

Indexical thought : the communication problem

François Recanati
Institut Jean-Nicod

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Abstract

Building on insights derived from the work of Perry, Lewis and Stalnaker, a characterization of indexical or 'de se' thoughts is offered, focusing on their limited accessibility, and positing two levels of content for them. Limited accessibility means that indexical thoughts can only be entertained by thinkers located in the right context. This raises the communication problem : how do we communicate such thoughts across contexts ? A solution is offered, in the mental file framework. In the second part of the chapter, the solution is compared to those recently offered in the centred content literature.

I. The problem and its solution (in the mental file framework)

1.1 Mental indexicality

There was a time when people took indexicality to be a property of language, and of language exclusively. Thought itself, they believed, *could not* be indexical (any more than it could be ambiguous). Then came the discovery of 'the essential indexical'. Prior, Castañeda, Perry, Kaplan and Lewis put forward examples in which removing the indexicals from a sentence changes the nature of the thought that is expressed.¹ 'In these cases', Stalnaker says (1981, p. 133), 'there seems to be no way to eliminate the indexical element in the expression (...) of the attitude without distorting the content'. This seems to establish that *the thought expressed by uttering an indexical sentence is itself indexical*. Indexicality is 'essential' to the extent that it is a feature of *thought itself*, not merely of the linguistic means through which it is expressed.

What was the argument which had convinced so many philosophers, before the Castañeda-Perry shift, that thought itself could not be indexical (or ambiguous) ? It is the following. Indexicality, like ambiguity, has to do with the *relation* between the sentences we utter and the thoughts we thereby express. If we abstract from the relation, by considering the thought itself (one of the relata), the notions of ambiguity or indexicality no longer apply. It is, therefore, a *category mistake* to ask whether thought itself is, or might be, indexical.

Consider ambiguity first, to see how the argument works. Ambiguity is a property that is instantiated when the same sentence, or what superficially looks like the same sentence, expresses distinct thoughts. If we abstract from the linguistic expression of thought and

¹ See Castañeda's and Perry's respective collections of papers on the topic (Castañeda 1999 and Perry 1993 and 2000), as well as Prior 1959, Kaplan 1989, and Lewis 1979.

consider the thoughts themselves, no room is left for ambiguity : the thoughts themselves cannot be ambiguous, only their linguistic expression can. As Jerry Fodor (one of the early opponents of both mental ambiguity and mental indexicality) puts it, ‘whereas it’s thoughts that equivocal sentences equivocate between (...), there doesn’t seem to be anything comparable around that could serve to disequivocate thought’ (Fodor 2003 : 56).

Were this argument against mental ambiguity correct, it would apply to mental indexicality as well. Indexicality is a property that is instantiated when a given sentence expresses distinct thoughts in different contexts and does not express any thought independent of context. If we abstract from the linguistic expression of thought and consider the thoughts themselves, no room is left for indexicality. As we might put it, paraphrasing Fodor : whereas it is thoughts that indexical sentences express with respect to context, there doesn’t seem to be anything comparable around that thoughts themselves could express with respect to context. Thoughts don’t express anything — they are *what* we express.

The argument begs the question, by presupposing a specific conception of thought as necessarily endowed with absolute truth-conditions. Indexical sentences are said to ‘express different thoughts in different contexts’, because their truth-conditions vary across contexts. But the variation in truth-conditions is not sufficient to establish that indexical sentences express different thoughts in different contexts, *unless* one assumes the Fregean conception of thought as absolutely truth-evaluable. That conception is not inevitable, however. There is an alternative conception of thought, which Hintikka ascribes to Aristotle and the Stoics and recommends as ‘very natural’²:

It is obvious that the sentence, ‘It is raining’, as uttered by me today, is made true or false by a set of facts different from those that verified or falsified my utterance yesterday, ‘It is raining’. But it is very natural to say that in some sense the state of mind or attitude toward my environment that is expressed by the two utterances is the same. The facts to which yesterday’s utterance refers are referred to today by the sentence, ‘It was raining yesterday’. But the ‘state of mind’ that this utterance appears to express seems to be entirely different from that expressed by yesterday’s present-tense utterance, ‘It is raining’. (...) Hence the idea that spoken words are symbols for unspoken thoughts encourages the idea that one and the same temporally indefinite form of words expresses one and the same belief or opinion at the different times when it is uttered. (Hintikka 1973 : 85)

Indexical thoughts may thus be characterized as *thoughts whose (absolute) truth-conditions are not fixed once and for all but depend upon the context*.³ When I think ‘it is raining’ at *t*, the thought is true iff it is raining at *t*. When I think *the same thought* at *t’*, the thought is true

² Stalnaker finds the alternative conception ‘less natural’ than the standard, Fregean conception of thoughts as absolutely evaluable (Stalnaker 2008 : 50) ; but this may be due to the fact that he has been raised in the Frege-Russell tradition. Those acquainted with the earlier tradition, like Hintikka and Prior, find the alternative conception of thought as natural, if not more. In their book *The Development of Logic* (1962 : 165) Kneale and Kneale describe the Frege-Russell conception as ‘very strange’ in comparison to the older conception held by the Stoics. For a comparison (and a historical overview) of the two conceptions, see Prior 1957 : 104-22.

³ As the editors pointed out to me, this characterization of indexical thought is an alternative to those which appeal to haecceities or (on a certain interpretation) "particular and primitive" modes of presentation. Such views posit thoughts that are unshareable yet have absolute truth conditions.

iff it is raining at t' . That is, basically, Lewis' approach to the *de se* (Lewis 1979). According to his interpretation of the Perry example, Heimson and Hume both think 'I am Hume'. They think *the same thought*. But the (absolute) truth-conditions of the thought depend on the context of tokening. When thought by Hume, the thought is true iff Hume is Hume ; when thought by Heimson it is true iff Heimson is Hume. In other words, the thought is true 'at' Hume, but false 'at' Heimson, just as 'it is raining' is true at t but false at t' .

Let us now reconsider the argument against mental indexicality. It says that indexicality is a *relational* matter : it is a property of the expression relation between sentences and thoughts. If we look at thoughts themselves and abstract from their linguistic expression, the expression relation disappears from view, and the notion of indexicality no longer applies (so the argument goes). But if, following Hintikka and Lewis, we reject the Fregean stipulation regarding the absolute truth-evaluability of thoughts, we can respond to the argument by pointing out that *there is* a relation which we can use to make sense of the idea of mental indexicality. It is the relation between the thought and its (absolute) truth-conditions. The thought 'it is raining' has different truth-conditions when it is thought at t and when it is thought at t' . Likewise, for Lewis, the thought 'I am Hume' has different truth-conditions when thought by Hume and when thought by Heimson. The thought/truth-conditions pairing is relative to context, and this is sufficient to make the notion of indexicality applicable to the mental realm.

This result can be achieved *even if we allow for a Fregean view of content as absolutely truth-evaluable*. For Frege, a complete thought content can only be true or false, *tertium non datur*.⁴ It cannot be true at t and false at t' , or true at x but false at y . Since the 'thought' that it is raining is true (when entertained on a rainy day) *and* false (when entertained on a sunny day), it follows that it is not a genuine thought — a complete content — by Fregean standards. We can *accept* that stipulation (and the Fregean notion of thought based on it), and still make sense of the alternative notion of thought. As I pointed out in several places, the two notions of thought are compatible. The *complete content* of an utterance of 'It is raining' (what *Frege* calls the thought) arguably depends upon two factors : one internal and one external. The internal factor is the (Aristotelian) thought that is expressed : 'the state of mind or attitude toward [the] environment', as Hintikka puts it. The external factor is the time at which the (Aristotelian) thought is expressed or entertained. Without the external factor, no complete thought content in Frege's sense would be expressed. But the internal factor has an important role to play : it is meant to capture what is common to all of those who think 'It is raining' (and behave accordingly) in their respective contexts.

At this point we can help ourselves to a useful situation-theoretic notion : that of an 'Austinian proposition' (Barwise 1989a ; Barwise and Etchemendy 1987 ; Recanati 1996, 1997, 2000, 2007). An Austinian proposition has two components. One is a relativized proposition — something that has 'truth-at'-conditions. In a possible worlds semantics it can be modeled as a set of centred worlds, as suggested by Lewis. Let the proposition that one is Hume be such a relativized proposition, true at Hume but false at Heimson. The other component of the Austinian proposition is the index relative to which the relativized proposition is to be evaluated (the relevant 'center'). In the case at hand the index is either Hume or Heimson, depending on the context, so this gives us two Austinian propositions :

⁴ 'A thought is not true at one time and false at another, but it is either true or false, *tertium non datur*. The false appearance that a thought can be true at one time and false at another arises from an incomplete expression. A complete proposition or expression of a thought must also contain a time datum' (Frege 1967a : 338 ; quoted in Evans 1985 : 350).

<Hume, the relativized proposition that one is Hume>
<Heimson, the relativized proposition that one is Hume>

In contrast to the relativized proposition, which has only ‘truth-at’-conditions (it is true at certain indices and false at others), the Austinian proposition has *absolute* truth-conditions : it is true iff the relativized proposition is true at the relevant index. In this framework, we get the two levels of content we need to capture mental indexicality. The Austinian proposition, with its absolute truth-conditions, is the complete content. It determines a set of possible worlds — the worlds in which the Austinian proposition is true. The relativized proposition is the psychological content — the subjective or internal aspect of content.⁵

1.2. Thought as vehicle

Perry locates indexicality not in the content of belief but in the *belief state* through which the content is apprehended ; or, more accurately, in the relation between the content and the belief state. Hume and Heimson are in the same belief state, for Perry, but the contents of their beliefs are different. One believes that Hume is Hume, the other believes that Heimson is Hume. Distinct contents are presented to them under the same mode of presentation. It is also possible for the same content to be presented under distinct modes of presentation, as in Kaplan’s ‘my pants are on fire’/‘his pants are on fire’ example. Indexicality goes together with these possibilities (same state, different contents ; or different states, same content).⁶

Some philosophers are unhappy with this appeal to belief states or modes of presentation. In the seventies, neo-Fregeans such as John McDowell and Gareth Evans launched an attack on the ‘two-component picture’.⁷ They argued that the so-called ‘internal component’ is not an ingredient of content at all but the *vehicle*, or bearer, of content. Stalnaker takes the same line. While Perry construes belief states as having structure and involving concepts as constituents (corresponding to the structure and constituents of the sentence which expresses the state), Stalnaker insists that ‘concepts, objects, senses and semantic structure are part of the means by which content is determined, and not components of the content itself’ (Stalnaker 1981 : 135). He complains that Perry’s notion of a mode of presentation or way of thinking ‘blur[s] the line between the content of a representation and the relation between the representation and its content’ (Stalnaker 2008 : 28). In yet another place he writes :

[Perry’s] way of distinguishing content of belief from manner of believing distorts the phenomena, locating an aspect of Ralph’s conception of what the world is like on the wrong side of the line. Ralph’s way of representing Orcutt is essential to the way he

⁵ In the new framework Stalnaker has developed for thinking about these matters there is something similar to my Austinian propositions : Stalnaker represents belief states by means of a pair consisting of a ‘base world’ (a world centred on the subject at the time of thought) and a set of centred worlds representing the subject’s doxastic alternatives. (See Stalnaker 2008, 2014, and Ninan 2008 : 63, fn. 9 on the analogy between Stalnaker’s belief states and my Austinian propositions.) The set of centred worlds gives us the relativized proposition, and the base world gives us the index with respect to which it is to be evaluated.

⁶ See Perry’s famous ‘bear’ example in Perry 1977/1993 : 23 (see also the postscript to that paper, pp. 30-31).

