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PREDICATION AND RAISING*

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Chomsky (1981) analyses sentences like

- 1a. John seems to be happy.
- b. Bill appears to be intelligent.

as raising constructions in which the matrix subject is moved out of the embedded subject position. On this analysis, 1a-b have the S-structures

- 2a. John seems [t to be happy]
 S S
- b. Bill appears [t to be intelligent]
 S S

respectively. 'seems' does not assign a θ -role to the subject of its VP. When it takes a tensed \bar{S} complement, it requires a pleonastic non-argument subject, as in

- 3a. It seems that John is happy.
- b. It appears that Bill is intelligent.

Movement is restricted by the θ -criterion, which specifies a one-to-one correspondence between arguments and θ -roles. Chomsky (1981) formulates this criterion in terms of the notion of an argument chain.

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4. Θ -criterion: Given the structure S there is a set K of chains, $K = \{C_i\}$, where $C_i = \{\alpha_1^i, \dots, \alpha_n^i\}$, such that:
- (i) If α is an argument of S, then there is a $C_i \in K$ such that $\alpha = \alpha_j^i$ and a Θ -role is assigned to C_i by exactly one position P.
 - (ii) If P is a position of S marked with the Θ -role R, then there is a $C_i \in K$ to which P assigns R, and exactly one α_j^i in C_i is an argument. (p. 335)

4 entails that each argument is assigned a unique Θ -role, and each Θ -role is assigned to a unique argument. Hence, an NP argument can only move from a Θ -position in D-structure into a non- Θ -position in S-structure. As the subject of 'seems' and 'appears' are non- Θ -positions and trace is not an argument, the chains (John, t) and (Bill, t) in 2a-b, respectively, satisfy the Θ -criterion.

The formulation of the Θ -criterion given in 4, and the assumption that 'seems' type verbs do not Θ -mark their subjects imply that every sentence containing 'seems' as its matrix verb and an argument (referring NP) as its matrix subject is a raising construction. Thus, for example, Chomsky assigns 5a the S-structure 5b.

- 5a. John seems happy.
 b. John seems [t happy]

The complement of 'seems' in 5b is a small clause, which is a non-maximal projection of the category A or S.

Williams (1983) challenges the small clause analysis of 5a. He proposes instead that 5a be analysed within the framework of his theory of predication. He defines the subject of a predicative phrase XP as the argument of X which is located outside of the maximal projection of X. In this sense, subjects are external arguments of their predicates.¹ The subject of a predicate is co-indexed with it. On Williams' view, the S-structure of 5a is

6. John_i [seems₀ [happy]_i]
 VP_i AP_i AP_iVP_i

where 'John' is the subject of the AP 'happy' and the VP 'seems happy'.

Williams reformulates the Θ -criterion as follows.

7. Argument Complex

An argument Complex consists of a verb (or any other predicate), its argument, its arguments' arguments, and so forth.

The Restricted Theta Criterion (restricted to argument complexes)

In an argument complex, each phrase is assigned only one theta role. (p. 300)

Although in 6 'happy' is an argument of 'seems'. 'John' receives a Θ -role from 'happy', but not from 'seems happy'. Therefore, Williams' restricted Θ -criterion is satisfied.

If we regard the subject position of 'seems' as non- Θ -marked, Williams predicative analysis of 6 is incompatible with the claim, entailed by Chomsky's original formulation of the Θ -criterion, that every argument appears in a Θ -position at D-structure. However, if we take the matrix subject position of 6 to be Θ -marked by the embedded predicate 'happy', then 6 is not a counter-example to 4.

There is another type of 'seems' construction which does pose a serious problem for the principle that there is a one-to-one correspondence between Θ -roles and arguments.

- | | | | |
|-----|--------------|--------------------------------|----------------------|
| 8a. | It seems | { as if
as though
like } | John is happy. |
| b. | John seems | { as if
as though
like } | he is happy. |
| 9a. | It appears | { as if
as though
like } | Bill is intelligent. |
| b. | Bill appears | { as if
as though
like } | he is intelligent. |

The fact that pleonastic 'it' can occur as the subject of 'seems' when its complement is introduced by the connective 'as if' ('as though', 'like') indicates that this is a non- Θ -position. However, it would be difficult to maintain that 8b-9b are raising structures of the form

10. John seems [t as if he is happy].

in which the complement is a small clause consisting of the trace of the matrix subject and the 'as if' phrase.²

One of the main arguments which Williams brings against the small clause analysis of 5a turns on the scope ambiguity in raising constructions such as

11. Everyone seems [t to be happy]
 S S

He points out that in 11, 'everyone' can receive either a wide scope reading (12a), or a narrow scope reading (12b).

