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► To cite this version:

Francis Corblin. Pronouns and mentions. A paraître dans un volume intitulé : "Comparing anaphors", Lita Lunquist et Iørn Korzen, éditeurs.. 2006. <ijn_00000677>

HAL Id: ijn_00000677

http://jeannicod.ccsd.cnrs.fr/ijn_00000677

Submitted on 1 Mar 2006

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Pronouns and mentions

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A paraître dans "Comparing anaphors", Lita Lundquist et Iørn Korzen, eds. Copenhagen.

Can we find a unified model for pronouns? It seems that this is hopeless if the term *pronoun* is used loosely. Considering a single language like French, if *pronoun* applies to items like *je, tu, nous, vous, il, cela, ça, celui-ci, qui, que*, as it does in traditional grammar, it is likely that a unified model, if any, would be (almost?) empty.

But if one focuses on a very restricted paradigm, like for instance third person “personal” pronouns, *il, elle, le, lui, en, y*, the issue looks much more challenging, and basically there are two opposite views :

1) A pronoun is a many (all ?) purpose tool. There is no single model covering all the uses of pronouns. As Wittgenstein would put it : all these uses have something in common, but there is no core meaning for all uses.

2) A pronoun is a well-defined category, with a core meaning.

Both theories can, in principle, explain that pronouns can be learned, and it is difficult to make a choice on this sole basis.

The standard method for deciding is trying to establish that there is (not) a core meaning transcending any use of the items of this paradigm. To establish that pronouns have a core meaning or a unified model, what is required is a general rule modelling the semantics of pronouns, which means deriving : 1) all the contexts in which a pronoun is appropriate in natural discourse. 2) for each appropriate use, the way the pronoun is interpreted.

Research of the last decades in semantics have tried to establish, for such restricted pronominal paradigms, that there is a core meaning, at least for some languages and some uses, or that different meanings are related. Evans (1980) claims that there are few (somewhat) related models for pronouns, and Kamp (1981) implements a formalism in which pronouns can be viewed as having a unified meaning.

In this paper, I will focus on French “personal” pronouns *il, elle, le, lui, en, y*, and for all the paper, the use of the term pronoun will be bound to this paradigm. I will discuss some data about pronouns often seen as marginal, and rather difficult to accommodate in the classical Evans/Kamp models :

A) Some varieties of pay-check sentences like (1) :

- (1) Marie aime son nez, moi je ne l'aime pas.
Mary loves her nose, me-I-ne-it-love-not.
- B) Anaphora by pronouns to parts of idioms, like (2) :
- (2) Marie prend toujours la mouche, moi je la prends rarement
Mary-often-catch-the-fly, I-it-take rarely.¹
- C) Revision sentences, or “Strawson’s sentences” like (3)
- (3) Un homme a sauté. Non, il n’a pas sauté, on l’a poussé
A man Jumped. No he did not jump, he was pushed

I will argue that this bunch of cases points to a unified theory of pronouns seen as “echo of mentions”, a mention being a discourse event involving the use of a linguistic expression of a certain kind. I will try to make explicit what is metaphorically meant by the term “echo” in the above formulation.

1. From laziness to counterparts via syntactic parallelism.

The basic idea is that a pronoun is licensed iff a linguistic expression of a certain kind have been used in the very close discourse context. The use of this expression, sometimes the expression itself, will be called a *mention*. A mention is not just any expression. Typically, a mention is an NP and introduces a variable in the discourse representation. The job of the pronoun is to *repeat* the contribution of the antecedent mention to its context in the pronoun context.

Following this line, of course, one comes immediately across the “direct reference” problem. If pronouns are echo of mentions what about uses without any linguistic antecedent? I would like to argue that considering the constraints on such uses in a language like French (see the Tasmowski-Verluyten/Cornish-Kleiber discussion), it is not unreasonable to take these uses as cases of accommodation of a “linguistic” mention, in the Stalnaker/Lewis sense. But I will have few room for discussing this in this paper.

I will show moreover that two cases are to be distinguished :

- cases in which the (linguistic) parallelism of discourse contexts (antecedent context/pronouns context) is required;
- cases in which it is not.

