demonstrate external objects, she can demonstrate her own thoughts and that this allows her to think of herself as the thinker of those thoughts. In the next section, we consider and reject this and other attempts at claiming that Jane can use a demonstrative thought to think of herself in a *de dicto* way. But then Jane has no purely *de dicto* demonstrative thought of the form **Dem is G** about herself. Since there are no other ways for Jane to think of herself, she can only think of herself through thoughts with first-person *de se* contents.

In light of this, Jane's situation just before introducing 'Julia' is also analogous to Evans's situation just before introducing 'Julius': both have only one way of thinking of the referent of the name they are about to introduce. So, as Evans with (1) and (2), if Jane sincerely believes (11), what she believes is (12).

(11)   Julia is clever.

(12)   I am clever.

This is further supported by considerations analogous to those offered in the case of 'Julius'. First, Jane does not have any way of thinking of Julia other than through a first-person *de se* content. Second, upon reflection, Jane would sincerely take (12) to express what she believes in believing (11). Third, Jane would not be rational if she believed (11) but not (12). Fourth, if Jane believes (11), she would gain no new information with (12). Finally, any evidence that she could gather in favour of (11) would also be evidence for (12), and vice versa.[25]

Nonetheless, there is a disanalogy between descriptive names and *de se* names. Suppose that Jane regains her ability to speak but cannot yet use her other senses (and, hence, is unsure as to whether she is in fact speaking). Suppose further that Eva passes by and hears Jane dub herself 'Julia' and express one of her *Julia*-thoughts outloud. The beliefs about Jane that Eva comes to have upon hearing Jane's 'Julia'-utterances do not

---

[25] 'Jane'—as 'Julius' and any other proper name—is a rigid designator. As in the case of descriptive names, one way of capturing this feature is by thinking of the content of a *de se* name as a *rigid de se* way of thinking of herself. If you think *de se* ways are not *per se* rigid as we do, take them to be rigidified as in the case of the definite descriptions that provide the content to descriptive names. To simplify the discussion, and since not much hangs on this, we ignore this complication in the main text.

have *de se* contents, since she cannot think of Jane using a first-person *de se* content. Rather, because she is able to perceive Jane, Eva may acquire many other ways of thinking of her: she can see, hear, smell, and point at her. But then, for Eva, 'Julia' does not work as a *de se* name but rather as an ordinary proper name. The same goes for any other subject that is not Jane. So, while 'Julius' can be a descriptive name for different subjects, 'Julia' can only be a *de se* name for Jane. We thus need to constrain the notion of a first-person or personal *de se* name a bit further, so that the name has a *de se* content only for its introducer.[26] We thus say that

PERSONAL *DE SE* NAME   a name *n* is a *personal de se name* for a subjet *s* and for period of time *p* iff for *s* and during *p* the epistemic content of *n* is a first-person *de se* content.

PERSONAL *DE SE* NAME is a permissive characterization. By relativizing the notion to a period of time, it allows for the possibility that a personal *de se* name may evolve into an ordinary proper name, a name whose epistemic content ceases to be, for the relevant subject, a *de se* content. For example, if Jane recovers the use of her senses—and continues to call herself 'Julia'—the *de se* content used to introduce this name will no longer be needed to capture the content of her *Julia*-thoughts. For by perceiving herself, Jane would acquire many new ways of thinking of herself independent from her first-person *de se* way of thinking of herself—she would now be able to sense the position of her limbs, point to herself, see her looks, think of herself as the person with such and such features, etc.—any of which would suffice for her *Julia*-thoughts to be contentful.[27] Furthermore, PERSONAL *DE SE* NAME does not require *de se* names to share 'Julia''s etiology—that is, they need not be introduced via the first personal way of thinking of

---

[26] As with descriptive names, it may be that ordinary names evolve into *de se* names. For our purposes, however, it suffices to focus the discussion on the more restricted case where a name starts off by being a *de se* name for its introducer.

[27] Moreover, as with DESCRIPTIVE NAME, PERSONAL *DE SE* NAME is non-committal about what happens when the introducer of a name forgets its *de se* content. She could still have contentful thoughts with it by deference to her past uses when she knew its *de se* content. This is compatible with 'Julia' being a *de se* name since we do not claim that a *de se* name is *synonymous* with the *de se* content used to introduce it, but only that, for at least some time, the introducer's thoughts with that name have a *de se* content. Alternatively, as with descriptive names, it could be that the subject's beliefs with the name become contentless because no such deference is possible.

oneself that provides their epistemic content. There may be different ways in which a *de se* content comes to be the epistemic content of a *de se* name.[28]

One may wonder: if Jane's *Julia*-thoughts have first personal *de se* contents, has nothing been added with the introduction of 'Julia'?[29] There has. We can illustrate this once more by appealing to mental files. As with descriptive names, Jane's intention is to introduce a name, the effect of which is the creation of a mental file labelled 'Julia' that, so far, only stores first-person *de se* contents. Despite having no other information, the file remains poised to receive information that need not be related to this first-person *de se* content. For example, if Jane were to regain the use of her senses (while knowing that she is Julia), the perceptual information that she would gather about herself would go in to her 'Julia' file. This allows for the possibility that, later on, she doubts whether she herself is Julia—something that she could not do if she had introduced 'Julia' simply as interchangeable with her use of 'I'.

Analogous considerations apply to temporal *de se* names, names whose contents are, at least for their introducers and for a short period of time, temporally *de se*. These allow their introducers to think of their current time as their current time. For example, while ignoring when she is, Jane might introduce 'T_1' as a name for her current time. In this case, T_1 would work as a temporal *de se* name.[30]

---

[28] As with descriptive names, this allows for the possibility that an ordinary proper names evolves into a *de se* name.

[29] Similarly, one may wonder whether 'Julia' is not merely another symbol for the first personal pronoun. The analogous worry would be that 'Julius' is merely an abbreviation for 'the actual inventor of the zipper'. Note, however, that in both cases, the subject's intention is to introduce a name and not another symbol for, correspondingly, the first personal pronoun or the description 'the actual inventor of the zipper'. Upon waking up, Jane might introduce herself as 'Julia' (and would not be tempted to tell anyone that she has secretly invented a new sign for the first person pronoun). The considerations offered in the text appealing to mental files serve to further support the idea that in both cases, 'Julius' and 'Julia' are names. Thanks to an anonymous referee for prompting us to discuss this.

