Relativized propositions (draft 1)

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RELATIVIZED PROPOSITIONS

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I. Introduction

The essential indexical

In *the Logical Syntax of Language*, Carnap explicitly said he was dealing "only with languages which contain no expressions dependent upon extra-linguistic factors" (Carnap 1937 : 168). Carnap's disciple Bar-Hillel lamented that this "restricts highly the immediate applicability" of Carnap's views to natural languages since "the overwhelming majority of the sentences in these languages are *indexical*, i.e. dependent upon extra-linguistic factors" (Bar-Hillel 1963 : 123). Bar-Hillel ventured the hypothesis that "more than 90 per cent of the declarative sentence-tokens we produce during our life-time are indexical sentences and not statements" (Bar-Hillel 1954 : 76 ; a 'statement', in his terminology, is a sentence that expresses the same proposition whichever context it occurs in).

Despite his emphasis on the pervasiveness of indexicality, Bar-Hillel accepted that "a judgment [i.e. an ordered pair consisting of a sentence and a context] with an indexical sentence as first component can always, without loss of information, be transformed into a judgment with a statement as a first component, keeping the

second component intact" (Bar-Hillel 1954 : 76). Thus if, in context *c*, John says 'I am hungry' and thereby expresses the proposition that John is hungry at *t* (the time of *c*), he can express the same proposition in the same context by uttering "John is hungry at *t*". Bar-Hillel follows Carnap here:

> The logical character of [nonindexical sentences] is... invariant in relation to spatio-temporal displacements; two sentences of the same wording will have the same character independently of where, when, and by whom they are spoken. In the case of [indexical sentences], this invariance can be attained by means of the addition of person-, place-, and time-designations. (Carnap 1937 : 168)

The thesis that indexical sentences can always be rephrased into a context-invariant form without loss of information deserves a name. Let us call it the 'transformability thesis'. It used to be very commonly accepted until fairly recently. In the late sixties a general principle — the principle of 'Expressibility' (Searle) or 'Effability' (Katz) — was put forward, which entails the transformability thesis as a special case. According to that general principle, *whatever may be conveyed by uttering a sentence S in a context c can also be literally expressed, in a context-independent manner, by means of a fully explicit sentence S'*. One consequence of the principle is that "cases where the speaker does not say exactly what he means — the principal kinds of cases of which are nonliteralness, vagueness, ambiguity, and incompleteness — are not theoretically essential to linguistic communication" (Searle 1969: 20). Indexicality also counts as theoretically dispensable.[1] In principle, we can always replace an indexical expression by a nonindexical one. Instead of saying 'Thank God, he's gone' I can say 'The man who just asked the stupid question about the relation betwen the mental and the physical has, thank God, left the room' (Katz 1977: 20) ; and instead of saying 'That man is a foreigner' I can say 'There is one and only one man on the speaker's left by the window in the field of vision of the speaker and the hearer, and he is a foreigner' (Searle 1969: 92). To be sure, that way of

[1] At least this follows from the Principle of Effability as formulated by Katz. Searle's formulations are not as clear-cut. On the relations between the two principles, see my article 'The Limits of Expressibility' (Recanati forthcoming).

speaking would not be very convenient in practice. As Katz puts it, indexicality "allows speakers to make use of contextual features to speak far more concisely than otherwise" (Katz 1977: 19).

But the problems raised by the transformation of indexical sentences into a context-invariant form are not as light as the Katz quotation suggests. The transformation "poses formidable problems", Bar-Hillel said (Bar-Hillel 163 :123) — it's not just a matter of inconvenience or verbosity. The transformability thesis says that, for any sentence S, context *c*, and proposition *p* which S expresses in *c*, there is a sentence S' such that in every context (including *c*) S' will express that same proposition *p*. In other words, *c* and *p* remaining constant, it is always possible to replace S by a nonindexical sentence S': that is the gist of the transformability thesis. Still, Bar-Hillel pointed out, there is a sense in which S *cannot* be replaced by S'. Consider a very simple example: the replacement of 'I am hungry' (S) by 'John is hungry at *t*' (S'). S and S' express the same proposition (that John is hungry at *t*) in every context in which John is the speaker and *t* is the time of utterance; but that does not mean that S and S' can be freely interchanged in all such contexts. If the users do not *know* that John is the speaker and *t* the time of utterance, the sentences S and S' will not be taken to express the same proposition, hence they will not be intersubstitutable *in the communicative situation*. S will be actually replaceable by S' only in a small subset of the above set of contexts, namely the contexts in which (i) John is the speaker and *t* the time of utterance, and (ii) the language users are aware of that fact. In general there is a pragmatic constraint on the transformation from indexical to nonindexical: the language users must *know* the relevant facts in virtue of which S and S' express the same proposition. But it is far from obvious that this constraint *can* be satisfied if the transformation from indexical to nonindexical is to be complete. In the examples I gave above ('The man who just asked the stupid question about the relation betwen the mental and the physical has, thank God, left the room', 'There is one and only one man on the speaker's left by the window in the field of vision of the speaker and the hearer, and he is a foreigner') the transformation was clearly not complete: there remained various sources of indexicality in the replacing sentences. Arguably, if we try to get rid of *all* indexicals, we will be in a position to do so only by invoking facts which are *not* known to the language users, that is, by violating the pragmatic constraint.

That difficulty, and the pragmatic constraint on which it is based, can be dismissed as irrelevant. Thus Goodman writes:

> Against such translations, it is sometimes urged that they do not really convey the content of the originals. A spoken "Randy is running now" tells us that the action takes place at the very moment of speaking, while a "Randy runs [tenseless] on October 17, 1948, at 10 p.m., E.S.T." does not tell us that the action takes place simultaneously with either utterance unless we know in addition that the time of the utterance is October 17, 1948 at 10 p.m. E.S.T. Since — the argument runs — we recognize the tenseless sentence as a translation of the tensed one only in the light of outside knowledge, we have here no genuine translation at all. But this seems to me no more cogent than would be the parallel argument that "L'Angleterre" is not a genuine translation of "England" because we recognize it as a translation only if we know that l'Angleterre is England. (Goodman 1951: 268-9)

Goodman's quotation makes clear what is at issue: there are aspects of the intuitive 'content' of the original that are left aside in the nonindexical translation, and at the same time 'outside knowledge' — i.e. information which is not part of that intuitive 'content' — is exploited in producing the nonindexical translation. How is that intuitive notion of the 'content' of the original utterance, what it 'tells us', related to that of the 'proposition' which it expresses, and which the nonindexical translation is taken also to express? Can we discard the intuitive difference in content between the original and its nonindexical translation, as Goodman suggests, on the grounds that they express the same proposition, much as 'l'Angleterre' and 'England' denote the same country?

When we say that 'I am hungry' and 'John is hungry at *t*' 'express the same proposition' with respect to a context *c* in which John is the speaker and *t* the time of utterance, we mean that they *have the same truth-conditions.* Both are true iff John is hungry at t. This is captured by saying that they express the same 'singular proposition', consisting of John, the time t, and the two-place relation of being hungry at a time. But if we have in mind more fine-grained propositions of the sort Frege was concerned with (what he called 'thoughts'), then it is unlikely that those utterances express the same proposition, even if they have the same truth-conditions. As far as

Fregean thoughts are concerned considerations of 'cognitive significance' play a crucial role alongside truth-conditional considerations.

Let us assume that John is rational. At *t* he may well assert 'I am hungry' while, at the same time, dissenting from 'John is hungry at t'. (That is possible if, lacking the relevant 'outside knowledge', he does not know who he is, or what time it is. For example, he may mistakenly believe that he is Peter, and that the current time is t'.) By Fregean standards, the fact that that is possible shows that the two sentences do *not* express the same 'thought', even with respect to a context in which John is the speaker and t the time of utterance. Following this line of argument, it can be shown that *no transformation from indexical to nonindexical is possible without affecting the cognitive significance of the utterance and therefore changing the thought it expresses*. One of the first philosophers to have made this point was Arthur Prior, who used an example very similar to Katz's 'thank God' example, in support of the opposite conclusion:

> One says, e.g. 'Thank goodness that's over', and not only is this, when said, quite clear without any date appended, but *it says something which it is impossible that any use of a tenseless copula with a date should convey*. (Prior 1959: 84; emphasis mine)

The same point was to be made forcefully by Castaneda some years later, and, following Castaneda, by John Perry in a sequence of insightful and influential papers.[2] As a result of their work, the transformability thesis is as commonly rejected nowadays as it was accepted in the first half of the twentieth century. The irreducibility and indispensability of indexicals is widely acknowledged.

Relativized propositions

'The essential indexical', Perry says in his well-known essay by the same name,

[2] See Castaneda's and Perry's respective collections of papers: *The Problem of the Essential Indexical and Other Essays* (Perry 1993), and *The Phenomeno-Logic of the I: Essays on Self-Consciousness* (Castaneda 1999).

> is a problem for the view that belief is a relation between subjects and propositions conceived as bearers of truth and falsity. (Perry 1979 :34)

If we individuate propositions in truth-conditional terms (in such a way that two utterances express the same proposition iff they are true in the same circumstances), then, indeed, the essential indexical poses a problem for the view that belief is a relation to propositions. How can it be that a rational subject believes P while disbelieving Q if P and Q, having the same truth-conditions, are said to be the same proposition ?

