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DISTRIBUTING ARGUMENTS*

We examine several cases of object movement from various languages, and demonstrate that the syntactic behavior of objects can be derived from certain conditions on LF representations. Conditions on LF relevant to the distribution of arguments are identified as relative scope fixing and type mismatch repair. These two conditions interact with the multiple semantic types that may be assigned to NPs (cf. Partee 1987) to induce movement of certain objects out of the VP, universally by LF and parametrically in the overt syntax. Diesing's (1992b) Mapping Hypothesis combined with the multiple NP types predicts that quantificational NPs in object position will have to undergo movement by LF. This movement is forced by the principles of semantic composition as a mechanism of type mismatch resolution. The existential closure operation over VP is claimed to be genuinely unselective: any NP that introduces a free variable and does not receive an existential interpretation must move out of the scope of existential closure (and thus out of the VP) by LF. Pronouns are variables, limited in semantic type assignment, that by virtue of their definiteness cannot be bound by existential closure and must move out of its scope. In Egyptian Arabic, object pronouns escape from the VP via attachment to a verb that raises to adjoin to an Aspect inflectional head above the VP. The movement of object pronouns and definite/specific NPs in Scandinavian is also associated with verb movement.

1. INTRODUCTION

Within the Principles and Parameters framework (Chomsky 1981, 1991, 1992) the idea that specific principles and well-formedness conditions can force movement is pervasive. In this paper we focus on some conditions

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on LF representations which act as a driving force for certain movement processes affecting direct objects in a number of different languages. Our claim is that these LF conditions conspire to redistribute NP arguments in a hierarchy according to their definiteness.

The overall outline of the paper is as follows. In the next section we give the necessary semantic background and illustrate the LF conditions we wish to motivate. Next we focus on pronominal objects in Egyptian Arabic, and show how their syntactic behavior can be accounted for in semantic terms. Then we discuss parallel phenomena concerning direct object NPs in Germanic and end with some generalizations and conclusions.

2. Background: Semantically Driven Movement

Our proposal concerning semantic conditions which force movement consists of two main parts. First, we assume with Partee (1987) that noun phrases correspond to a family of semantic types, in the sense that multiple types can be assigned to particular noun phrases. Following Partee, we take the basic NP types to be e ("referential," in Partee's terms), $\langle e,t\rangle$ ("predicational"), and $\langle\langle e,t\rangle,t\rangle$ ("quantificational"). Second, we propose that the semantic type of an object NP will determine its behavior with respect to two conditions on LF – repairing "type mismatches" and scope fixing. While these two conditions are not generally separated in the literature on the syntax of LF (see May 1977, 1985, for example), we show below that data from German suggest that the two conditions can actually separately force movement at different stages in the derivation.

In addition to the work by Partee, evidence for multiple interpretations for indefinite NPs is given in Diesing (1992b). Indefinite NPs can have a predicational interpretation ($\langle e,t\rangle$) or an essentially quantificational reading ($\langle\langle e,t\rangle,t\rangle$). In Diesing's approach these two interpretations interact with a process which splits the syntactic tree into two parts which map into the restrictive clause and nuclear scope of the semantic representation (in the sense of Heim 1982 and Kamp 1981), with the result that different interpretations are associated with distinct syntactic positions in the tree. Under this procedure, a "tripartite structure" consisting of an operator, a restriction, and a nuclear scope is derived in the following fashion:

(1) *The Mapping Hypothesis*
   i. VP maps into the nuclear scope (the domain of existential closure)
   ii. IP maps into the restriction (of an operator)

Thus, the VP forms the domain for default existential closure, and the material above VP is associated with a quantifier. The two possible interpretations for indefinites can be represented either as variables which are bound by existential closure (predicational interpretation), or they can be introduced in the restrictive clause of some operator (quantificational interpretation). In other words, at the point of mapping into the semantic representation, existentially bound NPs of type $\langle e,t\rangle$ will be within the VP, but NPs of type $\langle\langle e,t\rangle,t\rangle$ will have moved out. There is a third possibility, in which the indefinite is not inherently quantified (that is, not of type $\langle\langle e,t\rangle,t\rangle$, but is construed as the restriction on an operator such as an adverb of quantification or an abstract generic operator rather than being existentially bound. In the discussion below, we will be concerned mainly with the distinction between, on the one hand, indefinites bound by existential closure and, on the other hand, those which function as the restriction on an operator, either inherently (as in the case of the type $\langle\langle e,t\rangle,t\rangle$ interpretation) or in association with an adverb, and are thereby bound by that operator.

In a broader context, given recent work on phrase structure in which the availability of a VP-internal subject position as well as the VP-external position is assumed (e.g., Kuroda 1988, Pollock 1989), there is the possibility that a sentence will simply map into a nuclear scope, giving rise to an existential interpretation (see Diesing 1992b for a more detailed discussion of this). It is also possible to have multiple operators and associated restrictors, but we will not consider such cases here.

The Mapping Hypothesis can be combined with the multiple NP types to yield a number of predictions. The first is a result of the system of multiple semantic types itself, and is that essentially quantificational NPs in object position will have to undergo movement by LF. This movement is forced by the principles of semantic composition, assuming a bottom-up algorithm for combining semantic types. This is because the NPs of type $\langle\langle e,t\rangle,t\rangle$ cannot combine with the transitive verb type $\langle e,\langle e,t\rangle\rangle$ and yield a well-formed derivation. To repair this type mismatch, the quantifier must be syntactically raised via Quantifier Raising (QR; May 1977, 1985) leaving behind a trace, to create a clausal predicate of type $\langle e,t\rangle$:

(2) $[_{IP_2}\ QP_i\ [_{IP_1}\ NP_{subj}\ [_{VP}\ V\ t_i]]]$

In (2) the raising of the QP creates the predicate IP_1 (the trace acts as a variable) which can combine with the quantificational NP. Given the VP-internal subject hypothesis mentioned above, adjoining to VP will also satisfy the compositional requirements, and in some cases may in fact be necessary (see May 1985 and also Diesing 1992b for discussion of some

of the relevant examples). It is important to note that regardless of the adjunction site – IP or VP – the raised NP is no longer contained within VP (following the assumptions concerning the relations of dominance and containment in adjunction structures proposed in May 1985 and Chomsky 1986). Thus, the principles of compositionality motivate the syntactic movement process of QR (see Heim and Kratzer 1990 for more detailed discussion), which results in inherently quantified NPs being raised out of the VP.[1] This process of type mismatch repair is the first of the semantic conditions which we claim force movement.