[30] There may even be ordinary cases of *de se* names. Consider the following. Suppose Emery utters the following at the dinner table, while talking to her cousin, Anna.

      (i)   Mama baked this cake for me.

Unlike the case of Jane, Emery has different ways of thinking of her mom: she knows her looks, how she sounds, what her name is, *etc.*—this is partly what makes this case be more ordinary than that of 'Julia'. Still, there are reasons for thinking that here, too, the epistemic content of 'Mama' is *de se;* in particular, that it is the *de se* content *my mom*.

First, as Jane with (11) and (12), it seems plausible to think that when Emery sincerely believes (i), what she believes is (ii).

      (ii)   My mom baked this cake for me.

After all, upon reflection, Emery would sincerely take (ii) to express what she believes in believing (i); she would not be rational if she believed (i) but not (ii); if she believes (i), she would gain no new information

Let us turn to consider three objections to our argument for the existence of *de se* names.

1.7   Three objections

The demonstrative objection

One may object that while it is true that Jane cannot point to external objects, she can demonstrate her own thoughts and use them to single her out in a third personal way. Consider the linguistic meaning of 'I'. Very plausibly, it consists of the descriptive condition of being the speaker in a given context. Because Jane cannot speak, this cannot be the way in which she thinks of herself when having *Julia*-thoughts. But she is the thinker of her thoughts. So perhaps she can think of herself in a *de dicto* way by thinking of herself as the thinker of her thoughts. For instance, Jane can think of herself through demonstrative thoughts such as those reported by (13).[31]

(13)   The thinker of this token thought is tired.

---

with (ii); and any evidence that she could gather in favour of (i) would also be evidence for (ii), and vice versa.

Moreover, if Anna wants to report what Emery said, the following utterance would be infelicitous.
(iii)   Emery said that Mama baked this cake for her.
But (iii) would be felicitous if 'Mama' were an ordinary proper name. Note further that 'Mama' is indeed a name and not an abbreviation of the expression 'my mom'. For suppose that Anna disagrees with Emery, believing instead the thought expressed by
(iv)   My mom baked this cake for Emery.
Saying (v) below to Emery would be an infelicitous way of expressing this disagreement (assuming that Emery does not also, by sheer coincidence, use 'Mama' as a name for her own mom).
(v)   No, Emery, Mama baked this cake for you.
Yet, that Emery uses 'Mama' as a *de se* name with the epistemic content *my mom* would serve to explain all these. For given that Emery believes that her mom baked the cake, it would make sense for her to use 'Mama' to express her belief, as in (i). Also, precisely because Anna does not think of Emery's mom as her own mom it would be infelicitous for her to report what Emery said by uttering (iii). Now, it is true that in a situation where Anna is Emery's sister rather than her cousin, her utterance of (iii) may be felicitous, but this would only support the claim that there can also be plural *de se* names, names with *de nos* content such as *our mom*. Finally, that 'Mama' is a *de se* name would also serve to explain that, if Anna believes that her own mom baked the cake for Emery (as in (iv)), it would be infelicitous for her to express this belief by uttering (v). For 'Mama' is not, in this case, a (*de se*) name for Anna's mom's. Similarly, if God had full access to Emery's mind, God would not use 'Mama' to report what Emery believes when she believes (i). (Similarly, if God has full access to Jane's mind in the previous case, God would not use 'Julia' to report Jane's feelings when she's feeling sad). If this is right, then it looks like the expression 'Mama' works as a name and that what makes this expression intelligible, at least for Emery during some time, and what guides her use of this name is the *de se* content *my mom*. While this all requires further development, it at least offers *prima facie* reasons for thinking that 'Mama' may be an ordinary case of a *de se* name.

[31] Clearly, thinking of herself as *a* thinker will not serve to single Jane out as the referent of 'Julia', nor will thinking of herself as *the* thinker since she may believe (truly) that she is not the only thinker.

The objection fails. For suppose Jane believes that whenever she entertains a thought, God entertains that very same token thought, too.[32] Then, Jane *can* coherently think *I am not the (unique) thinker of this token thought* and doubt that the object of *the thinker of this token thought* is herself, for there is not one thinker of her token thoughts—there are at least two! But then (13) does not capture the content of her thoughts when she thinks that she herself is tired or that Julia is tired.[33] Thus, *the thinker of this token thought* does not provide Jane with a *de dicto* way of thinking of herself.[34] Analogous arguments can be offered against the suggestions that Jane can think of herself in a *de dicto* way as the mental "utterer" of 'I' or as the producer or the receiver[35] of this mental token.[36]

---

[32] Jane is not merely imagining that God is thinking the same *type* of thought she is thinking—this would not be sufficient to resist the objection. For while God and Jane may be thinking the same type of thought, each of them might be having different token thoughts of that type that could serve to differentiate them. Rather, what Jane is imagining is that she and God share the very same *token* thought. For example, she might be thinking that minds are mere bundles of token thoughts and that God's mind and hers overlap by both having that very same token thought as component. Spinoza and Descartes might have had a version of this view in mind. But while a view according to which God can think the very token thoughts each of us thinks might be false or even necessarily false, Descartes, Spinoza, or anyone else for that matter, may coherently hold it while properly entertaining, communicating, and updating their *de se* beliefs. But then a thought like (13) is not what makes their *de se* thoughts contentful. Thanks to a referee for prompting us to clarify that, in replying to this objection, we had *token* thoughts in mind.

[33] Moreover, supposing further that her musings are true, then *the thinker of this token thought* does not even pick her, or anyone else, out. Alternatively, one could stipulate that Jane, knowing nothing about her past, starts wondering whether she is one of two conjoined twins who share parts of their brains. She then reasons as follows: *If I were such a twin and, by pure luck, this very token thought were nothing but the stimulation of a shared part of our brains, then I would not be the thinker of this token thought. For there would be no one single thinker of this token thought.* But then again, in this scenario Jane *can* coherently think *I am not the (unique) thinker of this token thought*, and doubt that the object of *the (unique) thinker of this token thought* is herself.

[34] The same problem arises with:

      (i)   This thinker is tired.

For if *this thinker* offers Jane a *de dicto* way of thinking of herself, it must not rely on her *de se* way of thinking to pick her out. But the only other plausible way that Jane could appeal to *this thinker* to pick her out is through the particular thoughts she is having, as previously discussed.