To solve that problem there are a number of options available. First, we can make the belief relation triadic : we can say that propositions are believed under 'guises' or 'modes of presentation'. Replacement of an indexical by a non-indexical expression in the asserted sentence affects the guise, even if the proposition expressed is the same. The problem is solved because a rational subject may both believe and disbelieve the same proposition, provided he believes it under one guise (P) and disbelieves it under another guise (Q). This is the solution advocated by Perry himself, and by most philosophers in the so-called 'Russellian' camp. Alternatively, we can keep the belief relation dyadic, but, departing from Russellianism and the 'coarse-grained' individuation of propositions in terms of objects and properties, follow Frege in building propositions ('thoughts') out of 'senses' or modes of presentation, thus making them directly answerable to cognitive considerations. For that solution to work, special, nondescriptive senses of the sort invoked by the 'neo-Fregeans' must be associated with indexical expressions.[3] A middle course is also available (Recanati 1993, 1995). We can keep the belief relation dyadic by incorporating the modes of presentation into the singular proposition, alongside the objects and properties of which they are modes of presentation. The resulting 'quasi-singular proposition' will be truth-conditionally equivalent to, but cognitively distinct from, the original singular proposition.

There is yet another option, which I want to discuss in this paper. We can shift to 'relativized propositions', as Prior suggested in his treatment of tensed sentences.

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[3] Such senses are of 'limited accessibility' since they « can only be expressed in special circumstances » (Perry 1979: 45.)

According to Prior, tensed sentences express propositions which are true or false only relative to a time. Such propositions are incomplete, by Fregean standards : they are best thought of as propositional functions (taking times as arguments) or as predicates (of times). Incomplete though they are, we can maintain that *they are* the contents of tensed sentences. The relevant time, without which no truth-value can be determined, is arguably not a part of the content of the sentence, but an aspect of the *circumstance* in which the content is evaluated. We can treat indexical sentences in the same way, by holding that they express relativized propositions : propositions true at some indices but not at others. Thus if John is hungry at t_1, 'I am hungry' is true at <John, t_1>. The proposition expressed by that sentence is a relativized proposition, i.e. a function from indices to truth-values. Such a proposition is very different from the unrelativized proposition that John is hungry at t_1, hence it is no mystery that one can believe the relativized proposition expressed by 'I am hungry' while disbelieving the unrelativized proposition expressed by 'John is hungry at t_1'.

The relativized-proposition view bears family resemblances to the classic analysis of indexical sentences due to Montague and Scott (Montague 1968, Scott 1970). Montague and Scott take the content of an indexical sentence to be not a proposition in the standard sense (a function from possible worlds to truth-values), but a function from *points of reference* to truth-values, where a 'point of reference' consists of several coordinates besides a possible world: a time, a place, a speaker, etc. The 'relativized proposition' approach is also closely related to the Loar-Lewis theory of *de se* beliefs as self-ascriptions of properties (Loar 1976, Lewis 1979). In his original sketch of the theory Loar says that *de se* belief is a relation to propositional functions, rather than to complete propositions. Lewis generalizes this point and argues that the object of the attitudes are not (classical) propositions, but properties.

Relativized propositions show up twice in Perry's writings. In 'the problem of the essential indexical' he says that

> the problem [i.e. the problem which the essential indexical raises for the view that belief is a relation to propositions individuated in truth-conditional terms] is not solved... by moving to a notion of proposition that, rather than true or false absolutely is only true or false at an index or in a context (at a time, for a speaker, say). (Perry 1979 : 34)

We shall consider Perry's argument to that effect in some detail in part III. The second appearance of relativized propositions in Perry's work is in his paper 'Thought without representation' (1986). In that paper Perry himself appeals to relativized propositions, in order to deal with what he calls unarticulated constituents (or at least a sub-class of them). According to Perry, if my four year old daughter says 'it's five o'clock' (or believes it) the proposition she expresses or believes is relativized to a time zone, but the time zone is not an aspect of the content she expresses or believes. It is truth-conditionally relevant, but is best thought of as an aspect of the circumstance with respect to which what she says or believes is evaluated. Perry himself expresses that point by saying that her thought 'concerns' a particular time zone but is not 'about' it. This is exactly the sort of thing that Prior wanted to say about times.

Has Perry changed his mind about the usefulness of relativized propositions? Not necessarily. He carefully distinguishes between indexicality and unarticulated constituency as two different forms of context-sensitivity, and it may be that relativized propositions can only be appealed to in dealing with the latter. This is one of the issues I will consider in part III, when I discuss Perry's attitude towards relativized propositions. First, however, I will sketch a framework in which relativized propositions play a central role (part II). The framework I will sketch builds upon ideas put forward by Perry himself in 'Thought without representation'.

II. Relativizing contents

Possible worlds

The notion of circumstance of evaluation is familiar from modal logic. In modal logic, propositions are evaluated relative to 'possible worlds'. The possible worlds are necessary to truth-evaluation, but they are not themselves represented in the propositions that we evaluate. Thus 'I am French' is true, with respect to a world w, iff I am French in w; but the sentence 'I am French' only talks about me and the property of being French. The world of evaluation is not a constituent of the content to be evaluated.

One can bring the world into the content by making the statement more complex. The complex sentence 'Possibly, I am French' tells us that *in some possible world* I am French. The modal statement I make by uttering that sentence is about possible worlds, not merely about me and the property of being French. In hybrid logic (a variety of modal logic), one can even make statements 'referring' to specific possible worlds.[4] But the worlds that are thus introduced into the content of the complex statement (via modal operators such as ‘possibly’) are used in evaluating the *simple* statement that is embedded within the modal statement. The modal statement itself is evaluated with respect to possible worlds, and it shares with the simple statement the property that *the worlds with respect to which it is evaluated are not themselves represented in the statement under evaluation*.

To appreciate the unarticulated character of the circumstance of evaluation in the modal framework, it is worth looking at what happens when we (standardly) translate a modal statement into first-order logic, by explicitly quantifying over possible worlds. Thus translated 'Necessarily p' becomes '$\forall$w p(w)', 'Possibly p' becomes $\exists$w p(w), etc. All complete sentences are transformed into predicates (of worlds). A simple categoric statement such as 'Rain is wet' will be represented as 'p(w)', where 'p' is the proposition that rain is wet transformed into a predicate of worlds, and 'w' is a free variable to which the actual world is contextually assigned as default value.

The big difference between the modal statement and its standard extensional translation is that, in the extensional framework, the circumstance of evaluation (the world) becomes a constituent of content. The contrast between content and circumstance is lost. This is too bad, for that contrast makes a lot of sense. To evaluate a sentence, we determine whether the state of affairs it describes obtains in some 'reality' which serves as circumstance of evaluation. But that reality — the actual world, say — is not itself, or at least doesn't have to be, among the constituents of the state of affairs in question, i.e. among the entities that are talked about and articulated in the content of the proposition. The world comes into the picture for purposes of evaluation, but the thoughts that are evaluated need not be metaphysically elaborated thoughts *about* the world. Indeed the users of the language need not even have the ability to entertain such thoughts. Only the theorist

[4] On hybrid logic, see Blackburn et al. (2001), chapter 7.

needs to be able to talk about the world of evaluation, in her metalanguage. The thoughts that are evaluated 'concern' the world, but they need not be 'about' it in the sense in which they are about the entities which they represent.

Let us consider a simple language without modal operators or other means of talking about worlds; let us go further and assume that the users of the language don't possess the reflective abilities necessary for thinking about modal issues. They entertain only nonmodal thoughts such as 'Rain is wet'. The possible-worlds semanticist who studies their language will still need to think and talk about the possible worlds relative to which the sentences of the language are evaluated; but, contrary to what the standard extensional translation suggests, mention of the possible worlds in question will be confined to the theorist's metalanguage.

Now suppose the users of the object-language become sophisticated and start thinking about metaphysical issues. Suppose they come to talk and think about what is *actually* the case as opposed to what *might be* the case. Such modal talk can be formally represented in two ways, as we have seen: by using sentence operators, or by explicitly quantifying world variables in the object-language. If we use the modal framework and introduce modal operators such as 'actually' or 'possibly', *nothing will be changed for the fragment of the language that does not involve those operators*. The sentence 'Rain is wet' will still be a simple, modally innocent sentence. The language will simply have been enriched by the introduction of new resources enabling us to construct more complex sentences. But if we use the standard extensional framework and represent modal sentences ('It might be that...', 'Actually...') by means of explicit quantification over possible worlds, as suggested above, then, unless special precaution is taken to avoid that consequence, *a change of language takes place,* not merely an enrichment. In the new language, *all* sentences (including simple sentences) now contain a hidden argument-place for a world. Modal innocence is lost forever.