The notion of “laziness” introduced by Geach (1968) can be defined as follows :

- (4) Laziness = given that some lexical material have been used in the close previous context, treat a brief segment of the current context as re-using this material without having to utter it again.

¹ “prendre la mouche” is an idiom meaning : “to become suddenly nervous”.

It might be the case that this definition applies to pronouns, but it applies obviously to a larger set of cases (from ellipsis to "one anaphora"), and it remains very vague about the crucial notions.

Another candidate for a large (if not exhaustive, see Evans) coverage is the notion of co-reference.

(5) Co-référence = given that some entity of the model has been made salient by some reference in the close previous context, treat a brief segment of the current context as referring to this individual.

As Evans himself does, it might be convenient to take bound variables and co-reference *stricto sensu* as exemplifying the same mechanism, which gives to co-reference a wider extension.

Considering a bunch of French data, I will show that there are interpretations of pronouns which cannot be analyzed as co-reference cases, although they exhibit the very same formal (linguistic) constraints on their antecedent than the more classical cases. Moreover, I will show that these cases are restricted to contexts in which the syntactic parallelism between the antecedent context and the pronoun context are required.

I will introduce an analysis covering all these cases which can be viewed as a specific implementation of the "laziness" approach to pronouns. What I will add to the general notion of Geach, is the idea that pronouns impose specific linguistic constraints on the kind of expression they can repeat.

Examples (6-7) illustrate the case I will focus on :

(6) Marie voit souvent son père, moi je ne le vois jamais, car il n'est plus de ce monde.

Mary often meet her father, me-I-'ne' - him- meet never, because he is dead.

Classical pay-checke sentence. Il = **my** father

(7) Le médecin a interdit à Marie de fumer. A moi, il ne m'a rien dit.

The doctor asked Mary to stop smoking. To me, he did no say anything.

Variant of pay-checke sentence. Il = **my** doctor

(8) Pierre a pris la mouche. il la prend souvent pour un rien.

Pierre-took-the-fly. He-it- takes often for nothing.

'Pierre became nervous. Very often for nothing.'

Anaphora to part of an idiom. La = "la mouche".

In all these cases, the pronoun picks up an antecedent (a previous expression), but does not (necessarily) refer to the same entity than the

antecedent, although the pronoun, in some sense, "repeats" the interpretation of the antecedent.

1. 1 Pay-cheque sentences

(6) exemplifies what is known in the literature as a "pay-cheque sentence" (PCS). Typical properties of such sentences are :

1) the antecedent of the pronoun must be a dependent expression finding its anchor in its own sentence. Semantically the value of a function taking its argument in the sentence : father of (x), doctor of (x);

2) syntactic parallelism is required between the two sentences. Typically, the antecedent expression and the pronoun share their syntactic function in their respective sentences;

3) the interpretation of the pronoun is the "counterpart" of the antecedent one, i.e the value of the same function (e.g. *father*, *doctor*) applied to the corresponding argument, i.e. the expression corresponding to the anchor of the antecedent expression.

A natural way of accommodating PCS is as follows. They fall under the general case regarding pronouns: a pronoun wants an antecedent, namely a linguistic expression sharing its own grammatical features : NP, person x, gender x, number x.

This kind of linguistic expressions (NPs) are used in almost all their uses for introducing referential indices (constants or variables) in the semantic representation. In the classical analysis, a proper name like "Socrate" introduces a constant, and other NPs like "Any man" introduce bound variables. Always in the classical semantic analysis, a pronoun is seen as a free variable to be replaced by a symbol of constant, or bound by a close quantifier. This means that in typical cases, a pronoun is meant to be associated to the same referential index than its antecedent expression.

In the specific context of syntactic parallelism *and* local anchoring of the antecedent, the pronoun can also be interpreted as applying the same function (associated to the antecedent) to the "corresponding" argument in its own sentence. In other words, the pronoun repeats in its own sentence not the value of the antecedent, but an application of the same function to the corresponding argument value:

Mary	his father
x	father of x
y (me)	father of y

It seems possible to maintain that the pronoun "repeats" in its own sentence what the antecedent is doing in the parallel antecedent sentence, namely : applying the same function to the "corresponding" argument.

