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## Can Fregeans have 'I'-thoughts?

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**Resumen:** Examinamos cómo el contraste que establece Frege entre los juicios de identidad de las formas “ $a=a$ ” versus “ $a=b$ ” podría ir en el caso especial en el cual ‘ $a$ ’ y ‘ $b$ ’ son representaciones mentales complejas, y ‘ $a$ ’ está por un introspectivo pensamiento del yo. Argumentamos primeramente que el tratamiento fregeano de los pensamientos del yo implica que estos son los que denominamos “pensamientos de un disparo”, a saber: pensamientos que solamente pueden ser pensados una vez. Esto tiene la sorprendente consecuencia de que ninguna instancia de la forma “ $a=a$ ” de juicio, en este caso específico, resulta verdadera, muchos menos *a priori* verdadera. Lo anterior refuerza las objeciones de Glezakos contra la construcción del puzzle de Frege, y simultáneamente suscita lo que pensamos que es un agudo problema para los fregeanos, en la medida en que el pensamiento del yo (y más generalmente, el pensamiento índice), entendido a su manera, se vuelve incompatible con algunos rasgos básicos de la racionalidad.

**Palabras claves:** *Pensamientos del yo. Reflexividad del ejemplar. Pensamientos de un disparo. Paradoja. Racionalidad.*

**Abstract:** *We examine how Frege’s contrast between identity judgments of the forms “ $a=a$ ” vs. “ $a=b$ ” would fare in the special case where ‘ $a$ ’ and ‘ $b$ ’ are complex mental representations, and ‘ $a$ ’ stands for an introspected ‘I’-thought. We first argue that the Fregean treatment of I-thoughts entails that they are what we call “one-shot thoughts”: they can only be thought*

*once. This has the surprising consequence that no instance of the “ $a=a$ ” form of judgment in this specific case comes out true, let alone a priori true. This further reinforces Glezakos’s objections against the set-up of Frege’s puzzle, while also raising what we think is an acute problem for Fregeans, insofar as I-thought (and indexical thinking more generally), understood in their way, turns out to be incompatible with some basic features of rationality.*

**Key words:** *I-thoughts. Token-reflexivity. One-shot thoughts. Paradox. Rationality.*

### 0. Introduction

Frege presents us with a puzzle arising when we compare true identity sentences of two forms: “ $a=a$ ” vs. “ $a=b$ ”; e. g. “Hesperus is Hesperus” vs. “Hesperus is Phosphorus”. Both types of sentences are made true by the self-identity of the same object. Yet, while sentences of the first kind, according to Frege, are trivial, hence known *a priori* to be true, sentences of the second kind are often informative and their truth is not in general known *a priori*. Frege accounts for this epistemic contrast by proposing that the meaning of sentences is not exhausted by their reference, but also involves a sense, i. e. a specific mode of presentation, or concept, of the reference. Glezakos challenges the legitimacy of this argument for the role of senses. She argues that the initial puzzle can only be generated if we presuppose all along the very notion of

sense that it purports to justify; and that the alleged epistemic divide between “a=a” and “a=b” evaporates as soon as we try to formulate it in theory-neutral terms.

Our approach in this essay is broadly sympathetic to Glezakos. Our goal is to show that the consideration of a particular case of identity judgements involving indexical thoughts, further strengthens Glezakos’s attack against Frege’s epistemic claims, while also raising additional problems for the Fregean.

We examine the contrastive pair of identity statements, “a=a” vs. “a=b”, in the special case where ‘a’ and ‘b’ are themselves complete sentences,<sup>1</sup> and ‘a’ stands for an introspected I-thought.<sup>2</sup> We argue that the Fregean treatment of I-thoughts entails the surprising consequence that *no* instance of “a=a” in this specific case comes out *a priori* true, because none of the instances are true. This further reinforces Glezakos’s point, while also raising what we think is an acute problem for Fregeans, insofar as indexical thinking understood in their way turns out to be incompatible with some basic features of rationality.