I think this move is (almost) as damaging as the previous one — the ascription of thought and talk about possible worlds to modally innocent subjects. Even if the users of the language are sophisticated enough and can think about modal issues, it is misleading to suggest that they *always* think and talk about such issues even when they entertain simple thoughts or utter simple sentences such as 'Rain is wet'. By forcing us to construe e.g. the assertion that rain is wet as involving a covert argument-place which the actual world fills, the extensional translation blurs the

cognitively important distinction between the simple, modally innocent assertion 'Rain is wet' and the modal assertion 'Actually, rain is wet'. To maintain that distinction, we have to see modal sentences as *constructed from* simple sentences by the application of modal operators to them. In this way we can analyse the ability to use and understand modal sentences as resting on two distinct abilities: the ability to use and understand simple sentences; and the ability to imagine other possible worlds and to contrast the actual world with them. The first ability is independent from the second: we can use and understand simple sentences (e.g. 'Rain is wet') even if we lack the ability to think thoughts about the actual world (in Perry's sense of 'about').[5]

Time and tense

The difference we have found between two ways of representing modality can be found also between two ways of representing tense, one which preserves temporal innocence in simple sentences and one which does not.

[5] The important thing, I said, is to see modal sentences as constructed from simple sentences by means of operators. Now this is something we can do *even if we want to represent modal talk extensionally.* The apparatus of variadic functions presented in Recanati 2002 enables us to do that. In that paper I analysed 'Everywhere I go it rains' as resulting from the application of a locative variadic operator to the sentence 'It rains'. That operator does two things. First, it modifies the adicity of the predicate in the sentence it applies to: it adds an extra argument-place for a location, which can be represented by a free variable. Second, it introduces a restricted quantifier which binds that variable. The operator can be paraphrased as 'for every location *l* such that I go to *l*, in *l* it is the case that'. 'Necessarily it rains' can be represented in the same hybrid way, by applying to the sentence 'It rains' a sentence operator which can be rendered as: 'for every world *w*, in *w* it is the case that'. Since the variable 'w' is introduced by the variadic operator, we don't have to treat the emergence of modalities as a radical change in the language, but simply as an enrichment of it; an enrichment which does not affect the simple (nonmodal) sentences, hence preserves modal Innocence.

In tense logic, tense is represented by means of sentence operators.[6] Alternatively, tenses can be represented by adding extra argument-places for times.[7] If we choose the latter course, it is no longer possible to consider adjectives such as 'warm' or 'yellow' as denoting properties; they have to be considered as denoting relations — relations between the objects which have the alleged properties and the times at which they have them. As Michael Dummett has pointed out, this relational approach significantly departs from our habitual way of thinking:

We think of adjectives such as "warm", "smooth", "slender" and so on as denoting *properties*; properties that a thing may have at one time, and not at another, but nevertheless properties rather than relations between objects and times. And this goes with the way in which we come to understand such adjectives. To know what it is for someone to be my nephew, I have first to learn what it is for anyone to be the nephew of any given person. But we do not begin by learning in what relation an object must stand to an arbitrary time for it to be warm or wet at that time, and then, having learned what time is referred to by the adverb "now", derive from this a grasp of what it is for it to be warm now. Rather, we first learn what it is for something to be warm, wet, smooth or slender, that is to say, for the predicate "*is* warm (wet, smooth, slender)" to be applicable to it, where the verb "is" is in the true present tense. From this we advance to an understanding of what is meant by saying of an object that it was or will be warm, etc., at some other time. The advance is made by our acquiring a general grasp of the past and future tenses. That is to say, to understand "was warm" or "will be warm", we apply to our prior understanding of what is meant by saying that something is warm our general comprehension of what it is to speak of

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[6] Barbara Partee (1973) says that examples like 'I did not turn off the stove' (in which reference is made to a specific time) speak against a treatment in terms of operators, because modal operators can't capture the referential nature of (some uses of) tenses. But the referential/quantificational issue is orthogonal to the question, whether or not we should use operators. Even if standard modal operators are quantificational rather than referential, nothing prevents the introduction of 'referential' operators in the modal framework. See Prior 1967, 1968, Blackburn 1994.

[7] There is a third option: tenses can be represented as temporal predicates of events. If we like Davidson's analysis of adverbial modification, that is a natural move to make.

how things were or will be at another time. In so doing, we are in effect treating the tenses (and other indications of time) as operators applied to sentences in the present tense of which we have previously acquired an understanding, just as the tense-logical semantics treats them. We could not learn the language in any other way. (Dummett forthcoming :16-17)

Dummett's complaint about the relational treatment of tenses parallels my complaint about the extensional rendering of modal talk. The relational treatment threatens temporal innocence, just as overt quantification over possible worlds (without variadic functions) threatens modal innocence.

In the temporal case there is a possible objection, due to the fact that tense is (to put it crudely) obligatory in English — or nearly so. Since it is, one may argue that time shouldn't be treated like modality : There are simple, nonmodal sentences, whose characteristics must admittedly be preserved and captured, but there is no such thing as nontemporal talk, hence no such thing as temporal innocence.

From the tense-logical point of view, that objection is misguided. The present tense is not a tense like the past or the future. It is more primitive and, in a sense, temporally neutral. Someone can think 'It is hot in here' even if she has no notion of time whatsoever, hence no mastery of the past and the future. If this is right, mastery of genuine temporal talk rests on two distinct abilities: the ability to use and understand simple sentences (i.e. sentences in the present) and the ability to think about times and to constrast the past and the future with the present. As in the case of modality, the first ability is independent from the second.

It is true that, when we say or think 'It is hot in here', we talk (or think) about what is presently the case; we characterize the situation *at the time of utterance*. Yet this is not part of what the sentence itself expresses. The content of the sentence, from the tense-logical point of view, is a function from times to truth-values. When the sentence is uttered, the function is applied to the time of utterance. That is so *whether the sentence is in the present or any other tense*. Even if I say 'It has been hot' or 'It will be hot', I characterize the time of utterance (and, in relation to it, some earlier or later time). The time of utterance, which the sentence is used to characterize, is the time with respect to which we *evaluate* the sentence. The best thing I can do here it to quote Prior:

> If tenses are formed by attaching prefixes like 'It has been the case that' to the present tense, or to a complex with a present tense 'kernel', it is not always true to say that what is in the present tense is understood as a characterisation of the time of utterance; rather, it characterises whatever time we are taken to by the series of prefixes. The *presentness* of an event, we may say, is simply the *occurrence* of the event, and that is simply the event itself. But every complete tensed sentence characterises the time of utterance in some way or other, and other times only through their relation to that one. (Prior 1977 : 30)

To sum up, the time of utterance is not represented, it does not feature in the content of tensed sentences; it only comes into the picture as the circumstance with respect to which the content of a tensed sentence is evaluated.

Fregean qualms

Another possible objection, voiced by Evans, concerns the fact that a tensed sentence like 'It is hot', 'It has been hot' or 'It will be hot' is not evaluable as true or false, unless we are given a particular time. In the absence of a time specification, the sentence is only 'true-at' certain times and 'false-at' others. Such a sentence, therefore, is *semantically incomplete* by Frege's lights:

> 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. (Quoted in Evans 1985 : 350)

As Evans points out, the problem of semantic incompleteness does not arise in the modal case. Even if a thought is said to be 'true at' one world and 'false at' another, as in modal logic, this does not prevent it from being true (or false) *tout court*. It is true *tout court* iff it is true-at the actual world. But the 'thought' that it is hot cannot be evaluated as true or false *tout court.* In the absence of a contextually supplied time it can *only* be ascribed relative, 'truth-at'-conditions. Only a particular, dated utterance

of such a sentence can be endowed with genuine truth-conditions. What this shows is that the time of utterance is part of the (complete) content of the utterance;[8] hence it cannot be expelled out of the content and treated like the world of evaluation. So the objection goes.

According to Dummett, Evans's objection to Prior is based on a misunderstanding. Prior was concerned only with *sentence-types* and *their* contents. The content of a sentence-type is a function from times to truth-values, hence a sentence-type has only relative truth-conditions: it is true at some times and false at other times. To introduce a notion of absolute truth, one thing we can say (though not, according to Dummett, what Prior himself would say)[9] is that, when a sentence is uttered, the function which is its content is applied to some contextually provided time (typically, the time of utterance). The time in question serves as circumstance of evaluation for the utterance: the utterance is true *tout court* iff the sentence is 'true-at' the contextually provided time. As Dummett points out,

> The variable truth-value and the absolute truth-value attach to different things; it is the type sentence that is true at one time, false at another, but the utterance that is true or false simpliciter (Dummett forthcoming : 44)

Since there are two distinct levels, corresponding to the sentence-type and the utterance, there is no harm in taking the utterance to possess a 'content' also ($content_u$), distinct from that of the sentence ($content_s$). For example, we can treat the utterance as expressing a structured proposition consisting of (i) the contextually provided time as subject, and (ii) the content of the sentence-type, predicated of that time. But if we do so, we must acknowledge the unarticulated nature of the 'subject' in the $content_u$ of tensed utterances. As Prior says, "tensed propositions are understood as directly or indirectly characterising the *un*mentioned time of utterance"

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[8] Or, in a Fregean framework, part of the expression of such a content.

[9] "The simplest way to introduce a notion of absolute truth", Dummett writes in the same manuscript, "is to follow the analogy with possible words semantics and stipulate a type sentence to be true simpliciter just in case it is true-now. Tense-logic, in the hands of its inventor, could be regarded, without violation of its principles, as a semantics exclusively of statements uttered at one particular time" (Dummett forthcoming : 19).