The existence of such interpretations establish that any treatment will have to state, not only that a pronoun needs a linguistic antecedent of a certain (grammatical) kind, but moreover that the interpretation of pronouns takes into account the linguistic environment of this antecedent, more precisely the syntactic parallelism between their respective clauses.

In other words, any treatment manipulating a notion of context containing only variables and properties of the corresponding objects will be unable to derive sloppy readings for pronouns. For being able to derive sloppy readings, the kind of linguistic information required for dealing with surface phenomena like ellipsis is required.

What we learn about pronouns from paycheque is that they want as antecedent a full NP, i.e. a category typically associated to a referential index, but under syntactic parallelism and local anchoring of the antecedent, they can shift to a “counterpart” interpretation.

1.2 Anaphora to parts of idioms

Example (8) is even more unexpected in a (co-)reference based approach, since there is a (formally) standard antecedent (an NP), but deprived of any referential force, because it is used in an idiom.

Note first that the expression “prendre la mouche” is strongly idiomatic, in the sense that no compositional meaning comes to mind, and no lexical variation preserves the interpretation.

- (9) Pierre a pris *une mouche (*la grosse mouche, *cette mouche).
Pierre took *a fly (*the big fly, *this fly).

But the part of idiom “la mouche” can be an antecedent for an anaphoric expression iff :

1. the anaphoric expression is a pronoun;
2. the pronoun is used as the corresponding part of the repetition of the very same idiom. Any other context is out.

The first property is worth noticing, because properties setting apart pronouns from other definite descriptions are very rare, outside the domain of Binding Theory.

- (10) Pierre a pris la mouche; Il prend souvent *cette mouche (*ça)
Pierre took the fly. He takes often *this fly (* this).

The second one is very strong. It rests on data leading to the conclusion that “la mouche”, as a part of an idiom, is not “referential”, does not introduce any discourse referent in the representation :

- (11) Pierre a pris la mouche; *elle m'a surprise. Je *l'ai enregistrée.
Pierre took the fly. *It surprised me. I took a snapshot of *it.

As usual in co-reference cases, with idioms, only full NPs exhibiting the grammatical features of the pronoun are licensed; see (12-15). Again this is noticeable, because the necessity of having a full NP as antecedent is often justified by the fact that the antecedent must be fully referential. But here, to have a full NP is necessary, although it is clear that the antecedent NP is *not* referential.

- (12) Marie a perdu pied. *Jean ne l'a pas perdu.
perdre pied = to be out of one's depth
(13) Pierre rend grâce aux dieux. # Marie ne la rend pas.
rendre grâce aux dieux = to thank God
(14) Marie a les jetons. *Je l'ai aussi
avoir les jetons = to be afraid.

If the same NP is used in more than one idiom, no switching from one idiom to the other is allowed :

- (15) Il m'a mis à la porte. ?? Je l'ai prise avec joie.
mettre à la porte = to sack someone, prendre la porte = to leave
(16) Son adversaire a perdu la tête.# Il l'a prise aussitôt.
perdre la tête = to get mad, prendre la tête = to take the lead

These data lead to a conclusion: pronouns (and only pronouns) can be used to refer back to full NPs even though these NPs are part of idioms and non-referential, iff the pronoun is used as the counterpart of the full NP in the repetition of the same idiom.

This looks, clearly as another case in which a pronoun repeats a given expression, provided that this expression exhibits some linguistic properties, and disregarding the reference itself of the antecedent.

I tend to see this anaphora to chunks of idioms as a strict application of the parallelism constraint illustrated by sloppy readings of PCS.

Suppose the semantic contribution of a part of an idiom to the meaning of the idiom is specific to the idiom (something widely accepted) and suppose that the pronoun basically repeats in its own context the contribution of its antecedent, our main idea in this paper. Then it should follow that it is only in the same idiom that the pronoun can repeat the semantic contribution of its antecedent.

