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# AN ASPECTUAL ANALYSIS OF FRENCH DEMONSTRATIVE CE\*

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## I INTRODUCTION

French demonstrative ce is a pronominal element which has received relatively little attention in syntactic and pragmatic fields of inquiry and virtually none in semantic circles. The sentence given in (1) below contains a demonstrative ce and, as the translation indicates, ce in this example is roughly equivalent to English she.

- (1) Cette femme là-bas, c'est l'avocate de Jean.  
'That woman over there, she's Jean's lawyer.'

It has been noted in, e.g., the work of Burston (1983), Coppieters (1974, 1975), Kupferman (1979), and Wagner (1966), among others, that demonstrative ce has an extremely limited distribution: it is found only with the class of Raising Verbs and even within that environment, it competes with the personal pronoun for the subject position. Thus, while demonstrative ce is licit in (1) above, it is ruled out in (2) below, which is parallel to (1) except for the addition of the adverb meaning now.

- (2) Marie vient d'accoucher. Elle est maintenant la mère de deux enfants.  
'Marie has just given birth. She's now the mother of two children.'

My goal in this paper is to offer a semantic account of this distributional characteristic of demonstrative ce as well as many others which will be introduced below in section III.

## II THE FOUR MEANINGS OF CE

Before fully exploring demonstrative ce's distribution, I would first like to make it clear that I am assuming, in contrast to all previous work done on this topic, that the lexical item ce is homonymic and that it, in fact, has minimally four distinct meanings. Since the analysis I will be proposing in the present work is intended to cover just one of these - the demonstrative ce - it would be useful at this point to very briefly consider all four homonyms and, in particular, the features that distinguish them from each other in order to avoid potential confusion as the discussion proceeds.

Briefly, I am assuming, for the reasons discussed in detail in Reed (1993:173-210), that ce has a demonstrative, an expletive, a neuter, and a generic reading and, furthermore, that these four ce's can be distinguished from one another on the basis of three semantic features, these being the features of thematicity, the presence or absence of implicit gender features, and genericity. To clarify the nature of these features, first, thematicity refers to whether or not the ce is assigned a thematic role. Secondly, the gender feature refers to whether or not the ce is interpreted as bearing the same gender features as its antecedent. Finally, genericity refers to whether the ce does or does not receive a theta-role from an individual-level predicate.<sup>1</sup> To illustrate, consider the table given below in (3). As indicated in (3), demonstrative ce is analyzed as receiving an external theta-role from the embedded predicate nominal; it is also understood to bear the same gender features as its antecedent; and, finally, it clearly is not predicated of an individual-level predicate since the property denoted by the predicate nominal is not an inherent or permanent characteristic of the individual picked out by ce. Comparing demonstrative ce with expletive ce, these two are assumed to contrast with respect to the features of thematicity and the presence or absence of morphologically

implicit features of gender since expletive *ce* is not assigned a thematic role nor does it bear any gender features at all, not being anaphoric. Similar contrasts distinguish the other two homonyms.<sup>2</sup>

(3) THE FOUR TYPES OF *CE*

Type of <i>ce</i>	Thematic	Bears Implicit Gender Features of Antecedent	Generic
<b>Demonstrative <i>ce</i></b> ex. <i>Cette femme là-bas, c' est l' avocate de Jean.</i> 'That woman over there, <u>she</u> 's Jean's lawyer.'	+	+	-
<b>Expletive <i>ce</i></b> ex. <i>Dans la nouvelle Russie de l' an 2000, ce sera naturel de vouloir se détendre.</i> 'In the new Russia of the year 2000, <u>it</u> will be natural to want to relax.'	-	-	-
<b>Neuter <i>ce</i></b> ex. <i>Regarde-moi cet imbécile: quand ça se retrouvera en terminale ça ne saura même pas compter.</i> 'Will you just look at that idiot: when <u>it</u> 's in 12th grade, <u>it</u> won't even know how to add.'	+	-	-

Type of <u>ce</u>	Thematic	Bears Implicit Gender Features of Antecedent	Generic
<b>Generic <u>ce</u></b> <i>ex. Le canard domestique, c'est souvent blanc, tandis que le canard sauvage, c'est souvent brun.</i> 'The domestic duck, <u>it's</u> usually white whereas the wild duck, <u>it's</u> brown.'	+	+	+