(Prior 1977 : 30). Hence there is a trade-off: if we want to restrict ourselves to what is linguistically articulated, we must focus on the $content_s$, which is 'semantically incomplete' by Frege's lights — it corresponds to the content of a predicate rather than to that of a complete sentence in a logically perfect language. If, following Frege, we want to focus on the complete content of the utterance, that which makes it truth-evaluable in absolute terms, we must acknowledge the role played in that content ($content_u$) by unarticulated constituents corresponding to the circumstances in which the $content_s$ is evaluated.

Situations

Let us take stock. For purposes of semantic evaluation we need a circumstance as well as a content. Even Frege, who was unconcerned by modalities and thought of the actual world as the only world there is, was aware of that fact. He took fictional sentences to be unevaluable, for the following reason: since the author of a fictional statement does not attempt to characterize the actual world, we are given a content without any circumstance of evaluation for it. The obvious conclusion to draw from Frege's remarks on fiction is that, to get a truth-value, a content is not sufficient; we need to connect that content with the actual world, via the assertive force of the utterance, in virtue of which the content is presented as characterizing that world. Frege was aware not only that we need a circumstance in addition to a content, but also that the circumstance is not, and cannot be, an aspect of the content articulated in the sentence. If a sentence lacks the force of a serious assertion, because the speaker does not attempt to characterize the actual world but is engaged in a different enterprise (e.g. poetry), making the content of the sentence more complex by means of operators such as 'it is true that' will not change the situation. Whether or not an utterance is serious and characterizes the actual world is a pragmatic matter — a matter of 'force', not a matter of content (in the narrow sense of 'content').

Once it is admitted that we need a circumstance over and above the content to be evaluated, we can part from Frege and, following Prior, tolerate contents that are not 'semantically complete' in Frege's sense, i.e. endowed with absolute truth-conditions. We can, because the circumstance is there which enables the content to be suitably completed. Thus the content of tensed sentences is semantically incomplete, yet the circumstance (the time) relative to which such a sentence is

evaluated is sufficient to complete it. It follows that we must distinguish two levels of content. The content we evaluate with respect to the circumstance is the content$_s$; it may, but need not be, semantically complete by Frege's lights. What is semantically complete in any case is the content$_u$. It consists of the content$_s$ *and* the circumstance with respect to which the content$_s$ is evaluated.

Situation theory as I understand it[10] follows those ideas to their consequences. It generalizes and systematizes them, in two main directions:

1. There is no reason why only times and worlds should be accepted as features of the circumstance of evaluation. Why not also, for example, *locations*? If I say 'It's raining', the location is unarticulated, but it is relevant *qua* feature of the circumstance of evaluation: what I say (or think) is true iff it's raining *at the contextually provided location*. Why not also consider the *agent* of the speech act (the speaker) or of the thought act (the thinker) as (part of) the circumstance of evaluation, to handle the cases in which the content to be evaluated is a property of agents which the speaker or thinker self-attributes? Why not extend the notion also to ordinary objects? If, talking about my car, the mechanics tells me, 'The carburettor is in good condition but there is a problem with the front wheels', my car is a crucial feature of the circumstance of evaluation. It is true (or false) *of my car* that the carburettor is in good condition, etc. The same thing could have been said of another car, but as things turn out it is my car which figures in the content$_u$ of the mechanics's utterance.

Rather than list all the features which may figure in a circumstance of evaluation, let us follow Barwise, Perry and others and use the word 'situation' to denote any entity or complex of entities which can play that role. Anything counts as a situation provided, for some sentence S, it makes sense to ask whether or not what S expresses is true *in it* (or 'of it' or 'at it' or 'with respect to it'). Ordinary situations — restricted portions of the actual world — are, of course, the paradigmatic case of a situation in this generalized sense.

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[10] By 'situation theory' here I do not mean the official doctrine expounded in Barwise and Perry's *Situations and Attitudes* (1983), but a body of ideas developed a few years later and centered around the notion of 'Austinian proposition' (Barwise and Etchemendy 1987, Barwise 1989, Recanati 1997, 1999, 2000; see also Perry 1986b where some of these ideas originate). My version is, I admit, fairly idiosyncratic.

2. When the content of the sentence is semantically incomplete, it is the utterance which is the proper bearer of (absolute) truth-value. Thus tensed sentences only have relative truth-values, they express relativized propositions, and we need to shift to utterances to get absolute truth-values and absolute propositions. One might think that *with sentences that are not relevantly context-sensitive and whose content is not semantically incomplete*, there is no need to invoke a double layer of content. The content of the sentence, insofar as it has an absolute truth-value, is the only thing we need. Situation theory rejects that viewpoint, however. In situation theory, the content of a sentence (whatever the sentence) is a function from situations to truth-values. Hence the relativity of truth, construed as a property of sentences: the same sentence may be true relative to a situation and false relative to another one. That is so *even if the sentence itself is not relevantly context-sensitive or semantically incomplete*. Even when the sentence *is* truth-evaluable in the absolute sense — when it is 'semantically complete' by Frege's lights — situation theory says there is a principled distinction between the content_s of the sentence and the content_u of the utterance. In such a case, the content_s will be a 'classical' proposition (a function from possible worlds to truth-values), and the content_u will contain a situation in addition to that proposition. What the utterance 'says' is that *the situation in question supports the proposition in question.* It follows that two distinct evaluations are possible, in such cases. We can evaluate the sentence itself (i.e. evaluate the proposition with respect to the actual world), or we can evaluate the utterance, that is, evaluate the proposition *with respect to the situation figuring in the* $\textit{content}_u$.

I can't refrain from quoting my favourite example here (from Barwise and Etchemendy 1987). Commenting upon a poker game I am watching, I say: 'Claire has a good hand'. What I say is true, iff Claire has a good hand in the poker game I am watching (at the time of utterance). But suppose I made a mistake and Claire is not among the players in that game. Suppose further that, by coincidence, she happens to be playing poker in some other part of town and has a good hand there. Still, my utterance is not intuitively true, because the situation it concerns (the poker game I am watching) is not one in which Claire has a good hand. But we can say that the *sentence* is true, or at least true at the time of utterance: for it says that Claire has a good hand, and Claire *has* a good hand (somewhere). The unarticulated

constituent which distinguishes the $content_u$ from the $content_s$ makes all the difference here, and it accounts for our intuitive classification of the utterance as non-true.

This sort of approach can easily be extended to deal with standard problems such as that of quantifier domain restriction. It is natural to hold that 'all Fs are G' expresses a proposition that is true (in a world, at a time) if and only if all the Fs are G (in that world, at that time). Thus 'All students are French' expresses the proposition that all students are French. Many theorists feel compelled to give up this natural view, and claim that the sentence is semantically incomplete or covertly indexical, so that it expresses no proposition (independent of context).[11] They say so because they are impressed by the fact that the truth-conditions of an utterance of that sentence typically involves a contextually restricted domain of quantification. In the situation-theoretic framework, however, we can stick to the simple and straightforward view regarding the proposition expressed by 'All the Fs are G', while fully acknowledging contextual domain restriction. The two layers of content enable to do just that. The sentence is said to express a proposition that is evaluable with respect to an arbitrary world-time pair — the proposition that all students are French — but that proposition can *also* be evaluated with respect to the specific situation that features in the $content_u$. That is what happens when we evaluate an utterance of this sentence, instead of evaluating the sentence itself.

III. Unarticulated constituents and *de se* belief

Unarticulated constituents of what ?

The framework I have sketched owes much to Perry's pioneering paper, 'Thought without representation', where he introduces the notion of an unarticulated constituent and the distinction between 'concerning' and 'being about'. That distinction comes out most clearly in the case of the Z-landers, a group of people who « do not travel to, or communicate with residents of, other places » and have no name for the place they live in (Z-land) :

[11] See e.g. Stanley and Szabo 2000.

> When a Z-lander sees rain, he will say to others not in a position to look outdoors, *It is raining*. His listeners then act appropriately to there being rain in Z-land: they close the windows in Z-land, cancel plans for Z-land picnics, and grab umbrellas before going into the Z-land out-of-doors. They have no other use for 'It is raining'. They do not call their sons in far-off places, or listen to the weather news, or read newspapers with national weather reports. (Perry 1986b: 212)

As Perry points out, Z-land is an unarticulated constituent of the content expressed by the Z-lander's utterance 'It's raining'. The utterance is true if and only if it is raining *in Z-land*. But the Z-landers do not have a concept or idea of Z-land as opposed to other places. Their weather thoughts 'concern' Z-land, not by virtue of containing a representation of Z-land (in which case they would be 'about' Z-land), but by virtue of their *being in* Z-land. The unarticulated constituent is unarticulated not only linguistically but also mentally: it's a constituent of content directly provided by the environment.