⁷ See Recanati 1993 : 191-226 for a presentation of their arguments and a response. For a classic statement of the two-component picture, see McGinn 1982.

takes the world to be like, and not just to the manner in which he represents the world.
(Stalnaker 2006 : 287)

Perry's distinction between the content of belief and the way it is believed is inspired from Kaplan's character/content distinction, but the analogy is misleading, Stalnaker argues :

The motivation for the distinction, in Kaplan's theory, as I understand it, is something like this : we need to distinguish the information conveyed or represented from the means by which it is conveyed or represented. The information conveyed in an utterance — what is said — is of course dependent on the meaning of the sentence uttered, but one cannot identify content with meaning since what is said may depend on other things as well ; specifically, what is said may depend on information available in the environment of the utterance. Perry describes his distinction between objects of belief and belief states in a similar way as a distinction between *what* is believed and the *way* it is believed. But the point of Perry's distinction must be different, since the lesson of the examples of essentially indexical belief — the examples that motivate Perry's account — is that *indexicals are essential to the information itself and are not just part of the means used to represent it*. (Stalnaker 1981 : 148 ; my emphasis)⁸

Let me respond to that recurrent piece of stalnakerian criticism. I agree that psychological states are vehicles, and that vehicles should not be confused with the contents they carry. I also agree with Stalnaker that indexicality has got to be a feature of content, at some level. It can't be merely a matter of vehicle if the talk of 'essential indexicality' is to make any sense. But I think the Perry picture is not threatened, for the vehicles have *roles* in the cognitive economy, and these roles generate (internal) content. The vehicles are supposed to *do* certain things, which they can do only if the context in which they are deployed satisfies certain conditions. So the vehicles carry *presuppositional content* : their deployment *means* something, namely, that the context satisfies the conditions, whatever they are, on which their correct functioning relies. That aspect of the overall content of the vehicle is context-independent, in contrast to the truth-conditional content, which constitutively depends upon what I have called the external factor.

Consider, for example, referential expressions. What they contribute to the thought (construed as vehicle) is arguably a *mental file* (Recanati 2012). A mental file is undoubtedly a vehicle of content — it is a mental representation, which carries referential content if all goes well. A mental file refers to some object in the environment, through *epistemically rewarding relations* (ER relations) that the file exploits. Since the role of a file is to track an

⁸ Stalnaker makes the point again in his last book : 'The original idea, implicit in the motivation for the character-content distinction, was that indexicality is a part of the means used to communicate, and is not involved in the content of the information that one is communicating. When I say, 'I was born in New Jersey,' the content of what I say is the same as the content of your utterance of 'Stalnaker was born in New Jersey'. You might in fact just be passing along the information that my statement gave you. But the phenomenon of essentially indexical belief complicates the story. My beliefs about who I am, and what time it is, seem to have the indexical element in the content of what is believed, and not just in the means used to express it' (Stalnaker 2014 : 34). In the passage referred to in footnote 2, Kneale and Kneale criticize the claim that indexicality is a part of the means used to communicate, and is not involved in the content of the information that one is communicating.

object through some ER relation to that object, any deployment of the file will presuppose that there is some such object and that the relation obtains. For example, the deployment of a demonstrative file presupposes that the subject is perceptually tracking some object. The file may be deployed even if the contextual condition is not met and no reference is determined, but in all cases, whether successful or empty, the deployment of the file presupposes that the condition is satisfied. That presupposition has content, and that content accounts for behaviour (e.g. the subject's reaching for the nonexistent object).

If two expressions (or two occurrences of the same expression) are associated for a subject with distinct files referring to the same object *a*, it will be possible for that subject to rationally accept both that *a* has a certain property and that it does not have that property, for it will not be presupposed that the two files corefer if they refer at all. If two expressions (or two occurrences of the same expression) are associated for a subject with the same file, that will be impossible. In other words, the files play the role of Frege's *senses*. Via the presuppositional content they carry, they account for the subject's rational behaviour, and, at the same time, they refer. What they refer to depends upon the environment, so the internal/external distinction applies. Which file is deployed in the subject's mind accounts for the subject's rational behaviour ; that is the internal component. Which object stands in the relevant ER relations to the file at the time of deployment accounts for the reference of the file (and, arguably, for the reference of the expression associated with the file) ; that is the external component.

On this picture, the internal component is, indeed, a vehicle (a mental file), but a vehicle whose deployment carries presuppositional content. That content must be distinguished from the referential content also carried by the file : the object to which the file refers if the context satisfies its presuppositions. The same distinction between two aspects of content can be made for belief states, and that corresponds to Perry's distinction between what is believed and how it is believed. Just as sentences (and their constituents) have 'characters' which are functions from contexts to contents (Kaplan 1989), Perry's belief states (and their constituents) have 'roles' which are also functions from contexts to contents (Perry 1979). The roles in question provide the modes of presentation, which are used to make sense of the subject as a rational agent.

Perry's distinction between the two dimensions of content is analogous not only to Kaplan's character/content distinction, but also to that drawn in presupposition studies between what is 'at issue' and what is not.⁹ There is a narrow notion of content ('what is said') which corresponds to at-issue content exclusively ('subject-matter content', as Perry calls it), not to *all* the information that is conveyed by an utterance. As Heck puts it,

Information can be conveyed by an utterance in all kinds of ways, not only by being (part of) what is said. (...) If someone says 'I am a philosopher', part of what is conveyed by such an utterance is that she self-consciously believes herself to be a philosopher. If someone says 'You are a philosopher', then part of what is conveyed is that she is talking to someone she thinks is a philosopher ; 'She is a philosopher', that the person she demonstrates is female ; and so forth. But this observation should not lead us to conclude that part of what is *expressed* by an utterance of 'I am a philosopher' is that the speaker self-consciously believes that she is a philosopher. (Heck 2002 : 25-26)¹⁰

⁹ For a review see Roberts et al. (2009).

¹⁰ Heck appeals to Burge's 1974 analysis of indexical sentences (based on the idea that they only have *conditional* truth-conditions) to account for the distinction between what an indexical utterance says and what it merely conveys. Higginbotham also appeals to Burge's

Likewise for thought. Someone who judges ‘That is red’ is not thinking of the demonstrative relation in which she stands to the object she is thinking about. The thought she thinks is about the object, not about her relation to it. That, of course, is compatible with the fact that the subject is, or may be, aware of the relation. When Perry talks of the content of belief as opposed to the way of believing, it is that narrow notion of content that he has in mind. So it can be conceded to Stalnaker that how the subject represents Orcutt ‘is essential to the way he takes the world to be like’ — essential to ‘what he believes’, in a suitably *broad* sense. Ralph thinks of Orcutt through two distinct mental files, and the existence of these two files in his mental economy means that, for him, there are two distinct persons. One he takes to be a spy, the other not. As Stalnaker puts it, ‘were Ralph later to come to believe that the man he sees on the beach is also a spy, his conception of the world — the condition under which his beliefs would be true — would change’ (Stalnaker 2006 : 287). Following Stalnaker, we can represent Ralph’s global belief state by saying that in each of his doxastic alternatives, there is a guy with a brown hat whom he has seen on several occasions, and who is a spy, and another guy, seen at the beach, who is not. In contrast to Stalnaker, however, Perry is not talking about Ralph’s global (holistic) belief state — ‘what he takes the world to be like’ or ‘what he believes’ in general — but about *the local belief state one is in when one thinks a given occurrent thought*, such as the thought ‘That guy is a spy’ (thinking of Orcutt through the MAN-IN-THE-BROWN-HAT file). When Ralph assertively entertains that thought, he comes to believe something, which is true if and only if Orcutt is a spy. The relation between the MAN-IN-THE-BROWN-HAT file in Ralph’s mind and some individual in Ralph’s environment determines who Ralph’s thought is about, namely Orcutt, but the thought is not about the relation ; it is about Orcutt. The relation is presupposed, rather than part of the at-issue content of the judgment. (One of the problems with the ‘centred descriptivism’,¹¹ defended by Lewis is that it tends to blur the distinction between these two components or dimensions of content, by ‘internalizing’ the acquaintance relations on which the files are based and feeding them into the content of the state. Again, I agree that, when one thinks of an object through some relation *R*, for example when one perceptually attends to some object, one is aware that one is doing so. But our awareness of the relation through which we think of an object does not mean that it is part of what we think about when we think about the object.)

The distinction between the two dimensions of content is ultimately a difference in *attitude*. About the diagonal propositions which, in his framework, carry the non-at-issue content about the subject’s relation to what he is thinking about, Stalnaker says in various places that they are not a special kind of proposition, but correspond to a special way of determining a proposition. Commenting on Stalnaker’s approach (similar to his own approach in terms of reflexive propositions), Perry remarks:

‘normal forms for demonstrative reference and truth’ (Higginbotham 2003 : 103) to achieve the same result : ‘All demonstrative and indexical reference, including the unstated restrictions on a predicate, flows from rules of use and belongs entirely to the setting-up phase, so that the content of the rules does not enter the truth-conditions of what is said.’ (Higginbotham 2003 :106). In my own work I follow the same strategy (Recanati 1988, 1993 : chapter 1), and I extend it to the case of mental indexicality (Recanati 1993, 2012). Just as there are rules of use which conditionally determine the reference of indexicals and generate ‘truth-conditionally irrelevant’ aspects of content (e.g. the presupposition that the referent is female, or that she is the addressee), the mental files through which we refer in thought are governed by norms which also generate presuppositional content.

¹¹ I borrow this expression from an ealier draft of Ninan (2013).

We do not generally believe the reflexive truth-conditions of our beliefs, or the diagonal propositions their truth requires. I am inclined to reserve 'believes' for propositions about the subject-matter of the person's belief, objects and properties for which the person has concepts and often words. (...) Still, [one can] have the following relation to [reflexive/diagonal] propositions : [one can] have a belief, with those reflexive truth-conditions. I think that's a different attitude from belief. (Perry 2006 : 218)

As Perry says elsewhere, 'there is a difference between being able to think of a thing or person in virtue of some role it plays in one's life, and being able to articulate that role in thought or speech and think of it as the thing or person playing that role in one's life' (Perry 1997/2000 : 363 ; see also Perry 2001 : 132). And also : 'Attunement to the relation that our self-notions have to ourselves, or our perceptions have to the object they are of, does not require belief or thought about the relation ; it requires know-how, not knowledge that' (Perry 2012 : 99). In earlier work, Perry drew a distinction between belief and acceptance (Perry 1980b). The subject believes the classical proposition which the Austinian proposition determines. For example, Heimson believes that he is Hume, a proposition that is true iff Heimson is Hume. But he does this through *accepting* the thought ('I am Hume') which is the internal component of the Austinian proposition.

1.3. Limited accessibility : rejecting the Naïve Conception of Communication

What is specific to indexical thoughts is that they are, as Heck says after Burge, 'essentially context-bound'.¹² The internal or subjective content of the thought and its objective truth-conditions come together only given a particular context. In a different context, the same subjective content will determine distinct truth-conditions.¹³ So the complete thought, involving both the subjective content and the objective truth-conditions, is of 'limited accessibility' : it is only accessible to the subjects located in the right context.¹⁴ This, Perry says, is a 'benign form of limited accessibility', expressible as follows in his framework :

Anyone at any time can have access to any proposition. But not in any way. Anyone can believe of John Perry that he is making a mess. And anyone can be in the belief state classified by the sentence 'I am making a mess'. But only I can have that belief by being in that state. (1979/1993 : 49)

This property of indexical thoughts creates an obvious problem with respect to communication. How can we manage to communicate such thoughts to those who are not in

¹² See Burge 1979 : 430 ; Heck 2002 : 12.

¹³ 'We cannot in general, having moved to a different setting, preserve reference and perspective simultaneously' (Higginbotham 2003 : 101).