PCS and anaphora to chunks of idioms provide arguments for modelling pronouns as an echo of a previous mention.

A mention is a discourse event instantiating a linguistic category (a full NP) which is typically associated to the introduction of variables (discourse referents), except in idioms. To be an echo means to repeat the semantic contribution of the antecedent to the meaning computation of its own sentence, in the computation of the pronoun sentence.

The general way of repeating this contribution, is to re-use the same variable (this gives the standard co-referential/binding cases). This model can be used in any context, with or without syntactic parallelism, provided that the antecedent is associated to a variable.

There are also specific ways of repeating, namely computing the corresponding value of the same function (sloppy) than the antecedent, if the notion is defined (the antecedent is a function, and the notion of corresponding value is made accessible by parallelism), and repeating the idiomatic contribution of a full NP part of an idiom in the repetition of this idiom.

These data have the following consequences for a proper treatment of pronouns : no treatment will do if it does not take into account the linguistic guises under which antecedents occur. It is thus necessary to keep track of mentional information : i.e. the linguistic properties of the discourse context manipulating entities. This is necessary for handling resolution constraints based on grammatical features, but also for computing parallelism, which gives rise to counterparts interpretation.

It is worth considering briefly how a classical treatment like the initial version of DRT approach in terms of Discourse Referents (DR) deals with mentional information. The basic story told by DRT is : a pronoun is licensed and refer to an entity e if there is a discourse referent associated to the individual e in the DRS of the previous discourse. DRT is rather discrete about deictic references, and let them out of the picture. Let us make another simplification and consider only first order models, leaving aside reference to abstract objects (see for instance Asher 0000).

In these simple cases, how can a DR be introduced in a DRS? Even if this is not explicitly said, this can only be achieved, in practice, by way of what I called above a mention, i.e. a full NP. In more recent treatments (Farkas & de Swart 2003) it is even assumed that it is the determiner (of an NP) which triggers the introduction of a DR.

It is thus more or less equivalent to state : “a pronoun is licensed as an echo of a mention (a full NP)”, or to state : “a pronoun is licensed if there is a DR in the DRS”, since a DR is there iff it has been introduced by a mention.

I think that the treatment in terms of mention looks even more basic, since it is required by the resolution process. This treatment based on mentions explains directly that a segment having the relevant linguistic features (full

NP, gender, number) will be a possible antecedent for the pronoun, whatever its semantic interpretation is (indefinite, definite, quantifier).

- (16) *Un homme* est venu. *Il* a parlé.
A man came in. He spoke
- (17) *Marie* est venue. *Elle* m'a parlé.
Mary came. She spoke.
- (18) *Aucune personne* ne pense qu'*elle* a tort.
Nobody thinks she/he is wrong
- (19) *Quarante pour cent des Français* pensent qu'ils sont égoïstes.
Forty percent of French people think they are selfish.

In some respect, this approach would vindicate the grammatical intuition for which the antecedent of a pronoun is an NP, whatever its referential contribution is, against the logicians (Russell, Geach), which focus on the different logical properties of the pseudo-antecedent.

If we come to pronoun interpretation, the treatment is much more flexible. Classical DRT holds that a pronoun repeats an accessible Discourse Referent. This limits its coverage to co-reference cases (in the broad sense including bound variables). The present approach can apply to no-reference cases (segments of idiom) and no co-reference cases (sloppy readings).

Co-reference cases (in the broad sense) are seen, in other words, as the default interpretation : a mention typically contributes a variable ; in this default case, to repeat, is to use again the same variable.