12a. [Everyone x] [x seems [x to be happy]]
 NP NP S S S S

b. [x seems [[everyone x] [x to be happy]]]
 S S NP NP S S S S

However, 13 permits only a wide scope reading of 'everyone' corresponding to 14a.

13. Everyone seems happy.

14a. [Everyone x] [x seems happy]
 NP NP S S

b.* [x seems [[everyone x] [x happy]]]
 S S NP NP S S S

Williams relies on May's (1977) account of the ambiguity of 11. According to May's analysis, the rule of quantifier raising (QR) generates 12a and 12b as logical forms for 11. 12a is derived by adjoining 'everyone' to the matrix S, while 12b is the result of lowering 'everyone' into a position where it is adjoined to the embedded S. The variable which is left in the matrix subject of 12b is unbound. But, as May requires only variables in Θ -marked positions to be properly bound, 12b is well formed. What allows QR to lower the quantified NP subject of 'seems' in 12b is the fact that the trace of this NP which is present in the subject of the complement at S-structure becomes a variable bound by the lowered NP at LF.

In fact, one can construct an equivalent explanation of the ambiguity in 11 without invoking QR or quantifier lowering. Let us assume that NP trace is ambiguous between two interpretations. On the variable reading, it is a bound variable which ranges over the values in the extension of the \bar{N} of its binding NP (in the case of proper names, it will range over the entity or set of entities which the name denotes). On the copy reading, it will be an empty expression which stands for the NP that binds it. This reading requires that a trace be assigned precisely the same semantic value as its binding NP. The variable interpretation of the trace of 'everyone' in 11 yields the wide scope reading of this sentence. If, on the copy reading, we identify the scope of a binding NP with its trace, the copy reading of the trace of 'everyone' corresponds to the narrow scope reading of 11. I will argue at a later point that there are independent grounds for preferring this explanation of the ambiguity of 11 to one which employs QR.

On both accounts, the presence of a trace in the subject of the complement of 'seems' is the source of the ambiguity of sentences like 11. As Williams observes, if 13 is a raising construction, it should permit the narrow scope reading represented by 14b. The fact that

this reading is unavailable is evidence for a non-raising analysis of this sentence.

'Seems as if' constructions exhibit a similar lack of ambiguity.

15. Everyone seems as if he is working hard.

'Everyone' can only be understood as having scope over 'seems' in 15. This indicates that the matrix of a 'seems as if' construction has not been raised out the complement, but appears in the matrix subject position at D-structure.

It is important to note that the pronoun 'he' in 8b, 9b, and 15 is necessarily bound by the matrix subject.³ This can be seen from the fact that an independently referring NP cannot be substituted for 'he'.

- 16a. *John seems as if Bill is happy.
 b. *Bill appears as if Mary is intelligent.
 c. *Everyone seems as if Sam is working hard.

Moreover, Evans' (1980) test for the bound interpretation of pronouns also indicates that 'he' is bound in these sentences.

- 17a. No one seems as if he is happy.
 b. No one appears as if he is working hard.

The fact that 'he' can be co-indexed with a negative quantifier in 17a-b implies that it does not denote an object, but ranges over the elements of the extension of the \bar{N} of 'No one'.

In a predicative structure such as 6, 'John' receives its Θ -role from the predicative phrase 'happy' of which it is the subject. But in the 'seems as if' construction, the matrix subject cannot be Θ -marked directly by the complement sentence, as sentences do not assign Θ -roles. How, then, does the matrix subject receive a Θ -role?

One might claim that while 'it' is a non-argument in 8a-9a, 'John' and 'Bill' receive Θ -roles from the VP 'seems as if S' in 8b-9b, respectively. This would require an ad hoc and counter-intuitive distinction between two senses of 'seems' and 'appears'. If we are prepared to countenance such an ambiguity in 8-9, we have no reason for not permitting it in 1 and 3, where the complement is an infinitival clause. If 'seems' and 'appears' can assign Θ -roles to their subjects in 1, there is no basis for the raising analysis of these sentences given in 2.