¹⁴ 'Without violating any essential principle of Frege's philosophy, (...) we may agree with Evans that 'there are thoughts which one can have only because one occupies a particular position in space or time, or because one is currently perceiving an object' ; (...) and by the same token, there are thoughts which only he can have, i.e. can think, who is the subject of them' (Dummett 1981 : 122). 'Self-conscious Thoughts and Thoughts of recognition are Thoughts one can entertain only if one is in an appropriate context, i.e. suitably placed with respect to one's environment. The self-conscious Thought that I am a philosopher is one that only I can entertain : at least, it is the self-conscious Thought that *I* am a philosopher only when I entertain it' (Heck 2002 : 12-13).

the right context ? If the hearer entertains a thought with the same subjective content as the speaker's thought, that thought will not retain the truth-conditions the speaker's thought originally had. Were the hearer, upon understanding the speaker's first person utterance, 'I am thirsty', to entertain the subjective content of the speaker's thought, he would thereby ascribe to himself the property of being thirsty (he would think 'I am thirsty'). Communication would fail dramatically, for the speaker meant to communicate that *she* was thirsty, not that the hearer was. To keep the truth-conditions constant across contexts as we shift from the speaker's to the hearer's point of view, we have to *adjust* the internal content of the thought, in the same way as Frege says we do in speech with the indexicals when the context changes.¹⁵ But that means that what Heck calls the *Naïve Conception of Communication*¹⁶ is incorrect.

The Naïve Conception of Communication rests on the idea that communication is the *replication* of thoughts : the thought the hearer entertains when he understands what the speaker is saying is the very thought which the speaker expressed. But in the indexical case, there is no replication, but some kind of systematic transformation. The truth-conditions can be preserved across contexts only if the internal content of the thought is modified or adjusted so as to compensate for the shift in point of view from the speaker to the hearer. It follows that the Naïve Conception is false. As Martin Davies said a long time ago,

The doctrine that in successful communication the hearer (audience) comes to have a thought with the same content as the thought expressed by the speaker obviously needs to be complicated in the case of communication using demonstratives. (Davies 1982 : 293)¹⁷

What, exactly, is wrong with the Naïve Conception of Communication ? Maybe what is wrong is the idea that what is communicated is a complete *thought*, including both the 'internal component' and the objective truth-conditions it contextually determines. Maybe we should say that what is communicated, and therefore replicated, is not the thought itself but *only* its truth-conditional content.¹⁸ As Perry once said, 'one reason we need singular

¹⁵ 'If someone wants to say the same today as he expressed yesterday using the word *today*, he must replace this word with *yesterday*' (Frege 1967b : 24).

¹⁶ Heck 2002 : 8. Egan (2007) calls it the 'belief transfer model', Moss (2012) the 'package delivery model', and Weber (2013) the 'FedEx Model'. It is referred to in the cognitive linguistics literature as the 'conduit metaphor', after Reddy (1979).

¹⁷ Heck concurs :

The assumption that, when I communicate with other speakers, my intention is that they should come to believe *the very Thoughts I am expressing* (...) is indefensible. The problem is most dramatic in the case of 'I'. The belief that someone expresses when she says 'I am a philosopher' is the self-conscious belief that she herself is a philosopher. But the belief I form, if I accept what she says as true, is not the self-conscious belief that she is a philosopher : I cannot so much as entertain that belief. (...) What accounts for the essential indexicality of her self-conscious Thoughts is the fact that her self-conscious Thoughts are ones only she can entertain. The belief I acquire cannot be the belief the speaker is expressing ; it is, instead, the belief that she (the speaker) is a philosopher, a belief that involves a demonstrative (and not a self-conscious) way of thinking of her. (Heck 2012 : 28)

¹⁸ According to Dirk Kindermann (personal communication), 'by itself the Naïve Conception (the belief transfer model/package delivery model/etc.) makes no claim about what KINDS of contents travel from speaker to hearer, or what aspects of thoughts are replicated in the

propositions is to get at what we seek to preserve when we communicate with those who are in different contexts' (Perry 1988 : 4).

But there are obvious counterexamples to the view that what is communicated is only the truth-conditional content (the singular proposition, in Perry's Kaplanian framework). There are cases in which understanding an utterance clearly *requires* thinking of the reference under a certain mode of presentation. Brian Loar gives the following example:

Suppose that Smith and Jones are unaware that the man being interviewed on television is someone they see on the train every morning and about whom, in that latter role, they have just been talking. Smith says 'He is a stockbroker', intending to refer to the man on television; Jones takes Smith to be referring to the man on the train. Now Jones, as it happens, has correctly identified Smith's referent, since the man on television is the man on the train; but he has failed to understand Smith's utterance. It would seem that, as Frege held, some 'manner of presentation' of the referent is, even on referential uses, essential to what is being communicated. (Loar 1976 : 357)

Heck (2002 : 32-33) uses Perry's 'Enterprise' example to make essentially the same point. In Perry's example, there is a very long ship that can be seen through two windows (the bow through window A, the stern through window B). Neither the speaker nor the hearer suspects that it is the same (unusually long) ship. If the speaker points to the bow of the ship through window A and says, 'That ship is an aircraft carrier', the hearer does not understand what the speaker is saying if he takes her to be talking of the ship whose stern they can see through window B. Yet it is the same ship, so the thoughts 'That ship_{bow} is an aircraft carrier', and 'That ship_{stern} is an aircraft carrier' have the same singular truth-conditions (they are both true if and only if the ship – the same in both cases – is an aircraft carrier). Here again it follows that the mode of presentation (the way the ship is thought about) is essential to what is communicated.

Ninan (2010) gives a similar example, involving the modes of presentation under which the discourse participants think of themselves:

John says to Mary, *Hey ! your pants are on fire !* Now suppose Mary does not realize John is speaking to her. What happens is that she sees someone in a mirror, and she thinks that John is talking to that person, and she comes to believe that that person's pants are on fire. As it turns out, that person *is* Mary ; she just doesn't realize it. So if she accepts John's utterance, she will come to have a third person *de re* belief about herself to the effect that her pants are on fire. But even though Mary forms this *de re* belief about herself, there is clearly an important sense in which she hasn't understood what John said, for she hasn't realized what it is that he was trying to get her to believe. John's communicative intention will not be realized unless Mary forms the relevant *de se* belief. (Ninan 2010 : 560-61)¹⁹

hearer.' Since I distinguish three different aspects (the complete thought, the subjective content, and the objective truth-conditions), 'it follows that the Naïve Conception is false/incorrect only on the assumption that the replicated part is [either] the complete thought or the subjective content'. Kindermann concludes that 'there is a version of the Naïve Conception - the version on which objective truth-conditions are replicated - which is essentially correct'.

¹⁹ Analogous examples can be found in Textor (forthcoming) and Garcia-Carpintero (this volume).

As these examples establish, the preservation of truth-conditional content is a major constraint which the communicative process has to satisfy, but there are other constraints — communication is not *merely* the communication of truth-conditional content. Some suitable relation (weaker than identity but stronger than mere coreferentiality) has got to hold between the modes of presentation respectively deployed by the speaker and the hearer in successful indexical communication. The problem of characterizing that relation is similar to the problem of *cognitive dynamics* — the problem of specifying the relation that must hold between the modes of presentation deployed by a single individual at different times t and t' for the subject to count as having ‘retained’, at t' , the temporally indexical belief held at t (e.g. the belief that it is 1 :00 p.m.).²⁰

1.4. Indexical communication in the mental file framework

So what *is* wrong with the Naïve Conception ? Among the diagnostics which have been offered, some aim to *protect* the Naïve Conception from the indexical counter-examples. Thus it is common to hold that what is communicated, and therefore replicated, is not the speaker’s indexical thought (which cannot be shared) but an *ersatz* thought, a substitute or ‘surrogate’. This solution has attracted attention lately (Torre 2010, Moss 2012, Kölbel 2013). It was originally put forward by Frege in a well-known and somewhat mysterious passage :

Every one 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'... (Frege 1967b : 25-6)

What Frege suggests in that passage is that the thought communicated is not the speaker’s (incommunicable) first person thought but another, suitably related thought. There is replication, on that view, but what is replicated is not the speaker’s first person thought.²¹

Does the ‘substitution’ strategy make it possible to rescue the Naïve Conception? I do not think so. The Naïve Conception comports two tenets, which Weber calls the ‘mind-to-speech principle’ and the ‘speech-to-mind principle’ (Weber 2013 : S208) :

(Mind to speech)	<i>Speaker’s thought = thought expressed by the utterance</i>
(Speech to mind)	<i>Thought expressed by the utterance = hearer’s thought</i>

Frege’s suggestion sacrifices the first tenet of the view. He takes the thought expressed by a first person utterance (its semantic content) to be distinct from the speaker’s first person thought. Other authors are willing to sacrifice the other tenet. Thus Dummett (1981 : 122) says that in communication, it is sufficient for the hearer to *recognize* the thought expressed by the utterance (which, for Dummett, *is* the speaker’s thought). The hearer recognizes the

²⁰ On the problem of cognitive dynamics, see Kaplan 1989, Perry 1980a and 1997, Evans 1981 and 1982, Campbell 1994, Dokic 1996, Branquinhho 1999 and 2008, Prosser 2005 and forthcoming, Dickie and Rattan 2010, and Recanati forthcoming.

²¹ At least, that is the standard interpretation of Frege’s passage. For a nonstandard interpretation, see May 2006.

speaker's thought, but that thought does not become the hearer's thought — it remains bound to the speaker.²² Gibbard (2012) and Weber (2013) say that the hearer's thought is not identical to the thought expressed by the utterance (which, for them also, is the speaker's thought) : it results from a *Transform-and-Recenter* operation on it. In a similar vein, Kölbel (2013) distinguishes the semantic content of a sentence (what it expresses in context) from its 'conversational content' which is communicated to the hearer. (See part II below for a discussion of these views.)

In earlier work (Recanati 1993, 1995, 2012) I presented another interpretation of Frege's passage, based on my own distinction between linguistic and psychological modes of presentation (Recanati 1990). I don't claim that that interpretation corresponds to what Frege actually meant, only that this view, inspired by Frege's passage, provides an interesting solution to the problem of indexical communication — a solution which, in the second part of the chapter, I will compare to the other solutions currently on the market.

Linguistic modes of presentation are whatever information is linguistically encoded about the reference. 'I' encodes the information that the referent is the speaker, 'you' that it is the hearer, and so on and so forth. Psychological modes of presentation are the ways the subject thinks of the reference. When the speaker says 'I', she thinks of herself in the first person way, but the hearer who understands her thinks of her in a different way. The interpersonal variability of psychological modes of presentation establishes that linguistic and psychological modes of presentation are distinct, for the linguistic mode of presentation is constant : 'I' means the same thing for the speaker and the hearer. The same conclusion can be reached by considering demonstratives : It is possible for a rational subject to think 'That is *F* but that is not *F*', even if the two occurrences of 'that' refer to the same object. In such a case, one has to posit two distinct (psychological) modes of presentation to satisfy the basic constraint which governs them : so-called 'Frege's Constraint'.²³ But there is a single linguistic mode of presentation associated with 'that' : a single piece of linguistic knowledge about the referent is encoded in the word. Again we reach the conclusion that linguistic and psychological modes of presentation are different.²⁴

²² On Dummett's view, it is unnecessary to distinguish between the thought which Lauben privately entertains and the thought he communicates. One may, instead, distinguish between *thinking* a thought and *grasping* it. The hearer can grasp the thought an utterance expresses (i.e. know which thought is expressed), even if she cannot think it. 'Although you, the hearer, know what thought I had when I thought to myself, 'I have been wounded', you cannot think that thought yourself. What this shows is that Frege was wrong to say, as he did, that to think is to grasp thoughts, at least if grasping a thought is the same as knowing what thought it is. Hence, even if there are thoughts which only one person can think, or which only a person in some given situation can think, there is no need to conclude that there are thoughts that cannot be communicated' (Dummett 1981 : 122).