### III THE DISTRIBUTION OF DEMONSTRATIVE CE

It was mentioned above that previous work on demonstrative ce has established that this pronoun alternates with the personal pronoun only in a very specific environment, typified by (1) and (2) above. This environment can be described as one which contains the copula with a DP complement in the present tense. While this fact has been noted in previous work on this topic, a thorough testing of the data across the entire set of Raising Verbs and in a variety of tenses reveals a number of interesting new patterns, which have been summarized in the table given in (4) below.

First, the table reveals that the distribution of demonstrative ce across the class of Raising Verbs, in fact, splits into two subclasses in every tense except the future. That is, in all tenses except the future, the subclass of Raising Verbs which includes the French equivalents of to become and to remain the same all exhibit one set of distributional characteristics for the demonstrative versus the personal pronoun, while the group of Raising verbs which includes the French equivalents of to appear, to be and, to be left all exhibit the exact opposite distribution. In particular, the first group of Raising Verbs were found to disallow the demonstrative pronoun in the imperfect and the present tenses, but to allow both pronouns in the compound past. In contrast, the second subclass of verbs allowed both pronouns in the imperfect and the present tenses, but disallowed demonstrative ce in the compound past. When one considers these findings in light of semantic analysis, an interesting correlation emerges: this split into two subclasses of Raising Verbs correlates with a core lexical aspectual distinction. Specifically, the first subclass of Raising Verbs, which includes to become and to remain the same, is composed of non-stative predicates, whereas the second group of Raising Verbs are all stative predicates. Thus, it appears justified to conclude that one factor which conditions the distribution of demonstrative ce is the aspectual distinction commonly referred to in the literature as "semantic verb class".<sup>3</sup>

There is a second pattern which emerges from the data in (4) as well. In particular, if one controls for verb class, it becomes obvious the tenses are also influencing the distribution of the demonstrative pronoun. Specifically, within the same verb class, the tenses known as the imparfait 'imperfect' and the present

always exhibit the same distributional patterns, and these patterns are the exact opposite of the pattern found with the tense known as the compound past. That is, if the verb is non-stative, the imperfect and the present tenses exhibit the same pattern (both disallow the demonstrative *ce*) and this is the opposite of the distribution found in the compound past (in which demonstrative *ce* is permitted). Similarly, when the Raising Verb is stative, the imperfect and the present tense once again show the same distributional pattern (they both allow demonstrative *ce*) and this distribution is again the opposite of that of the compound past (which disallows demonstrative *ce*). Curiously, these facts also correlate with a well-known aspectual contrast: the imperfective versus perfective distinction. That is, it has been noted in the literature on aspect in French (see e.g., Comrie (1976) and Garey (1957)) that the two "tenses" known as the imperfect and the present both encode imperfective aspect, whereas the compound past encodes perfective aspect. In section IV I will formulate a model-theoretic definition of these terms, as well as the analysis which explains their role in conditioning demonstrative *ce*'s distribution, however, I would like to close the present one by simply noting that there does appear to be adequate evidence for drawing the conclusion that demonstrative *ce*'s distribution is being conditioned by semantic factors, specifically, aspectual considerations.

#### (4) THE DISTRIBUTION OF DEMONSTRATIVE *CE*

	IMPARFAIT 'Imperfect'	PASSE COMPOSE 'Compound Past'	PRESENT	FUTURE
<b>NON-STATIVE VERBS</b>  e.g., <i>devenir</i> 'to become', <i>rester</i> <sub>1</sub> 'to remain the same'	<b>personal pronoun only</b>  <i>Quant au fils du voisin,</i> { * <i>ça</i> } <i>il</i> <i>devenait un homme instruit un peu plus chaque jour, ce qui nous ravissait.</i>	<b>both</b>  <i>Quant au fils du voisin,</i> { <i>c'</i> } <i>il</i> <i>est devenu un homme instruit, ce qui m'enchantait au plus haut point.</i>	<b>personal pronoun only</b>  <i>Quant au fils du voisin,</i> { * <i>ça</i> } <i>il</i> <i>devient un homme instruit un peu plus chaque jour.</i>	<b>both</b>  <i>Marie et moi, on ne s'est jamais bien entendues, mais qui sait? Peut-être qu'un jour</i> { <i>ça</i> } <i>elle</i> <i>deviendra ma meilleure amie.</i>
	'As for the neighbor's boy, he was becoming more and more of an educated man each day, much to our delight.'	As for the neighbor's boy, he became an educated man, which pleases me to the nth degree.'	'As for the neighbor's boy, he is becoming more and more of an educated man every day.'	'Marie and I have never got along very well, but who knows? Maybe some day she'll become my best friend.'