A second possibility is to maintain that the bound pronoun in the complement of 'seems as if' structures is not a distinct argument, but is part of a single argument chain headed by the matrix subject.⁴ The pronoun and the matrix subject which binds it could then share a single Θ -role, assigned by the VP of the complement clause, without violating the Θ -criterion. The problem with this approach is that there are no obvious grounds for excluding the

bound pronoun from the class of arguments except the desire to preserve the Θ -criterion. It is a referential expression (in Chomsky's sense) which is Case marked and receives an independent Θ -role. The fact that it is bound by an NP in A-position is not a sufficient reason for regarding it as a non-argument. Controlled PRO is similarly A-bound, as are anaphors such as reflexives and 'each other'. Yet all of the latter are clearly argument expressions.

Finally, a third possibility is to claim that the matrix subject of 'seems as if' structures is a Θ -position, but the matrix subject of 'seems' with an infinitival or that S complement is not. This requires us to distinguish two senses of 'seems' ('appears'). In 1-3, the VP headed by 'seems' does not Θ -mark its subject, while in 8, the matrix VP Θ -marks both 'it' and 'John' (and similarly for 'it' and 'Bill' in 9). The Θ -role in question must be something like bearer-of-an-appearance. The fact that constituents of idioms can appear as subjects of 'seems to be' constructions, but not of 'seems as if' structures appears to lend support to this proposal.

- 18a. Advantage seems to have been taken of John.
- b. Much headway appears to have been made on the project.
- c. *Advantage seems as if it had been taken of John.
- d. *Much headway appears as if it had been made on the project.

However, mass nouns and bare plural NP's are similarly restricted in their occurrence as subjects of 'seems' constructions.

- 19a. It seems that snow is falling on the mountain.
 - b. Snow seems to be falling on the mountain.
 - c. It seems as if snow is falling on the mountain.
 - d. *Snow seems as if it is falling on the mountain.
- 20a. It seems that cows are grazing in Fred's field.
 - b. Cows seem to be grazing in Fred's field.
 - c. It seems as if cows are grazing in Fred's field.
 - d. *Cows seem as if they are grazing in Fred's field.

The assumption that the matrix subject of 'seems as if' constructions is a Θ -marked position does not account for the fact that 19d-20d are unacceptable. 'Snow' and 'cows' are both argument expressions which can bear Θ -roles. Intuitively, there is a connection between the non-occurrence of idiom constituents as subjects of 'seem as if' structures and the fact that mass nouns and bare plurals are also barred from this position. Clearly, an analysis of this construction which provides a unified explanation of these phenomena is preferable to one which regards them as unrelated.

In Lappin (1983) it is suggested that the NP subject of a 'seems as if' construction can bind a pronoun in the complement clause only if (i) the complement can be understood as making an assertion about a determinate entity (or set of entities) which serves as the value of the bound pronoun, or (ii) the VP complement can be interpreted as a generic predicate of the matrix subject NP.

Given the predicative treatment of 'seems as if' constructions, it is clear why 18c,d are unacceptable. Idiom constituents are not referring expressions, and so the matrix subject NP's in these sentences cannot serve as external arguments for the embedded predicates. Moreover, as the VP's of the complement clauses 'it had been taken of John' and 'it had been made on the project' are also idiom constituents, they do not express predicates which can be asserted of external arguments. Therefore, the predicative relation between the matrix subject NP and the complement clause required by the structure of 18c,d does not hold in these sentences, and they are ruled out as anomalous.