## 1. ‘I’-thoughts

Frege holds that the content of sentences (and of content-bearing representations more generally, including mental states), or the proposition they convey, is not individuated in terms of their reference, but in terms of their sense, which is the thought they express. Thoughts are themselves composed of senses, or concepts. Sense is individuated by cognitive significance:

### Cognitive significance

Iff two thoughts  $T_1$  and  $T_2$  are different (i. e. contain different senses) then it is possible for a rational subject to think one without thinking the other (under the same attitude).<sup>3</sup>

(Where ‘thinking’ stands for any manner of apprehending a proposition, whether by believing it, rejecting it, doubting it, etc.)

‘I’-thoughts are those thoughts which contain the sense of ‘I’, or ‘I’-concept. A subject who entertains such a thought thinks about herself, but, more importantly, thinks of herself *as herself*. It is not just that she thinks of a person who so happens to be identical with herself, as someone who entered a lottery might think of the winner without yet realising that they themselves are the happy fellow. Rather, she thinks of her own person in a way that makes it impossible for her not to realise that the object of her thought is herself.

## 2. ‘I’-thoughts as essentially private thoughts

Frege claims that a subject’s ‘I’-thoughts can only be thought by her; as we shall say, they are ‘essentially private’. All our thoughts are ‘private’ in the mundane sense that they are represented in the medium of mental events happening in our own minds. When we entertain a thought, this is not a public event, and it is up to us whether or not we choose to communicate it. But for Frege, ‘I’-thoughts are *essentially* private, in the sense that we couldn’t communicate them at all, even if we wanted to. The *content* of the mental event, and not just its occurrence in her psychological life, is in this case accessible to the subject alone. This is because the sense of ‘I’ under which a subject thinks of herself as herself can only be grasped by her. To understand Frege’s position, we must quote him at length:

Now everyone is presented to himself in a particular and primitive way, in which he is presented to no-one else. So, when Dr. Lauben thinks that he has been wounded, he will probably take as a basis this primitive way in which he is presented to himself. And only Dr. Lauben himself can grasp thoughts determined in this way. But now he may want to communicate with others. He cannot communicate a thought which he alone can grasp. Therefore, if he now says “I have been wounded”, he must use the “I” in a sense which can be grasped by others, perhaps in the sense of “he who is speaking to you at this moment”, by doing which he makes the

associated conditions of his utterance serve for the expression of his thought (Frege, 1879/1956, 298).

The above passage clearly states Frege's commitment to the essential privacy thesis.<sup>4</sup> Many neo-Fregeans, following Frege, either explicitly acknowledge or indirectly imply that 'I'-thoughts cannot be shared (see for instance (Evans, 1985), (Chalmers, 2011)).

There has been ample debate about whether essentially private thoughts are acceptable<sup>5</sup> and whether Fregeans can dispense with them (Cf. (Bermúdez, 2005), (Recanati, 2012, ch. VIII), (Morgan, 2009, 76-85)). In what follows, we argue that 'I'-thoughts pose a problem for Fregeans which has been overlooked in this debate. To that effect, we first argue that Frege is not only committed to the view that 'I'-thoughts are essentially private, in the sense that they are contents which cannot be shared, but also to the view that they are essentially actual and essentially present as well. Such thoughts could not be thought by anyone else, or at any other time, or in any other world. They could not be thought in more than just one instance. We go on to argue that the existence of such 'one-shot thoughts' is, however, unacceptable for Frege, because it is inconsistent with the constraint of Cognitive Significance stated above.

### 3. Why are 'I'-thoughts essentially private?

What are Frege's reasons for claiming that 'I'-thoughts, unlike the content of the 'I'-sentences that we communicate instead for want of a direct expression of these thoughts, are essentially private? The quote above, as well the passage immediately following it, contain hints from which we can derive a plausible motivation for this view.