[35] One might think that an appeal to a token-reflexive thought may serve to resist our objection. Michele Palmira (2020), for instance, has recently defended a refinement of the idea that what constitutes a first person thought is *the thinker of this (introspectively demonstrated) token-reflexive thought*. Palmira is concerned with defending this view from cases of thought insertion. Following John Campbell (1999, 2002) distinction between *the thinker qua author of this (introspectively demonstrated) token thought* from *the thinker qua recipient of this (introspectively demonstrated) token thought,* Palmira argues that while one can coherently doubt that one is the author-thinker of this (introspectively demonstrated) token-reflexive thought—and that this is what accounts for cases of thought insertion—one cannot coherently doubt that one is the recipient-thinker of this (introspectively demonstrated) token-reflexive thought. For even a subject who thinks that a thought has been inserted in their mind—because they believe that they are not the author of that thought—still entertains, or is the recipient, of the thought. Thus, even in cases of thought insertion, Palmira concludes, one can think of oneself as the recipient-thinker of this (introspectively demonstrated) token-reflexive thought.

Acquaintance

Earlier we noted that if Evans meets Julius, thereby knowingly becoming acquainted with him, the contentfulness of his *Julius*-thoughts no longer depends on the description he used to introduce this name. Rather, 'Julius' starts working as an ordinary proper name, whose content does not depend on the way in which it was introduced. But an analogous claim is not true of *de se* names. Upon introducing a *de se* name the subject is knowingly acquainted with the name's referent either through a first-person or a temporal *de se* way of thinking. So, the objector argues that, by parity of reasoning, the contentfulness of a *de se* name does not depend on the *de se* way of thinking of the

Even granting both, Palmira's account of how a thought gets to be token-reflexive (*via* introspective awareness of its phenomenality) and the distinction between thinkers *qua* authors and *qua* recipients, the resulting view is subject to the objection raised in the main text. For, *contra* Palmira, Jane (or anyone, for that manner) may coherently doubt that she is *the* recipient-thinker of this (introspectively demonstrated) token-reflexive thought because she thinks that God is also recipient-thinking that very same (introspectively demonstrated) token-reflexive thought. Alternatively, one may appeal to the conjoined twin scenario discussed earlier, where Jane thinks that, because she is one of two conjoined twins who shares parts of their brains, both are recipient-thinkers of the same introspectively demonstrated token-reflexive thought. Note that both cases are compatible with thinking that the thought is not theirs, in the sense that it was generated or authored by someone else, so that Jane and God (or Jane's conjoined twin) are merely recipient-thinking the thought (and thus the case is compatible with accepting Palmira's account of thought insertion). But then, an appeal to the token-reflexivity of a thought (*via* introspection), even when restricted to recipient-thinking, is not enough to show that one cannot coherently doubt that one is *the* thinker (or even *the* recipient-thinker) of this (introspectively demonstrated) token-reflexive thought. Put differently, even if the token-reflexive thought can refer to itself (*via* introspective awareness of its phenomenality) nothing in this view shows that a subject cannot coherently believe that that very thought is recipient-thought by two distinct subjects. Thus, what constitutes a first person thought cannot be *the thinker of this (introspectively demonstrated) token-reflexive thought*.

What would be needed to resist our objection is not only an appeal to a token-reflexive account of thoughts (and to Campbell's distinction between author-thinking and recipient-thinking) but also, and crucially, an argument that establishes that such thoughts are, as an anonymous referee helpfully put it, "constitutively individuated by their subjects, so that it is impossible for different subjects to share the same thought token." But this claim is contentious and, as our discussion of Palmira's view illustrates, not easily established even by those who endorse—as we do—the existence of token-reflexive thoughts. Thanks to an anonymous referee for prompting us to discuss this.

[36] Someone might object that, by introducing 'Julia', Jane has acquired a new *de dicto* metalinguistic way of thinking of herself, namely, as the bearer of the name 'Julia'. Thus —the objector argues—Jane's belief that Julia is tired amounts to her belief (i).

    (i)   *The bearer of 'Julia' is tired*.

The argument given in the main text against the idea that *purely* descriptive ways of thinking capture the content of 'Julia' applies here. For Jane may believe that there are others who have also been named 'Julia', so she will not think of herself as *the* bearer of the name 'Julia'. Thus, her *de se* belief that Julia is tired will not have the same content as the *de dicto* proposition (i).

The objector may insist that there is another metalinguistic way of thinking of herself acquired by Jane upon introducing 'Julia' that is not subject to this reply, namely:

    (ii)   *The bearer of the name 'Julia' as introduced by me is tired*.

But this metalinguistic way of thinking is not a *de dicto* way of thinking of herself. For *the bearer of the name 'Julia' as introduced <u>by me</u>* involves a first-person *de se* way of thinking with some descriptive content added to it. So, even if the content of Jane's belief that Julia is tired were (ii), it would still be *de se*.

referent used to introduce the name. Rather, it behaves more like an ordinary proper name introduced by ostension, whose content does not depend on the way in which it was introduced.

The objection, however, misidentifies the reason why, if Evans meets Julius, 'Julius' stops working as a descriptive name. The reason is not merely that, through meeting Julius, Evans becomes knowingly acquainted with the referent of the name he introduced. What makes the difference instead is that through meeting Julius, Evans gains many new ways of thinking of Julius. This is why he no longer needs the description used to introduce the name to form contentful *Julius*-thoughts. The introducer of an ordinary name by ostension is usually in a similar situation: upon perceiving the object she demonstrates, she usually gains many ways of thinking of its referent (in terms of the richness of its appearance, its location, etc.).

This, however, is not so in the case of *de se* names. While it is true that by thinking of herself in a *de se* way Jane is knowingly acquainted with herself, given her situation, this does not provide her with other ways of thinking of herself. That is, despite being acquainted with herself, Jane can only think of herself through her first person *de se* way of thinking. This is why her *Julia*-thoughts have, at least for some time, a *de se* content. But then, 'Julia' is indeed a *de se* name in a sense analogous to that in which 'Julius' is a descriptive name.

Before considering the last objection, let's take stock. We have argued that just as the only way Evans has for thinking of Julius is through the descriptive content *the actual inventor of the zipper*, the only way Jane has for thinking of herself is through her first-person *de se* content. The main difference between these cases is that, while Evans's only way of thinking of Julius is descriptive, Jane's only way of thinking of herself is *de se*. But then, in the very same sense in which 'Julius' is a descriptive name, 'Julia' is a personal *de se* name (and 'T$_1$' is a temporal *de se* name). Thus, not only are there descriptive names but, for analogous reasons, there are also *de se* names.