In Diesing (1992b) it is claimed that one of the features that distinguishes indefinites with an $\langle\langle e,t\rangle,t\rangle$ interpretation from those with an $\langle e,t\rangle$ interpretation is that the former undergo QR while the latter do not appear to undergo the same LF movement process. If QR is essentially a process of type mismatch resolution, it is natural to expect that some such resolution process would be necessary for the interpretation of $\langle e,t\rangle$ indefinites as well, since the $\langle e,t\rangle$ type also cannot combine with the $\langle e,\langle e,t\rangle\rangle$ type of the transitive verb. We take here an alternative approach, extending proposals made by Partee (1987) and Zimmerman (1992) in which certain verbs take $\langle e,t\rangle$ complements (that is, they denote $\langle\langle e,t\rangle, \langle e,t\rangle\rangle$ relations). Our claim is that when the existential interpretation arises with an indefinite object, the transitive verb is simply selecting for the $\langle e,t\rangle$ interpretation. Thus, no type mismatch occurs. This possibility is lexically restricted; with many verbs the $\langle e,t\rangle$ interpretation of an indefinite object is not possible (see Diesing 1992b for discussion of such lexical variation). We will not address these issues in detail here, but will simply assume that ample evidence for this approach to $\langle e,t\rangle$ indefinites in object position exists.

A second semantic condition we propose concerns the nature of the existential closure operation. We claim that it is genuinely unselective, in the sense that any free variable within the scope of existential closure (that is, within the VP domain) is existentially quantified. By "free" we mean, roughly, free in the LF of the sentence. Thus, traces left by movement (such as *wh*-traces and NP-traces) will not be free.[2] This means that any

[1] This process of resolving type mismatches roughly corresponds to the notion that quantifiers must (syntactically) bind variables, as expressed in the Government-Binding literature cited above.

[2] As pointed out to us by Irene Heim and Angelika Kratzer, the behavior of various A-bound elements in object position (such as bound variable pronouns and reflexives) is problematic given this notion of "free variable." In particular, it is predicted that the behavior of bound variable pronouns would differ from that of referential pronouns. While there are differences observable in many languages in the syntactic behavior of referential and bound variable pronouns (see, for example, Montalbetti 1984 and Larson and Lujan 1990), they do not

NP that introduces a free variable and does not receive an existential interpretation must move out of the VP by LF (see also Kratzer 1989 for an early discussion of this idea). In other words, non-existential variables cannot be within the scope of existential closure. With respect to existential closure, this condition will therefore affect only NPs which introduce free variables – those of type $\langle e,t\rangle$ and type e. The quantificational NPs ($\langle\langle e,t\rangle,t\rangle$) do not introduce a free variable, and so they are not necessarily affected. We will see below that this condition is a subcase of a more general condition requiring that the relative scope of operators be syntactically fixed.

As mentioned above, these two conditions are commonly collapsed into one under the heading of the rule QR. When considering languages like English, in which both scope and type requirements are apparently not resolved until the abstract level of LF, it is not clear that anything forces us to separate these two conditions. German, however, does allow the two conditions to be distinguished, in that the scope condition must be satisfied at S-structure (via application of scrambling) while the resolution of type mismatches can be "delayed" until LF (and repaired at LF by the abstract syntactic rule of QR). In order to show this we must examine the behavior of both definite and indefinite NPs of the various semantic types.

To demonstrate that the resolution of type mismatches can be delayed until LF in German, we need to consider the case of quantificational NPs (henceforth QPs) in object position. As the examples given below show, object QPs can, but need not, scramble at S-structure. (We give the examples as embedded clauses in order to abstract away from the effects of verb-second.)

(3) a. . . . weil ich selten **jedes Cello** spiele.
since I seldom every cello play
'since I seldom play every cello.'

b. . . . weil ich **jedes Cello** selten spiele.
since I every cello seldom play
'since I play every cello (only) seldom.'

The scrambled and unscrambled orders are indicated by the position of the object NP relative to the sentential adverb *selten* ('seldom'). The base

obviously follow from the analysis outlined here. Also perhaps of relevance are the contrasts between "simplex expression" anaphors and "SELF" anaphors noted by Reinhart and Reuland (1993). We leave the resolution of these matters for future research.

position is to the right of the adverb, as shown in (3a); when the NP appears to the left of the adverb, as in (3b), it has been scrambled. Both orders are grammatical, though there is a difference in the relative scope of the QP and the adverb. Since the QP *jedes Cello* 'every cello' is of type $\langle\langle e,t\rangle,t\rangle$, the fact that it can appear in its base position indicates that the type mismatch need not be resolved until LF.[3] The scope of the QP relative to the adverb is fixed at S-structure, however, as indicated by the English translations. In (3a) the QP *jedes Cello* 'every cello' falls within the scope of the adverb *selten* 'seldom', and when the QP is scrambled to the left of *selten* as in (3b) it takes wide scope with respect to the adverb.

Similar facts hold with respect to the interaction of QP objects with sentential negation:

(4) a. . . . weil ich nicht **eine einzige Katze** gestreichelt habe.
since I not a single cat petted have
'since I have not petted a single cat.' (no cats petted)

b. . . . weil ich **eine einzige Katze** nicht gestreichelt habe.
since I a single cat not petted have
'since there is a single cat that I have not petted.'

Here again the QP can remain *in situ* at S-structure, and in this case it will be interpreted as falling within the scope of negation. If it is scrambled, the QP takes scope outside of negation. Thus these examples provide initial evidence that scope fixing and the type mismatch repair operations should be regarded as separate processes. In German, scrambling fixes relative scope relations at S-structure, while QR repairs type mismatches at the later level of LF.

To demonstrate that the scoping operation also affects the existential closure process, we turn now to the instances of NPs which do introduce free variables – those of type $\langle e,t\rangle$ and type e. An example of the former is that of a nonquantificational indefinite. The conditions we propose predict that there should be no force which causes obligatory movement of these NPs out of the VP. However, the interpretation of the NPs varies with their syntactic position. If they remain within the VP, they will be bound by existential closure and receive an existential interpretation. This is shown below for a bare plural object NP.