	IMPARFAIT 'Imperfect'	PASSE COMPOSE 'Compound Past'	PRESENT	FUTURE
<b>STATIVE VERBS</b>  e.g., <u>avoir l'air</u> 'to appear' <u>être</u> 'to be', <u>rester</u> <sub>2</sub> 'to be left'	<p style="text-align: center;"><b>both</b></p> <p><i>Jean, { c' }           { *il }</i>  <i>était un homme instruit.</i></p> <p>'Jean, he was an educated man.'</p> <p><i>Jean se rendit compte qu'il venait de commettre un meurtre et il se mit à courir. { ?*C' }           { Il }</i>  <i>était désormais un fugitif recherché par toutes les polices.</i></p> <p>'Jean realized that he had just committed a murder and he began to run. From then on, he was a fugitive sought by every police force.'</p>	<p style="text-align: center;"><b>personal pronoun only</b></p> <p><i>Marie, { *ça }           { elle }</i> <i>a été son avocate.</i></p> <p><i>Marie, she was his lawyer.'</i></p>	<p style="text-align: center;"><b>both</b></p> <p><i>Jean, { c' }           { *il }</i>  <i>est un homme instruit.</i></p> <p>'Jean, he was an educated man.'</p> <p><i>Regarde notre chef de section! Le général lui épingle sa nouvelle médaille et voilà! { ?*C' }           { Il }</i> <i>est maintenant l'homme le plus décoré de la compagnie.</i></p> <p>'Look at our platoon leader! The general is pinning on his new medal and there! He is now the most decorated man in the company.'</p>	<p style="text-align: center;"><b>both</b></p> <p><i>Dans une semaine, l'ennemi va conquérir notre ville. { Ce }           { Il }</i>  <i>sera un vainqueur impitoyable et je veux que tous le sachent.</i></p> <p>'In one week, the enemy will take our city. He will be a merciless conqueror and I want everybody to realize that.'</p>

#### IV THE ANALYSIS

There is a substantial body of previous research on both lexical aspect (that which pertains to distinctions like the stative/non-stative contrast), as well as morphological aspect (i.e. contrasts like the perfective/imperfective one). Within the model-theoretic semantic framework which I am adopting, Dowty (1979) has proposed a number of truth conditions and meaning postulates to capture these contrasts, as well as many others. The process of developing an analysis of demonstrative *ce* is, as a consequence, somewhat simplified. The strategy to do so will be as follows. First, I will make some minor modifications to Dowty's proposals regarding the relevant lexical and morphological aspectual distinctions in English in order to capture similar, although in some cases not identical, contrasts in the French language. From these proposals, I will then go on to deduce the semantic nature of demonstrative *ce* itself.

I will begin with the stative/non-stative distinction. As is well-known, one can discriminate between these two semantic verb classes on the basis of whether or not the property in question crucially requires reference to two distinct moments in time before one can truthfully say that it holds of some entity. In particular, stative verbs like *to be* do not require reference to two distinct moments since, for example, one may truthfully say of some entity that he is or is not one's best friend by simply selecting one moment in time and verifying whether or not he has that property at that moment. In contrast, non-stative predicates like *to become* do require two distinct moments before they can be said to truthfully hold since one must first select one moment in time at which the individual did not have the property of, e.g., being one's best friend and then a subsequent moment at which he does have that property before one can truthfully say of that individual that he has become one's best friend, and similarly for the other stative and non-stative predicates. To capture this distinction formally, Dowty (1979:361,141) has put forth meaning postulates and truth conditions which are identical in theoretical import to the truth conditions I am adopting in (5) and (6) below.<sup>4,5</sup>