In such cases the mental representation, considered in abstraction from the environment which it concerns, expresses less than a complete proposition. The Z-landers think 'It is raining': the content thus articulated is not fully propositional — it is a propositional function, which is truth-evaluable only with respect to a particular place (determined by the environment). Now, as Perry pleasantly says, « there is a little of the Z-lander in the most well-traveled of us » (Perry 1986b: 216). The difference between the Z-landers and us is that we do have a notion of the place where we live, as opposed to other places; so we are capable of entertaining a thought *about* the place where we are, such as 'It's raining in Paris, but not in Saint Tropez'. Perry's point, however, is that when we're in Paris (or Palo Alto) and we say or think 'It's raining', we need not think *reflectively* about the place we're in. We can think 'It's raining' and *let the place we are in complete the content of our thought.*

The framework I have sketched owes much also to Barwise's paper 'Situations, Facts, and True Propositions', in which the two layers of content I have mentioned (content$_s$ and content$_u$) are systematically told apart. What I call the 'content$_u$' Barwise, in that paper, dubs the 'Austinian proposition'. (That terminology

was already used in Barwise and Etchemendy 1987.) The structure of the Austinian proposition is:

$s \models p$

where ‘s’ is the situation which the utterance concerns, ‘p’ is the (typically relativized) fact which the utterance presents as obtaining in that situation, and ‘⊨’ is the support relation, i.e. the relation which holds between a situation and a fact whenever the fact obtains in the situation. This is very much in the spirit of Perry’s ‘Thought without representation’, yet in his paper Barwise says that Perry and him disagree. Before proceeding, I will attempt to locate the points of disagreement and to clarify my position regarding them — with the hope that Perry himself will do so in his reply.

Barwise gives the following example to illustrate his disagreement with Perry. Suppose Holmes and Watson face each other. In between stand the salt and the pepper. Holmes says 'The salt is left of the pepper', because the salt is left of the pepper from Holmes's perspective. From Watson's perspective, the pepper is left of the salt; however, Watson is mistaken as to which shaker is which, and he wrongly says 'The salt is left of the pepper'. Holmes and Watson apparently 'say the same thing', but Holmes is right and Watson wrong. Some unarticulated constituent must be involved, which accounts for the difference in truth-value. This unarticulated constituent is the *perspective*: the salt is on the left from Holmes's perspective, but it is not on the left from Watson's perspective. (That is why Holmes is right and Watson wrong.) Thus far Barwise and Perry agree, but now a decision has to be made : the unarticulated constituent may be fed into the content to be evaluated (the right-hand-side in the Austinian proposition), or into the situation which that content concerns.

On the first option, both Watson and Holmes are talking about the same 'objective' situation (the situation they share), but they state different facts about that situation. The facts they state are, respectively:

Holmes:
Left-of (salt, pepper, perspective H)
Watson:
Left-of (salt, pepper, perspective W)

Watson's and Holmes's perspectives turn out to be (unarticulated) constituents of the facts which they state. According to Barwise, that is the view which Perry favours.

On the second option, taken by Barwise, Holmes and Watson assert the same (relativized) fact:

Left of (salt, pepper)

However, Holmes and Watson talk about *different situations*. The situations are individuated in terms of Holmes's and Watson's subjective perspectives on them. The Austinian propositions expressed by Watson's and Holmes's respective utterances are:

Holmes:
Holmes's perspective |= << Left of (salt, pepper)>>
Watson:
Watson's perspective |= << Left of (salt, pepper)>>

According to Barwise, the superiority of the second option comes from the fact that, if we take the first one, « we have nothing in the theory that classifies the similarity in attitudes of Holmes and Watson in cases like these. And it is this similarity that leads them to make the same bodily movements, reaching in the same direction, though toward different objects, when they want the salt. » (Barwise 1989: 240).

Whatever we think of 'perspectival situations' and the specific problems they raise, [12] there is a more fundamental issue at stake. According to Barwise, Perry *generally* treats 'unarticulated constituents' as constituents of the content to be evaluated, rather than aspects of the situation with respect to which the content is evaluated. Unarticulated constituents, for him, are things the statement or belief is 'about', rather than things the statement or belief 'concerns'. If this is right, then Perry

[12] The main problem perspectival situations raise is that they are not 'objective' enough to play the role of situation; or so it may be thought. That difficulty can (perhaps) be overcome by viewing perspectival situations as 'reflexive situations' which include a viewer with a perspective *on* the situation. Be that as it may, I am not specifically concerned with perspectival situations in this paper. I use them only for illustrative purposes.

must have changed his mind since ‘Thought without representation’. For that paper’s main point was that more cases of unarticulatedness can be handled in terms of the ‘concerning’ relation than one might as first suppose. Not only can the case of the Z-landers, or the case of children saying or thinking ‘It’s five o’clock’ even though they have never heard of time zones, be so handled. The same thing holds for the case of *anyone* saying or thinking ‘It’s raining’ and grabbing his or her umbrella, or of *anyone* saying or thinking ‘It’s five o’clock’ and deciding to have tea. In all such cases, Perry held that we can appeal to relativized propositions and the concerning relation. In his paper, however, Barwise suggests that Perry has changed his mind, and he ascribes to him a position in sharp conflict to that put forward in ‘Thought without representation’ regarding examples such as ‘It is raining’ or ‘It’s five o’clock’ :

> My four year old daughter Claire knows what it means to be 7 AM, since that is when she is allowed to wake us up. And she can believe that it is 7 AM. Now the point is that she has no idea about time zones. But to account for the truth of her belief, we somehow have to build in the dependence of the proposition on time zones. It can either be an aspect of her situation, or the fact she states and believes. If [following Perry] we take the unarticulated constituent route, we end up saying that the fact she notes when she notes that it is 7 AM has something like Pacific Daylight Time as a constituent. This seems to me quite contrary to the situated perspective on inquiry, which would see it as an aspect of the situation she is in. (Barwise 1989 : 241)

Was Barwise right to ascribe to Perry a view so clearly at variance with that put forward in ‘Thought without representation’ ? I leave it to Perry to answer that question. The fact that Perry has stopped using the notion of ‘concerning’ in subsequent papers lends some support to the claim that he has changed his mind on those issues (though he never said so explicitly).[13] Be that as it may, it is important to realize that, even in ‘Thought without representation’, Perry remained very cautious and resisted the sort of generalization which characterizes Barwise’s approach and

[13] Barwise certainly goes too far when he suggests that Perry would put the time zone on the content side rather than the situation side. I think Perry’s new frame of mind is better captured by saying that he would rather not use the Austinian framework (with its two sides) at all.

mine. Not all instances of unarticulatedness, he then suggested, can be handled in terms of the concerning relation. In the next section, I will present what I take to have been Perry's criterion, at the time of 'Thought without representation', for picking out the cases that can be so handled.

Perry's criterion : the NCC

Though he did not discuss the issue explicitly, the following passage seems to me representative of Perry's view regarding the cases which can and those which cannot be handled by appealing to relativized propositions and the concerning relation:

> In cases in which the same unrepresented parameter is relevant to a whole mode of thinking or discourse, we should classify each specific belief or utterance with a propositional function. The truth-value would be that of the proposition obtained by applying the function to the value of the parameter fixed by facts about the whole system. (Perry 1993a: 221)

This actually covers two sorts of case. There are, on the one hand, the cases in which the subject has no representation whatsoever of the relevant parameter, which only the theorist can articulate. That is the 'Z-lander' sort of case. There are also the cases in which the subject herself can articulate the relevant parameter, but need not do so because the value of the parameter is fixed by the environment or the architecture of the system in a uniform manner, i.e. without any need for the subject herself to *cognitively discriminate* the situation of concern from other possible situations. That is what happens in the mode of thinking or discourse that specifically concerns local weather :

> Those belief states that directly control behavior for local weather merely *concern* local weather, rather than being about it. All believers who had just seen rain and were about to open their umbrellas [should] be reckoned as believing the same propositional function, but the truth conditions of their beliefs... differ with their location. (Perry 1986b : 217)

So ‘It’s raining’ expresses a propositional function when it is uttered in talking about local weather. Even though ‘It’s raining’, in such circumstances, turns out to have the same truth-conditions as ‘It’s raining here’, they are not synonymous : ‘It’s raining’ expresses a place-relative propositional function, while ‘It’s raining here’ articulates the place which therefore goes into the evaluated content instead of being simply part of the circumstance of evaluation.

The cases that presumably cannot be handled in this way, according to Perry, are the cases in which it is incumbent upon the subject to discriminate what his thought or statement is tacitly about, because there are several possible options and no external fact to pick out one. That is what happens in the mode of thinking or discourse about non-local weather.

> Suppose, for example, that my son has just talked to my older son in Murdock on the telephone, and is responding to my question, « How are things there ? » Then his remark [‘It is raining’] would not be about Palo Alto [the place where he is], but about Murdock... My son belief [is] about Murdock, and his intention [is] to induce a belief in me that [is] about Murdock by saying something about Murdock. Here it is natural to think that we are explaining which unarticulated constituent a statement is about, in terms of something like the *articulated* constituents of the beliefs and intentions it expresses. (Perry 1986b : 211).

Perry’s position may be reconstructed and tentatively justified as follows. In this sort of case it is not the location of the speaker, but his intentions and beliefs, which determine the place on which the truth-value of the statement depends. Since that is so the place in question has got to be mentally represented, hence it is an articulated constituent of the content of the belief which the utterance expresses. Assuming that the content of the utterance is the same as that of the belief which it expresses, it follows that the place is a constituent of the content of the utterance even if it is not articulated in the utterance itself (but only in the belief that the utterance expresses).

I do not accept this piece of reasoning, and I reject its conclusion : I think Murdock is the place which the mentioned utterance *concerns*, rather than a constituent of its content (narrowly speaking). I have no quarrel with the assumption

that the content of an utterance is the same as that of the belief which it expresses, nor with the premiss that Murdock must be mentally represented if the speaker is to be credited with the appropriate communicative intentions. Still, there is a premiss in the above reasoning which I find unpalatable. The fact that something is mentally represented, hence articulated in *some* mental representation, does not entail that it is represented or articulated *in the mental representation whose truth-value depends upon that thing*. It may be articulated in some *other* mental representation. Thus the fact that Perry's son must think of Murdock and intend to say something about Murdock when he utters 'It is raining' possibly entails that Murdock is articulated in some mental representation of his, but does *not* entail that the belief he expresses by his utterance 'It is raining' is the locus of that articulation.