[3] Evidence that the QP does in fact move at LF can be found in antecedent-contained deletion constructions. See May (1985) and Diesing (1992b) for discussion.

(5) a. . . . weil Elly immer **Lieder** singt.
since Elly always songs sings
'since Elly is always singing songs.'

b. ALWAYS$_t$ [time(t)] $\exists_x$ song(x) $\wedge$ sings(Elly, x, t)

Notice that not only does the bare plural NP *Lieder* 'songs' receive an existential interpretation, it also takes narrow scope with respect to the quantificational adverb *immer* 'always'. This is expected, given our claim that relative scope is fixed at S-structure in German.

It is also expected that if the indefinite object is scrambled, it will no longer be able to be bound by the existential closure operation, since it will have moved out of its scope. This prediction is in fact borne out. In the scrambled order, the indefinite object NP is bound by the quantificational adverb:

(6) a. . . . weil Elly **Lieder** immer singt.
since Elly songs always sings
'since, if it's a song, Elly will sing it.'

b. ALWAYS$_x$ [song(x)] sings(Elly, x)

Thus, the surface position of an $\langle e,t \rangle$ indefinite object is determined only by its scope relative to the existential closure operator. When the object falls under the scope of existential closure it remains in the VP, and when the object takes scope over the existential closure operator it scrambles out of VP. Either way, a well-formed interpretation results.

So far we have seen that S-structure scrambling can fix relative scope relations with respect to overt operators like quantificational noun phrases and adverbs, as well as the abstract operation of existential closure. The next question is whether this scoping *must* take place by S-structure. Here we must look more closely at existential closure to see what happens to variables that cannot felicitously be existentially bound – those introduced by definite noun phrases. We will consider two cases of definite NPs. The first is that of definite descriptions, such as *the Rosamunde Quartet or the cat*. Here we follow Heim (1982) in assuming that definite NPs introduce a free variable. If we look at the German data, we see that definite descriptions are quite awkward in VP-internal positions. We use the grammaticality indication '*?' to indicate markedness in the sense that some contrastive context is required for felicity (see Büring 1993 for a similar claim about the status of these examples). In other words, there is a strong pressure for definite NP objects to scramble in neutral contexts.

(7) a. *?. . . weil ich selten **die Katze** streichle.
since I seldom the cat pet

b. . . . weil ich **die Katze** selten streichle.
since I the cat seldom pet

'since I seldom pet the cat.'

(8) a. *?. . . weil ich nicht **das Rosamunde-Quartett** gespielt habe.
since I not the Rosamunde Quartet played have

b. . . . weil ich **das Rosamunde-Quartett** nicht gespielt habe.
since I the Rosamunde Quartet not played have

'since I haven't played the Rosamunde Quartet.'

Our claim is that these definite NPs receive a referential interpretation which is incompatible with an existential interpretation. The reason for this is that binding by existential closure is subject to a *Novelty Condition* (Heim 1982). The effect of this condition is that variables bound by existential closure must be new to the discourse. In order to comply with this condition, the variables introduced by definites (which are "old" information) must move out of the scope of the existential closure operator at S-structure.

The sentences in (7a) and (8a) are not absolutely ill-formed; certain conditions can conspire to make the unscrambled order more acceptable. To see how this works we need to consider the question of whether definite descriptions, like indefinite NPs, allow other interpretations in addition to the referential reading.

Using the absence of obligatory scrambling again as a diagnostic, it appears that definite descriptions allow a quantificational ($\langle\langle e,t\rangle,t\rangle$) interpretation in certain contexts. Consider the examples below:

(9) a. . . . weil ich selten **die kleinste Katze** streichle.
since I seldom the smallest cat pet

'since I seldom pet the smallest cat.'

b. . . . weil ich nicht **die kleinste Katze** streichle.
since I not the smallest cat pet

'since I have not petted the smallest cat.'

Sentences with unscrambled definite object NPs of the sort given in (9) are in fact grammatical in neutral contexts on a particular interpretation of the definite object in question. In the case of (9) the NP *die kleinste Katze*

'the smallest cat' means roughly "whichever cat is the smallest." (The reading is most clearly brought out by emphasis on the adjective *kleinste* 'smallest'.) In other words, the speaker may not know which cat is the smallest, but simply avoids petting the smallest cat (because it may be delicate, or bite more readily, or whatever). NPs of this sort are examples of what Klein (1980) argues to be typical attributive (rather than referential) definite NPs. *The smallest cat* is a superlative; therefore one can assume such a smallest cat exists without knowing which cat it is. We propose that these attributive definite NPs are actually quantificational (of type $\langle\langle e,t\rangle,t\rangle$), and this enables them to remain in their base (unscrambled) position within the VP. Since they actually do not introduce a bindable variable (unlike the referential definites), there is no problem with them remaining within the scope of existential closure at S-structure.

Finally, we turn to the remaining instance of definite NP, which is of type *e*. This is the pronoun. Since pronouns are definite, it is expected that pronouns in German are unable to remain within VP, as this would violate the Novelty Condition. This is in fact the case.

(10) a. *. . . weil ich selten **sie** streichle.
since I seldom her pet

b. . . . weil ich **sie** selten streichle.
since I her seldom pet

'since I seldom pet her.'

(11) a. *. . . weil ich nicht **sie** gestreichelt habe.
since I not her petted have

b. . . . weil ich **sie** nicht gestreichelt habe.
since I her not petted have

'since I have not petted her.'

Examples (10–11) show that although pronouns are simply variables (type *e*), by virtue of their definiteness they cannot be bound by existential closure; they must move out of its scope at S-structure. In contrast to the definite descriptions, the quantificational interpretation (which would not require movement at S-structure) is not available for (unstressed) pronouns.[4]

To summarize, we claim that there are two conditions on LF relevant to the distribution of arguments: Relative Scope Fixing and Type Mismatch

[4] We deal with the issue of stressed pronouns in section 6.1.

Repair. These two conditions interact with the multiple types available for NPs to induce movement both at S-structure and at LF in German.[5] In the sections that follow, we will examine several cases of object movement from various languages and demonstrate that the syntactic behavior of objects can be derived from these conditions on LF representations.