Irrelevance

At this point, one might worry that even if one agrees that there are *de se* names on the basis of the previous considerations, the case offered is too far-fetched and contrived: *de se* names are oddities, phenomena without much significance.

In the second part of this paper, we address this objection by showing that *de se* names allows us to draw important consequences for widespread views on communication and belief update, consequences relevant even to those already sympathetic to the irreducibility of *de se* content.[37]

Part 2.   De se names are theoretically fruitful

2.1   Two orthodoxies

There is an intuitive picture of communication, articulated by Stalnaker, according to which when two subjects communicate, one of them passes along to the other the very same body of information she originally possessed. There is a prominent view of belief update, Bayesianism, according to which, to be rational, a subject must update her beliefs by conditionalizing her credence on what she has learned. Bayesianism, however, has the consequence that beliefs held with certainty should be preserved. As we explain below, both views yield implausible consequences when the beliefs that are communicated or updated are *de se*.

2.2   The challenge to the Stalnakerian picture of communication

Given DE SE IRREDUCIBILITY, that is, given that *de se* content is irreducible to *de dicto* content, how can one communicate, as we seem to do, *de se* beliefs about oneself and one's current time to other subjects at other times? The question is especially

---

[37] One might consider the following with regard to the extent of *de se* names. Suppose that while sitting at the park, I see a man passing by and dub him 'Shifty'. Given Lewis's account of *de re* belief in terms of *de se* belief, one might think that 'Shifty' turns out to also have *de se* epistemic content. Furthermore, one might think that the epistemic content of natural kind terms such as 'water' is something such as 'the watery stuff on my planet'. But then, these would turn out to be *de se* natural kind names.

We agree that this is a possibility: *de se* names might be much more pervasive than otherwise thought. Yet, that 'Shifty' and 'water' involve genuine *de se* epistemic content is controversial. For one thing, one could opt out from Lewis's account of *de re* belief in terms of *de se* belief. For another, one might attempt to distinguish beliefs with *de se* content from beliefs with non-*de se* content that one ascribes to oneself. The idea would be that the self-adscription involved in Lewis's account of *de re* belief in terms of *de se* belief merely involves the latter, whereas cases such as

(*)   I am Ava
(**)   Now it is time to go

have *de se* epistemic contents. (On this distinction, see, for instance, Pagin (2016, 277)). Now, we do not claim that this settles the question or endorse any of these strategies. Rather, we aim at sidestepping the issue by showing that there are *de se* names in a sense that does not depend on responding one way or another to this issue. Thanks to an anonymous referee for the examples and for raising this issue.

challenging for views of communication that, like Stalnaker's (1978, 2002, 2008) intuitive and influential "package delivery" model, endorse the following (assuming that the speaker is sincere and informative, the hearer trusts her, and so on):

SAME CONTENT   When a subject communicates a belief, her belief, her utterance in aiming to communicate this belief, and the belief that the hearer acquires as a result of this communicative act all have the same content.

Given DE SE IRREDUCIBILTY, SAME CONTENT seems to yield implausible consequences. Suppose that at 2 pm Perry has the *de se* belief that he expresses by uttering (14) as he leaves you a phone message.

(14)   The meeting starts now.

According to SAME CONTENT, what you come to believe a few hours later when you hear his message is the same epistemic content that Perry believed when he left it. But according to DE SE IRREDUCIBILTY, this content cannot be *de dicto*. Hence, what you come to believe is the very same *de se* epistemic content that Perry believed when he uttered (14). This amounts to believing that the meeting starts at the time at which you heard Perry's message and not when he left it. But this is clearly neither what you come to believe if you trust Perry nor what he intended to communicate.

Similarly, although you are not Kaplan, you can understand him when, whilst trying to find his way back to Bellingham, he utters (15) to express his *de se* belief that he himself is lost

(15)   I am lost.

Assuming SAME CONTENT, what you come to believe if you trust Kaplan is the same content that Kaplan believed. Given DE SE IRREDUCIBILTY, this content is the very same *de se* content expressed by (15). So, what you come to believe if you trust Kaplan is that you yourself are the one who is lost. But, again, this is clearly neither what you believe upon hearing Kaplan's utterance nor what he intended to communicate to you.[38]

---

[38] The challenge for views that reject SAME CONTENT is to offer an alternative account of how we communicate *de se* beliefs. For Egan (2007), what is asserted by a speaker and exchanged in communication is a *de dicto* content, whilst first-person beliefs have *de se* contents. Other accounts that distinguish the content exchanged in communication from the *de se* content believed are found in Schiffer (1981), Torre (2010), Buchanan (2010), Weber (2013), and Bowker (2019). As discussed below, Moss aims to hold on to SAME CONTENT.

2.3   The challenge to Bayesianism

Updating by Bayesian conditionalization has the consequence that, to be rational, beliefs held with certainty should forever be preserved. This, however, becomes problematic when the beliefs to be updated are *de se*. Suppose that at noon Perry holds with certainity the *de se* belief that it is now noon. According to Bayesianism, even if at 1 pm Perry is aware that an hour has passed, he should continue to believe with certainty that it is now noon. But this is absurd: after realizing that an hour has passed, Perry should stop believing that now is noon and believe instead that now is 1 pm.[39]

2.4   Sarah Moss's defense of both orthodoxies

Going proxy

Sarah Moss has aimed to save both orthodoxies, offering what would be an intuitive, unified account of communication and belief update. Key to Moss's view is that what gets exchanged in communication is not the content of a *de se* belief itself but some other *de dicto* content that goes proxy for it. While this *de dicto* content is not the same as the content of a *de se* belief—and, hence, DE SE IRREDUCIBILITY is not violated—there is an *epistemic* equivalence amongst them. More precisely, she claims:

PROXY   "given a *de se* proposition, there is a *de dicto* proposition that is equivalent with that *de se* proposition, *given what [the subject] believe[s]*." (Moss 2012, 226, our emphasis)

Moss appeals to PROXY to solve the challenge from communication. Although the content of the *de se* belief that a subject intends to communicate is not reducible to a *de dicto* content, in light of PROXY, there is a *de dicto* content that is equivalent to this *de se* content, given what the subject believes. It is this *de dicto* content that, according to Moss, gets exchanged between subjects in successful communication, vindicating thus SAME CONTENT. When Perry has the *de se* belief he expresses by uttering (14) and Kaplan has the *de se* belief he expresses by uttering (15), there are also *de dicto* propositions expressed by (16) and (17) that are, correspondingly, equivalent to Perry's and Kaplan's original *de se* beliefs, given what each of them believes.