²³ 'Necessarily, if *m* is a mode of presentation under which a minimally rational person *x* believes a thing *y* to be *F*, then it is not the case that *x* also believes *y* not to be *F* under *m*. In other words, if *x* believes *y* to be *F* and also believes *y* not to be *F*, then there are distinct modes of presentation *m* and *m'* such that *x* believes *y* to be *F* under *m* and disbelieves *y* to be *F* under *m'*. Let us call this *Frege's Constraint* ; it is a constraint which any candidate must satisfy if it is to qualify as a mode of presentation.' (Schiffer 1978 : 180)

²⁴ A strong argument for the distinction between linguistic and psychological modes of presentation involves the phenomenon which Campbell describes under the heading 'trading on identity' (see e.g. Campbell 1987) ; but I take the need for the distinction to be sufficiently established already and I will not elaborate.

Psychological modes of presentation, in my framework, are mental files. The SELF file is based on a special ER relation, a relation one bears to oneself and to no-one else. (That relation is identity.) The speaker who thinks about himself in the first person way deploys such a file. The file stores information the speaker gains about himself in the first person way. Since the speaker is aware of being the speaker, the piece of information encoded by the word 'I' (the property of being the speaker) corresponds to a piece of information *in* the file. The hearer also has a file about the speaker, and that file also contains that piece of information (since the hearer is witnessing the speech event and knows that the speaker is speaking to him). So the linguistic mode of presentation corresponds to a piece of information that is common to both the speaker's and the hearer's files about the speaker. These files are distinct, and they are of different types, but they are constrained by the linguistic mode of presentation. The linguistic constraint on files is a means for coordinating them.

On this interpretation the linguistic modes of presentation are not *ersatz* ingredients of thought. They are not thought constituents, but they are suitably related to the relevant thought constituents. The thought constituents are the files – the psychological modes of presentation — which the linguistic mode of presentation constrains. It follows that communication involves, not replication, but coordination of thoughts. The coordination aspect is obvious in cases of joint attention accompanying the use of demonstratives. The speaker and the hearer do not have the same perspective on the object of attention but their attentional acts are coordinated and converge on the object. Similarly, the mental acts of reference performed by the speaker and the hearer by means of their respective files about the speaker are coordinated through, *inter alia*, the linguistic mode of presentation encoded by the word 'I'.

Which of the two tenets of the Naïve Conception am I rejecting ? I am rejecting both. The two tenets appeal to the notion of 'the thought expressed by the utterance'. Let us call the thesis that there is such a thing the *presupposition* of the Naïve Conception. Since the speaker's thought and the hearer's thought are different, the presupposition creates a problem. To solve it, we have to equate the thought expressed by the utterance *either* with the speaker's thought or with the hearer's thought (unless we can think of yet another candidate). But this creates another problem :

One possible objection to this move is that it is somehow arbitrary. How do we choose the particular point of view to be privileged? On intuitive grounds it seems natural to select the point of view of the speaker, yet there are *also* reasons to select the hearer's point of view. As Evans emphasized, what matters, when we want to individuate semantic content, is what would count as a proper *understanding* of an utterance (Evans 1982: 92, 143n, 171, etc.); but 'understanding' defines the task of the hearer. (Recanati 1995 : 98)

To escape the charge of arbitrariness, the solution I recommend is to *give up the presupposition of the Naïve Conception* (hence its two tenets, since they both rest on it). We have to give up the very notion of 'the thought expressed by the utterance'. There is no such thing : there is the speaker's thought and the thought formed by the hearer if communication is successful (Bezuidenhout 1997). That is all there is as far as thoughts are concerned. We don't need an additional entity, the thought expressed by the utterance.

Heck comes to the same conclusion, on very much the same grounds, and I will end this section by quoting him :

What we (relatively) uncontroversially have are speakers who associate Thoughts with utterances and restrictions upon how the different Thoughts they associate with a

given utterance must be related if they are to communicate successfully. (...) It is not unreasonable to want to identify something objective underlying the diversity, something shared that contains variations. Frege himself eloquently expresses several reasons one might want such a thing. But, I am now suggesting, the tension between the real-life facts of communicative practice and the demand for something shared are ultimately irreconcilable, unless we reconcile them by brute force and just define something shared into existence. I say that we should abandon the demand, recognizing it as a remnant of the Naïve Conception of Communication. We should seek to explain communication not in terms of speakers' agreeing about what an utterance means but in terms of there being an appropriate relation between the Thoughts they associate with it. (Heck 2002 : 42-43)

II. Other approaches

2.1. Naïve Communication with centred contents : Egan

Interest in the problem of indexical communication has recently been fueled by the success of Lewis' centred worlds approach to mental indexicality. According to Lewis, the subject who thinks an indexical thought (or any thought, for that matter) self-ascribes a property, which can be modeled as a set of centred worlds. Hume and Heimson both self-ascribe the property of being Hume, and having written the *Treatise*. Lewis' approach was acclaimed as requiring only minimal amendment to the possible worlds framework used in semantic approaches to the attitudes : one only has to take the possible worlds representing the subject's doxastic alternatives to be 'centred' on an individual to capture what is distinctive of indexical thought — its perspectival character. But Stalnaker objected that this fine-grained approach to content

makes it more difficult to compare past with present beliefs, and, more important, to explain the relations between the beliefs of different persons — relations that are essential to a natural explanation of the exchange of information. (Stalnaker 1981 : 146)

Imagine a subject who, on Monday, thinks 'Today is Mary's birthday', and retains that belief until the next day. The next day, if he has kept track of time, he will think 'Yesterday was Mary's birthday'. The belief has been retained, so there must be a certain content that is the content of the belief that is retained. But the sets of centred worlds by means of which Lewis represents the content of the indexical beliefs respectively held on Monday and Tuesday are different sets. Or suppose the amnesiac Lingens meets Orcutt in the Stanford Library and asks him : 'Who am I ?' Orcutt answers : 'You are Lingens'. It seems that Orcutt provides the requested information as directly and explicitly as possible, but that is not what the centred worlds model says. According to the model,

Lingens asks which of a certain set of properties is correctly ascribed to himself. Orcutt responds by ascribing a *different* property to *himself*. Lingens is then able to infer the answer to his question from Orcutt's assertion. (Stalnaker 1981 : 147)

Stalnaker finds this too complicated²⁵ and suggests looking for an ordinary possible worlds proposition to be the communicated content, shared by the interlocutors (or the content of the belief that is retained in the Monday/Tuesday case); he therefore suggests giving up Lewis' theory instead of giving up the Naïve Conception of Communication.²⁶

In the past few years, several philosophers have tried to reconcile Lewis' framework with the Naïve Conception of Communication endorsed by Stalnaker. The first to do so was Andy Egan in 'Epistemic Modals, Relativism and Assertion' (2007). Egan assumes the Naïve Conception, which he finds 'pretty plausible', while acknowledging that it leads to disaster when applied to the communication of centred contents. Egan summarizes the Naïve Conception as follows :

In ordinary cases of successful assertion, there is a single proposition P which is (a) believed by the person making the assertion, (b) the content of the utterance used to make the assertion, and (c) comes to be believed, as a result of the assertion, by the other parties to the conversation. (Egan 2007 : 12)

The Naïve Conception leads to disaster if we further assume that 'My pants are on fire' expresses a centred content, viz. a set of worlds centred on a person whose pants are on fire. For the Naïve Conception entails that the trusting hearer will accept the content expressed by the speaker, hence, in this case, self-ascribe the property of having one's pants on fire. But of course, in real life, the trusting hearer to whom the speaker says 'My pants are on fire' will not form the belief that his own pants are on fire ! Egan notes, however, that the Naïve Conception has disastrous consequences, when applied to the communication of centred content, only if the speaker's and the interlocutor's contexts are relevantly dissimilar. If the contexts are relevantly similar (e.g. the speaker and the locutor are in the same place at the same time and the speaker says 'Sydney is near'), then both the speaker and his addressee will unproblematically self-ascribe the property that is the (centred) content of the utterance (the property of being near Sydney) : the Naïve Conception no longer has disastrous consequences, in such a setting. It would have disastrous consequences only if the hearer was located in a different place than the speaker, far from Sydney. The utterance by the speaker of the sentence, 'Sydney is near', which expresses his thought would be *illegitimate* in such a setting. It follows that the tension between the centred worlds framework and the Naïve

²⁵ Not everyone does. Gibbard analyses a standard episode of communication as follows : 'Speaker Ann expresses something of how things are from her own standpoint. Ben the hearer, knowing how things are from Ann's standpoint, draws on whatever he knows about her standpoint in relation to his own, and uses this to conclude something of how things are from his own standpoint.' (Gibbard 2012 : 260) Likewise Weber (2013 : S222): 'As the speaker doesn't merely characterize the world she shares with the hearer, but rather represents something about her individual location within it, the hearer cannot directly endorse the information expressed. She gains information about her own location from information about a different location and her beliefs about how she is related to that location'.

²⁶ In more recent work (2008, 2014), Stalnaker has come to appreciate the usefulness of centred contents for representing the internal aspect of content (the subject's doxastic alternatives) ; but he 'links' the centred worlds in the internal content to the subject and the time in the 'base world', thereby simultaneously providing the external component (hence the possible worlds truth-conditions) and capturing the fact that indexical thoughts are 'context-bound'. As noted already, Stalnaker's approach is similar to the two-levels-of content approach I defend in Recanati (2007) and this chapter.

Conception of Communication can be alleviated by suitably *restricting* the use of centred contents in communication.

According to Egan, the following is an inconsistent triad, given the belief-transfer model of assertion which he takes from Stalnaker (1978):

- (1) The utterance expresses a centred content
- (2) The hearer is in a relevantly dissimilar context
- (3) Communication proceeds smoothly

If (1) and (2) are true, (3) must be false : communication fails when the utterance expresses a centred content which is not 'locally portable' and cannot be shared by the hearer.²⁷ If (1) and (3) are true, (2) must be false : if the content is *de se* yet communication proceeds smoothly, the hearer must be in a relevantly similar context. If (2) and (3) are true, (1) must be false : if the contexts are dissimilar yet communication proceeds smoothly, that means that what the utterance expresses is not a centred content.

A consequence of the theory is that 'My pants are on fire' does *not* express a centred content. This follows from the fact that, when Kaplan utters that sentence to his sister, communication proceeds smoothly even though the contexts are relevantly dissimilar : (2) and (3) are true, so (1) must be false. Egan accepts that, and concludes that 'My pants are on fire' expresses an ordinary possible worlds proposition (true if and only if Kaplan's pants are on fire) rather than a centred content. As he puts it (Egan 2007 : 12) : 'If we're going to accept the belief-transfer model of assertion, we had better reject the semantic theory that says that utterances of 'My pants are on fire' express PANTS' ('PANTS' is Egan's name for the centred proposition that one's pants are on fire). Still, 'Sydney is near', or 'Bond might be in Zurich', do express centred contents, in Egan's framework. The Naïve Conception (and its potentially disastrous consequences when applied to the communication of *de se* content) provides Egan with a criterion for deciding *when* an utterance expresses a centred content and when it does not.