(5) STATIVE TRUTH CONDITIONS:

- a. Where  $\delta$  is either *être* 'to be' or *rester* 'to be left',  $[\delta(p)]$  is true at an interval  $i$  in a world  $w$  iff  $[p]$  is true at every moment of  $i$  in  $w$ .
- b. Where  $\delta$  is *avoir l'air* 'to appear',  $[\delta(p)]$  is true at an interval  $i$  in a world  $w$  iff  $[p]$  is true at every moment of  $i$  in some world  $w'$ .

(6) NON-STATIVE TRUTH CONDITIONS:

- a.  $[\text{become}(p)]$  is true at an interval  $i$  in a world  $w$  iff there is an interval  $j$  containing the initial bound of  $i$  such that  $\neg [p]$  is true at  $\langle j, w \rangle$  and there is another interval  $k$  which contains the final bound of  $i$  such that  $[p]$  is true at  $\langle k, w \rangle$  and there is no interval  $i'$  contained within  $i$  that meets these two conditions.  
(Note: The initial bound is the last moment just before  $i$ ; the final bound is the first moment after  $i$ .)
- b.  $[\text{remain}(p)]$  is true at an interval  $i$  and a world  $w$  iff there is an interval  $j$  containing the initial bound of  $i$  such that  $[p]$  is true at  $\langle j, w \rangle$  and there is another interval  $k$  which contains the final bound of  $i$  such that  $[p]$  is true at  $\langle k, w \rangle$  and  $[p]$  is true at all subintervals of  $i \cup k \cup j$  in  $w$ .

I turn next to the perfective/imperfective distinction. As discussed extensively in the literature, this contrast relates to events which are completed versus those which are not. Following Comrie (1976) and Garey (1957), the French compound past and the future “tenses” both encode perfective aspect since, as the examples in (7) illustrate, it is always impossible to deny the truth of propositions they modify.

- (7) a. !Jean est devenu un homme instruit, mais en fait, il n'est pas devenu un homme instruit.  
 Jean is become a man educated, but in fact, he NEG is not become a man educated  
 'Jean became an educated man, but in fact he didn't become an educated man.'
- b. !Jean deviendra un homme instruit, mais en fait, il ne deviendra pas un homme instruit.  
 Jean will-become a man educated, but in fact, he NEG will-become not a man educated.  
 'Jean will become an educated man, but he won't become an educated man.'

In contrast, the imperfect and present “tenses” encode imperfective aspect; that is, they express ongoing events, as illustrated by the examples in (8) in which it proves possible to deny the truth of certain formulas modified by these tense operators.

- (8) a. A ce stade, il était évident que Jean devenait un homme instruit, mais en fait, il ne l'est jamais vraiment devenu parce qu'il a été obligé de quitter l'université.  
 at that stage, it was obvious that Jean was-becoming a man educated, but in fact, he NEG it-ACC is never truly become because that he has been obliged of to-leave the university  
 'At that stage, it was obvious that Jean was becoming an educated man, but he never actually became one because he had to drop out of the university.'
- b. Il est évident que Jean devient un homme instruit, mais il est probable qu'il ne le deviendra jamais complètement parce qu'il sera obligé de quitter l'université.  
 it is obvious that Jean is-becoming a man educated, but it is likely that he NEG it-ACC will-become never completely because that he will-be obliged of to-leave the university  
 'It's obvious that Jean is becoming an educated man, but he'll probably never actually become one because he'll have to drop out of the university.'

To formally capture the imperfective/perfective distinction, I will adopt the truth conditions given in (9) below, which are inspired by similar clauses in Dowty (1979: 353). The clause “ $\phi$  is true at  $\langle i, w \rangle$ ” in (9a,b) captures the notion of perfectivity and the clause “ $\phi$  is true at  $\langle i', w' \rangle$ ”, where  $w'$  is the set of inertia worlds accessible from  $w$ , captures imperfectivity in  $w$ .