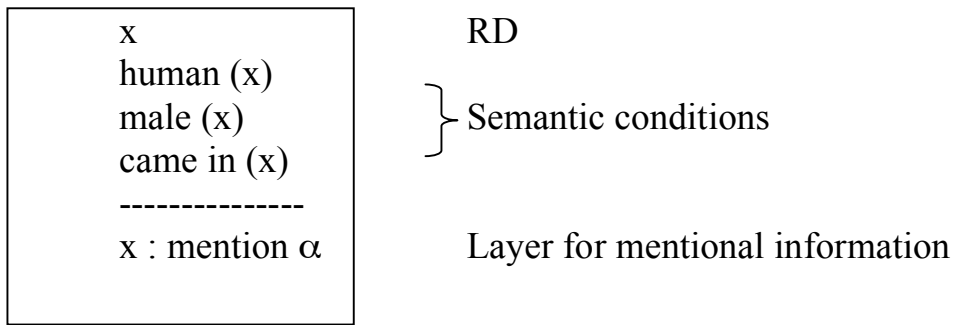
Under syntactic parallelism, to repeat can be to take the counterpart, or to repeat a segment of an idiom.

The conclusion we can draw is that a unified treatment of pronouns should be based on their definition as repetition of mentions, which would lead to integrate the classical DRT treatment, as it is, but only as the default case.

The consequence is that, if we want to build on classical DRT, it is necessary to introduce in the DRS a layer for keeping track of the mentional information associated to recent updates. Cf. Corblin (98,99) for the motivation of this layer for “purely” mentional references like : *le premier, le second, l'un l'autre*.

This would give, in a simple case, something like :

- (20) Un homme entra.
A man came in



The layer for mentional information would keep track of some grammatical properties of the linguistic expressions introducing DRs, and it is via this layer that DR would be targeted by pronouns.

More will be said in the next section about this layer.

2. Revision and Strawson's examples

I will now discuss another piece of data, which indicates that the approach sketched above is on the right track. What will be said for pronouns is also true for anaphoric definite descriptions. But the same is true to a large extent² for what was said before.

Strawson (1952) discusses examples of the following kind:

- (21) A :A man jumped of that bridge.
B: He did not jump, he was pushed.
- (22) A: A man jumped of that bridge.
B: It was not a man, it was a woman wearing trousers.

The intuition is that they are not standard case of monotonic updates, just adding information to what was previously admitted, but cases of “revision”, coming back to what was previously asserted for retracting some part of it. An empirical test supporting this intuition is that the conjunction “and” cannot be used in such cases³:

- (23) A :A man jumped of that bridge
B: *and he did not jump, he was pushed

It is not clear how classical Evans/Kamp models could be extended to deal with such cases.

A simple description of the problem in DRT terms is as follows:

- first, A introduces a DR satisfying the properties P and Q;

² The special case of anaphora to chunks of idioms, which works only for pronouns, not for definite descriptions was signaled above.

³ Although this kind of example is more natural in dialogue, it is also used in monologues for revising some previous assertion.

- then, A (or B in dialog) states that this individual (which satisfies P and Q) does not satisfy P.

Note that the problem will arise even with simple negations like : “No he didn’t”. Two kinds of solutions are open.

One can assume that the negation of a previous sentence, so to speak, wipes out the contribution of the sentence : in other words, the discourse would proceed as if the sentence had not been pronounced. The problem is then that there is no DR at all for interpreting the pronoun.

Or one has to assume that the update achieved by the previous sentence remains active, and provides an antecedent for the pronoun in the negative sentence. But if so doing the negative sentence itself should be perceived *per se* as a contradiction : "there is an x who jumps and does not jump". It seems that the sentence is not so interpreted.

In a basic straightforward Evans E-type approach, one would have to assume something like : the only x having the properties P and Q does not have the property Q, which is not better.

It is likely than modifications of these theories could accommodate such cases, but it seems fair to say that such a phenomenon is unexpected if one follows their basic conceptions of pronominal anaphora.

What I will try to show now, on the contrary, is that this kind of revision can be accommodated in a very natural way in an approach to pronouns analysing them as echo of mentions.

An informal analysis of what happens in (21) is :

- in the first sentence, by using « a man », A had an individual x in mind, and stated that he jumped;
- in the second sentence, by using a pronoun, B intends to keep this very same individual x (that A had in mind when saying "a man") as a referent, but B says that A is wrong on this : x did not jump, x was pushed.

What is needed to implement this analysis more formally is :

- 1) to make use of something related to what Kripke (1977) called « speaker’s reference », see also Decker (2001) for a discussion.
- 2) to hold that a pronoun repeats the « speaker’s reference » in all contexts (monotonic updates or revisions).