3. Egyptian Arabic Object Pronouns

In Egyptian Arabic (EA) there is an interesting subject-object asymmetry with respect to pronouns. While free-standing subject pronouns do occur, there are no free-standing object pronouns:

(12) a. **huwwa** šaaf ig-gamal.
he saw the-camel
'He saw the camel.'

b. ig-gamal šaaf-**u(h)**.
the-camel saw-him
'The camel saw him.'

There is no way of expressing the object pronominal in (12b) with a free-standing pronoun. We propose to explain this asymmetry in terms of the syntax-semantics interaction demonstrated above for German. Essentially, in EA the object pronouns must appear attached to the verb because they must raise out of the VP to get out of the scope of existential closure. As we demonstrate below, the verbal paradigms of EA are such that pronoun attachment to the verb gives the pronouns a means for "riding" out of the VP via head movement.

This proposal carries with it the implication that the relative scope fixing condition must be satisfied at S-structure in EA. A brief look at subjects in EA suggests that this may in fact be the case. EA excludes existential indefinites from [Spec, IP] (Wise 1975).

(13) a. **ik-kalb** figgineena.
the-dog in-the-garden
'The dog (is) in the garden.'

[5] The idea that semantic constraints can yield syntactic effects is not new. See for example Milsark's (1974) use of a ban on vacuous quantification to derive the syntactic "definiteness effect" in existential sentences, as well as work by May (1985) concerning syntactic effects associated with quantificational structures.

(13) b. *__kalb__ figgineena.
(a) dog in-the-garden
'A dog is in the garden.'

c. fiih __kalb__ figgineena.
EXIST a dog in-the-garden
'There (is) a dog in the garden.'

Although a preverbal definite subject is possible, as shown in (13a), the example (13b) with an indefinite subject is simply not possible as a sentence and must be interpreted as an NP. The indefinite subject can only be introduced in an existential sentence, as in (13c).[6] In Egyptian Arabic, indefinite subjects are only permitted in [Spec, IP] when a specific interpretation is available. The example in (13b) does not felicitously permit a specific interpretation of the indefinite subject. In other contexts, such an interpretation is possible:

(14) __walad__ kal bamya.
(a) boy 3ms-ate (Perf.) okra
'A (particular) boy ate okra.'

However, the sentence in (14) is only grammatical in a context where the indefinite subject **walad** 'a boy' refers to a member of some previously mentioned group.

These facts can be explained by the Mapping Hypothesis in conjunction with the scoping requirement on existential closure. When a subject NP is in the [Spec, IP] position, it is out of the scope of existential closure, and therefore no existential interpretation is possible. If the context permits, the subject receives a specific (quantificational) interpretation; otherwise the sentence is ungrammatical. The existential construction in (13c) places the subject in a lower subject position, presumably within the VP, and

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[6] The prepositional phrase *fiih* 'in-it' is used as an existential predicate in Egyptian Arabic. This existential predicate shows the behavior of other sentential predicates, marking tense on the copula KWN and interacting with the discontinuous negation morpheme *ma . . . š* described in section 3.2.

(i) a. ma-fiih-Š kalb (fi-g-gineena)
NEG-in-3ms-NEG dog (in-the-garden)
'There is not a dog (in the garden).'

b. ma-kan-š fiih kalb (fi-g-gineena)
NEG-be-NEG (Past) in-3ms dog (in-the-garden)
'There was not a dog (in the garden).'

the existential interpretation results. It is in fact the only interpretation possible in this context (see Diesing 1992b for discussion of similar facts in Dutch).

Thus we see that the scoping of subject NPs with respect to existential closure must take place at S-structure in EA. What about object NPs? Is EA like German in that non-existential indefinites scramble out of the VP at S-structure? The answer here is No – EA does not allow S-structure scrambling of full NP objects. At first blush, this appears to contradict the conclusions drawn about EA subject NPs. This inconsistency holds only in part, however. As we will show below, EA does in fact require scoping at S-structure, to the extent that it is made possible by the available S-structure movement options. Thus, subjects obey the scoping requirements because there are two subject positions available – a VP-external and a VP-internal one. In the sections that follow we will demonstrate that object NPs that can take advantage of *head* movement (rather than XP scrambling) also obey the scoping condition at S-structure.

3.1. *EA Pronouns Are Outside VP: Inflectional Syntax*

In this section, we will provide evidence showing that the object pronouns in Egyptian Arabic attach to the verb and raise with it out of the VP via head movement. In order to do so, we need to survey briefly certain relevant features of the inflectional syntax of Egyptian Arabic. Unlike some other dialects of Arabic, the basic word order of EA is SVO.[7] The abstract lexical root from which the Arabic verb is derived consists of a set of consonants (typically three). This consonantal root is inflected for tense and aspect via certain vocalic melodies (McCarthy 1979). We follow Pollock's (1989) verb raising analysis of inflection and assume that the verbal root raises from the VP to attach to the tense and aspect markings.

While there may not be any evidence from the linear ordering of inflectional affixes for a head movement analysis of verbal morphology in EA (that is, Baker's (1985, 1988) Mirror Principle clearly does not apply, since EA morphology is nonconcatenative), there is evidence of a different sort supporting a head movement approach. The distribution of subject agreement for person supports the initial claim that verbs raise to a higher domain to receive inflection. Specifically, subject agreement for

[7] The literature on Egyptian Arabic is rather scarce, and it is primarily descriptive in nature. Some examples are Wise (1975), Gamal-Eldin (1967), and Gary and Gamal-Eldin (1981). Some recent treatments of a more theoretical nature are Jelinek (1981, 1983) and Wahba (1984).

person appears only on verbal elements marked for either tense or aspect. The distribution of tense and aspect markings on verbal heads in turn supports a particular hierarchical arrangement of T and Asp heads. Where both tense and aspect are marked, they are marked on distinct verbal elements, with the tensed element c-commanding the head marked for aspect.

Considering first the distribution of agreement, we note that EA has a rich system of verbal agreement for person, number, and gender of the subject, and permits *pro*-drop of subjects.[8]

(15) a. ʕali kaan biyibiiʕ burtu'aan.
Ali was (3ms-Past) selling (3ms-Imperf.) oranges
'Ali was selling oranges.'

b. kaan biyibiiʕ burtu'aan.
was (3ms-Past) selling (3ms-Imperf.) oranges
'(He) was selling oranges.