- (9) a. TRUTH CONDITIONS FOR THE COMPOUND PAST:  
 Where  $\phi$  is a sentence,  $[PC \phi]$  is true at  $\langle i_0, w \rangle$  iff there is an index  $\langle i, w \rangle$  such that  $i$  is a closed interval, i.e., an interval whose beginning point and endpoint are included,  $i < i_0$ , and  $\phi$  is true at  $\langle i, w \rangle$ .

(9) b. TRUTH CONDITIONS FOR THE FUTURE:

Where  $\phi$  is a sentence, [FUT  $\phi$ ] is true at an index  $\langle i_0, w \rangle$  iff there is an interval  $i$  such that  $i > i_0$  and  $\phi$  is true at  $\langle i, w \rangle$ .

c. TRUTH CONDITIONS FOR THE IMPERFECT:

Where  $\phi$  is a sentence, [IMP  $\phi$ ] is true at an index  $\langle i_0, w \rangle$  iff there is an interval  $i$  such that  $i < i_0$  and there is another interval  $i'$  such that  $i \subset i'$  and  $i$  is not a final subinterval for  $i'$ , and for all  $w'$  such that  $w' \in \text{Inr}(\langle i, w \rangle)$ ,  $\phi$  is true at  $\langle i', w' \rangle$ .

d. TRUTH CONDITIONS FOR THE PRESENT:

Where  $\phi$  is a sentence, [PRES  $\phi$ ] is true at an index  $\langle i_0, w \rangle$  iff there is an interval  $i$  such that  $i = i_0$  and there is some other interval  $i'$  such that  $i \subset i'$  and  $i$  is not a final subinterval for  $i'$ , and for all  $w'$  such that  $w' \in \text{Inr}(\langle i, w \rangle)$ ,  $\phi$  is true at  $\langle i', w' \rangle$ .

As was mentioned above, the preceding truth conditions are almost identical in semantic content to those Dowty (1979) has proposed for the English tense and aspectual system. However, it is important to note that there is one crucial difference between the two languages. In particular, I have included as one aspect of the meaning of the French compound past the requirement that it select a closed interval of time. This modification is necessary in order to account for the contrast between (10) and (11) below. Specifically, the example in (10) clearly shows that the compound past must select closed intervals (intervals which are separated by their endpoints from all subsequent intervals, however brief the separation) since selecting an open interval results in a contradiction in (10). As (11) shows, the obligatory selection of a closed interval is not shared by either the imperfective tenses or the perfective future.

(10) !J'ai habité à Paris en 1976 et je n'ai jamais cessé d'y habiter.

I have lived at Paris in 1976 and I NEG have never stopped of there to-live

'I lived in Paris in 1976 and I still do now.'

(11) J'habitais à Paris en 1976, j'y habite toujours, et j'y habiterai jusqu'à ma mort.

I lived at Paris in 1976, I there live still, and I there will-continue at to-live until at my death

'I lived in Paris in 1976, still live there now, and I will continue to live there until the day I die.'

Having established the semantics of the two core aspectual distinctions at work in determining demonstrative *ce*'s distribution, it is now possible to deduce the semantics of the pronoun itself. This will be achieved by returning to the data in the table in (4) and examining in turn each of those environments which disallow the demonstrative pronoun. The first environment I will consider is that of a stative predicate in the compound past, as opposed to the same verb in the imperfect, the present, or the future. The relevant question that must be answered is the following: How does the compound past differ from the other tenses when one considers the class of Stative Raising Verbs? According to the stative truth conditions in (5) above, these verbs modify propositions which are asserted to be true at every moment of the interval selected by the tense. By the truth conditions for the

imperfect, present, and the future, provided in (9b)-(9d) above, this means that the formula is true of potentially open or closed intervals since these tenses allow both options. In contrast, the compound past in (9a) is specified to select only closed intervals. This means that the first three tenses differ from the compound past with respect to the following feature: They do not necessarily denote states of affairs which hold at endpoints. Therefore, from this, I would like to propose that the semantics of demonstrative ce must be formulated so as to make it incompatible with propositions asserted to hold at endpoints.