I will now sketch a proposal for dealing for those cases, extending DRT for accommodating mentions. The standard representation of (21) in DRT is : x , man (x), jumped of that bridge (x). The modification suggested above leads to : x , man (x), jumped of that bridge (x). $x : \alpha^{\text{un homme}}$. In this

representation, the discourse referent x , is just bound to the linguistic mention α which was responsible for its introduction.⁴

For dealing with speaker's reference, I propose to add the emphasized condition :

(24) $x, \iota i M(i, \alpha), \text{man}(x), \text{jumped}(x); x : \alpha^{\text{un homme}}$

This condition means : there is an individual i and only one such that I associate it to the mention « *un homme* ». M is a relation between individuals and mentions. Roughly speaking : when uttering « a man », I had in mind only one individual, and my mention introduces a DR and conditions which works as semantic constraints on this individual.

Some remarks are in order regarding this condition.

1. It is likely that this condition is not triggered by any occurrence of an indefinite. Let us assume that it is only triggered for specific readings.

2. The unicity condition is not a semantic constraint on the world representation. This is compatible with the belief that more than one jumped : the only thing is that in so speaking, I have in mind one and only one individual.

3. The relation between the speaker's reference, and the discourse referent is such that the discourse referent describes the speaker's reference. In other words, the individual I have in mind satisfy the expressed constraints on the DR.

Suppose now that a pronoun looks for a previous mention, and repeats the semantic contribution of this mention. This gives, for the second sentence of (21) , before the resolution process, something like :

(25) $y, \neg \text{jumped}(y); y : ?$

« ? » means that you have to look for a previous mention (of same category, gender, number), and to repeat the referential job achieved by this mention. If the resolution is $:? = \alpha^{\text{un homme}}$, this gives (26):

(26) $y, \iota i M(i, \alpha), \neg \text{jumped}(y); y : \alpha^{\text{un homme}}$

The meaning of (26) is : the unique individual associated by its speaker to the previous mention *un homme* did not jump.

Then, one has to update the previous DRS with this new content, which means hanging this content to the "peg" made available in the previous sentence. In monotonic updates, this is achieved by making DRs identical. Note that even in these standard monotonic cases, the approach in terms of mentions is necessary. Consider the standard discourse :

⁴ Up to now, we use English for the semantic conditions on discourse referents, and French for referring to the considered mentions; as usual we identify mentions by quoting the linguistic expression which was mentioned. This is simplification nevertheless, because what is needed is an identification of a mention, which means the use of a given expression by a given speaker at a given time.

(27) A man jumped of the bridge. He was injured.

In classical DRT the first sentence is true if there is (at least) one such individual, and the discourse updated by the second one is true if there is (at least) one individual verifying both properties. What is not captured in this approach, is that in many cases, the intuition is that the speaker has a particular individual in mind, when uttering the first sentence, and signals by a pronoun that he/she is ascribing a property to this individual in the second one.

The representation given in (26) cannot be a monotonic update of the first sentence in (23), but does not produce any contradiction. It is not a bigger problem than discourses like :

(28) A :John jumped of that bridge
 B: John did not jump, he was pushed

Given that the discourse looks like ascribing to the same individual a property which is not compatible with what was previously asserted, a revision procedure has to be triggered, which amounts to retract the old conditions which makes the introduction of the current one a contradiction. Once the pronoun is anchored on the proposed mentional condition, the revision process is not more problematic than for proper names as antecedent.

The revision process we assume here is rather simple and theory independent. It works as follows : if the current update cannot be merged to the previous DRS because it triggers a contradiction, just wipe out from the previous DRS the "offending" condition (the one which makes the current update a contradiction), then update.

$x, \iota i M(i, \alpha), \text{man}(x), \text{jumped}(x) ; x : \alpha^{\text{un homme}}$ S1

$y, \iota i M(i, \alpha), \neg \text{jumped}(y) ; y : \alpha^{\text{un homme}}$ S2

Offending condition in S1 : *jumped(x)*

Revision : wipe out the offending condition, then merge.