---

[39] See, for instance, (Moss, 2012) and (Schwarz, 2012). In the latter, Wolfgang Schwarz offers a formulation of this challenge that does not appeal to certainty.

(16)   The meeting starts at 2 pm.

(17)   Kaplan is lost.

These *de dicto* contents are what Perry and Kaplan express and what you come to believe if you trust them.

Moss makes a similar move to solve the challenge to Bayesianism. She argues that subjects never conditionalize over *de se* contents. Rather, she models belief update as the intrapersonal analogue of a Stalnakerian account of interpersonal communication. Suppose again that Perry holds with certainty the *de se* belief that it is now noon. While this *de se* content is irreducible to a *de dicto* content, in light of PROXY, there is a *de dicto* content that is equivalent to this *de se* content, given what the subject believes, namely, the belief that a certain time *t* is noon. Even if at 1 pm Perry becomes aware that an hour has passed, he can rationally remain certain that a certain time *t* is noon. So, this *de dicto* content can be what Perry's ealier self passes on to his later self and what gets updated by Bayesian conditionalization. Since at noon Perry believes this content with certainty, at 1 pm Perry should remain certain of it. But this is fine, for while it is irrational to remain certain that now is noon as one becomes aware that time has passed, it is not irrational to remain certain that a certain time *t* is noon. Finally, Perry uses this *de dicto* content and his current *de se* belief about his relation to his previous self, namely, his *de se* belief that now is one hour later than *t,* to correctly generate the new *de se* belief that now is 1 pm.

Moss also appeals to PROXY to account for the revision of *de se* beliefs and for different ways of imagining and supposing with *de se* contents. She further argues that an advantage to PROXY is that it provides a unified account of all these otherwise disparate phenomena. We don't have space to examine these here, but if our argument against PROXY succeeds, it will also thereby undermine her accounts of these other phenomena.[40]

Support for PROXY

Moss's support for PROXY stems from the third-person flipside of Gottlob Frege's claim about first-person thoughts. While Frege held that "everyone is presented to

---

[40] For Moss, the difference between update and revision of *de se* beliefs is this. In both cases, as time passes the subject gives up the old *de se* propositions about what time now is that her previous self used to believe. But when she updates, she keeps the *de dicto* proposition equivalent to his previous *de se* proposition given what she believes, and when she revises, she gives it up. Moss uses a similar strategy to account for different ways of imagining and supposing with *de se* contents (see Moss 2012, 231-233).

himself in a particular and primitive way in which he is presented to no-one else" (1918), she claims that you can *always* think of yourself in a way in which you may think of others and others may think of you (Moss 2012, 228). Call this a *third-person* or *impersonal* way of thinking of oneself. The corresponding claim for temporal thoughts is that you can *always* think of your current time in a way in which you may think of other times. Call this way of thinking of your current time *atemporal* or *eternal*. If, speaking somewhat loosely, we call these ways of thinking *impersonal senses*, we can express her idea thus:

IMPERSONAL SENSES   A subject can *always* think of herself and of her current time in ways that are, correspondingly, impersonal and atemporal.

   But IMPERSONAL SENSES is itself controversial, standing thus in need of support. Moss attempts to defend it by showing that even in cases of identity ignorance, those where a subject does not know who she is, the subject has available a third-person way of thinking of herself.[41] Take Kaplan again who is not ignorant about who he is. Since he believes that he is Kaplan, he has available to him a third-person way of thinking of himself, namely, as Kaplan. So, the *de dicto* content *Kaplan is lost* is equivalent to the content of Kaplan's *de se* belief *I am lost* given what he believes. But, what if Kaplan

---

[41] In arguing for IMPERSONAL SENSES, Moss also appeals to a contrast in the ascriptions of attitudes. But the appeal has its limitations. According to her, certain data support a contrast in attitude ascriptions that use an infinitival form and those that use the indexical 'I', where the first, but not the second, requires a *de se* reading:
   (i)   I expected to be rescued.
   (ii)   I expected that I would be rescued.
With an utterance of (i), the speaker is ascribing to herself an expectation with a *de se* content whilst with an utterance of (ii) she is ascribing an expectation with a *de dicto* content. Say Kaplan saw someone whose trousers were on fire but, due to some trickery of mirrors, he failed to realize that his own trousers were the ones on fire. According to Moss, we have the intuition that Kaplan can later use (ii) but not (i) to report his attitude at the time, for (i) requires that Kaplan have thought of himself in a *de se* way at the time of having the expectation, but (ii) does not. If this is right, (ii) would serve to ascribe attitudes about oneself with *de dicto* contents. In cases where there is no identity confusion, according to Moss, such *de dicto* contents will be epistemically equivalent to the corresponding *de se* contents.
   In support of this, Moss cites, amongst others, Percus and Sauerland 2003a. But the data here is actually a little messier than Moss makes out. In fact, Percus and Sauerland (2003b) think that there are cases of ambiguity in attitude ascriptions, where both *de se* and *de dicto* readings are available. We think they are right on this. (Cappelen and Dever (2013) also challenge that PRO constructions as in (i) always mandate a *de se* reading.) Moreover, as Moss acknowledges (2012, 228), the strategy cannot generalize to cases where no ascriptions are uttered. This is why she resorts to the naming strategy we examine in the main text.

forgets that he is Kaplan? What third-person way of thinking of himself can he use to generate *de dicto* propositions equivalent to his *de se* belief that he is lost?

Moss's responds by appealing to what we call *the naming strategy*, which resorts to the subject's ever-present ability to introduce names. Even when Kaplan forgets that he is Kaplan, he can still introduce a name for himself and use it to generate *de dicto* beliefs with contents equivalent to the contents of his original *de se* beliefs given what he believes. Suppose Kaplan introduces 'Dr. Demonstrative' as a name for himself. If he is rational, at the time of introduction, he must believe that he himself is Dr. Demonstrative. From this, Moss concludes that Kaplan has an impersonal way of thinking of himself, namely, as *Dr. Demonstrative.* Since one can always introduce a name for oneself, one must always be able to think of oneself impersonally. Similarly, since one can always introduce a name for the current time, one must always be able to think of one's time atemporally. But then, IMPERSONAL SENSES is true. It is thus the ability to introduce a name for herself and her current time that, according to Moss, guarantees that no matter what her cognitive state is, a subject can always think of herself impersonally and of her time atemporally. Moreover, a third-person way of thinking of oneself or the current time can always serve to generate *de dicto* contents. Thus, *Dr. Demonstrative is lost* would be a *de dicto* content equivalent to the content of Kaplan's *de se* belief *I am lost*, given what he believes. But then, PROXY is also true. In this way, Moss argues that the Stalnakerian account of communication and Bayesian accounts of belief update can rest on a secure foundation.