In contrast, there is no object agreement or clitic-doubling of objects in EA.[9] Objects may be free-standing full NPs, as seen above in (15), or attached pronouns, as shown in (16).

(16) a. ʕali kaan biyibiiʕ-**hum**.
'Ali was selling-them.'

b. *ʕali kaan biyibiiʕ-**hum** hurtu'aan.
'Ali was selling-them oranges.'

c. ʕali kaan biyibiiʕ-**hum**, . . . il-burtu'aan.
'Ali was selling-them, . . . the oranges.'

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[8] We use the following abbreviations for inflectional markings:

Pres	= present tense	Past	= past tense
Subj	= subjunctive		
Perf	= perfective aspect	Imperf	= imperfective aspect
m	= masculine	f	= feminine
s	= singular	pl	= plural
1,2,3	= first, second, and third person		

[9] There are dialects of Arabic, such as Levantine, which do permit clitic-doubling structures similar to those seen in Romance languages. While clitic-doubling structures are certainly relevant to the issues we discuss here, we will postpone further consideration of them to future work. For discussion of clitic-doubling in Semitic see Aoun (1982) and Borer (1984). Clitic-doubling in Romance and other languages is discussed in Strozer (1976), Rivas (1977), Jaeggli (1982), Steriade (1980), Dobrovie-Sorin (1990), and Suñer (1988), among others.

It is, however, possible for a *definite* NP to be adjoined to the sentence in a kind of "afterthought" construction with a clear intonational break and pause before the adjoined NP, as indicated in (16c).

What is important to note is that subject agreement marking is associated only with elements marked with tense or aspect. Furthermore, tense and aspect are marked on distinct verbal heads. Tense is marked on the copular/auxiliary verb KWN, while aspect is marked on main (lexical) verbs. Subject agreement is marked on both KWN and the main verb (Jelinek 1983).[10]

(17) Auxiliary Main Verb
AGR + Tense AGR + Aspect

This distribution of tense and aspect markings is confirmed by the occurrence of sentences that show tense without aspect, and nonfinite clauses that show aspect without tense.

An example of the former type involves predicate adjectives. In sentences of this sort there is of course no main verb. The example given in (18a) shows that tense marking can occur on the copula, but there is no aspect marking in the clause.

(18) a. il-burtu'aan kaanu kuwayyisa. (predicate adjective)
the oranges were (3pl-Past) good
'The oranges were good.'

b. *il-burtu'aan biykuunu kuwayyisa.
the oranges be (3pl-Imperf.) good
'the oranges being good'

Aspect cannot be marked on the copula, and therefore aspectual distinctions cannot be marked in a sentence without a main verb. In the ungrammatical construction shown in (18b), the root KWN is inflected for imperfective aspect; this can happen only when KWN is functioning as a main (locative) verb, as in (19). The distinction between the copular and lexical functions of KWN is seen clearly in past tense sentences of this sort (as in (19b)). Here both the main and copular forms of KWN appear, with tense marked on the copular form and aspect marked on the main locative verb.

[10] This sort of "spreading" of subject agreement is also seen in other dialects of Arabic. A number of recent analyses adopt the tense/aspect distinction proposed here (see, for example, Bahloul and Harbert 1992 for Modern Standard Arabic). Demirdache (1989) analyzes the tense and aspect markings in Standard Arabic both as tense markers. Thus, her clause structures consist of stacked TPs.

(19) a. 'ana bakuun fi-maktabi kull yoom.
I (main) be (1s-Imperf.) in-my-office every day
'I am in my office every day.'

b. 'ana kunt bakuun fi-maktabi
I be (1s-Past) (main) be (1s-Imperf.) in-my-office
kull yoom.
every day
'I was staying in my office every day.'

The second type of clause which supports the generalization in (17) is that in which tense is not marked, but aspect is. In clauses of this kind the copula cannot appear. One case of such a construction is that of a perception verb complement, shown in (20a). Here aspect is marked on the main verb, but there is no tense marking in the clause. Thus, the appearance of the copula, as in (20b), is ruled out.

(20) a. šuft ʕali biyibiiʔ
(I) saw (1s-Perf.) Ali selling (3ms-Imperf.)
burtu'aan. (perception complement)
oranges
'I saw Ali selling oranges.'

b. *šuft ʕali kaan biyibiiʔ
saw (1s-Perf.) Ali was (3ms-Past) selling (3ms-Imperf.)
burtu'aan.
oranges
'I saw Ali was selling oranges.'

c. šuft 'inn ʕali kaan
saw (1s-Perf.) Comp Ali was (3ms-Past)
biyibiiʔ burtu'aan.
selling (3ms-Imperf.) oranges
'I saw/realized that Ali was selling oranges.'

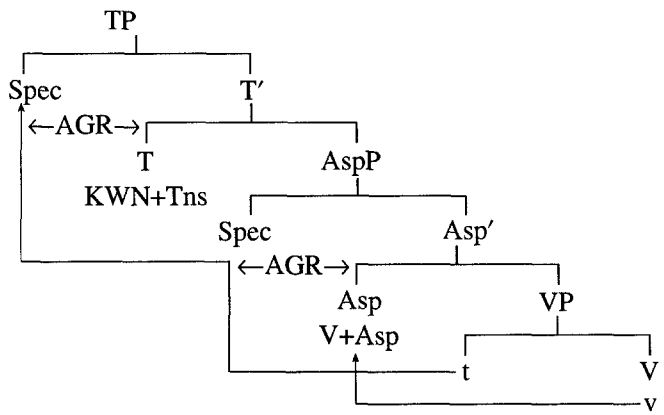
These examples contrast with the case in which the matrix verb takes a full clause as its complement, as in (20c). In this example tense marking is obligatory, as indicated by the presence of the copula.

Assuming Pollockian derivations in which inflection is realized via head movement into an inflectional head position above VP, we can account

for the association of tense and aspect marking with distinct lexical heads by assuming that tense and aspect are separate inflectional heads. The relative ordering of the tense and aspect markings leads to the conclusion that the Tns head is structurally above the Asp head. The auxiliary copular verb KWN shows tense contrasts (presumably inserted in a manner similar to *do*-support in English), while main verbs raise from the VP to attach to aspect.