In 18a,b, the complement of 'seems' is an infinitival clause with the trace of the matrix subject NP as its subject. If we adopt the view, suggested earlier, that trace is ambiguous between a bound variable and a copy reading, then we can account for the acceptability of 18a,b. On the copy reading of trace, the idiom constituents in the matrix subjects of these sentences are actually internal subjects of the infinitival clauses, as they are within the scope of 'seems'. This reading does not require a predicative interpretation of the relation between the matrix subjects of 18a,b and the complements of the matrix verb. Notice that because the idiom constituents in subject position in these sentences are not quantified NP's, QR will not apply to them. Therefore, we cannot employ quantifier lowering to account for the acceptability of 18a,b. Thus, within the framework of a predicative analysis of 'seems' constructions, the assumption that trace allows both a bound variable and a copy interpretation permits us to account for both the scope ambiguity in sentences like 11 (as well as the absence of such ambiguity in 5a and 15), and the contrast between 18a,c and 18b,d. May's rule of QR (operating as rule of quantifier lowering) predicts the scope ambiguity, but not the contrast in acceptability. Therefore, we have motivation for preferring the former approach to the latter.

Returning to 19d-20d, it appears that when undetermined mass nouns and bare plural NP's are external arguments of S or \bar{S} , they can receive only a generic interpretation.⁶ The indefinite existential reading is excluded in this case.⁷

- 24a. Water is dripping from the tap.
 b. As for water, it is more nourishing than coke.
 c. *As for water, it is dripping from the tap.
- 25a. Mathematicians were present at last year's conference.
 b. As for mathematicians, no conference is complete without them.
 c. *As for mathematicians, they were present at last year's conference.
 d. Mathematicians hope to prove Church's thesis within the next few years.
 e. *Mathematicians wanted to take over the city.
 f. It is difficult to persuade mathematicians to accept non-constructive proofs.
 g. *It was difficult to persuade mathematicians to go to Mary's party last night.

In 24a and 25a, where the subject NP is an external argument of VP, both 'water' and 'mathematicians' receive an indefinite existential reading. Assume that the NP of *as for NP* in 24b,c-25b,c is the external argument of the following S.⁸ In 24b and 25b this NP is interpreted generically, and its predicate S can be taken as expressing a generic property of the entity it denotes. The predicate S does not allow a generic reading in 24c-25c, and so these sentences are ruled out. The matrix subject of 25d-e is also the external argument of the embedded infinitival clause. While the infinitival complement of 25d can be understood as expressing a generic property, the infinitival complement of 25e cannot. In 25f-g, the matrix object NP is the external argument of the infinitival complement. The contrast between these two sentences is due to the fact that the complement of 25f can be taken as a generic predicate, but the complement of 25g is clearly non-generic.

It is not clear to me why undetermined mass nouns and bare plural NP's permit only generic readings when they are subject of S or \bar{S} .⁹ However, it seems that this phenomenon is not unique to English. Li and Thompson (1981) observe that in Mandarin Chinese, nouns that are not marked for definiteness are always specific or generic in topic position. Indefinite NP's are excluded from this position. They cite the following example.

- 26a. gǒu wǒ yǐyǐng kàn- guo- le-
 dog I already see -Experiential Aspect- Currently Relevant State
 The dog I have already seen.
 Dogs (generic) I have already seen.
- not: A dog I have already seen.
- b. nèi- zhí gǒu wǒ yǐyǐng kàn-guo le
 that- Classifier dog I already see
 That dog I have already seen.
- c. *yi-zhi gǒu wǒ yǐyǐng kàn-guo le
 one dog I already see.
 (indefinite marker)

If we take the underlined NP's in 26a-c to be external arguments of the sentences which follow them, then these cases fall under the generalization illustrated by 24-25.

We can now account for the contrast between the b and d sentences of 19-20. In 19b-20b, the matrix subject NP is understood as within the scope of 'seems' when its trace receives a copy reading. In this case, it is not an external argument of the infinitival clause, but is its subject. Therefore, the matrix subject can be assigned an indefinite existential interpretation, as required by the embedded VP of the complement. The matrix subject of 19d-20d can only be taken as the external argument of the complement, and so 'snow' and 'cows' must be understood generically. As the complements cannot be interpreted generically, these sentences are ruled out.

Notice that when the complement of a sentence like 19d-20d does correspond to a generic property of the appropriate kind, the sentence is well formed.

- 27a. Snow seems as if it is white in normal light.
 b. Cows seem as if they are lethargic to the casual observer.

On the analysis which I am proposing here, both 18c-d and 19d-20d are instances of anomalous predication in which the complement of a 'seems as if' construction does not express a possible predicate of the matrix subject NP.