Interestingly, this hypothesis receives further support when one examines those stative sentences in the imperfect and the present which also disallow demonstrative ce; that is, sentences like Jean se rendit compte qu'il venait de commettre un meurtre et il se mit à courir. ?\*C'était désormais un fugitif recherché par toutes les polices. 'Jean realized that he had just committed a murder and he began to run. From then on, he was a fugitive sought by every police force.' If one makes the assumption that the semantic effect of the adverb from then on is to introduce an endpoint, in this case an initial endpoint, then one can immediately account for the fact that demonstrative ce becomes illicit in these examples; namely, the semantics of stative verb will entail the truth of the proposition it modifies at that endpoint. Similar considerations will, of course, also explain the judgement for the stative verbs in the present tense, assuming that the adverb maintenant 'now' may also close the interval selected. Finally, in the case of the stative example in the future tense, both pronouns are licit simply because no adverbs have been inserted, thus allowing one to select either an open or a closed interval of time, in which case one obtains demonstrative ce and the personal pronoun respectively.

Having established (albeit in informal terms for the moment) what type of aspectual constraint is at work in the stative data, I turn next to the non-stative facts in the table in (4). Recall that with this group of Raising Verbs, demonstrative ce is ruled out in the imperfective tenses, i.e. the imparfait and the present, while it is acceptable in the perfective ones - the compound past and the future. It is immediately obvious that the restriction on demonstrative ce in the imperfective tenses cannot reduce to the proposal just given since non-stative predicates do not require the truth of propositions they modify at all of the moments of the interval picked out by the tense. (See the truth conditions given in (6a,b) above.) How then do the non-stative examples in the imparfait and the present tense differ from the same predicates in the compound past and the future? According to the truth conditions for non-stative predicates given in (6a,b) above, these verbs crucially require reference to two distinct moments in time, the initial and the final bound of the interval selected by the tense, before the proposition they denote can be truthfully said to hold. In the case of the imperfective tenses, the very ones which disallow demonstrative ce, one does not have access to one of those moments since formulas modified by imperfective operators denote ongoing events - events for which one is unable to determine what state of affairs obtains at the final bound. In contrast, when a formula is modified by a perfective operator, the formula denotes a complete event, one for which one does assert what state of affairs obtains at the final bound. So, the difference between examples which disallow demonstrative ce, i.e., the French equivalents of He was becoming an educated man and He became an educated man is simply that only the latter requires the truth of the proposition [John become an educated man] at the index under consideration. Therefore, these facts could be accommodated if one formulates the semantics of demonstrative ce so as to require that it only be compatible with propositions whose truth is asserted at the index under consideration.

This type of analysis would also account for the remaining non-stative data in the table in (4) above. In particular, demonstrative *ce* is licit with non-stative predicates in the compound past and the future because these tenses do require the truth of propositions they modify. Of course, the personal pronoun is also an option in these tenses since one may select an interval consisting of just a single moment. If this is the case, the use of the personal pronoun becomes obligatory since the proposition is now asserted to be true at the endpoints of that interval, the single moment serving as both the initial and the final endpoint.

Having deduced an informal analysis of demonstrative *ce* on the basis of the data in the table in (4), I would like to conclude the present section by proposing the meaning postulate for demonstrative *ce* given in (12) below. As required, this postulate integrates the two aspectual constraints on demonstrative *ce* discussed above. The syntactic motivation for treating *ce* as a propositional operator will be made clear in the next and final section of this paper, which provides a (partial) fragment of French which incorporates the preceding proposals.

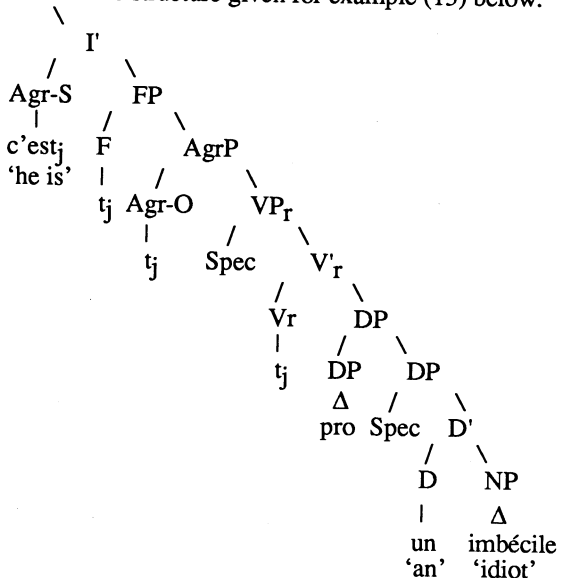
- (12)  $\forall p L [ce\ p \leftrightarrow p\ \text{is true at the index } \langle i, w \rangle, \text{ but not at an initial or final endpoint of } i\ \text{in } w].$