According to Frege, thinking an 'I'-thought to the effect that I have been wounded disposes me to utter the 'I'-sentence "I have been wounded". However, the content of the original mental event is not identical to the content of the subsequent utterance (although there presumably exists a

regular connection between the two). This is because the sense of 'I' in the mind differs from the sense of the word 'I' in speech.<sup>6</sup> The paragraph quoted above gives an insight into Frege's view as to what the linguistic sense of 'I' may be:

Therefore, if [Lauben] now says "I have been wounded", he must use the "I" in a sense which can be grasped by others, perhaps in the sense of "he who is speaking to you at this moment", by doing which he makes the associated conditions of his utterance serve for the expression of his thought (Frege, 1879/1956, 298).

In insisting on the special role of the utterance in communications involving 'I', Frege appears to hold what can be seen as a precursor to "token-reflexive" theories<sup>7</sup> of the sense of indexicals. Indexicals are the expressions which, like 'I', determine their reference, on each occasion of utterance, by exploiting contextual facts about this very utterance. To rephrase Frege somewhat, whenever an utterance *x* of the word 'I' is produced, the sense conveyed is roughly "The speaker of this token *x* of 'I'". In this description, the value of *x* is supplied in context, as the very utterance which also expresses the sense. More generally, the sense of indexicals is captured by descriptions of a special kind, which make reference to the utterances (tokens) of the expressions themselves (hence their characterisation as "token-reflexives").

As Frege holds a token-reflexive view of the sense of the word 'I', it is reasonable to assume that he takes the sense of 'I' in thought to have a similar structure. If an occurrence of 'I' in speech refers to *whoever uttered this very occurrence*, it is plausible that an occurrence of 'I' in the mind refers to *whoever thought this very occurrence*. And it is, indeed, a constitutive rule about 'I'-thoughts that they are always about the subject who thinks them.

There is, however, a crucial difference between the linguistic and mental cases. The sense of the word 'I' determines its referent, for each of its occurrences, to be the producer of this very linguistic occurrence, which is a publicly observable item. By contrast, the sense of 'I' in thought

determines its referent, for each of its occurrences, to be the producer of this very *mental* occurrence, which is present only in the subject's mind.

Immediately after the passage about the essential privacy of 'I'-thoughts, quoted above, Frege defends at great length the claim that mental events (or, in his own terminology, 'ideas') are exclusively accessible to their subjects:

Ideas are had. One has sensations, feelings, moods, inclinations, wishes. An idea which someone has belongs to the content of his consciousness. [...] [F]or it is impossible to compare my sense-impression with that of someone else. For that it would be necessary to bring together in one consciousness a sense-impression, belonging to one consciousness, with a sense-impression belonging to another consciousness. [...] No other person has my idea [...]. No other person has my pain. Someone can have sympathy for me but still my pain always belongs to me and his sympathy to him. He does not have my pain and I do not have his sympathy. [...] [E]very idea has only one bearer; no two men have the same idea (*Ibidem*).

Now, if we put together a token-reflexive view about the sense of 'I' in thought, which it is reasonable to ascribe to Frege, and his thesis of exclusive access to mental events, what we obtain is precisely the consequence that 'I'-thoughts are essentially private contents. Let us suppose that the sense of 'I' is something like "the thinker of this very mental occurrence  $o$  of 'I'", or  $S(o)$  for short, and the value of  $o$ , for each instantiation of the concept, is supplied by this very mental occurrence. As the token-reflexive description  $S(o)$  is couched in terms of a mental token which the subject alone can access, she is also alone in being able to grasp the full description. 'I'-thoughts, as a result, are contents that can only be thought by one person.