I must still indicate how the matrix subject of

22. John_i [seems₀ [as if [he_k is happy]]]
 VP_i S_i S_j S_j S_i VP_i

receives a Θ -role. As we have observed, in

6. John_i [seems₀ [happy]]
 VP_i AP_i AP_i VP_i

'John' is Θ -marked by the AP predicate. Given that sentences (and \bar{S} 's) do not assign Θ -roles, and VP's headed by 'seems' do not Θ -mark their subjects, 'John' cannot receive a Θ -role from either \bar{S}_i or VP_i in 22. It is not possible to exempt 'John' from bearing a Θ -role in 22, as it appears in an A-position.

In this situation, the only Θ -role which 'John' could plausibly be said to have is the one assigned to the embedded subject of the complement of \bar{S} . I would suggest, then, that in 'seems as if' constructions like 22, the matrix subject NP inherits its Θ -role from the pronoun which it binds in the complement.¹⁰ The claim that 'John_i' and 'he_k' constitute a Θ -chain is incompatible with the view that there is a one-to-one correspondence between arguments and Θ -roles. In particular, this chain violates clause (ii) of Chomsky's formulation of the Θ -criterion given in 4. It is still possible to retain clause (i) of 4 as a weakened version of the Θ -criterion. On this version, the Θ -criterion specifies that every argument receives one and only one Θ -role, but it permits two arguments to share a Θ -role, as in 22.

One of the main effects of the Θ -criterion is that it restricts movement of an NP into non- Θ -positions. The weaker version of the criterion which I am proposing is sufficient to entail this result by itself. An argument cannot be moved from one Θ -position into another without violating the condition of uniqueness which the weaker criterion imposes on Θ -role assignment. There is one final problem which remains to be dealt with. Analyzing 'seems as if' sentences as predicative structures does not, in itself, account for the ungrammaticality of

28. *John seems that he is happy.

It is necessary to explain why the \bar{S} complement 'that he is happy' cannot be taken as a predicate of 'John', with the matrix subject inheriting its Θ -role from 'he'. One possibility is to maintain that Θ -chains do not violate subjacency. As 'he' shares its Θ -role with an NP external to the \bar{S} which dominates it, 28 is unacceptable. Clearly, Θ -chains created by NP movement satisfy this condition, as movement is constrained by subjacency. We have assumed that the 'as if' complement of sentences like 22 is an \bar{S} . But if we classify it as a PP (adjectival or adverbial phrase) containing a complex preposition 'as if' and an S, then the structure of 8b will be

29. John_i [seems₀ [as if [he_k is happy]]]
 VP_i PP_i S_j S_j PP_i VP_i

The 'as if' complement will fulfill the same syntactic role in 29 as it does in 23 and

30. Mary spoke as if John had already seen the film.

As the Θ -chain consisting of 'John_i' and 'he_k' in 22 does not cross an \bar{S} boundary, the sentence is acceptable.

Unfortunately, this approach will not work. James (forthcoming) cites the following examples from Cree. (In the glosses for these examples AI = Animate Intransitive marker, APS = Animate Proximate Singular NP marker, sub = Subordinator, TA = Transitive Animate marker, AO = Animate Obviate NP marker, II = Inanimate Intransitive marker, and IPS = Inanimate Proximate Singular NP marker.)

31a. ite:liht + a:kosi + w + na:pe:w e: + milowe:li + m +
 seem AI APS man sub like TA
 a:t me:ri + wa
 APS-AO Mary obviate

The man seems that he likes Mary.

b. ite:liht + a:kosi + w ča:n e: + a:lim + an + k +
 seem AI APS John sub hard II IPS
 kicř + milowe:li + m + a:kanow + t
 sub like TA INDEFINITE (AI) APS

John seems that it is hard that someone like him.

If the embedded clauses of 'seem' ('ite:liht') in 31a-b are in fact \bar{S} complements and we assume that the matrix subject NP receives its Θ -role from the pronoun (realized as an affix on the verb of the embedded clause) which it binds in the complement, these sentences violate the subjacency condition on Θ -chains.¹¹

Moreover, in Hebrew the 'as if' phrase in 'seems as if' constructions takes an \bar{S} with a 'that' complementizer.

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- 32a. (ze) nireh ke-ilu she Haim sameah
 It appears as if that (is happy).
 b. Haim nireh ke-ilu she hu sameah
 appears as if that he (is) happy.