Has Egan managed to reconcile Lewis' centred worlds approach with the Naïve Conception of Communication ? He hasn't. The state of mind of the speaker who suddenly realizes what's happening and exclaims, 'My pants are on fire !' (and acts accordingly) is one of the things Lewis' theory of centred content is meant to capture. The subject self-ascribes the property $\lambda x.x's\ pants\ are\ on\ fire$. That's what is common to all of those who think their pants are on fire and act accordingly. But for Egan, that relativized proposition is *not* the content of the utterance : the content of the utterance can't be centred in that way, if the Naïve Conception of Communication is correct, because if it were all the parties to the conversation would have to self-ascribe the property as well. So Egan faces a dilemma. Either he has to give up Lewis' analysis of first person thoughts (by denying that such thoughts are centred), or he has to deny that the speaker's first person *utterance* expresses his centred *thought*.²⁸

²⁷ A content is *portable*, according to Kölbel (2013 : 100-102), if its truth-value is perspective-invariant, and *portable relative to a given class of perspectives* iff its truth-value is invariant across perspectives within the class. A content is *locally portable* (in a conversation) iff the perspectives of the conversationalists belong to a class relative to which the content of the utterance is portable. A content must at least be locally portable if it is to be shared by the conversational participants.

²⁸ See Weber (2013 : S218) : 'The problem for the FedEx model arises from centred *utterance* content. The Lewisian account of belief only commits us to centred *belief* content. Perhaps a clash between the two can be avoided by keeping utterance content uncentred.'

Egan is likely to choose the latter option (insofar he wants to preserve Lewis' centred worlds approach) but to do so he has to give up the first tenet of the Naïve Conception.

2.2. Going uncentred : Moss and Stalnaker

According to Moss (2012), whenever the subject believes a relativized proposition or *de se* content (e.g. that her pants are on fire), there is a classical, unrelativized proposition (a 'de dicto' content, as she puts it) which the subject also believes, and which is equivalent, in context, to the relativized proposition, given the speaker's background beliefs. Thus suppose that Kaplan thinks : 'My pants are on fire.' He self-ascribes the property $\lambda x.x$'s pants are on fire. Since he believes that he is Kaplan (or the author of 'Demonstratives'), he also believes the de dicto, uncentred proposition that Kaplan's pants are on fire (or that the pants of the author of 'Demonstratives' are on fire). The two propositions are equivalent *given Kaplan's belief that he is Kaplan (or the author of 'Demonstratives')*, but it is the classical, unrelativized proposition which is communicated to the hearer.

Moss' idea is that the subject's indexical thought is always equivalent in the speaker's mind to some other, nonindexical thought (given what the subject believes). Since it is not indexical, the other thought can be communicated to, and replicated by, those in other contexts. This is an application of Frege's substitution idea, and indeed, Frege's example can be analysed in Moss' framework. The subject's centred thought that he has been wounded can't be communicated, but given the subject's belief that he is speaking (i.e. producing the utterance 'I have been wounded'), the initial thought is equivalent to the thought that the speaker has been wounded, and that is the proposition which the utterance communicates.

Moss considers as having de dicto, uncentred content any thought in which the subject thinks about himself from a third person perspective. An example she gives is Kaplan looking at himself in the mirror and (not realizing it is himself he is looking at) thinking : 'His pants are on fire'. In this case, she says, the subject thinks about himself in the third person way and expresses a proposition which is de dicto rather than de se. Now, Moss points out, the third person perspective on himself is available to Kaplan even if he realizes that he is the person he sees in the mirror. In this case the subject believes *both* the de se proposition and the de dicto proposition (and it is the de dicto proposition which is communicated).

At this point, however, I should register a protest. Kaplan's third person thought, 'His pants are on fire', is a *demonstrative* thought, a thought about the person Kaplan is looking at in the mirror. Such a thought is as indexical, as centred, as context-bound as the first person thought 'My pants are on fire'. In Lewis' framework, the subject self-ascribes the property of having his pants on fire in the first case, and the property of looking at a man whose pants are on fire in the second case. There is no significant difference between the two cases, it seems to me.

To overcome the difficulty, Moss has to say that the substitute thoughts are not demonstrative thoughts, but thoughts involving a detached, impersonal way of thinking about the object, e.g. a thought expressible by means of a proper name. The thought that Kaplan's pants are on fire fits the bill, it seems. In Moss' framework, however, the contextual equivalence between the substitute thought and the initial thought must be strong enough to preserve subjective probabilities. Moss says that the thoughts should be equivalent 'given what the subject believes *with certainty*'. Since 'Kaplan could always have some shred of doubt about whether he is the man [seen in the mirror] whose pants are on fire, or even about whether he is David Kaplan' (Moss 2012 : 229), these identities are not good enough to ground the required equivalence. If the subject is not absolutely certain that he is Kaplan, his thoughts 'My pants are on fire' and 'Kaplan's pants are on fire' will not be equivalent in a sufficiently strong sense. But Moss maintains that for any indexical thought entertained by the

speaker, there is a nonindexical thought in the speaker's mind which is equivalent in the strong sense and can substitute for it in communication. Kaplan can always introduce a name for himself, say 'Dr. Demonstrative'. He can *dub* himself. The name is supposed to provide Kaplan with an impersonal way of referring to himself. If Moss is right, 'My pants are on fire' and 'Dr. Demonstrative's pants are on fire' are equivalent given what the subject believes with certainty. (The identity 'I am Dr. Demonstrative' is not open to doubt, since it is a stipulation.)

I am not convinced, and I find Moss' argument wanting. Since the name 'Dr. Demonstrative', for Kaplan, is governed by the rule that he uses it to refer to himself, using the name is another way for him to say 'I'. So it is not clear (to me at least) that there are two distinct thoughts here, rather than a single one. But let us assume that Moss is right about 'Dr. Demonstrative' and that the subject accepts both an indexical thought ('My pants are on fire') and an equivalent impersonal thought ('Dr. Demonstrative's pants are on fire'). Following Moss, let us assume that what the subject *communicates* by saying 'My pants are on fire' is the impersonal thought. On the Naïve Conception, the hearer comes to accept the thought the utterance expresses. How does the hearer come to entertain the impersonal thought 'Dr. Demonstrative's pants are on fire'? Moss supposes that the speaker tells the hearer: 'let *Dr. Demonstrative* name myself', so as to make her party to the stipulation. But this, Pagin points out (this volume), presupposes that the problem of indexical communication has already been solved. In order to understand the stipulation 'let *Dr. Demonstrative* name myself', the hearer must already be capable of understanding first person utterances by the speaker.

In defense of Moss, I should emphasize that (insofar as I understand her) it does not really matter to her whether the hearer uses the name 'Dr. Demonstrative' in thinking about the speaker, or any other impersonal way of thinking at her disposal. The only thing that matters is that the hearer *gets the reference right*: she must think of the relevant individual, and believe the de dicto proposition about him. But what that shows is that Moss is not really interested in the (fine-grained) *thought* entertained by the hearer, or by the speaker for that matter. (Indeed, she keeps talking about 'propositions', rather than thoughts.) The only thing that matters is that the thought (in context) determines objective truth-conditions, hence a set of possible worlds in which the thought is true. The ordinary possible worlds proposition thus determined may be said to be communicated if the thought entertained by the hearer upon understanding the speaker determines the same truth-conditions in the hearer's context as the speaker's thought in the speaker's context. But to say that is to give up the claim that the speaker's thought has got to be impersonal and uncentred in order for communication to work. The speaker's thought, like the hearer's, may be as indexical and centred as one may wish. The only thing that matters is that the speaker's thought, indexical and centred though it might be, determines in context the same objective truth-conditions as the hearer's thought formed upon understanding the utterance.

I conclude that it is a mistake to think that a thought can have objective truth-conditions only if it is an 'impersonal' thought (assuming such things exist). Indexical thoughts, with their centred contents, do have objective truth-conditions as well, but these truth-conditions are essentially tied to the context in which the thought is tokened (section 1.3). Instead of attempting to pair each indexical thought with an impersonal thought to account for what is transmitted in communication, it suffices to say that each indexical thought has two levels of content: a relativized proposition or centred content which is the cognitive, internal content of the thought, and a classical, uncentred proposition corresponding to the Austinian proposition and its objective truth-conditions (Recanati 2007). (The Austinian proposition, recall, is nothing but the pair consisting of the centred content and the index of evaluation provided by context; it does the same job as Stalnaker's 'belief state')

construed as a pair consisting of a base world and a set of centred worlds.)²⁹

Like Moss, Stalnaker (2008) insists that ‘ignorance or uncertainty about where one is in the world is always also ignorance or uncertainty about what world one is in’ (Stalnaker 2008 : 70). In other words, for any centred thought entertained by the thinker, there is an uncentred proposition (an ordinary possible worlds proposition) which captures the truth-conditions of the thought. That uncentred proposition can be used to ‘compare the information, including self-locating information, that is available to different subjects’,³⁰ or to the same subject at different times. It can be used to account for disagreement and change of mind, and to account for communication. What is communicated, for Stalnaker, is not the centred content of the subject’s thought, but the uncentred content that thought determines, given the identity of the thinker and the time of thought.

I have no quarrel with any of this. As I said, the Austinian proposition (which, again, corresponds to Stalnaker’s pair of a base world and a set of centred worlds) determines a classical proposition, which captures the thought’s objective truth-conditions. If Stalnaker is right that ‘we (as theorists) need to use the same possible worlds to model the various informational states³¹ in play, we can use that classical proposition to do so. We can use it to capture what is objectively communicated, insofar as it is a fundamental constraint on indexical communication that it must preserve truth-conditional content. Using a classical proposition to that effect is compatible with holding that, in communication, the speaker expresses a centred thought, and the hearer comes to accept *another* centred thought (distinct from the speaker’s). The constraint will be satisfied, if the speaker’s and the hearer’s centred thoughts determine the same truth-conditions in their respective contexts. So there is no need to maintain the Naïve Conception to preserve Stalnaker’s insight regarding the usefulness of a simultaneous use of centred and uncentred contents in dealing with the dynamics of belief.

One might think that the Naïve Conception is maintained, on Stalnaker’s account, since the speaker and the hearer end up believing the same proposition as a result of the communicative act.³² But that is an illusion. As Gibbard says,

It’s not (...) that the proposition is somehow conveyed from one head to the next. Rather, (...) encoding the same proposition is a side effect. It’s a side effect of an efficient scheme for transforming and recentering the import of a thought, a scheme

²⁹ Weber (2013 : S217) acknowledges the theoretical possibility of ‘associat[ing] sentences with both centred and uncentred content’, and cites two-dimensionalists such as Jackson (1998) and Chalmers (2004) in connection with that view. See also Soames : ‘John and Mary express *different beliefs* by sincerely uttering, ‘I am hungry’ — despite the fact that they self-ascribe the *same property*. How does this fit the idea that *de se* belief is the self-ascription of properties ? Pretty well, if we add that an agent *x* who *self-ascribes P* counts as *ascribing P* of *x* (but not conversely). Whereas both involve predicating *P* of *x*, the former requires *thinking of the predication target in the first person way* (whatever that amounts to), while that latter doesn’t. It will then follow that, in addition to their identical *de se* beliefs, John and Mary also have different *de re* beliefs. (...) The same idea allows us to recognize that Lingens and his friend Lola express the same (*de re*) belief when Lingens sincerely says, ‘This book is about me’, and Lola agrees, saying ‘That book is about you.’ A state of *de se* believing something is always also a state of *de re* believing something closely related’ (Soames 2014 : 158-159).

³⁰ Stalnaker 2008 : 65.

³¹ *Ibidem*.