#### 4. One-shot thoughts

Whether the essential privacy thesis is sustainable has been, as noted above, the object of

intense discussions. However, what concerns us here is a more radical thesis, which we also take Frege to be committed to. Taken together, the putative token-reflexivity of the sense of 'I' and the claim that mental contents are individuated by senses (instead of being individuated, say, by the objects being referred to) entail that 'I'-thoughts can only ever be thought, not just by one person but in one single instance. They are what we shall call "one-shot thoughts".

The argument, in intuitive terms, is this. If to think that I'm happy is to think that the subject of this very mental event is happy, then this can be thought but just once. Another attempt at thinking this thought would generate a new mental event, whose content would now be that the subject of *this* very mental event – not the subject of the previous one – is happy.

Let us gloss this a little. The thought crosses my mind that I am happy. Given token-reflexivity, the mental occurrence  $o_1$  of my thinking that I'm happy has the sense that the thinker of this very mental event,  $o_1$ , is happy. As the mental occurrence itself, as a spatio-temporal particular, contributes to individuating the sense it conveys, this sense can be instanciated just once. If I tried to think it a second time, this would take the form of a second mental event,  $o_2$ . But while the sense of  $o_2$  could very well contain a reference to  $o_1$ , this reference could not be token-reflexive. One of two things would have to be the case:<sup>8</sup>

- (i) Either  $s[o_2] = \text{the thinker of } o_1 \text{ is happy}$ ;<sup>9</sup>
- (ii) Or,  $s[o_2] = \text{the thinker of } o_2 \text{ is happy}$ .

If (i) is the correct paraphrase of the sense of  $o_2$ , then this sense contains a reference to  $o_1$ , as  $o_1$  itself does, but it doesn't contain the sense of 'I', because it is not token-reflexive, as shown by the fact that the values of  $o$  on either side of the equality sign are different. So  $o_2$  does not express an 'I'-thought, and its sense cannot for this reason be identical to the sense of  $o_1$ .

If, on the other hand, (ii) captures the sense of  $o_2$ , then this sense is token-reflexive, so that  $o_2$  expresses a genuine 'I'-thought. But this 'I'-thought is distinct from that expressed by  $o_1$ , since the latter is individuated in terms of the mental occurrence  $o_1$ , not in terms of the mental

occurrence  $o_2$ . So the sense of  $o_2$  is, again, different from that of  $o_1$ .

However we try to reproduce it, the fully specified sense of  $o_1$  remains unamenable to a second instantiation, for the combined reasons that its full specification is done in terms of its own occurrence as a mental event; and that mental events happen but once.

This consequence might perhaps not be of too much moment for a theorist who, while taking the sense of 'I' to be token-reflexive, does not individuate the content of a representation in terms of its sense –but rather, say, in terms of what it refers to. This is close to the position of such neo-Russellians as Perry and Kaplan. In the Afterword to his (1977),<sup>10</sup> Perry explicitly endorses the existence of senses, including indexical senses, while denying that they are constituent parts of the propositions expressed or entertained when we speak or think. But Frege, as noted at the beginning of Section 1, takes the content of a sentence or mental state to be the thought it expresses, hence to be individuated by the senses which this thought contains. As the sense of 'I', on each of its instantiations, is specified afresh via the associated token-reflexive condition, I-thoughts contain a component that cannot be duplicated; and thus the content of any mental state that prompts me to use the word 'I' can never be thought more than once. 'I'-thoughts, as we propose to say, are 'one-shot thoughts'.<sup>11</sup>

## 5. The problem of one-shot thoughts

### 5.1 One-shot thoughts and identity judgments

If Fregean 'I'-thoughts are one-shot thoughts, a surprising consequence is that we can never judge truly something like: "My thought that I am happy is the same as my thought that I am happy" (in so far as such a judgment seeks to identify the content of two distinct mental events occurring successively). This judgment intuitively seems true, and indeed trivially so. However, Fregeans are committed to denying this; indeed, they are committed to the claim that a subject introspecting any two of her

'I'-thoughts will never be in a position to judge them truly to be identical.