In general, the contextual facts which fix the value of the situational parameter for a given mental representation may well be cognitive factors, involving other mental representations. To take an example I have used many times, suppose I say : « Berkeley is a nice place. There are bookstores and coffee shops at every corner. » This is a two-sentence discourse. Berkeley is an articulated constituent of the first statement, and an unarticulated constituent of the second statement. Nothing prevents us from saying that the second statement *concerns* the place which the first sentence explicitly mentions. The fact that that place is cognitively discriminated via the mental representation corresponding to the *first* sentence does not entail that it is articulated also in the mental representation corresponding to the *second* sentence. On the contrary, the fact that the subject has just entertained a representation explicitly about Berkeley contributes to explaining why the second representation concerns that city. Likewise, I think it is the mental representation corresponding to Perry's question 'How are things there ?', not that corresponding to his son's answer 'It is raining', which articulates Murdock. The place thus articulated in the question can serve as the situation which the answer concerns.

Given all this, my policy is to (try to) handle *all* cases of unarticulatedness, or as many as possible, by feeding the unarticulated constituents into the situation of concern. In many cases, the situation which an utterance or thought concerns will be determined not by external facts like the location of the speaker, but by cognitive factors such as the topic of the conversation or what the thinker is mentally focussing on. In such cases, admittedly, the situation *s* which the representation R concerns will itself have to be somehow represented or articulated — it will have to be cognitively

discriminated — but that would raise a problem only if that entailed that *s* is articulated *in R*. As we have just seen, that consequence does not follow. I therefore reject the principle which Perry seems to accept in his discussion of unarticulated constituents and the concerning relation :

> *No Cognitive Concerning (NCC)*
> For an unarticulated constituent to go into the situation of concern, it must be contributed by the environment rather than cognitively discriminated.

Relativized propositions and the essential indexical : Perry's argument

Can we use the relativized-propositions framework to deal with the essential indexical ? Can we say that an utterance such as 'I am hungry' expresses an Austinian proposition, the right-hand-side of which is occupied by a relativized proposition, true only at a time and an agent ? According to Perry, if we say so, that will not help us solve the problem of the essential indexical. We cannot, in this way, properly capture the *de se* belief which is expressed by saying 'I am hungry'.

Perry's argument proceeds in two steps. First, Perry attempts to establish that the subject does not merely believe the relativized proposition. The belief could not be evaluated as true or false if its content was exhausted by that proposition. For the belief to be evaluable, we need a situation of concern over and above the relativized proposition. In particular, we need a time and an agent, such that the relativized proposition is *believed to be true with respect to that time and to that agent*. Second step : Perry shows that, as soon as we bring the agent into the picture, the problem of the essential indexical re-appears :

> Once we have adopted these new-fangled propositions, which are only true at times for persons, we have to admit also that we believe them as true for persons at times, and not absolutely. And then our problem returns. (Perry 1979 : 44)

The problem returns because there are different ways of thinking of the person relative to which the relativized proposition is believed to be true. When Perry thinks « I am making a mess » at time t_1, he believes the relativized proposition 'x is making

a mess at t' to be true for himself at that time. But all the shoppers who watch him make a mess also believe that relativized proposition to be true for Perry at t_1. Both Perry and the shoppers believe, at t_1, the Austinian proposition

$$\langle \text{Perry}, t_1 \rangle \models \langle\langle x \text{ is making a mess at } t \rangle\rangle$$

Appealing to Austinian propositions consisting of a situation and a relativized proposition does not therefore solve the problem. Whether we use classical propositions or Austinian propositions, it seems that we need guises over and above the usual propositional constituents, in order to distinguish Perry's first-person belief from the other shoppers' third-person beliefs.

Evidently, one should block the argument at step 1 and maintain that the content of the belief *is* the relativized proposition. Only in that way can we hope to solve the problem of the essential indexical, for the very reason that Perry gives at step 2. The position I take is therefore the same as that defended a long time ago by Richard Feldman in his reply to Perry:

> Perry takes the doctrine of indexed propositions to entail that we do not simply believe such propositions, but rather believe that they are true at some index. However, we need not understand the doctrine in that way. Contrary to what Perrys says, we ordinarily do *not* believe that indexed propositions are true at some index. We simply believe them. In Perry's example, when I realized what was happening I first came to believe the proposition *that I am making a mess*. Of course, I was then believing it a a certain place and time and in a certain possible world. And it was true for me in that world at that place and time. Prior to my realization, I did not believe this proposition at all, although I may have believed some other proposition about this proposition. That is, I may have believed the meta-proposition that the proposition *that I am making a mess* is true at some index, namely, one containing the guilty shopper and that time. Similarly, the shopper watching me does not believe the proposition *that I am making a mess*, but he may believe some proposition about this proposition. For example, he may believe that it is true at an index containing me and then. So, on this view, the proposition *that I am making a mess* is one that I came to

believe at the appropriate time and my coming to believe it can help to explain why I straightened my sack. (Feldman 1980 : 82)

Indeed, in the situation-theoretic framework, the cognitive content of the belief (that which accounts for the subject's behaviour) is captured by the right-hand-side in the Austinian proposition, that is, by the relativized proposition. The situation is needed only to account for the belief's truth-conditions. So what the guilty shopper believes, on the situation-theoretic account, is the relativized proposition true at an agent *x* and a time *t* iff *x* is making a mess at *t*.

To be sure, that proposition is not semantically complete : it can be truth-evaluated only with respect to an agent and a time. In his reply Feldman says that the agent and the time are, simply, the agent and time of the context. The agent is the person who believes the relativized proposition, and the time is the time at which the agent believes it. Now Perry had anticipated such a position, and he responded to it in advance :

> All believing is done by persons at times, or so we may suppose. But the time of belief and the person doing the believing cannot be generally identified with the person and time relative to which the proposition believed is held true. (Perry 1979 : 44)

This is the critical issue indeed. According to Feldman, an agent-relative proposition can only be evaluated with respect to the agent in the context of belief, i.e. with respect to the believer himself. So the agent does not have to be represented in order to play its role in fixing the belief's truth-conditions : It is provided by the environmnent. This is also the position defended by Loar (and by Lewis). According to Loar, there is a primitive relation, the 'self-ascriptive belief relation', between believers and propositional functions (Loar 1976 : 358). Whenever a person stands in that relation to a propositional function, she entertains a *de se* belief, true iff the propositional function is true-of *that person*. Here again, we find that *the index with respect to which the relativized proposition is evaluated is bound to be the 'index of the context'* (to use the terminology from Lewis 1980). Only if we accept this constraint, which I call the Reflexive Constraint, can we hope to solve the problem of the essential indexical by appealing to relativized propositions.

According to Perry, there is no reason to accept the Reflexive Constraint, for we can hold relativized propositions true with respect to non-contextual indices. That is what he thinks happens in the supermarket example : the guilty shopper takes the relativized proposition ‘x is making a mess’ to be true with respect to himself, but the other shoppers who watch him also take the relativized proposition to be true with respect to him. The difference — or more cautiously : one difference — between the guilty shopper who holds a first-person belief and the other shoppers who hold a third-person belief is that, for him but not for them, the ‘context of evaluation’ and the ‘context of belief’ coincide. Now the simple fact that they need not coincide shows that the problem of the essential indexical (i.e. the problem of characterizing the first-person perspective) cannot be solved simply by appealing to relativized propositions. So the argument goes. As Perry puts it,

> The time of belief and the person doing the believing cannot be generally identified with the person and time relative to which the proposition believed is held true. You now believe that *that I am making a mess* was true for me, then, but you certainly do not believe it is true for you now, unless you are reading this in a supermarket. Let us call *you* and *now* the context of belief, and *me* and *then* the context of evaluation. The context of belief may be the same as the context of evaluation, but need not be. (Perry 1979 : 44)

However the issue is very far from settled. We cannot consider Perry to have demonstrated the possibility of a divergence between the circumstance of evaluation and the context of belief, by actually providing a couple of examples; for the examples he provides are controversial (to say the least). As we have seen, Feldman *denies* that the other shoppers are belief-related to the relativized proposition ‘x is making a mess at t’ : they are, at best, related to a meta-proposition about it. Loar and Lewis would make the same denial. So the question we must ask is : Are there good theoretical reasons for accepting, or for rejecting, the Reflexive Constraint ?

The Reflexive Constraint

If the situation which a representation concerns was always fixed by environmental facts like the time of thinking/speaking or the location or identity of the thinker/speaker, that would be sufficient to justify the Reflexive Constraint. There would be no divergence between the context of belief and the situation of evaluation; the index with respect to which a representation is evaluated would always be the index of the context. But I argued that the situation of concern may be fixed by cognitive factors. One may entertain the place-relative representation 'It is raining' in the course of thinking about a place distinct from the place where one is. In such a case the index relative to which the representation 'It is raining' is evaluated is not the index of the context, because the 'place'-coordinate of the index has been shifted to the place currently under focus.