³² See the quotation from Kindermann in footnote 18 (‘there is a version of the Naïve Conception - the version on which objective truth-conditions are replicated - which is essentially correct’).

that employs thoughts with structure. (...) Communication consist[s] in taking a [centred content] and transforming it to center it on the hearer. We accomplish this, however, by forming a thought with a structure, which is then transformed element by element to center on the hearer. For each element of the structured thought, the transformation with recentring preserves reference, and so they preserve the structured proposition signified. (Gibbard 2012 : 266-69)

The speaker expresses an indexical thought with centred content. No replication takes place : upon understanding the speaker the hearer comes to entertain another indexical thought, also with centred content. The mechanism at work in communication is what Gibbard describes as ‘Transform-and-Recenter’. But the mechanism obeys a constraint of reference preservation, an effect of which is that the speaker’s thought and the hearer’s thought share their truth-conditions, despite being different thoughts with different centred contents. In this framework,

Th[e] preservation of the proposition... is an upshot of communication, and no part of its mechanism. (...) ‘Communicating’ propositions, in the bare sense that the hearer from his standpoint systematically encodes the same proposition as did the speaker from her standpoint, is a by-product of the scheme, not the means by which communication is accomplished. (Gibbard 2012 : 268-69)

Communication, in any case, could not simply *be* the transmission of truth-conditional content irrespective of the conceptual vehicles deployed by the conversational protagonists. We saw already in section 1.3 that for communication to succeed more is needed than the preservation of truth-conditional content : the modes of presentation must be suitably coordinated —the hearer has to think of the reference in the right way. Gibbard makes that point,³³ and he observes that the same thing holds for remembering :

On remembering, one transforms the thought and recenters it to one’s current time. Again, among other things, this preserves the reference of each element, and thus preserves a structured proposition. Again too, though, just knowing that proposition from one’s new temporal standpoint wouldn’t by itself be remembering. (Gibbard 2012 : 272).

2.3. Centred surrogates : Kölbel and Torre

Some authors maintain the central assumption of the Naïve Conception, namely, that communicated content must be *shared* by the conversational participants, while, at the same time, taking the shared content in question to be *centred*, rather than uncentred as in Moss’ and Stalnaker’s frameworks. They exploit Egan’s observation that not all centred contents are unshareable : unshareability is the hallmark of centred content only when the speaker and the hearer are in relevantly dissimilar contexts.

Following Weber (2013 : S209, fn. 9), let us introduce a bit of terminology. The speaker’s first person thought that his pants are on fire has *malignant* centred content, that is, centred content that is unshareable (in the sense that, if shared, it would determine different truth-conditions in such a way that communication would fail). But the speaker’s thought that

³³ ‘Just thinking the same proposition as the speaker encoded... wouldn’t by itself be to get what the speaker had said. (...) The hearer needs to glean what information is to be had from the sentence spoken and what he knows of its context.’ (Gibbard 2012 : 271)

Sydney is near has *benign* centred content, that is, centred content that is shareable with the hearer (provided the hearer's location is close enough to the speaker's). For Kölbel and Torre, the centred content communicated by an utterance such as 'My pants are on fire' is not the (malignant, unshareable) centred content of the subject's thought when he self-ascribes the property that his pants are on fire, but *another*, benign centred content which the speaker and the hearer can share. That content can be represented as another property which (in contrast to the first one) the speaker and the hearer can *both* self-ascribe, e.g. the property of being party to a speech event *e* such that the speaker of *e* has burning pants at the time of *e*. This property, in turn, can be represented either as a set of centred worlds or, as Torre suggests, as a set of *multi-centred* worlds, where both the speaker and the hearer figure in the 'center'.³⁴ Whichever option one chooses, we end up with the following claims :

1. The speaker's thought has malignant centred content
2. The thought communicated to the hearer has benign centred content

This entails a departure from the Naïve Conception insofar as the speaker's thought is distinct from the communicated thought ; but the spirit of the Naïve Conception is retained, for the communicated content, although distinct from the content of the speaker's initial thought, is nevertheless *shared* by the speaker and the hearer. Both the speaker and the hearer self-ascribe (or ascribe to the pair they form) the property of being party to a speech event *e* such that the speaker of *e* has burning pants on fire at the time of *e*.

Kölbel's and Torre's approaches are instances of Frege's *substitution strategy*. What substitutes for the incommunicable content of the speaker's thought is a surrogate content which can be shared. The difference with other instances of the substitution strategy, like that advocated by Moss, is that the surrogate content is centred rather than uncentred : it is a benign centred content.

Kölbel and Torre differ among themselves according to which tenet of the Naïve Conception they reject. What Torre rejects is the first tenet — the 'mind to speech' equation :

$$\text{Speaker's thought} = \text{thought expressed by the utterance}$$

Torre takes the speaker's thought to have singularly-centred content : the speaker self-ascribes the property an individual has just in case that individual's pants are on fire. But that is not, for Torre, the content *expressed* by the utterance. What the utterance expresses — its potential contribution to the conversational common ground — is a multi-centred content : the property a *sequence of individuals* (comprised of the speaker and the hearer, in that order) has just in case the first member of the sequence (the speaker) has burning pants. As he puts it,

³⁴ Stalnaker (2008) and Ninan (2010) also use multi-centred worlds to account for communication. One reason to go multi-centred, Torre argues, is that 'both conversational participants might know that they both have the property of being party to a speech event *e* such that the speaker of *e* has burning pants at the time of *e* and still not know which of them has the burning pants. That's why we need the additional structure of multicentred worlds' (personal communication). How exactly the multicentred framework does the trick is a complex issue, which I will not go into here ; see Ninan (2010) and Pagin (this volume) for discussion. Ninan (2013) emphasizes an advantage of the multicentred worlds framework when applied to *de re* thoughts (and not merely to communication) : it makes it possible to avoid the shortcomings of Lewis' 'centred descriptivism' by extending to thoughts about particular objects what Lewis says of thoughts about oneself.

The content of Bond's *assertion* that his pants are on fire is a set of multi-centred worlds, however, the content of Bond's *belief* that he, himself, has flaming pants is a set of singularly-centred worlds. That the belief-transfer model of assertion is not upheld strikes me as a consequence of the fact that different objects are needed to characterize the conversational common ground from those needed to characterize an individual's beliefs (sets of multi-centred worlds versus sets of singularly-centred worlds). (Torre 2010 : 112)

In contrast to Torre, Kölbel retains the first tenet of the Naïve Conception : he takes the semantic content of the sentence to be the centred content of the speaker's thought — the set of worlds centred on a person whose pants are on fire. But he rejects the second tenet :

Thought expressed by the utterance = hearer's thought

For Kölbel, the thought entertained, and accepted, by the understanding hearer is not that (unshareable) centred content but another centred content which is 'locally portable', i.e. shareable (benign). What induces the shift from the semantic content to the conversational content (CC) is, according to Kölbel, the presence in the sentence of what he calls a 'CC-modifier'. Indexicals such as 'I' are CC modifiers. A CC-modifier has the effect that, if the centred content expressed by the sentence in which it occurs is not locally portable, what it contributes to the conversation and communicates to the hearer is not that content but a related, locally portable content.

Weber, like Kölbel, takes the speaker's thought to be semantically expressed, and the communicated thought to result from a recentering operation on it. But he acknowledges that it is possible to 'do things the other way around' (Weber 2013 : S210 fn. 11), that is, to give up the first tenet instead of the second one. He discusses the advantages and downsides of the alternative approach, and tentatively concludes that the speaker-centric view (which takes the speaker's thought to be semantically expressed) 'appears to be more natural than the hearer-centric alternative' (Weber 2013 : S215). But his discussion is far from conclusive, and one wonders whether the choice is not ultimately arbitrary. This takes us back to the objection I raised to all the views which make that choice : they all accept that one of the points of view involved (that of the speaker or that of the hearer) has got to be privileged, since only one of them can be what the sentence itself expresses. But that claim seems to me dubious and I reject the presupposition of the Naïve Conception. I think there is no such thing as the fine-grained thought expressed by an indexical sentence. I am not denying that such a sentence has a conventional import in virtue of which it makes specific thought contents available in context, but I am denying that one of the thought contents in question has privileged status. In any case, I think the burden of proof is on those who endorse the presupposition.

Torre's multi-centred view fares better than Kölbel's with respect to the arbitrariness criticism, for, like Ninan's very similar view, it has enough resources to avoid privileging speaker over hearer or hearer over speaker. Suppose Kaplan's pants are on fire and he communicates this to Perry. The content of assertion (the multi-centred proposition added to the common ground) is not equivalent to the singularly centred worlds proposition that one's pants are on fire (the speaker's thought), *but it need not be equated to what the hearer comes to believe either*. What the hearer ultimately comes to believe is a different singularly centred proposition, that one is being addressed by someone whose pants are on fire. So Torre can evade the arbitrariness charge, by rejecting *both* tenets of the Naïve Conception. He can maintain that the expressed content is neither the speaker's thought nor the hearer's thought.

(That is, in effect, what Ninan does.)³⁵ Still, for Torre, there *is* a proposition which, in communication, is shared by the speaker and the hearer. That proposition is centred (though not singularly), and it is distinct from the (malignant) centred content of the speaker's thought.

Both Kölbel and Torre see communication as involving a shift, or several shifts, from one centred content to another. They both appeal to a recentering mechanism, similar to that invoked by Gibbard and Weber (whose positions I am about to review).³⁶ What distinguishes Kölbel and Torre from recentering theorists like Weber and Gibbard is that Kölbel and Torre impose a constraint on the communicated content : it must be shareable. Now, what is that constraint, if not a remnant of the Naïve Conception based on the replication idea ?³⁷ Once we have a recentering process which allows the hearer to adjust the speaker's content to her own needs, what else is needed to account for communication ? Here again, the burden of proof is on those who advocate the additional constraint. They have to clearly demonstrate what is gained by having it.

2.4. Recentering and mental files : Gibbard

Gibbard (2012) and Weber (2013) abandon the constraint that communicated content must be shareable. They take the speaker's centred thought to be expressed, and the hearer's thought to result from a Transform-and-Recenter operation on it. The only problem I have with their views pertains to the presupposition I have criticized : that one of the thoughts associated with the utterance has to be granted privileged status. Since Gibbard and Weber give up the second tenet of the Naïve Conception (while retaining the presupposition) they give the speaker's thought privileged status. This, I claim, is arbitrary, and I recommend rejecting the presupposition.

In the mental file framework, an indexical (or a referring expression more generally) triggers the search for a referent. It does so in virtue of a conventional feature : the REF feature, which all referential expressions carry (Recanati 1993). The REF feature can be

³⁵ According to Ninan (2010), the content is one thing for the speaker, and some other thing for the hearer. Ninan keeps the notion of 'the' content of an utterance, however, and construes it as disjunctive.

³⁶ Higginbotham is another author who appeals to recentering : 'We may think of the field of reference as the points in a space, and the perspectives as demonstratively established, and often egocentric, coordinate systems for the points. Reference to the same point from different perspectives is not a one-shot affair, but involves a general transformation of coordinate systems, mapping one entire set of perspectives into another. Moreover, the family of all sets of perspectives may be so organized that any one can be transformed into any other by a general routine, known to the speakers of a language, and known by them to be known to other speakers. Such mutual knowledge is part of linguistic competence.' (Higginbotham 2003 : 103)

³⁷ Torre can defend himself by arguing that (i) what is shared, in his framework, is the utterance's *semantic content* (a multi-centred proposition), and (ii) it is trivial that semantic content must be shared. But (unless I am mistaken) he views the semantic content as a proposition that can be asserted by the speaker, taken on board by the hearer, etc. Even if it is distinct from the content of the speaker's (or hearer's) singularly-centred thought, that proposition is still something the speaker and the hearer can both entertain and accept, as per the Naïve Conception. What is needed to break with the Naïve Conception is a notion of semantic content that does *not* make it an entity of roughly the same kind as the content of the attitudes. See Recanati (forthcoming) for more on this issue.

construed as an instruction to the language user : interpreting the expression (or, for the speaker : meaningfully using it) is a matter of mentally referring to some object. Mental reference is done through mental files, so interpreting an expression (or meaningfully using it) requires the language users to associate a mental file with it. Now, in addition to the feature REF, a referential expression carries a descriptive meaning : what I have called the linguistic mode of presentation – certain properties of the reference which are encoded by the expression. ‘I’ encodes the property of being the speaker, ‘you’ the property of being the addressee, etc. This sets a constraint on the mental files which the language users are to associate with the expression : the file has to contain the relevant information about the reference of the file – that the referent is producing this utterance, or is the addressee of the person making the utterance, etc. That constraint is a constraint on *all* the files which the conversational participants associate with the expression. Still, the conversational participants are free (and even required) to associate different files with it : the speaker thinks of himself through a SELF file, and the hearer thinks of the speaker through a third person file (e.g. a demonstrative file). No point of view is privileged. All the relevant files about the speaker (the speaker’s first person file and the hearer’s third person file) contain the information that he is making the utterance, so the constraint is satisfied by all files equally.