Let us unpack this a little. Let 'a' be the expression I give mentally to an 'I'-thought (say the thought that I'm happy) when I pause to consider it introspectively. As we have seen, because this thought contains the sense of 'I' and this sense is specified in a token-reflexive manner, it is a one-shot thought. Consequently, no other thought is identical to it. But it seems possible for me to reflect on my thoughts, including my 'I'-thoughts, so far as to wonder whether they are the same, or different. I can judge, for instance (Case 1), that my thought that San José is the capital of Costa Rica, entertained at time  $t_1$ , is the same as my thought that San José is the capital of Costa Rica, entertained at time  $t_2$ ; while (Case 2) my thought that San José is the capital of France differs from it. Consider now the case of 'I'-thoughts. I think at time  $t_3$  that I'm happy, and again think, at time  $t_4$ , that I'm happy. It seems intuitively true that, were I to introspect those two mental states, I should find myself to be in something like Case 1; in other words, I should judge "a=a". But as the mental states I have at  $t_3$  and  $t_4$ , according to the Fregean, express one-shot thoughts, this judgment would in her light never be true.

Thus, we have here a specification of the schema "a=a", where 'a' is the expression we give to an 'I'-thought when we reflect introspectively on it, in which it proves impossible to find a true instantiation of the schema; let alone one that is *a priori* true.

Note that if 'a' is just any name for an 'I'-thought, there is an escape from this perplexing consequence. Given one of my 'I'-thoughts, nothing stops me from giving it a name and then re-using the name to refer back to the 'I'-thought as often as I please. What I can't do, however, is to *have* the same 'I'-thought twice. So the schema "a=a" becomes impossible to instantiate so as to be true in the specific case where 'a' is the vehicle of my mental state when I think of my 'I'-thought in the way that I do when I introspect it; that is, when I take it as my object at the same time as having it.

Our result reinforces, and in a way radicalizes, Glezakos's point. Judgments of the contrastive forms "a=a" and "a=b", where 'a' expresses an introspected 'I'-thought and 'a' and

'b' are coextensive, present no difference as to their epistemic profiles. In neither case are they ever true:

(i) Suppose I judge "a=a", e. g. that my thought that I'm happy is identical to my thought that I'm happy. This cannot be true since the thought expressed in each occurrence is one-shot.

(ii) Now suppose that I, NN, judge "a=b", e. g. that my thought that I'm happy is identical to my thought that NN is happy. This is false, as witnessed by the fact that I could think the former without thinking the latter (and vice-versa), a case made familiar by the scenarios set up by Perry (1979) to evidence the essential indexicality of the first kind of thought.

Operating with Fregean notions, and considering the special case where we introspect 'I'-thoughts, we thus arrive at the conclusion that there is no difference in epistemic status between the two forms "a=a" and "a=b", which was Glezakos's point; but in addition, we obtain a counter-intuitive truth-assessment as regards (i).

## 5.2 One-shot thoughts and rationality

The Fregean treatment of 'I'-thought also raises a more general and, we believe, serious problem in connection with rationality.

It seems that if a thought is to play a rational role, it must be capable of being displayed in simple inferences such as a *modus ponens*. Now it is dubious that a thought can ever play that role if it can only be thought once. If the thought expressed by 'p' is one-shot, then I will be unable to think that p, and then that p implies q, and to conclude q. This suggests that if 'I'-thoughts are to play any rational role at all, they cannot be, as the Fregean treatment implies they should be, one-shot thoughts.