31a-b and 32b appear to contain Θ -chains in which two arguments share a single Θ -role across an \bar{S} boundary.

In order to account for 28, I will make use of some terminology first introduced by Frege in his paper "Function and Concept". Frege characterizes a predicate as a propositional function, which expresses a concept. Propositional functions, like functions in general, are incomplete (in Frege's terms, unsaturated) in the sense that they require arguments in order to yield values. When a propositional function is saturated by an argument (or arguments) of the appropriate kind, the result is a proposition with a truth-value. The syntactic notion of a predicate which Williams defines can be understood as corresponding to the semantic concept of a propositional function. More precisely, predicates (generally) denote propositional functions which take the semantic values of the subjects of these predicates as arguments. Propositions, unlike propositional functions, are complete, and so do not take external arguments. They express states of affairs, and denote truth-values.

When 'seems' takes an AP complement, as in

6. John_i [seems₀ [happy]]
 VP_i AP_i AP_i VP_i

it Θ -marks the complement as a propositional function, and the matrix subject provides the external argument for this function. In raising constructions like

- 1a. John seems [t to be happy]
 11. Everyone seems [t to be happy]

the complement clause is a syntactic predicate of the matrix subject. However, these structures are semantically ambiguous. When the trace receives the copy reading, the matrix subject is taken as an internal argument of the complement. On this interpretation, the embedded clause expresses a proposition. If the trace is assigned a bound variable reading, the matrix subject is an external argument of the complement, which is taken as a propositional function. The existence of these two possible interpretations of the embedded clause gives rise to the scope ambiguity observed in 11. Let us assume that 'seems' can Θ -mark an 'as if' complement as either a proposition or a propositional function. In the former case, the 'as if' complement does not require an external argument, while in the latter case it does. This accounts for the fact that both 8a and 8b are possible.

- 8a. It seems as if John is happy.
 b. John seems as if he is happy.

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If we also assume that 'seems' Θ -marks 'that' complements only as a proposition, it is clear why 28 is unacceptable. The matrix subject 'John' cannot be taken as the external argument of the complement, and so it does not receive a Θ -role.

In conclusion, I have argued that 'seems as if' sentences with NP arguments in matrix subject position should be treated as predicative structures in the sense of Williams. A predicative analysis of these sentences permits us to give a principled account of the various properties of this construction which we have noted. It also requires us to adopt a weaker version of the Θ -criterion than the one proposed by Chomsky. However, this weaker criterion continues to provide an adequate constraint on NP movement. To the extent that the analysis of 'seems as if' structures proposed here is well motivated, it provides further support for Williams' theory of predication.

NOTES

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¹ Williams also requires that subjects c-command their predicates. See Williams (1980), (1983) for details of his theory of predication.

² Ken Safir has suggested such an analysis to me.

³ This would suggest that at LF 'he' is a variable bound by the matrix subject. If, as Chomsky (1982) proposes, expressions in A-positions are indexed as S-structure, sentences like 8b-9b, and 15 pose an interesting problem for his binding theory. In these structures, the pronominal subject of the complement is A-bound by the matrix subject. Hence, it must be treated as a lexically realized pronominal anaphor which is governed and assigned Case, but free in its governing category. But governed pronominal anaphors are ruled out by the conjunction of principles A (anaphors are bound in their governing category) and B (pronouns are free in their governing category) of the binding theory. It is not clear to me how the binding theory could be reformulated in a non-ad hoc way to allow for lexically realized pronominal anaphors, while still entailing the consequence that PRO is ungoverned. A possible solution to this problem is to adopt Bouchard's (1982) theory of empty categories. Bouchard maintains that PRO can be governed. He identifies PRO as an empty NP which is not assigned Case and receives an independent Θ -role. On this view, the essential distinction between lexically realized and lexically empty pronominal anaphors is that the latter are not Case marked.

⁴ This idea was suggested to me by Dominique Sportiche.

⁵ It is important to note that in 21, 'John' receives a Θ -role from VP_i , but not S_i (or the VP of S_i). The PRO subject of S_i receives a Θ -role from the VP of S_i , but 'John' and 'PRO' are distinct arguments.