Before developing our argument against Moss, let us consider a previous objection to her view due to Peter Pagin (2016).

2.5   Pagin's objection to Moss

Pagin's main target is Moss's account of communication. Recall Moss's case where Kaplan has forgotten who he is. According to Moss, even if Kaplan does not know that he is Kaplan, he can introduce a name for himself to generate *de dicto* beliefs that are equivalent to his *de se* beliefs given what he believes. On Moss's view, such *de dicto* contents are what Kaplan communicates to his interlocutors (assuming he is sincere) and

what they come to believe if they trust Kaplan. This is how Stalnaker's "package delivery" model gets saved.

Against this, Pagin objects that for Kaplan to be able exploit the fact that he has introduced a name for himself in an act of communication, he needs to tell his interlocutor who the name refers to. In this case, Kaplan needs to tell his interlocutor who Dr. Demostrative is by communicating to him a *de se* belief such as the following:

(18)   I myself am Dr. Demonstrative.

But communicating (18), Pagin continues, "presupposes that the problem of communication [of *de se* beliefs] has already been solved" (2016, 289), which is precisely what Moss aimed to deliver. Thus, Pagin concludes, Moss fails to explain how *de se* beliefs get communicated in the first place.

2.6   Why Pagin's view fails

Pagin's objection, however, is unsuccessful. For Moss can deny that her view requires Kaplan to communicate (18) to his interlocutor. Suppose Kaplan is in Bellingham while Jones is miles away elsewhere. Kaplan utters to himself (18), where no one else can hear him. Right after, Jones calls Kaplan on the phone and he tells her

(19)   Dr. Demonstrative is in Bellingham.

Jones, knowing that Kaplan is speaking truthfully, comes to believe (19). Kaplan then enters a state of eternal contemplation, refraining from uttering another word. Luckily, some satellite recorded Kaplan's secret utterance of (18) and, after an arduous, long investigation, the agent in charge of this case finally tells Jones that Kaplan is Dr. Demonstrative.

Note that Kaplan was able to communicate to Jones a *de dicto* belief—namely, (19)—equivalent to his *de se* belief that he himself is in Bellingham given what he believes. Crucially, in this case Kaplan did not also communicate to Jones the *de se* content (18)—this is why it made sense for Jones to engage in an investigation as to who Dr. Demonstrative is. Moreover, after speaking to Kaplan but before learning who Dr. Demonstrative is, Jones may have contentful *Dr. Demonstrative*-beliefs, e.g. by means of the *de dicto* content *whomever Kaplan refers to with the name 'Dr. Demonstrative'*. Indeed, Jones may have contentful *Dr. Demonstrative*-beliefs even if the recording failed

and no one ever finds out that Kaplan is Dr. Demonstrative. But then it is not true that in order to use the name he has just introduced for himself, Kaplan needs to communicate to his interlocutor a *de se* content such as (18). Thus, *pace* Pagin, Moss's account of *de se* communication need not illegitimately presuppose, at least not in this way, that the problem of communicating *de se* beliefs has already been solved. Pagin's objection therefore fails.[42]

2.7   How *de se* names challenge Moss's view

We now turn to show that an appeal to *de se* names serves to mount a broader and more convincing argument against Moss's view. Our challenge proceeds by casting doubt on Moss's defense of IMPERSONAL SENSES, the idea that a subject always has, available to her, a third way of thinking of herself, which she uses to support PROXY. Without PROXY, Moss has no explanation for how we communicate and update *de se* beliefs, undermining thus her defense of Bayesianism and of Stalnaker's picture of communication.[43]

Against IMPERSONAL SENSES

It is indeed true that Kaplan has third-person ways of thinking of him—for he can see him, hear him, touch him, etc.—that he can exploit to successfully introduce the name 'Dr. Demonstrative' for himself and use it to form *de dicto* contents that are epistemically equivalent to the contents of his *de se* beliefs. It is also true that subjects can introduce names willy-nilly. However, it does not follow from this that one *always* has a third-person way of thinking of oneself.[44] Our case of Jane shows this much. Let's return to it to see this.

Recall that Jane is an amnesiac who had a severe accident that damaged her senses and her ability to move. Jane is thus similar to Kaplan in the following two respects. First, none of them know their own names. Hence, there is no previously available name that either of them can use to form third personal thoughts equivalent to their *de se* thoughts, given what each of them believes. Second, both of them have the

---

[42] Thanks to an anonymous reviewer for prompting us to discuss Pagin's criticism to Moss.
[43] A similar argument can be used to undermine Moss's accounts of revision of *de se* beliefs and of imagining and supposing with *de se* contents.
[44] Moreover, it is not clear that one is always in a position to know that a third personal way of thinking of the person that one happens to be is a third personal way of thinking of oneself.

ability to introduce a name for themselves: indeed, Kaplan introduced 'Dr. Demonstrative' and Jane introduced 'Julia'. Yet, there is a crucial difference between the two. When Kaplan introduces 'Dr. Demonstrative', his senses provide him with third personal ways of thinking of himself—he can see him, hear him, smell him, etc. These third personal ways of thiking of himself are what allow Kaplan to use 'Dr. Demonstrative' to form *de dicto* thoughts epistemically equivalet to his *de se* thoughts, given what he believes—namely, that he himself is Dr. Demonstrative. In contrast, Jane has no third personal ways of thinking of her. For Jane cannot see her, touch her, hear her, etc. She also lacks a description that she believes singles her out. For besides being unable to recall her past, we stipulated that even if she believes that she is an amnesiac who cannot move or use her senses, she believes that others are as injured as she is. More generally, for any *purely* descriptive content of the form *the F*, Jane cannot think of herself by having a thought with the form **the F is G,** for she believes that others are *F,* too. Finally, Jane cannot think of herself in a third personal way through a demonstrative thought. For, she cannot demonstrate objects and, even if she could, as we argued in the first part of this paper, one could construct a coherent scenario where she could rationally doubt that the object she has demonstrated is herself. But then Jane has no purely *de dicto* demonstrative thought of the form **Dem is G** about herself.