Résult :

$x, \iota i M(i, \alpha), \text{man}(x), \neg \text{jumped}(x) ; x : \alpha^{\text{un homme}}$

Note that the classical DRT approach to pronouns would give bad results, when using the same revision mechanism :

$x, \text{man}(x), \text{jumped}(x)$ S1

$y, \neg \text{jumped}(y), y = x$ S2

Offending condition : jumped (x)
Revision, then update :
x man (x), ~~jumped(x)~~, \neg jumped (x)

This approach derives the weak assertion that there is at least a man who does not jump. In other words the revision process input and its output are not a contradiction: the initial sentence says that there is at least a jumper, and the revision result that there is a non-jumper. It would amount to appeal to a revision process for something which can be done otherwise, and the intuitive content of what happens in this revision process is not covered : « the x I was referring to does not have the property I ascribed to it previously ».

Note that the approach advocated in this paper is prepared to accommodate "maximal revisions", i.e. revisions in which no property of the initial sentence is preserved although a pronoun is used. Just consider :

- (29) Un homme a sauté du pont.
a. Il n'a pas sauté, et ce n'était pas un homme.
'He did not jump and it was not a man.'
b. Ce n'était pas un homme et il n'a pas sauté.
'It was not a man and he did not jump.'
c. Ce n'était pas un homme et (?) elle n'a pas sauté.
'It was not a man and she did not jump.'

Any semantic condition on the DRS can be revised, as illustrated by (29 a-b-c). This is more natural in dialogue for obvious reasons.

Suppose that the first sentence of (29) is said to someone who knows that what happened and what the speaker is referring to is that his own sister was pushed from the bridge by her son. My proposal predicts that (23a-b-c) are correct reactions to this assertion.

The pronoun looks for a masculine mention, finds « a man », and then states that the individual the speaker had in mind for this mention does not fit any of the descriptions he gave for the individual she had in mind.

The result is that a masculine pronoun is used in a sentence establishing that the individual is a woman, as in (29.b) . The use of « elle » (feminine) which corresponds to the natural pronoun for the individual the opponent has in mind is, for my intuition, even more strange, which confirms that what is needed by the pronoun is, at first, a mention of the required gender.

3. Conclusion

Licensing, resolution, and semantic computation seem to lead to the same conclusion : what the pronoun is looking for and what it repeats is a

« mention ». A mention is conceived in this approach as the use in discourse of a linguistic expression associated to a variable on the domain of individuals binding semantic conditions, and in some cases, as connected to a speaker's reference.

Whatever the correct implementation of this notion should be, and we made here only some very sketchy proposals, many properties of pronouns are not predicted if this mention-anchoring nature of pronouns (and to a large extent of definite descriptions) is not taken into account.

It is very striking to observe that the set of these properties is very heterogeneous :

- resolution constraints in a language with arbitrary gender like French;
- anaphora to different semantic expression belonging to the same grammatical category (NP) : indefinites, definites and quantifiers;
- pay-cheque sentences, counterparts and anaphora to parts of idioms (requiring syntactic parallelism).
- speaker's reference and revision cases.

It might be seen as a clue that a mention-based approach is needed for more than some marginal data. What about « deictic » or « direct reference », a topic which we deliberately ignore, for space saving in the paper? Evans see it as close to E-type (contra Lasnik) : a pronoun can recover a description from an antecedent quantifier-containing clause, and a pronoun can recover a (potential) description of a salient individual, even without any real mention. My feeling is that Evans is correct on this : Basically, « direct » occurrences of pronoun require some sort of « accommodation » of a (potential) mention having the features required by the pronoun. Constraints (to be properly stated) would explain some differences between arbitrary gender languages like French, in which reference to no-human by pronouns is much more restricted than in languages like English in which gender is assigned on a semantic basis. There is a very interesting literature on this issue, in Tasmowski & Verluyten (1982, 1985), Cornish, F. (1988) , Kleiber, G. (1994), which does not look incompatible with this view of direct reference as « accommodation » of recoverable mentions of a salient individual.

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