⁶ Relative clause structures might appear to be a counter-example to this claim. Assume that 'wine' and 'books' in (i) and (ii) are external arguments of the \bar{S} 's which constitute their respective relative clauses.

(i) Mary served wine which had been produced from her vineyard.

(ii) John was reading books which he had borrowed from Bill.

Clearly, the underlined NP's in these sentences require an indefinite existential reading. This is not a problem if we follow Williams (1980) in taking the external argument of a relative clause to be not

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its head NP, but the \bar{N} contained in the head NP. On this view, the predicative structure of relative clauses like those in (i) and (ii) is

$$(iii) \left[\begin{array}{c} \bar{N}_i \\ \bar{N} \end{array} \left[\begin{array}{c} wh \\ \bar{S}_i \end{array} \left[\begin{array}{c}] \\ S \end{array} \left[\begin{array}{c}] \\ S \end{array} \left[\begin{array}{c} \bar{S}_i \\ \bar{N} \end{array} \right] \right] \right] \right] \right]$$

In (i) and (ii) 'wine' and 'books' are NP's consisting of an \bar{N} and an empty determiner. Hence, these expressions are not themselves the external arguments of the relative clauses which they head. The indefinite interpretation is assigned not to the \bar{N} , but to the complex NP of which it is a part.

⁷ For an interesting discussion of the generic and indefinite existential interpretations of bare plural NP's see Carlson (1977).

⁸ It will be necessary to permit the index of this NP to percolate up to the 'as for' phrase in order to sustain the principle that a subject c-commands its predicate.

⁹ In the case of 'seems as if' and topicalization constructions in English, an indefinite interpretation of the external NP is also excluded when the NP is determined.

- (i) a. * A man seems as if he is happy.
 b. ?Some man seems as if he is happy.
- (ii) a. * As for a man, he kissed Mary.
 b. ?? As for some man, he kissed Mary.

(i)b is acceptable only to the extent that the speaker can be understood as using 'some man' to indicate a particular person. This "opaquely" definite reading of 'some man' is considerably more difficult to obtain in (ii)a. These facts, in addition to 25a-g and 26a-c, suggest that some sort of definiteness constraint governs the interpretation of external arguments of (at least certain types of) \bar{S} . This constraint appears to be, in some sense, the complement of the definiteness condition which restricts the VP internal subjects of existential 'there' constructions to indefinite NP's.

- (iii) a. There is $\left\{ \begin{array}{c} a \\ *the \end{array} \right\}$ book on the table.
 b. There are $\left\{ \begin{array}{c} five \\ *your \end{array} \right\}$ children in the room.

¹⁰ Jane Grimshaw has pointed out to me that in (i)a

- (i) a. John said of Bill that he is intelligent.
 b. *John said of Bill that Mary is intelligent.

'Bill' necessarily binds 'he'. One can account for this binding relation by taking 'Bill' to be the external argument of the \bar{S} complement in (i)a. It is worth noting that when undetermined mass

nouns and bare plural NP's occur in this position, they permit only a generic reading. This follows the generalization we have noted if we take NP's in this position to be subjects of \bar{S} .

- (ii)a. *Mary said of snow that it is falling on the mountain.
- b. Bill said of snow that it looks white in normal light.
- c. *Mary said of cows that they are grazing in Fred's field.
- d. Bill said of cows that they appear lethargic to the casual observer.

If we treat 'Bill' as the external argument of the 'that' clause, it will be necessary to maintain that the PP 'of Bill' is subcategorized by the matrix verb 'said', while 'Bill' receive its Θ -role from the pronoun which it binds in its predicate \bar{S} . In this sense, (i)a is analogous to

- (iii) I consider John intelligent.

On Williams' analysis, 'John' is subcategorized by 'consider', but Θ -marked by its AP predicate 'intelligent'.

¹¹ Debbie James informs me that there is some disagreement among Algonquianists as to whether the subordinating expressions which introduce complements in Algonquian are complementizers. However, as the expressions 'e' and 'kiči' in 31a-b are also used as prefixes for the complements of 'believe' type verbs, and the embedded clauses in 30a-b are tensed (James points out that all verbs in Cree are marked for tense), it is reasonable to regard 'seem' as taking an \bar{S} complement in these examples.

PREDICATION AND RAISING

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