Since there are no other non-*de se* ways for Jane to think of herself, we can conclude that there are no *de dicto* thoughts that are epistemically equivalent to Jane's *de se* thoughts, given what she believes. Still, Jane successfully introduced the name 'Julia' for herself. The mere act of introducing this name, however, did not provide her with a third personal way of thinking of herself. This much is captured by saying that 'Julia' is a *de se* name. But if Jane didn't have a third personal way of thinking of herself and introducing 'Julia' didn't provide her with one, unlike Moss's case of Kaplan, Jane is not in a position to generate *de dicto* contents equivalent to her *de se* contents, given what she believes. It isn't then true that there is *always* a third-person way of thinking of oneself that one can use to generate *de dicto* beliefs that have contents equivalent to one's *de se*

beliefs, given what one believes. Hence, given that there are *de se* names, Moss's support for IMPERSONAL SENSES and, thereby, for PROXY rests on mistake.[45]

One might be tempted to defend Moss by claiming that our objection is built around the case of Jane, a subject in an unusual situation, with very limited interaction with the outside world, and who is unable to communicate with others. But we can quarantine such cases—the objection continues—and still maintain that IMPERSONAL SENSES and PROXY are true of normal subjects, those who can interact with the world and communicate with others.

The objection has no bite. First of all, determining what counts as a normal subject is usually contentious and *ad hoc*. Secondly, and more importantly, IMPERSONAL SENSES and PROXY were brought in to account for communication and belief update. Restricting these to normal subjects would not leave Jane out. For even while Jane suffers from memory loss, and cannot at this moment physically interact with others, her linguistic competence is intact: as soon as her body recovers, nothing special will need to happen to restore her linguistic ability. If Moss were right, even Jane should have, available to her, *de dicto* beliefs equivalent to her *de se* beliefs given what she beliefs which she could exploit in communication as soon as she is in a position to interact with others. Moreover, apart from her memory loss, Jane's cognitive abilities are as good as before. But then, Jane must be able to update her beliefs (as well as revise, suppose, and imagine) with *de se* contents like any other subject does. So, contrary to what the objector suggests, Moss's view cannot leave Jane out.[46]

Let us now highlight the advantages of our objection to Moss by explicitly contrasting it to Pagin's. Firstly, our objection is stronger, since we do not rely on the

---

[45] A similar appeal to *de se* names tells also against Kölbel's (2013) account of the communication of first-person *de se* contents, which makes a similar assumption concerning what he calls portable (roughly, our *de dicto*) contents that are surrogates for non-portable (our *de se*) ones.

[46] Moss acknowledges that Lewis's TWO GODS pose a challenge to PROXY. In reply, she endorses Stalnaker reply to Lewis, which we rejected in section I.5. She writes (Moss 2012, 236-237, our emphasis):

> The case of the two gods introduced in Lewis 1979 presents a special sort of challenge to (proxy), since Lewis attempts to stipulate that the gods in his thought experiment are omniscient with respect to *de dicto* but not *de se* propositions. In response to a similar objection, Stalnaker 2008 defends the claim that "ignorance about where one is in the world is always ignorance about what possible world is actual" (cf. §3.3). In short, Stalnaker responds that one should not take for granted the possibility of the case Lewis describes. Suppose that one of the gods says "let 'Dr. Deity' name myself" and you immediately tell him that Dr. Deity is on the tallest mountain. Then either he learns some *de dicto* proposition from you, or he did not have any *de se* ignorance to start with. *I will not rehearse the details of Stalnaker's argument here, but I endorse the same response on behalf of my own theory.*

Our argument against Stalnaker's reply to Lewis thus serves as a further reason to challenge Moss's view.

(dubious, as we have argued) claim that Moss's account of *de se* communication presupposes that the subject can already communicate *de se* beliefs such as (18). Rather, we have appealed to *de se* names to challenge Moss's claim that the ability to introduce a name for oneself guarantees that the speaker will always have, available to her, a third personal way of thinking of herself. Secondly, our objection is broader since it succeeds in also challenging Moss's account of belief update whereas, as Pagin makes explicit, his criticism focuses solely on the case of interpersonal communication.[47] But then, even if Pagin's objection were to succeed, Moss's account of belief update, and hence, her defense of Bayesianism—her main topic, according to Pagin—would still be left standing. In contrast, our objection effectively challenges both Moss's inter- and intra-personal theories of communication. For it shows that there are cases where, despite being able to introduce a name for herself, a subject lacks a third personal way of thinking of herself and, hence, that there are no *de dicto* beliefs equivalent to her *de se* beliefs, given what she believes, that could be communicated either to others or to her later self in updating her beliefs. Thus, even if Pagin's objection were not subject to the criticism we raised, our objection would still be doing significant work.[48]

Finally, note that Pagin's objection to Moss only makes sense if one accepts DE SE IRREDUCIBILTY. For if *de se* content were reducible to *de dicto* content, there would be no special problem with communicating *de se* content to begin with. We have argued that Pagin's reply fails and have offered a more convincing criticism to Moss built around the existence of *de se* names. But if this is right, it illustrates how *de se* names should be of theoretical interest even to those who, like Pagin, are already sympathetic to DE SE IRREDUCIBILTY.[49]

---

[47] Pagin (2016, 290) writes: "[t]he main topic of Moss's paper is belief updating. She uses communication as a model for updating: the subject communicates earlier beliefs to her later self […] *It is possible that the problems I have stressed above for her theory of communication do not arise, or can be avoided, in the special case of communicating with one's later self.*" (Pagin, 2016, 291).

[48] Moreover, unlike Pagin's objection, *de se* names also serves to mount an analogous argument that targets Moss's views of revision of *de se* beliefs and of imagining and supposing with *de se* contents, as noted earlier.

[49] Thanks to an anonymous referee who prompted us to consider whether *de se* names might be of interest to those who, like Pagin, are already sympathetic to *DE SE* IRREDUCIBILITY.

Conclusion

        This concludes our discussion. There are *de se* names and they are theoretically fruitful. They prove wrong any account that concludes, merely from one's ability to introduce a name, that one can always think of oneself in a *de dicto* way. In this way, they serve to show that despite Moss's attempt at rescuing them, the Stalnakerian model of communication and a Bayesian account of belief update fail, consequences of relevance even to those already sympathetic to the irreducibility of *de se* content.[*]

References

Bowker, M. 2019, 'Saying a Bundle: meaning, intention, and underdetermination', *Synthese* 196, 4229-4252.