Here we spot an inconsistency in Perry's position (as I have reconstructed it). On the one hand he holds that some unarticulated constituents do not belong to the situation of concern, because they are not fixed by environmental factors but by cognitive factors. He therefore accepts the principle I called NCC ('no cognitive concerning'). On the other hand, when he insists that the problem of the essential indexical cannot be solved by appealing to relativized propositions, he argues that the Reflexive Constraint must be rejected. This is inconsistent because the NCC and the Reflexive Constraint are two sides of the same coin. The NCC tells us that the situation of concern is fixed by environmental facts, not cognitive factors. The Reflexive Constraint tells us that we are not free to choose the situation of concern, which is determined by environmental facts and cannot be shifted. Were the NCC correct, as Perry suggests in 'Thought without representation', it would follow that the Reflexive Constraint holds and that the sort of divergence between the context of evaluation and the context of belief which Perry invokes in 'the Problem of the Essential Indexical' cannot arise. His argument against relativized propositions would collapse.

Be that as it may, I reject the NCC : the utterance/thought 'It is raining' *may* concern all sorts of place, whether or not the speaker/thinker happens to be in that place ; hence there may well be a divergence between the context of belief and the situation of evaluation, as Perry claims. That is the view Prior held with respect to times. A time-relative proposition of the sort expressed by tensed sentences need not be evaluated with respect to the time of utterance. If we prefix the sentence with a temporal operator, the relativized proposition will be evaluated with respect to the

time we are taken to by the operator, which shifts the time coordinate of the index. Even if we consider only sentences uttered in isolation, we can easily transport ourselves in imagination to a time distinct from the time of utterance, and evaluate the time-relative proposition with respect to the time thus imagined.

Since I reject the NCC, and the Reflexive Constraint that goes with it, it seems that I should accept Perry's conclusion : that the problem of the essential indexical cannot be solved by appealing to relativized propositions. Those, like Loar and Lewis, who believe that the problem *can* be solved in this way take the Reflexive Constraint for granted: what determines the individual with respect to which the self-ascribed propositional function (or property) is evaluated is an environmental fact : the individual in question is bound to be the person who does the self-ascribing (the 'agent' in the 'context of belief'). There is no way in which one can, as it were, vary the person of evaluation by applying the propositional function to someone else. Thus the type of case imagined by Perry — the other shopper's applying the propositional function 'x is making a mess' to Perry — cannot arise. But for me, given the framework I adopt, such a situation ought to be possible.

Remember what I said in part II. 'The carburettor is in good condition' may well express an object-relative propositional function, true of a certain car. The car here is the situation which the relativized proposition concerns. Similarly, I may comment on someone's appearance and say : 'Very handsome !' Here, arguably, I express a person-relative proposition (a property), true of persons at times, and I apply it to a certain individual whom my utterance concerns. Whether or not such a view is sustainable, it is clearly in the spirit of what I said in part II. Now if we accept that *there are* such person-relative propositions, which can be evaluated with respect to whichever persons they happen to concern, then it is clear that the problem of the essential indexical cannot be solved merely by appealing to such propositions. For the person whose appearance I comment upon when I say (or think) 'Very handsome !' may happen to be myself, seen in a mirror and mistaken for someone else. In such a situation, arguably, I believe the propositional function 'x is very handsome' of myself, yet I do not believe the sort of thing that I could express by saying 'I am very handsome'. I entertain a *de re* belief about myself, not a *de se* belief. I conclude that, without something like the Reflexive Constraint to anchor the situation of concern to the context, the problem of the essential indexical cannot be

solved by appealing to relativized propositions (unsupplemented by guises or something of that sort).

A last move is available to the propositional relativist, however. One may grant that the Reflexive Constraint does not hold in general, while maintaining that it holds in a specific domain : the indexical domain. One of the differences between 'It is raining' and 'It is raining here' is that, while the first sentence *can* be evaluated with respect to a place different from the place of the context, the second sentence cannot : the indexical 'here' rigidly anchors the situation of evaluation to the context. As far as indexicals are concerned, the Reflexive Constraint holds : the coordinates of the evaluation index that correspond to indexicals cannot be shifted but are set, once for all, by the context. It is interesting to note that Feldman, who maintains the Reflexive Constraint against Perry, models index-relative propositions by indexical sentences. To believe a relativized proposition, for him, is to accept an indexical sentence such as 'I am making a mess' :

> The idea [of believing a relativized proposition] may be clarified if we drop talk of propositions altogether and simply talk of sentences. What I came to believe was the sentence 'I am making a mess'. I did not believe it before. I came to believe it at the same time I became prepared to say it. Note that I need not have become prepared to say-it-at-an-index or say that it is true at an index. I may have no thoughts about indices at all. I just became prepared to say this sentence. Of course, there was a time, place, etc., at which this happened. Similarly, I did not come to believe that the sentence is true at an index. I simply came to believe it. This coming to believe may have occurred at some index, but the index is not in any sense a part of the content of my belief. (Feldman 1980 : 82-3)

Since he equates relativized propositions with indexical sentences, it is understandable that Feldman sticks to the Reflexive Constraint. For it is a property of indexical sentences that the relevant coordinates of the index are anchored to the context and cannot shift.

At this point someone like Feldman, who thinks the problem of the essential indexical can be solved by appealing to relativized propositions, may argue as follows. It is true that the unarticulated constituents which go into the evaluation index

are shiftable ; hence if we think of *de se* belief on the model of 'It is raining' the problem of the essential indexical will not be solved, because the Reflexive Constraint will not hold. But we need not think of *de se* belief on the model of 'It is raining'. We may think of it on the model of 'It is raining here'. This is an indexical sentence, and that guarantees that the Reflexive Constraint holds. Why not, then, say that there are two sorts of relativized propositions? Sentences like 'It is raining' express one sort of relativized propositions — the sort that does not conform to the Reflexive Constraint. Admittedly, *de se* belief cannot be accounted for by appealing to such propositions. But there is another sort of relativized propositions: those corresponding to indexical sentences like 'It is raining here'. The difference between them and the first sort of relativized propositions is that *they* satisfy the Reflexive Constraint. Hence *de se* belief can be construed as involving such propositions.

This intriguing move raises an obvious objection (though not an insuperable one, as we shall see in the next section). In what sense does 'It's raining here' express a place-relative proposition ? Insofar as the place is articulated (by the indexical 'here') is it not a constituent of the content articulated by the sentence ? This suggests that we really have two different phenomena at issue. First, there is indexicality, in both language and thought. The Reflexive Constraint belongs there, as does the phenomenon of *de se* belief. Second, there is unarticulated constituency and relativized propositions (again, in both language and thought). This is a different phenomenon altogether.

The position I have just stated is plausible, and it is a charitable reconstruction of Perry's view. On Perry's view, there is no hope of solving the problem of *de se* belief by appealing to relativized propositions, even though relativized proposition can be appealed to for dealing with 'It is raining' and similar cases. It makes sense to posit relativized propositions only if the constituent the proposition is relative to is not articulated in the (linguistic or mental) representation expressing the proposition ; for if it is articulated, indexically or otherwise, then there is no reason to expel it out of the proposition and make it part of the situation of concern.

Having made as strong a case as I could for Perry's view, I will now attempt to show that we can, after all, account for *de se* belief by appealing to relativized propositions. We can, because the obvious objection I have just raised to what I called 'the last move of the propositional relativist' can be met. We can maintain that there is a class of relativized propositions, for which the Reflexive Constraint holds.

The only thing we have to do to meet the objection is to clearly distinguish the propositions in this class from the propositions expressed by indexical sentences : we have to ensure that the relevant situational constituent (that to which the proposition is said to be relative) is not articulated, indexically or otherwise, in the sentence or mental representation to which we assign the relativized proposition as content. Still, what characterizes the new class of relativized propositions is the unshiftability of the situational constituent : that distinguishes them from the relativized propositions expressed by sentences such as 'It is raining', which are relative to a *shiftable* situational component.

Context-relative propositions

Let us assume that the problem can be solved, that is, let us assume that *there are* relativized propositions which can be used to model *de se* belief. Such propositions must have two main properties :

1/ Qua *relativized* propositions, they must not contain the thinker/speaker as a constituent. So the proposition expressed by an indexical sentence such as 'I am making a mess' is ruled out, because the first-person pronoun articulates the self. In the relevant relativized proposition, the self must be unarticulated — just as the place is unarticulated in 'It is raining'. It must be found only on the situational side.
2/ The evaluation index (or the relevant coordinate of the index) must be anchored to the context so as to be unshiftable. In other words, the Reflexive Constraint must hold. Only if that is the case will the Perry counterexamples (involving a divergence between the context of belief and the situation of evaluation) be avoided.

The two requirements seem to conflict. For we have seen that the property of unshiftability characterizes indexicals as opposed to unarticulated constituents. It seems that the second requirement demands that indexicals be used to anchor the index to the context, while the first requirement (unarticulatedness) prevents indexicals from being used.

The conflict is merely apparent, however. There is a way of anchoring the index to the context, without using explicit indexicals and thereby articulating the

relevant constituent. The trick consists in sorting relativized propositions, according to the type of situation of evaluation they need.