One-shot thoughts also pose a more immediate issue of theoretical coherence for Frege. The claim that 'I'-thoughts are one-shot is indeed inconsistent with the Fregean constraint on thoughts which specifies their rational role,

i. e. the constraint we have called "Cognitive Significance" (iff two thoughts are different then it is possible for a rational subject to think one without thinking the other under the same attitude). To see that, suppose that I am thinking<sup>12</sup> simultaneously two distinct one-shot thoughts  $x$  and  $y$ . By Cognitive Significance, it is possible for a rational subject to think  $x$  without  $y$  or  $y$  without  $x$ . By symmetry, we can suppose, without any loss of generality, that the first case obtains, and that it is possible to think  $x$  without  $y$ . So there is a possible subject  $S$ , in a possible world  $w$ , and a time  $t$ , such that in  $w$ , at  $t$ ,  $S$  thinks  $x$  without  $y$  and is rational. Given that  $x$  is one-shot (it can only be thought once) and that I am actually thinking  $x$  right now, however,  $S$  must be me,  $w$  must be the actual world and  $t$  must be now. As  $S$  at  $(w, t)$  thinks  $x$  but not  $y$ , this implies, in turn that I am thinking  $x$  but not  $y$ . This, however, is absurd, for I am, by hypothesis, thinking  $y$ . This implies, by *reductio*, that it is impossible for me to think two distinct one-shot thoughts.<sup>13</sup> I *can* however think two distinct 'I'-thoughts at the very same time. I can for example think, at the very same time, that I feel like drinking beers and that I feel like eating snails; yet these two thoughts are distinct. The Fregean commitment to the claim that 'I'-thoughts are one-shot is accordingly problematic, in so far as it leads to paradoxical consequences.

## 6. Rationality and objectivity

A mental event such as my thinking that I feel like eating snails is a Janus-like, two-faced particular. It has, on the one hand, some rational properties which are tied to the way it can be used in inferences, rational properties which the Fregean notion of (expressed) thought registers. It also has a-rational, empirical properties, tied to the subject, the world and the time at which it occurs, and to other aspects of its vehicle. Interestingly, one-shot thoughts are thoughts that can only be the content of one particular thought-vehicle. This means that the occurrence of the thought-vehicle thanks to which a given one-shot thought is entertained and the fact that

this thought is entertained at all are necessarily equivalent. In that sense, we might say that one-shot thoughts short-circuit the distinction between the rational field of thought and the a-rational field of thought vehicles. The rational features of one-shot thoughts are, so to speak, fused with their a-rational features. It is easy enough to suspect that this short-circuit might threaten the very rationality of the former.

This suggests a tentative diagnosis of the problem of one-shot thought presented above. The reason why Fregean thoughts should not be one-shot, is that they are defined by their rational features (this constitutive link is spelled out by Cognitive Significance). They cannot have such rational features, however, unless they are sufficiently distinct or "distant" from their a-rational vehicle, which is not the case when they are one-shot.

More than objectivity as usually conceived, it is this distinction or "distance requirement" that Fregean thoughts must meet if they are to be recognisable as thoughts at all. It is a requirement, however, that 'I'-thoughts could not meet on the Fregean construal.

Nor are the paradoxical results observed in connection with 'I'-thoughts confined to just one isolated type of case. If 'I'-thoughts (and indexical thoughts more generally) are indeed a-rational thoughts, this has far-ranging consequences. For instance, it seems reasonable to suppose that, whenever we reflect introspectively on our own thoughts, our doing so involves forming 'I'-thoughts. When I deliberately reflect on the thought, which just crossed my mind, that today is a beautiful day, what I do is to self-ascribe this initial thought; this presumably takes the form of a new and more complex, 'metarepresentational' thought which is something like "I think that today is a beautiful day". To say that 'I'-thoughts are a-rational might thus be tantamount to saying that all introspection lies outside the realm of rationality. This, however, is hardly a sustainable conclusion if epistemologists such as Shoemaker (1994), Gallois (1996) and Burge (1996) are right that introspection is a requirement on rationality. Exploring this and other indirect implications of our observation, however, would exceed the limits of the present essay. Suffice it for now to

note that the case of 'I'-thoughts, considered in its own right, not only further bolsters Glezakos's case against Frege's puzzle, but throws the notion of sense into a crisis in more ways than have been so far fully acknowledged.