## V A FRAGMENT OF FRENCH

Having formulated the meaning postulate which accounts for the aspectual nature of demonstrative *ce*'s distribution, the remainder of this paper will be devoted to developing the translation rules needed to integrate my proposals into a fragment like the one put forth in Dowty (1979: 351-354).

First, as concerns the syntactic component, I have adopted the Government-Binding (GB) framework and in particular the Raising analysis of the copula, which has been defended in Couquaux (1979), Heggie (1988), and Stowell (1978, 1983). Thus, I am assuming, on the basis of their arguments, that predicate nominal sentences are associated with the structure given for example (13) below.

(13)



Since I am adopting an “indirect” model-theoretic semantic treatment, parallel to the one originally put forth in Montague (1973), I require the clauses in (14) below in order to effect a conversion of each of the GB syntactic categories in the tree in (13) into their Intensional Logic (IL) equivalents.

- (14)  $f$  is a function from the set of GB syntactic categories to the set of logical types of IL such that:
- $f(XP_{NL}) = f(X'_{NL}) = f(VP_r) = f(V'_r) = f(CFC) = t$
  - $f(X^0_{NL}) = f(V_r) = \langle\langle s, t \rangle, t \rangle$
  - $f(D'_{\text{non-predicative}}) = f(DP_{\text{non-predicative}}) = \langle\langle s, \langle e, t \rangle \rangle, t \rangle$
  - $f(N) = f(N') = f(NP) = f(ADJ_{\text{predicative}}) = f(ADJP_{\text{predicative}}) = f(D'_{\text{predicative}}) = f(DP_{\text{predicative}}) = \langle e, t \rangle$
  - $f(D_{\text{DPpredicative}}) = f(P_{\text{PPPpredicative}}) = \langle\langle s, \langle e, t \rangle \rangle, \langle e, t \rangle \rangle$
  - $f(D_{\text{non-predicative}}) = \langle\langle s, \langle e, t \rangle \rangle, \langle\langle s, \langle e, t \rangle \rangle, t \rangle \rangle$

Secondly, the clauses in (15) are needed to translate the majority of the lexical items of French into expressions of IL. Those lexical items which are not translated by (15) are associated with the special translations in (16). Finally, the translation procedure is complete once one adds in the clauses in (17), which affect expressions beyond the lexical level.

- (15) a.  $g$  is a function from  $X^0_\alpha$  to  $CON_{f(X)}$  IL, except for the exceptions to follow.

b. If  $\alpha \neq \beta$ , then  $g(\alpha) \neq g(\beta)$ .

- (16) a.  $\underline{\underline{u}}_{DP_{\text{non-predicative}}} \text{ ----} \rightarrow \lambda Y \lambda X \exists z (\forall Y(z) \wedge \forall X(z))$   
 b.  $\underline{\underline{u}}_{DP_{\text{predicative}}} \text{ ----} \rightarrow \lambda Y \lambda x \exists z (\forall Y(z) \wedge (z = x))$   
 c.  $\emptyset_{\text{definite det}} \text{ ----} \rightarrow \lambda Y \lambda X \exists x (\forall y (\forall Y(y) \leftrightarrow (x = y)) \wedge \forall X(x))$   
 d.  $\underline{\underline{Marie}}_{DP_{\text{non-predicative}}} \text{ ----} \rightarrow \lambda P^{\forall P}(m)$   
 e.  $\underline{\underline{Marie}}_{DP_{\text{predicative}}} \text{ ----} \rightarrow \lambda y (y = m)$   
 f.  $\text{pro} \text{ ----} \rightarrow Z_n$   
 g. Raising Verb ---->  $\lambda p \text{ RV } \forall p$   
 h.  $(\text{CLITIC})_{\text{Agr-O/S}} \text{ ----} \rightarrow \lambda p (\text{CLITIC}) \forall p$   
 i.  $(\text{COMPLEMENTIZER})_C \text{ ----} \rightarrow \lambda p (\text{COMP}) \forall p$