Tensed sentences express time-relative propositions. Sentences like ‘It is raining’ express place-relative (or time-and-place-relative) propositions. I claimed that still other sentences express object-relative propositions. The last type I mentioned is that of person-relative propositions. When I mentioned it, I said that appealing to such propositions does not account for *de se* belief, because the person with respect to which such a proposition is evaluated can be thought of in many different ways or under many different guises. In particular, she can be thought of in a first-person way, or in a third-person way. So what is distinctive of *de se* belief is not captured merely by appealing to person-relative propositions.

This difficulty can be met, by introducing a new type of situation for propositions to be relative to. Just as we distinguished persons from (other) objects, we can distinguish subjects, or ‘first’ persons, from other persons. This is not an ontological move. I am not suggesting that we appeal to Cartesian egos in order to account for *de se* belief in the relativized-propositions framework. A subject is an ordinary person. What distinguishes him or her from other persons is only the contingent role he or she plays with respect to a tokening of the relevant relativized proposition.

Whenever a proposition is tokened, i.e. grasped through an occurrent representation expressing that proposition, the person doing the grasping fills the subject or first person role with respect to that tokening. There are other roles associated with the tokening: there is not only the person who grasps, but also the place, time, etc. at which the event takes place. This corresponds to the standard notion of ‘context’. My suggestion is that we make room for a new type of relativized propositions, namely *context-relative propositions*, which can be evaluated only with respect to entities bearing the relevant contextual relations to the token under which the proposition is grasped.

The place-relative proposition expressed by ‘It is raining’ is not context-relative because the location with respect to which it is evaluated is not constrained to be the place of the context ; it may be any place currently under focus. But there is no reason why there could not be a special sort of place-relative proposition, exhibiting the property of context-relativity. Instead of being evaluable with respect to any place, such a proposition would be evaluable only with respect to the place of the context.

Similarly, a time-relative proposition that is also context-relative could be evaluated only with respect to the time of the context. For context-relative propositions, the Reflexive Constraint holds: the index of evaluation is anchored to the context. Yet the feature of context with respect to which the proposition is bound to be evaluated remains unarticulated : it is not a constituent of the proposition, contrary to what happens when an indexical sentence is used.

Since a context-relative proposition can be evaluated only with respect to entities bearing the relevant contextual relations to the token under which the proposition is grasped, such a proposition cannot be directly evaluated ; it can be evaluated only if tokened, because a proper evaluation index can be assigned to the proposition only relative to a tokening of that proposition. There is, as it were, a double relativization here. Not only is the proposition evaluated relative to some index; the index itself can be assigned only relative to a tokening of the proposition.

So far we have made room for a new class of propositions (context-relative propositions). Only if there are linguistic or mental representations expressing them will the notion of a context-relative proposition be useful in theorizing about language and thought. Such representations, if they exist, are *intermediate* between indexical representations and situation-relative representations such as 'It is raining' (which can be evaluated with respect to any place and time). Like indexical sentences, their truth-value depends upon a feature of the context — for example the time or the place of the tokening. Whether we evaluate the indexical sentence 'It is raining here and now', or the context-relative sentence ^{c}It is raining^{c},[14] in both cases we must look at the place and time of the context to check whether or not the sentence is true. But the relevant feature of context is explicitly represented in the indexical case, while it remains unarticulated in the context-relative case, just as the situation of concern remains unarticulated in situation-relative sentences. Context-relative representations exhibit both unshiftability (a property they share with indexical sentences) and unarticulatedness (a property they share with situation-relative sentences).

Do such representations exist? As far as natural language is concerned, that is far from obvious. It may be that, in natural language, we find only indexical sentences ('it's raining here and now') and situation-relative sentences ('it's raining'),

[14] The 'context-quotes' I am using here make a situation-relative sentence context-relative by anchoring the unarticulated constituents of the evaluation index to the context.

but no context-relative sentences.[15] Be that as it may, there is no reason why there shouldn't be context-relative representations in thought. Quite the contrary: There is every reason to believe that *there are* context-relative representations in thought. The most basic kind of representation with which a perceiving-and-acting organism must be credited presumably belongs to that category.

An organism which (like most animals) does not have the reflective capacity to think of itself as a person among other persons yet perceive and act should be credited with a primitive form of egocentric thinking. That is one of Perry's major insights, in 'Thought without representation' and elsewhere. In 'Perception, Action, and the Structure of Believing', he writes:

> The information that we get at a certain spot in the world is information about objects in the neighborhood of that spot in a form suitable for ther person in that spot. As long as this is the only source of information we have about ourselves, we need no way of designating ourselves, indexical or insensitive. Our entire perceptual and doxastic structure provides us with a way of believing about ourselves, without any expression for ourselves. (Perry 1986a : 148-149)

Though relative to the subject, perceptual representations are not just person-relative representations ; for they are not applicable to other persons than the subject of the context (the first person). They can *only* be evaluated with respect to the context in which they are entertained — the perceiving subject, and the time and place of the perception. In other words, they are context-relative representations, satisfying the Reflexive Constraint.

Shall we say that only organisms devoid of an explicit representation of themselves entertain such context-relative representations, while we entertain more sophisticated, indexical representations containing the word 'I' or a mental analogue? Perry gave us a reason not to make that move. Just as 'there is a little of the Z-lander in the most well-travelled of us', there is a little of the simple perceiving-and-acting

[15] There is no certainty here. Maybe some expressions (e.g. the verb 'to come', or expressions like 'in two days') can be treated as contributing to the expression of a context-relative proposition.

organism in the most reflectively self-conscious of us. Remember what Perry says about our thoughts concerning the local weather :

> In those parts of our life where there is an external guarantee that the weather information we receive and our actions will concern our own locale, there is no reason for our beliefs to play the internal coordinating role they need to at other times. When I look outside and see rain and grab an umbrella or go back to bed, a relatively true belief, concerning my present surroundings, will do as well as a more articulated one, about my present surrounding. (Perry 1986b : 216)

This easily generalizes to perception-based thought, whether it is about the weather or anything else. Perry proceeds to the generalization a few pages later :

> What each of us gets from perception may be regarded as information concerning ourselves, to explain connections between perception and action. There is no need for a self-referring component of our belief, no need for an idea or representation of ourselves. When a ball comes at me, I duck ; when a milk shake is put in front of me, I advance. The eyes that see and the torso or legs that move are parts of the same more or less integrated body. And this fact, external to the belief, supplies the needed coordination. The belief need only have the burden of registering differences in my environment, and not the burden of identifying the person about whose relation to the environment perception gives information with the person whose action it guides. (Perry 1986b : 219)

Again, perceptual representations are context-relative. They satisfy the Reflexive Constraint, but they do so in virtue of brute architectural facts, not through the use of explicit indexicals.

If we, sophisticated organisms endowed with language, want to verbally express a context-relative thought, and there are no context-relative sentences, what can we do ? We have to use either a situation-relative sentence or an indexical sentence. If a situation-relative sentence is available that is the most appropriate tool. The difference between a situation-relative sentence and a context-relative sentence

is very small when the situation of evaluation happens to be the situation of utterance. It is a purely counterfactual difference : the situation-relative sentence *could be* used to characterize another situation than the situation of utterance, while a context-relative sentence could not. The difference between a context-relative sentence and an indexical sentence is more substantial, since the indexical sentence articulates the relevant contextual feature and makes it part of the content. That is why one would not express the context-relative thought ^{c}It is raining^{c}, prompted by the perception of rain, by saying 'It is raining here and now'. We would naturally say 'It is raining' (unless there is a good reason to explicitly represent the place of the context). But there are context-relative thoughts for which no situation-relative sentence is available. Self-relative thoughts are a case in point. If I want to express a self-relative thought, to the effect that I am hungry (or cold, or what have you), I can hardly say 'Hungry !' or 'Cold !', for that is not proper English. I have to use an indexical sentence and say : 'I am cold', or 'I am hungry'. In contrast to 'it's raining here', which makes sense only if there is a good reason to explicitly represent the place of the context (typically because of an intended contrast between that place and some other place), I can use an indexical sentence such as 'I am hungry' to express a context-relative thought because, given the lack of an appropriate situation-relative sentence, there is no clear alternative. In this way we can perhaps explain why Wittgenstein and some of his followers have insisted that there are two uses of 'I' : a subjective use whereby an indexical sentence 'I am F' expresses a self-relative propositional function, and a more objective use whereby it expresses a proposition with the subject as a constituent. The word 'I', they say, is a genuine referring expression only in the second type of case.

This leads us back to the problem of the essential indexical. I have shown that, by appealing to context-relative propositions, we can account for *de se* belief. But the problem of the essential indexical is not thereby solved in its full generality, for it arises also with respect to the 'objective' use of indexical sentences. If I entertain an indexical (rather than context-relative) thought and express it by uttering the sentence '*I* was born in Paris (in contrast to you, who were born in Chicago)', my utterance expresses a proposition with me as constituent. Yet the indexical is no less essential in that sentence than in any other : if we replace it by a non-indexical expression, we affect the cognitive significance of the utterance. As Perry might say, 'our problem returns'. What this shows, presumably, is that we need modes of presentation

anyway. As far as I am concerned, that is fine. My aim, in this paper, was not to cast doubt on the usefulness of modes of presentation as a theoretical tool ; it was merely to advertise, and start exploring the potential of, *another* theoretical tool, the usefulness of which has not been sufficiently appreciated.

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