What about semantic content ? From a strictly linguistic point of view, all the expression carries is the feature REF and the linguistic mode of presentation. In context, when meaningfully used and correctly understood, the expression comes to be associated with two files : the speaker’s file and the hearer’s file, which *both* satisfy the constraint set by the linguistic mode of presentation. The expression then acquires a sense for *each* of the two subjects (namely the mental file each of them associates with it), and it acquires a reference, namely the reference of the associated files.

Referential communication succeeds only if the files converge on the same object. In context, other constraints than that carried by the linguistic mode of presentation will have to be satisfied by the interpreter’s files to match the speaker’s file and corefer with it. In Loar’s example, satisfaction of the (meager) linguistic mode of presentation carried by the pronoun ‘he’ (to the effect that the referent is male) is not sufficient : the hearer has to think of the referent as the man on television, since that is what the speaker has in mind. This constraint of match is nothing but a consequence of the more general constraint on referential communication, that mental files must corefer. The hearer must understand who the speaker is referring to, in order to mentally refer to the same object. The linguistic mode of presentation provides a clue, but the hearer has to rely on contextual factors in most cases (Burge 2003 : 380). The contextual factors in question play a role in further constraining the files in the hearer’s mind.³⁸

Gibbard has a role for mental files in his framework. The ‘transform’ part of the global Transform-and-Recenter operation operates on *concepts*, which are constituents of structured thoughts. Gibbard describes communication as follows :

A sentence encodes a thought which, in the first place, is centred : a true thought gives some aspect of how the world is from the thinker’s standpoint. It gives a property of

³⁸ If the hearer disregards the contextual clues (as in Heck’s version of the Perry example), or misinterprets them (as in Loar’s example), the chances of coreferring are significantly diminished. The phenomenon of *deviant coreference* illustrated by these and other philosophical examples corresponds to cases in which the hearer corefers with the speaker by sheer luck. That is not *justified coreference*, and is not sufficient to ground successful communication (Gibbard 2012 : 267). (On the role of epistemological considerations in the theory of referential communication, see Heck 1995 and Dickie forthcoming.)

her standpoint. The hearer thus learns something of how things are from the speaker's standpoint, and he, knowing much or little about the speaker's standpoint, transforms the thought to center it on himself, thus updating his view of how things are from his own standpoint. *The way he does this, however, depends on the thought's being structured. He transforms each of the conceptual elements of the thought in a way that preserves reference.* For each transformed concept, that is to say, its reference from the hearer's standpoint is the same as the reference of the original concept from the speaker's standpoint. (Gibbard 2012 : 271 ; emphasis mine)

What are these concepts which get transformed in the recentering process ? They sound very much like mental files. Gibbard talks of 'individual concepts' and gives as examples individual concepts like 'the first person concept *i*' and 'the present time concept *t*.' When Ann sincerely writes in her letter, 'I am happy', the thought she voices consists of these two concepts joined by the 'be happy at' two-place relational concept *H*. So Ann thinks (and expresses) the structured thought *Hit* (Gibbard 2012 : 257-59). If Ben, who reads the letter, does not know who wrote it, he

forms a concept of the letter-writer, [which he] might voice to himself as 'that woman'. It is an individual concept which from his standpoint picks out the writer and denotes her rigidly. He likewise forms a concept of the time of writing, which from his standpoint rigidly picks out the time of writing. When he says to himself, 'that woman was happy then', his phrase 'that woman' voices the concept of whatever woman wrote the letter one is reading. (...) What writer Ann voices with 'I' reader Ben thus transforms into a concept he voices with 'that woman', and he recenters this transformed concept on himself. Likewise with time : Ben's word 'then' voices, in this utterance, the concept of whenever this letter was written, again taken rigidly. What Ann voiced with 'now' and the present tense Ben transforms into what he voices with 'then', and he centers this on himself now. (Gibbard 2012 : 266-67)

Gibbard says that Ben (the hearer) transforms the first person concept expressed by the speaker into his third person *THAT WOMAN* concept, and recenters the latter concept on himself. But what does it mean to talk of recentering a *concept* (a vehicle) ? In the mental file framework, that makes sense. Since files are based on ER relations to the owner of the file, deployment of the file means that the subject bears such and such a relation to the reference. The files carry presuppositional content, which corresponds to the diagonal of the concept's character in Gibbard's framework.³⁹ In the case of the first person concept, the ER relation is identity ; in the case of Ben's individual concept 'that woman', the ER relation is that of reading a letter she wrote. On the presuppositional mode, the speaker self-ascribes the former relation (identity) to the referent, while the hearer self-ascribes the other relation (that of reading a letter the referent wrote). These presuppositional self-ascriptions have centred content, just as the at-issue self-ascription of happiness. But the center (the person to whom the presupposed centred content is self-ascribed) shifts : the first person concept in the speaker's thought is centred on the speaker, while the third-person concept in the hearer's

³⁹ Concepts and structured thoughts, for Gibbard as for Perry, have characters. Characters, Gibbard says, are functions from standpoint and world thought about to reference, and the unstructured import of a thought is the diagonal of the character, construed as a centred content. We can also talk of the import of a concept. The import of a concept is a centred content, corresponding to the diagonal of the concept's character.

thought is centred on the hearer⁴⁰.

The presuppositional content carried by a deployment of the file is its contribution to the internal content of the thought. The internal content accounts for behaviour, as we saw, while the reference of the file, and the truth-conditions of the thought, depend upon the external factor (which object, if any, stands at the other end of the putative ER relation). This dual structure is apparent in Gibbard's account :

A twin-Ben on twin-Earth reading a twin letter from twin-Ann would have the same structured thoughts as does Ben. Twin-Ben's phrase 'that woman' (or his world 'she'), however, on this occasion, denotes not Ann but twin-Ann. As with Ben, moreover, twin-Ben's phrase 'that woman' is rigid, denoting the same person, twin-Ann, when applied to counterfactual scenarios. (Gibbard 2012 : 268)

The rigidity of Gibbard's individual concepts is also accounted for on the assumption that these concepts are files. Files refer through the ER relations they are based on. These relations hold in the actual world (or the 'base world'), and they are not affected by counterfactual suppositions. Counterfactual suppositions are about the reference of the file, and the reference of the file is fixed by its actual-world relations to entities in the environment, not by the relations that would hold were the counterfactual scenario true.

I conclude that Gibbard's story can easily be reformulated in the mental file framework. If we do so, the alleged primacy of the speaker's point of view reduces to the trivial fact that the speaker's thought comes first : the speaker first voices his structured thought (involving the deployment of his SELF file), and then, in interpreting the utterance, the hearer deploys his own, third person file in understanding the speaker. I don't think we need to read more than that into Gibbard's claim that the hearer 'transforms' the concept voiced by the speaker. In particular, the speaker's concept (his SELF file), or the structured thought of which it is a constituent, need not be seen as the input to the mental process through which the hearer comes to entertain his own thought. The input to the hearer's interpretive process is the utterance. The fact that the utterance contains a referring expression leads the hearer to activate a file, constrained by the linguistic mode of presentation encoded by the expression. The hearer does not literally 'transform' the individual concept (the file) deployed by the

⁴⁰ The object to which the property 'Happy' is ascribed is the relatum of the ER relation — the reference of the file. In the first person case the relatum is the subject, so the at-issue ascription is a *self*-ascription (of happiness). But in the third person case, when the hearer Ben interprets the utterance 'I am happy', the relatum of the relevant ER relation is not the subject, Ben himself, but the person who wrote the letter (Mary). The ascription of happiness is to that person. There is no *at-issue self-ascription* in this case, but only a *presuppositional self-ascription* (of the property of bearing the relevant relation [reading a letter she wrote] to some person *y*, who happens to be Mary). Another way of looking at the situation : the at-issue ascription is *de re* in all cases, and its target (the relevant *res*) is the relatum of the presupposed ER relation. The *de re* ascription counts as a *self*-ascription when, and only when, the presupposed ER relation is identity. But the underlying, presuppositional self-ascription, through which the referent *y* is introduced, *is* a self-ascription in all cases. Since the target of the at-issue ascription is the object *y* introduced through the presuppositional self-ascription, we retain the essentials of the Lewis-Chisholm picture : every *de re* thought is *de se*, at the most basic level. Separating the presuppositional self-ascription and the at-issue *de re* ascription (which may or may not also be a self-ascription) makes it possible to construe the latter as anaphoric on the former. (On the relations between anaphora and the *de se*, see Higginbotham 2009.)

speaker. He simply comes up with a different concept (a different file) as a result of interpreting the utterance. The starting point of the interpretation process is not the speaker's thought allegedly expressed by the utterance, but linguistic properties of the utterance such as the REF feature and the linguistic mode of presentation (together with contextual facts such as the direction of the speaker's gaze, what the conversation is about, etc.).

2.5. Recentering and the metarepresentational stance : Weber

Weber's theory of recentering is very similar to Gibbard's. According to Weber,

The speaker literally expresses one of her beliefs. The belief the hearer acquires, however, is not the one expressed by the utterance. Rather, she acquires a content that is related in a certain way to the utterance content. The acquired content is determined by the content expressed by the speaker together with the hearer's beliefs about how she is related to the speaker's context (Weber 2013 : S206)

The Recentering model he puts forwards (Weber 2013 : S212) involves four main steps :

The Recentering Model

1. The hearer perceives an utterance "u". [*Perceiving*]
2. The hearer believes that the expressed content of "u" is true of the speaker. [*Centering*]
3. The hearer believes that she is **R**-related to the speaker. [*Locating*]
4. The hearer infers information about herself from 2. & 3. [*Recentering*]

The Centering step itself is decomposed into two separate steps, which Weber calls *Understanding* and *Trusting* :

Firstly, to gain information from an utterance, the hearer has to understand it. For us this means that she has to know what the expressed content of "u" is. Secondly, in the standard case of communication, the hearer will trust the speaker, i.e. she will believe that the speaker has made a true utterance. (...) To trust the speaker is to believe that the utterance correctly characterizes the speaker's context. Putting the *Understanding* and the *Trusting* step together, we get the *Centering* step: the hearer believes that the expressed content of "u" is true of the speaker's context. (Weber 2013 : S212)

Pagin (this volume) objects to Weber's model that it presupposes something false : that the hearer, in order to understand the utterance, has to believe the speaker. The Centering step requires two things of the hearer, according to Weber : (i) she must grasp the centred content expressed by the utterance (*Understanding*), and (ii) she must believe that that content adequately characterizes the speaker, that is, is true of him (*Trusting*). Pagin objects that *Trusting*

cannot be in general required, or we could not make sense of exchanges like the following:

- (36) A: You have Groat's disease.
B: I don't believe that. / That's not true.