The fact that subject agreement marking requires tense or aspect marking further supports the hypothesis that there is a domain of inflectional syntax above the VP. In order to account for the "spreading" of subject agreement across both the copula and the main verb, we propose that subject agreement results from a feature-sharing relation between a verbal head in Tns or Asp and the subject in the specifier of the head. Thus we do not follow Chomsky (1991, 1992), Kayne (1987), and Demirdache (1989) in positing a separate head for agreement, but take instead the Spec-Head approach to agreement argued for in Iatridou (1990) and Carstens and Kinyalolo (to appear) and also adopted by Murasugi (1992).[11] The basic derivation is schematized below:

(21)



The generalization in (17) and the analysis in (21) hold for most tenses in EA, but present tense clauses present some special problems which require additional discussion. In EA, as in other Semitic languages, there

[11] Carstens (1993) develops yet another approach to agreement, in which Agr heads are projected as a result of a Spec-Head relation which in turn results in shared φ-features which must be "spelled-out" and "checked". Thus Agr heads play a role in a form of checking theory (see Chomsky 1992), but their distribution is not determined by selection.

is no overt copula in present tense sentences. Compare the following examples displaying present and past tense clauses:

(22) a. (Fariid) Ø biyigmaʕ-**hum**.
BE (Pres.) gathering-them (3ms-Imperf.)
'Farid is gathering them.'

b. (Fariid) kaan biyigmaʕ-**hum**
BE (Past) gathering-them (3ms-Imperf.)
'Farid was gathering them.'

Example (22a) shows a present tense sentence with the main verb marked with aspect and subject agreement, but there is no element in the sentence marking tense, although it is a finite clause, unlike a perception verb complement. For purposes of clarity, we indicate here the null present tense with a null symbol (Ø). In later sections we will omit the Ø. The example in (22a) contrasts with the past tense sentence in (22b) in which the copula marking tense does appear.

This contrast can also be seen in the examples below, which show predicate nouns and adjectives. An additional fact about these nonverbal predicates is that they do not show person agreement, and do not permit *pro*-drop in present tense sentences. Where there is an overt form of KWN (as in a past tense clause), *pro*-drop is permitted, however.

(23) a. ʕali Ø šaaTir.
Ali BE clever
'Ali is clever.'

b. (ʕali) kaan šaaTir.
(Ali) be (3ms-Past) clever
'Ali/he was clever.'

(24) a. ʕali Ø 'ustaaz.
Ali BE professor
'Ali is a professor.'

b. (ʕali) kaan 'ustaaz.
(Ali) BE (3ms-Past) professor
'Ali/he was a professor.'

(25) a. *šaaTir
'He/she/it is clever.'

(25) b. *'ustaaz

'He/she/it is a professor.'

Following on our discussion of agreement earlier in the paper, we take the absence of subject agreement in (23a) and (24a) and the concomitant absence of *pro*-drop to signify that these nominal and adjectival predicates do not raise out of the VP to trigger a Spec-Head relation with the subject in conjunction with an inflectional head. Note that predicate adjectives and nouns also do not show object attachment. That is, both subject agreement and object attachment appear only with items that have moved out of the VP up to an inflectional head.[12]

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[12] Aspect in Egyptian Arabic is a complex inflectional system, and we do not include a full descriptive treatment here (see Jelinek 1981; Abdel-Massih 1975). The major aspectual paradigms are the perfect and *bi*-imperfect inflections. There is also a "future" form, the *Ha*-imperfect. There is a class of stative verbs in EA (including verbs of motion) where the *bi*-imperfective forms do not mark simple imperfective aspect; instead they receive a habitual interpretation. Compare the *bi*-imperfect of the ordinary active verb in (i) with the verb of motion in (ii):

(i) biyiktib
3ms-write (Imperf.)
'He is writing.' (active V, *bi*-Imperf.; imperfective aspect)

(ii) biyiruuH
3ms-go (Imperf.)
'He usually goes.' (motion V, *bi*-Imperf.; habitual)

In order to provide a simple imperfective reading with this class of state/motion verbs, a verb form traditionally called a "participle" is used. Participles may be transitive and take an object pronoun:

(iii) 'inta fakir-ni
you ms-remember-1s (Part. imperf.)
'You remember/are remembering me.'

Participles occur with the copula KWN marking tense:

(iv) 'inta kunt fakir-ni
you 2ms-BE (Past) ms-remember-1s
'You were remembering me.'

Participles do not show person agreement; they mark number and gender, like predicate nouns, and cannot raise to be bracketed by NEG when tense is null.

(v) * 'inta ma-fakir-ni-š
You NEG-ms-remember-1s-NEG

Discussing similar phenomena in present tense clauses in Modern Hebrew, Rapoport (1987) has proposed that sentences without an overt copula are simply tenseless, and that this explains the absence of the copula.[13] Adopting this proposal would in fact require making a three-way distinction in sentence types, since there are tenseless clauses in the language that do in fact require a nonfinite form of the copula. This nonfinite form may be either subjunctive or (less commonly) imperative.

Sentential negation with the participle is the same as with predicative nouns.

(vi) 'inta miš fakir-ni
you NEG ms-remember-1s
'You are not remembering me.'

Since participles do not agree in person with the subject, they do not permit *pro*-drop. These facts suggest the possibility that participles may correspond to nominalizations that include contrasts in aspect and may include object pronoun attachment. We reserve these problems for future work.

[13] Much of Rapoport's argumentation concerns the behavior of the pronominals which can optionally occur in the place of the copula in present tense nominal sentences in both Hebrew and Arabic:

(i) a. ʕali (huwwa) šaaTir
Ali (he) clever
'Ali is clever.' (Egyptian Arabic)

b. moše (hu) xaxam
Moshe (he) clever
'Moshe is clever.' (Hebrew)

The pronominal is obligatory in equative (as opposed to predicative) nominal sentences:

(ii) a. ʕali huwwa il-mudaaris (* without *huwwa*)
Ali he the teacher
'Ali is the teacher.' (Egyptian Arabic)

b. moše hu ha-more (* without *hu*)
Moshe he the-teacher
'Moshe is the teacher.' (Hebrew)

The first thing to note regarding these pronominals is that their syntactic behavior in EA is quite different from that in Hebrew (most notably with respect to negation), and thus many of Rapoport's arguments simply to do not carry over to EA. Secondly, although the behavior of both predicative and equative nominal sentences in EA is very interesting, it does not necessarily bear on the claims made in this paper. Therefore, we leave this matter for future research.