## Notes

1. Or whatever complex representation is used as a vehicle to reflect on one's 'I'-thoughts in introspection. Talk of sentences here is a mere convenience; we do not wish to commit to any particular language-of-thought hypothesis. The only similarities that we'll assume between mental representations and sentences are captured by the following two hypotheses: (i) when we introspectively examine our own thoughts, this introspective thinking is realised by some representational vehicle or other; and (ii) such representations are capable of multiple instantiations.
2. Our argument generalises to all indexical thoughts (e. g. now-thoughts, here-thoughts, actually-thoughts), but for brevity's sake we'll present it with examples involving the concept "I".
3. This is a reformulation of Evans' "Intuitive Criterion of Difference" (Evans, 1982, 18), which recaptures Frege's criterion for sameness and difference between thoughts (and senses generally) in terms of sameness and difference in cognitive significance. Beyond their role as what accounts for differences in cognitive significance, Frege thinks that senses also have two further functions; namely, to act as "modes of presentation" of a referent, and to determine the truth-value of the representations expressing them. Some, most notably Perry (1979) and Kaplan (1989), doubt whether the same entity can in fact assume all three roles. However, as Frege believes this is indeed the case, we can ignore this debate here.
4. But see (May, 2006, 503).
5. Or indeed, whether this is a cogent notion at all. Frege's notion of thought is meant to capture precisely what, in cognition, is shareable between different subjects: "By a thought I understand not the subjective performance of thinking but its objective content, which is capable of being the common property of several thinkers" (Frege, 1892/1948, n. 5).

6. Recanati (1993, Chapter 4) presents a detailed case for the broader claim that psychological modes of presentation generally differ from linguistic modes of presentation.
7. The first to have articulated a precise theory of this kind is probably Reichenbach (1947).
8. Hart (1970) already points out a structurally similar issue, arising in connection with *sentences* that refer to themselves, like the sentence  $S_1$  “ $S_1$  is in English”. Hart observes that such self-referential sentences give rise to this puzzling feature that no other self-referential sentence can quite reproduce their meaning. This is best evidenced if we try to translate  $S_1$  in another language. A distinct sentence, for instance the French sentence  $S_2$ , “ $S_1$  est en anglais”, could also refer to  $S_1$ , but would in so doing cease to be self-referential. Yet another sentence,  $S_3$ , “ $S_3$  est en français”, might seem like a better translation of  $S_1$  since it preserves its self-referential structure; but the reference to  $S_1$  is missing in the content of  $S_3$ .  $S_1$  alone can carry just the meaning it does carry and be self-referential. This feature mirrors, at the higher level of abstraction of the sentence, the property of irreproducibility that token-reflexive contents have at the lower level of the occurrence.
9. The notation  $s[x]$  stands for the sense of a representation  $x$ .
10. (Perry, 1977/2000, 21).
11. The commitment to the existence of one-shot thoughts, we take it, is incurred by any strict neo-Fregean who endorses a descriptivist, token-reflexive view of ‘I’. This is not the case of Evans, who doesn’t satisfy the second condition; but it is the case of Zemach (1972, 1985) and Higginbotham (2003). (By a “strict” neo-Fregean, we mean someone who does not just admit of the existence of senses, but confers on them a direct truth-conditional role. Perry, according to this criterion, does not count as a strict neo-Fregean.)
12. Throughout the argument, ‘thinking’ stands for one and the same attitude.
13. Say that a thought  $x$  rationally implies  $y$  if an ideally rational subject cannot think  $x$  without thinking  $y$ . The above argument can easily be strengthened to show that I cannot think a one-shot thought at the same time as a thought which is not rationally implied by it. But I can clearly think simultaneously, under the same attitude, any two thoughts which are not contradictory, whether or not they are in a relation of rational

implication; so the strengthened argument, again, yields a paradoxical result.

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