In communication we typically first understand what the content of a speaker's utterance is, and then assess it as true or false with respect to the actual evaluation point. (...) However, on a centred contents model, there is no centred content that both concerns the subject from a *de se* perspective and is only entertained, not believed. This is so, since on Lewis's model, it is only insofar as a centred content is self-ascribed by a subject that a property is predicated of the subject at all. The predication of the property is not part of the content ; it enters only in the self-ascription step, which is the centred content counterpart to ordinary belief. Without going non-centred, and adding a representation of the subject in the content itself, the subject cannot grasp without belief what is predicated of her. This shortcoming does not matter as long as we are only concerned with belief itself, as Lewis was, but in communication we come across contents that we may believe or not. (Pagin, this volume, p. 27)

How is this problem to be solved ? Weber's model has clearly to be revised to maintain the required gap between understanding and believing. What the hearer has to do is not to trust the hearer but to reach a level of *pragmatic understanding* of the speaker's utterance : she has to understand that the speaker is self-ascribing a certain property, without taking a stance on whether or not the self-ascription is true.⁴¹

To understand that the speaker is self-ascribing a property, the hearer has to think about the speaker. Pragmatic understanding involves, on the hearer's part, a representation of the speaker. In the centred worlds framework that is a self-ascription, by the hearer, of a relation **R** to the speaker. That is Weber's *Locating* step. So the second revision I recommend to his model consists in taking the *Locating* step prior to achieving the second step of *Centering (Pragmatic Understanding, which now substitutes for Trusting)*.⁴² When we put together the two revisions, we get the following model :

The Revised Recentering Model

1. The hearer perceives an utterance "u". [*Perceiving*]
2. The hearer grasps the centred content expressed by "u" : a certain property Φ . [*Linguistic understanding*]
3. The hearer believes that she is **R**-related to the speaker of "u". [*Locating*]
4. The hearer understands that the speaker (the person she is **R**-related to) is self-ascribing the expressed content of "u", namely the property Φ . [*Pragmatic understanding*]
5. The hearer concludes that if "u" is true, she is **R**-related to someone who has the property Φ . [*Conditional Recentering*]

Communication has now been achieved, and the hearer can decide whether or not she wants to trust the speaker and believe the communicated information, namely, that she is **R**-related to someone who has property Φ . If she trusts the speaker, she will self-ascribe that property (by detaching the consequent of the conditional in *Conditional Recentering*). In the revised model, the distinction between the understanding stage and the believing stage emphasized by Pagin has been respected even though the contents involved throughout are centred contents.

Pagin thinks there still is a problem, however. In the dialogue about Groat's disease, B's response ('I don't believe that'/'That's not true') indicates that B has grasped the content communicated by A, yet refuses to endorse it. But how, in the centred worlds framework, can

⁴¹ What I call 'Pragmatic Understanding' is what Pagin calls 'Extended Understanding'.

⁴² Gibbard insists that the *Locating* step occurs at a very early stage. See Gibbard 2012 : 259.

B grasp the content that he has Groat disease, without actually endorsing it? Note that, in line with the framework, step 5 (Conditional Recentering) ought to be couched as a self-ascription of properties. Pagin proposes that the property self-ascribed by B at step 5 is the conditional property of *having Groat's disease if u is true*. Pagin now objects :

In order to isolate the content that *he, B, has Groat's disease*, B must detach by modus ponens, but this again means *accepting* the premise that the [utterance] is [true]... It is an inherent limitation of the centred content framework that (unembedded) contents cannot be self-predicated without being self-ascribed, i.e. believed. Thus, only in the world of the hyper-gullible, who accept a content even before knowing what it is, can centred contents with Weber's recentering offer a model of communication (this volume, p. 29).

Pagin is right that, in the centred worlds framework, there is no way in which B can grasp-without-believing the *de se* content intuitively communicated to him, namely that he, B, has Groat disease. That is so because, 'on a centred contents model, there is no centred content that both concerns the subject from a *de se* perspective *and* is only entertained, not believed' (Pagin, this volume, p. 27). Yet the difficulty should not be exaggerated. The centred content theorist can simply bite the bullet : what substitutes for B's grasping-without-believing the *de se* proposition that he has Groat's disease is B's self-ascribing the conditional property (having Groat's disease if *u* is true). *As soon as B self-ascribes the conditional property, he has understood the utterance*. To go beyond that and actually self-ascribe the property of having Groat's disease, B needs to trust A and take her utterance to be true.

Does that mean that B is hyper-gullible and accepts a content even before knowing what it is? I do not think so. The centred content theorist rejects the standard content/force distinction, but there is something that goes proxy for it : the distinction between understanding (self-ascribing the conditional property) and accepting (self-ascribing the detached property). Accepting *is* trusting, but understanding does not presuppose trusting. To be sure, a consequence of the theory is that the content which the hearer accepts (the detached property) is not the same thing as what he grasps (the conditional property). But an independent argument is needed to show that that consequence (and therefore the theory) is unacceptable. Pagin does not provide such an argument, and his case seems to rest on the standard content/force distinction, which his opponent rejects. So I see no reason to deny the centred content theorist the right to embrace the following view : what the hearer grasps (the conditional property he self-ascribes) is an intermediate level of content between the thought expressed by the speaker (the property she self-ascribes) and the thought the trusting hearer arrives at (the detached property he self-ascribes).

Pagin raises another issue in discussing Weber's model :

Weber suggests (...) that interpretation by the hearer is metalinguistic and meta-doxastic ; the hearer does not get the content from the speaker... A number of meta-doxastic inference steps must be performed in order in order to arrive at the self-ascriptions that are the basis for the responses in (36B). (...) [It is] very implausible that interpretation ever works like this. (Pagin, this volume, p. 30)

It is true that the *Pragmatic Understanding* step is metarepresentational ; the hearer ascribes an attitude to the speaker, toward the content expressed by the utterance. I mentioned Dummett's solution to the problem of indexical communication. For him, communication is not the replication of thought, but the *recognition* of (the speaker's) thought. The *Pragmatic Understanding* step involves recognition of the speaker's thought at the attitudinal level and

not merely at the level of content.

Metarepresentational approaches to communication are far from uncommon. One of the leading theories of communication, Grice's, is couched in explicitly metarepresentational terms. Among the followers of Grice, some have insisted that human communication is essentially metarepresentational (Sperber 1994, 2000, Sperber & Wilson 2002). But there is another approach (or family of approaches) to communication, which stresses its direct, noninferential character and likens it to perception. Reid, McDowell, Burge, and Millikan, to name only a few, have eloquently argued for such views. I myself have argued for the direct, noninferential approach (Recanati 2002), so I understand Pagin's worry that Weber's model forces the inferential/metarepresentational approach on us.

The mental file approach does not require metarepresentations: in principle, the hearer goes directly from the utterance and the context to the thought she entertains when she understands the utterance. The metarepresentation of the speaker's attitude is not a prerequisite for understanding, in a framework which gives up the primacy of the speaker's point of view. At the same time, it would make no sense to deny the important role of metarepresentations in communication, which the Gricean tradition rightly emphasizes. In section 2.4, I mentioned the role of contextual clues in achieving coreference with the speaker. The contextual information which needs to be tapped is, to a very large extent, metarepresentational: it is information about what the speaker is up to. So we do need metarepresentations, *in addition to* 'direct' understanding.

The mental file framework provides the metarepresentations, without making them a prerequisite for understanding, so it strikes the right balance between the two families of approaches. The metarepresentations are provided through the mechanism of 'indexed files'. An indexed file is a file that stands, in the subject's mind, for some other subject's file about the referent. An indexed file is linked in the subject's mind to the regular file he has about the referent, and an indexed file only refers through its link to a regular file in the speaker's mind. There is also the possibility for an indexed file to be 'free-wheeling', that is, unlinked to any regular file in the speaker's mind. Such files do not refer but they are useful in representing the doxastic alternatives of a subject whose ontology we do not share.

Indexed files are used in metarepresenting the attitudes of other agents, and specifically in representing the way they think about the objects their attitudes are about. They provide a flexible and powerful framework for dealing with opacity issues. But they are relevant also to the present topic. The *Pragmatic Understanding* step involves a metarepresentation: a representation of the subject's self-ascription of the property Φ . In the mental file framework, the metarepresentation in the hearer's mind takes the form of a SELF file indexed to the speaker. When the speaker says 'I am happy', the hearer not only feeds the information 'Happy' into his third person file about the speaker (based on the **R** relation Weber talks about), but he also feeds that same information into the indexed file which, in the hearer's mind, stands for the speaker's SELF file. There is, at the same time, direct information transfer (the information 'Happy' goes into the 3rd person file associated for the hearer with the word 'I' uttered by the speaker, without any mediation) *and* metarepresentation (the hearer represents the speaker's self-ascription, by feeding the information into the SELF file indexed to the speaker).

III. Conclusion

Mental indexicality exists, and to make sense of it, we must revert to the ancient conception of thought which Hintikka advertises (section 1.1), and which so much impressed Prior when he read about it in Geach's review of Mates' *Stoic Logic* (Prior 1967: 15-16). The conception has recently become popular, thanks to the work of philosophers such as David Lewis.

Following Lewis, the content of an indexical thought can be modeled as a set of centred worlds — a centred content. To avoid Lewis' partial descriptivism, one can make the content multi-centred, as Ninan (2013) has suggested. But it is essential to make room for another level of content in addition to the centred content. An indexical thought, construed as involving mental assent (so : the *assertion* of a centred content), determines objective truth-conditions. These truth-conditions are the level of content we need to make sense of interpersonal disagreement or intrapersonal change of mind.

The two-level conception I advocate is in many ways similar to Stalnaker's new theory of 'belief states' (comprised of a base world and a set of centred worlds). The view I advocate, however, is a variant of Perry's approach, which Stalnaker has criticized. Like Perry, I appeal to vehicles (mental files) and modes of presentation (the 'import' of the files). Stalnaker thinks this blurs the line between representations and their contents, but I have argued that the criticism is misplaced (section 1.2). Stalnaker himself says that we need to connect the world as the subject takes it to be with the subject himself and the world as it is: that is the key to his notion of a belief state. Now I hold that the vehicles (the mental files) are a crucial aspect of the 'base world' (the world as it is, centred on the subject). They provide an essential connection to 'the world as the subject takes it to be'. The files which the subject deploys in the base world determine the individuals which exist in the centred worlds representing the subject's doxastic alternatives. The ER relations they are based on hold, in all the doxastically accessible centred worlds, between the center and these individuals. In a nutshell : the presuppositions embodied in the system of mental representations deployed by the subject provide the *structure* of her belief world (at a time).

The information conveyed by an utterance has to be integrated into that preexisting structure.⁴³ Understanding a referring expression involves deploying a mental file, and thereby (hopefully) mentally referring to some object via the ER relation on which the file is based. The mental file to be deployed is constrained by the linguistic meaning of the referring expression (the linguistic mode of presentation). In this framework, the communication problem is solved : one gives up the Naïve Conception of Communication as the replication of thoughts, in favour of a conception on which the speaker's and the hearer's thoughts are merely coordinated (via the constraints on files, both linguistic and contextual, which apply equally to all the speech participants). One gives up even the most basic presupposition of the Naïve Conception : that there is such a thing as 'the' thought expressed by an utterance.⁴⁴ Giving up that presupposition makes it possible to preserve the claim that communication is, to a large extent, direct and noninferential.⁴⁵

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⁴³ Sometimes, linguistic information leads to *restructuring*, as when one learns an identity (Lockwood 1971, Strawson 1974 : 54-56).

⁴⁴ Multi-centred theorists can be interpreted as also rejecting the presupposition.

⁴⁵ This chapter benefitted from discussion with Peter Pagin and comments from Dirk Kindermann and Stephan Torre. On the practical side of things I acknowledge support from the French Agence Nationale de la Recherche under grant agreement n° ANR-10-LABX-0087 IEC and grant agreement n° ANR-10-IDEX-0001-02 PSL.

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Mis en forme: Non Petites majuscules

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