(26) a. 'ana ʕayza-k tikuun mu'addab.
I wanting (3fs-3ms-Active Part.) BE (3ms-Subj) polite
'I want you to be polite.'

b. kuun mu'addab!
BE (3ms-Imp) polite
'Be polite!'

These examples show a verbal adjective and a nonfinite form of the copular verb. The sentences arguably lack tense marking, yet they display an overt form of the copula. Thus, the absence of tense in and of itself is not reliably associated with the absence of the copula. In order to account for the full range of facts, we assume that all finite sentences in EA are in fact copular, and that in the present tense the copula is simply null (following again Jelinek 1983).

In summary, the distribution of inflectional markings found in Egyptian Arabic provides preliminary support for the claim that the verb raises out of VP to attach to inflectional heads and is marked for subject agreement in the process. The fact that object pronouns appear attached to a verbal element which is marked for subject agreement provides initial support for our claim that pronominal objects raise out of VP in EA. In the next section we examine some evidence concerning sentential negation which further supports the claim that verbal object pronouns in EA must move out of VP.[14]

[14] This discussion raises the question of the status of the independent subject in EA, and whether both subject and object are in fact null elements licensed by agreement (the agreement morpheme in the case of objects being the *-hu* suffix we have referred to as a pronoun). We have claimed that EA is an SVO language (following Wahba 1984, among others), unlike Standard Arabic, which is commonly assumed to be VSO. It might be argued that the initial position subject in EA is actually a topic (as Demirdache (1989) claims for Standard Arabic), and that there is a null element licensed by the "rich" agreement; and that furthermore, the object suffixes also license null elements in the same way. While an analysis of this kind may be appropriate for Modern Standard Arabic (MSA), there are several reasons to reject it in the case of Egyptian Arabic. First, a topic may appear alongside a free emphatic pronoun and subject agreement on the verb:

(i) ʕali huwwa kal il-burtu'aan. (Egyptian)
Ali, HE ate the orange.
'Ali, HE ate the orange.'

Second, as we saw above in (26), there are sentence types where subject *pro*-drop is not permitted. These are present tense sentences with predicate nouns and adjectives. Since the copula is null, there is no subject AGR in these sentences, and *pro*-drop is excluded. In this respect, Arabic differs clearly from Romance, where there are no finite sentences without subject agreement and *pro*-drop.

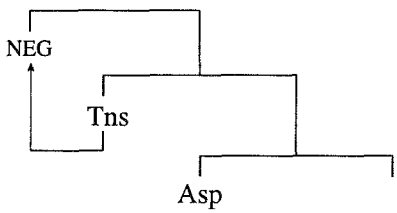
3.2. *Further Evidence: Negation and Object Pronouns*

Sentential negation in simple declarative sentences in EA is marked by the discontinuous particles *ma . . . š*.[15] What is significant for our purposes is that these particles appear to occupy a NEG node above the tense node (cf. Laka 1990) and thus provide evidence for the relative position of the raised verb. Negation attaches to verbal elements in a particular way – an element that marks person agreement can raise to NEG and be bracketed by the negation particles.

(27) ma-kan-š biyibiiʕ-**hum.**
NEG-BE-NEG selling-them
'He wasn't selling them.'

The path of the head movement resulting in the negation attaching to the copula is shown below (for the sake of simplicity, we give the representation showing the relative positions of the relevant heads only):

(28)



A third objection is that pronominal object suffixes in EA cannot be given an "agreement" analysis, since even in the so-called "afterthought" constructions, the pronominal affixes may occur only with definite NPs as adjuncts, as in (16) above. It is true that this definiteness restriction holds in other clitic-doubling constructions, and it has been proposed that the clitics are a form of object agreement (see for example, Suñer 1988 and Mahajan 1991). But no explanation has ever been given for the fact that all these purported cases of object agreement require definiteness in their "doubled" objects, while no such crosslinguistic generalization can be made concerning subject agreement – many languages show overt subject agreement without requiring that subjects be definite or specific.

EA also does not show the freedom of word order that partially motivates the subject-as-topic analysis for MSA. MSA allows any argumental NP to immediately precede the verb; non-subject preverbal NPs are doubled by a pronominal clitic (Abd El-Moneim 1989, Demirdache 1989). Although EA does exhibit a clitic-left-dislocation structure, the verb can only be immediately preceded by a subject NP – orders such as OVS (possible in MSA) are simply not available in EA (only OSV is possible for a fronted object). This restriction would not be expected if preverbal subjects were simply in a topic position rather than an actual subject position.

Finally, regardless of whether the pronoun *huwwa* appears in the "true" subject position or in some higher topic position, our generalization still holds: free-standing pronouns can only appear VP-externally.

[15] Other dialects of Arabic also show a bound form of negation, such as Moroccan (Benmamoun 1991) and Tunisian (Raja Bahloul, personal communication).

Note that only the copula can raise to negation in sentences like (27). Thus, verb raising to NEG obeys the Head Movement Constraint (HMC; Travis 1984) in that it cannot skip over other head positions on the way to NEG. For example, the main verb cannot raise over the copula.

(29) *ma-biyibiiʕ-hum-$š_i$ kaan t_i.
NEG-selling-them-NEG BE

The structural placement of NEG above Tns (and thereby above the copula) is verified by the fact that negation cannot bracket a verbal element below the copula:

(30) *kaan ma-biyibiiʕ-hum-š.
BE NEG-selling-them-NEG

Recall that present tense sentences contrast with the other tenses in that the tense morpheme is null. In these sentences the main verb *can* raise to attach to negation, since there is no lexical head intervening between Asp and NEG which would result in an HMC effect (in other words, the main verb can pass through the null tense head on the way up). In sentences with an object pronoun, when the main verb raises to NEG, the object pronoun appears internal to the discontinuous NEG bracketing. In contrast, full object NPs *cannot* appear internal to NEG.

(31) a. ma-biyibiiʕ-**hum**-š.
NEG-selling-them-NEG
'He isn't selling them.'

b. *ma-biyibiiʕ-š **humma**.
NEG-selling-NEG they

(32) a. ma-biyibiiʕ-š **burtu'aan**.
NEG-selling-NEG oranges
'He is not selling oranges.'

b. *ma-biyibiiʕ **burtu'aan**-š.