Buchanan, R. 2010, 'A Puzzle about Meaning and Communication', *Nous* 44: 2, 340-371.

Campbell, J. (1999). 'Schizophrenia, the space of reasons, and thinking as a motor process', *The Monist*, 82 (4), 609-625.

Campbell, J. (2002). The ownership of thoughts, *Philosophy, Psychiatry and Psychology, 9(1), 35-39.*

Cappelen, H. and J. Dever. 2013. *The Inessential Indexical. On the Philosophical Insignificance of Perspective and the First Person*. Oxford: Oxford University Press.

Chalmers, D. 2002. 'On Sense and Intension', *Philosophical Perspectives*, vol. 16 (supplement 16), 135-82.

Chalmers, D. 2006. 'Two-Dimensional Semantics', In (E. Lepore & B. Smith, eds) Oxford Handbook of the Philosophy or Language. Oxford University Press, 2006.

Davies, M. and Humberstone, L. 1980. 'Two Notions of Necessity', *Philosophical Studies*, vol. 38, 1-31.

Egan, A. 2007. 'Epistemic Modals, Relativism and Assertion', *Philosophical Studies*, vol. 133, 1-22.

Evans, G. 1973. 'The Causal Theory of Names', *Proceedings of the Aristotelian Society*, *Supplemmentary Volume* 47, 187-208.

Evans, G. 1979. 'Reference and Contingency', *The Monist*, vol. 62, no. 2, 178-213.

Evans, G. 1981. 'Understanding Demonstratives' in H. Parret (ed.) *Meaning and Understanding*. Oxford: Clarendon Press.

Evans, G. 1982. *The Varieties of Reference* (edited by J. McDowell). Oxford: Clarendon Press.

Frege, G. 1918. 'Der Gedanke. Eine logische Untersuchung', *Beiträge zur Philosophie des deutschen Idealismus* I: 58–77. (Translated as 'The Thought: A Logical Inquiry', *Mind*, New Series, Vol. 65, No. 259. (Jul., 1956), 289-311.)

Hawthorne, J. and Manley, D. (2012). *The Reference Book*, Oxford University Press

Jackson, F. (1998a) Reference and description revisted, Philosophical Perspsectives 12: 201-1

Jackson F. (1998b) From Metaphysics to Ethics: A Defense of Conceptual Analysis. Oxford: Oxford University Press.

Jeshion, R. 2004. 'Descriptive Descriptive Names', in M. Reimer and A. Bezuidenhout (eds.), *Descriptions and Beyond*. Oxford: Oxford University Press. 591-612.

Kölbel, M. 2013. 'The Conversational Role of Centered Contents', *Inquiry*, vol. 56, 97-121.

Kripke, S. 1980. *Naming and Necessity*, Harvard University Press.

Krikpe, S. 1979. "A Puzzle about belief" In: Margalit A. (eds) Meaning and Use. *Synthese Language Library* (Texts and Studies in Linguistic and Philosophy), vol 3. Springer, Dordrecht

Lewis, D. 1979. "Attitudes *De Dicto* and *De Se*", *Philosophical Review*, vol. 88, 513-543.

Loar, B. 1988. "Social Content and Psychological Content" in Robert H. Grimm and D. D. Merrill (eds.), Contents of Thought. University of Arizona Press (1988).

Mach, E. 1886. *The Analysis of Sensations and the Relation of the Physical to the Psychical*, translated by C. M. Williams, La Salle: Open Court, 1984.

Millikan, R. 1990. 'The Myth of the Essential Indexical', *Noûs*, Vol. 24, 723-734.

Moss, S. 2012. 'Updating as Communication', *Philosophy and Phenomenological Research*, vol. 85, 225-248.

Palmira, M 2020. 'Immunity, thought insertion, and the first-person concept.' *Philosophical Studies*, Vol. 177, 3833-3860.

Pagin, P. 2016. '*De se* communication: centered or uncentered?'in *About Oneself: De se thought and communication* edited by Manuel García-Carpintero and Stephan Torre OUP. (272-306).

Percus, O. and Sauerland, U. 2003a. 'Pronoun Binding in Dream Reports', in M. Kadowaki and S. Kawahara (eds.) *Proceedings of NELS*, vol. 33, Armherst: GLSA.

Percus, O. and Sauerland, U. 2003b. 'On the LFs of Attitude Reports', in M. Weisgerber (ed.), *Proceedings of Sinn und Bedeutung*, vol. 7. Konstanz: Universitat Konstanz.

Perry, J. 1977. 'Frege on Demonstratives', *Philosophical Review*, vol. 86, 474-497.

Perry, J. 1979. 'The Problem of the Essential Indexical', *Noûs*, vol. 13, 3-21.

Perry, J. 1980. 'A Problem About Continued Belief', *Pacific Philosophical Quarterly*, vol. 61, 317-332

Perry, J. 2001a. *Knowledge, Possiblity and Consciousness*. Cambridge (MA): MIT Press.

Perry, J. 2001b. *Reference and Reflexivity*. Stanford: CSLI Publications.

Perry, J. 2002. *Identity, Personal Identity, and the Self*. Indianapolis: Hackett.

Recanati, F. 2013. *Mental Files*. Oxford: Oxford University Press.

Reimer, M. 2004. 'Descriptively Introduced Names', in M. Reimer and A. Bezuidenhout (eds.), *Descriptions and Beyond*. Oxford: Oxford University Press. 613–629.

Schwarz, W. 2012. 'Changing minds in a changing world', *Philosophical Studies*, Vol. 159, 219-239.

Schiffer, J. 1981. 'Indexicals and the Theory of Reference', *Synthese*, Vol 49, No. 1, 49-100.

Stalnaker, R. 1978. 'Assertion', *Syntax and Semantics*, vol. 9, 315-332.

Stalnaker, R. 2002. 'Common Ground', *Linguistics and Philosophy*, vol. 25, 701-721.

Stalnaker, R. 2008. *Our Knowledge of the Internal World*. Oxford: Oxford University Press.

Torre, S. 2010. 'Centered Assertion', *Philosophical Studies*, vol. 150, 97-114.

Weber, C. 2013. 'Centered Communication', *Philosophical Studies*, vol. 166, 205-223.