- (17) a. Translation rule for  $X^0$ s:  
 If  $\alpha \in P_X^0$  and  $\beta$  is a lexical item of the same syntactic category, and  $\alpha$  immediately dominates  $\beta$ , and  $\beta \text{ ----} \rightarrow \beta'$ , then  $\alpha \text{ ----} \rightarrow \beta'$ .
- b. Translation rule for non-branching  $X'$ s:  
 If  $\alpha$  is a non-branching  $X'$  category and  $\beta$  is an  $X^0$  immediately dominated by  $\alpha$  and  $\beta \text{ ----} \rightarrow \beta'$ , then  $\alpha \text{ ----} \rightarrow \beta'$ .
- c. Translation rule for internal arguments:  
 If  $\alpha$  is an  $X^0$  category and  $\beta$  is an XP and  $\alpha$  subcategorizes for  $\beta$  and  $\alpha \text{ ----} \rightarrow \alpha'$  and  $\beta \text{ ----} \rightarrow \beta'$ , then the  $X'$  or XP immediately dominating  $\alpha$  and  $\beta, \gamma, \text{ ----} \rightarrow \alpha'(\wedge \beta')$ .

## (17) d. Translation rule for XPs:

If  $\alpha \in P_{XP}$  and  $\beta \in P_{X'}$  or  $X^0$  and  $\alpha$  immediately dominates  $\beta$  and possibly the SPEC of  $\beta$  and  $\beta \rightarrow \beta'$ , then  $\alpha \rightarrow \beta'$ .

## e. Translation rule for CFC:

If  $\alpha \in P_{XP}$  and  $\beta \in P_{DP}$  or  $CP$  and  $\alpha$  assigns an external theta-role to  $\beta$  and  $\alpha \rightarrow \alpha'$  and  $\beta \rightarrow \beta'$ , then the XP immediately dominating  $\alpha$  and  $\beta$ ,  $\gamma$ ,  $\rightarrow \beta'$  ( $\wedge \alpha'$ )

Once the preceding translation rules have been applied to the syntactic tree in (13), the IL equivalent in (18) below is derived. As desired, this expression is recognized as both syntactically and semantically well-formed by the version of IL found in Dowty (1979:352-354), assuming, of course, that one incorporates the clauses in (5), (6), and (9) into this fragment. Furthermore, these rules will also correctly recognize the appropriate examples in the table in (4) above to be contradictory - thus arriving at the model-theoretic aspectual account of demonstrative *ce* promised at the onset of this discussion.

- (18) CE PRES [ $\wedge$ ETRE [ $\exists w (\forall v (Z_n(v) \leftrightarrow w = v)$   
 $\wedge \exists z ((\text{IMBECILE}(z) \wedge (z = w))))$ ]], t, T(17d)

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<sup>1</sup> See, e.g., Carlson (1977, 1979) for discussion of the individual/stage-level predicate distinction.

<sup>2</sup> The data provided in the table in (3) have been drawn from previous work on this topic. In particular, the examples of demonstrative *ce* and generic *ce* were adapted from Coppieters (1974, 1975), while those of expletive and neuter *ce* were inspired by similar facts noted in Burston (1983) and Wagner (1966) respectively.

<sup>3</sup> See Comrie (1976), Dowty (1979), Garey (1957), and Reed (1993), among many others for discussion of the notion of verbal aspect.

<sup>4</sup> Dowty's (1979) proposals have only been modified to reflect the fact that these are Raising Verbs, i.e. propositional operators, rather than thematic verbs.

<sup>5</sup> I would like to thank Emmon Bach for pointing out a flaw in my original truth conditions for the stative Raising Verbs. Specifically, my original truth conditions collapsed all stative Raising Verbs under the clause in (5a), which had, as an undesirable consequence, the entailment of the truth of the proposition [John be your best friend] in sentences like Jean appears to be your best friend in the world under consideration.

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