Thus, examples such as (31) provide further evidence that the attached pronouns do indeed raise out of the VP with the verb.[16]

[16] In imperative and subjunctive clauses, we assume that a Mood head alternates with Tense. Both these clause types may contain object pronouns, attached to a transitive verb which raises to adjoin Mood, as in the following example of a transitive imperative with a pronominal object:

Finally, to give a complete picture of sentential negation patterns in EA, we must distinguish a second type of negation. As we noted in the previous section, person agreement appears on elements that have raised to either T or Asp. Since predicate nouns and adjectives do not show person agreement with the subject, we assume that they do not raise out of the VP, according to our discussion in the previous section. It follows from the HMC that predicates that do not raise to be marked for tense or aspect cannot skip over intervening inflectional heads and be bracketed by NEG. Instead, a free-standing form *miš* occurs.

(33) a. ʕali Ø miš maSri.
Ali BE NEG Egyptian
'Ali isn't Egyptian.'

b. *ʕali ma-maSri-iš.
Ali NEG-Egyptian-NEG

The adjective *maSri* is not inflected for either tense or aspect, and it cannot skip over these heads to attach to the discontinuous negation morpheme. This is evidence that the adjective remains within VP. The free-standing negation particle *miš* appears when tense is phonologically null and there is no main verb to raise and attach to negation.[17]

(i) 'iktib-ha!
2ms-write-3fs (Imperative)
'Write it!'

There is no NEG functional head in imperative clauses. In subjunctive clauses we see instead an adverbial NEG particle.

(ii) laa tiktib-ha!
NEG 2ms-write-3fs (Subj.)
'Don't write it!' ('May you not write it!')

Subjunctive clauses also lack tense, but contain both aspect and NEG functional heads.

(iii) 'ana ʕayza-k ma-tiktib-ha-š
I want-2ms NEG-2ms-write-3fs-NEG (Subj.)
'I want you not to write it.'

[17] Note that there are nonverbal predicates that mark subject agreement via a possessive pronoun, and that these predicates permit *pro*-drop and raise to be bracketed by the discontinuous sentential negation. These nonverbal predicates appear in marked sentence types such as "psych" nouns and possessive sentences.

(i) a. biddi 'aruuH
wish-my 1s:go Subj.
'I want to go.'

3.3. *Summary*

In the previous two subsections we examined the basic inflectional syntax of EA and a type of sentential negation which appears only on items that

---

(i) b. ma-biddi-iš 'aruuH
NEG-wish-my-NEG 1s:go Subj.
'I don't want to go.'

c. ma-kunt-iš biddi 'aruuH
NEG-1sBE-NEG wish-my 1s:go Subj.
'I didn't want to go.'

In past tense psych noun sentences, the copula appears and is bracketed by negation. Possessive sentences employ prepositional predicates.

(ii) a. ʕandi gamal
with-me camel
'I have a camel.'

b. ma-ʕand-iš gamal
NEG-with-me-NEG camel
'I don't have a camel.'

c. ma-kunt-iš ʕandi gamal
NEG-1sBE-NEG with-me camel
'I didn't have a camel.'

The paradigm of these possessive/prepositional object pronouns in EA is distinct from the verbal object pronouns; the difference shows up in the first person singular form, which as a verbal object is *-ni* and as a prepositional object is *-i*. The verbal object pronouns always raise with the verb out of the VP. The possessive/prepositional pronouns raise only when the noun or preposition they are attached to is serving as the clausal predicate and thus raises out of the VP. An additional fact about prepositions that do not raise out of the VP is that they may also show attached pronominal objects.

(iii) a. ʕali ʕandi-na
Ali with-us
'Ali is with us (at our house).'

b. ʕali miš ʕandi-na
Ali NEG with-us
'Ali is not with us (not at our house).'

c. *ʕali ma-ʕandi-naaš
Ali NEG-with-us-NEG

Note that the pronoun attached to the preposition here *cannot* be reanalyzed as subject agreement, as appears to have happened with the "verbal" preposition in (ii) above. The pronoun is the object of the preposition. Since the preposition does not show subject agreement, it has not raised out of the VP; and without subject agreement, the prepositional phrase cannot raise further to attach to NEG.

show person subject agreement. Consideration of the interactions of tense, aspect, and agreement markings on verbal elements showed that pronouns attach only to the main verbs which inflect for agreement and aspect. Thus, these observations support our claim that object pronominals in EA must raise out of the VP at S-structure. There is of course the possibility that the aspect markings are attached to main verbs via "affix-hopping" rather than verb movement. Even if this is the case, consideration of the sentential negation paradigms provides further evidence for our claim that main verbs with attached object pronouns raise out of VP. The negation head attaches to the copula when a copula is present, but when the copula is non-overt (as in present tense clauses), the negation attaches to the main verb. The attachment of negation to a verbal head results from head movement of the verbal head into the negation head. As we showed above, this process is constrained by the Head Movement Constraint. As a result, a main verb moves into NEG only when no overt copula is present – that is, only in present tense sentences. The crucial fact is that when sentences of this kind include an object pronoun, this pronoun also appears internal to the negation morpheme. We take this as evidence that these object pronouns have raised with the main verb out of the VP.

4. Is EA Unusual? – Other Cases of Object Movement

In the sections that follow we will introduce data bearing on the syntax and semantics of object movement from languages quite unrelated to EA. This broadening of empirical coverage not only reinforces our proposed connection between object movement and the semantics of the objects that move, but also makes the connection between object movement and verb movement more explicit.

4.1. *Object Shift in Scandinavian*

If we are correct in proposing that the movement of object pronouns in Egyptian Arabic results from a requirement on the derivation of logical representations, then we would expect movement of object pronouns to occur fairly generally in languages. In fact, the obligatory raising of pronouns out of the VP in EA brings to mind the phenomenon of "object shift" seen in the Scandinavian languages (see for example Holmberg 1986, Vikner 1990, and Johnson 1991). Object shift is a process which moves objects leftward (as indicated by their position relative to sentential negation) just in case the main verb has been moved from its base position, as in verb-second constructions (this association of object

movement with verb movement is often referred to in the literature as "Holmberg's Generalization").

(34) a. Jón keypti ekki **bókina.** (Icelandic)
John bought not book-the
'John didn't buy the book.'

b. Jón keypti **bókina** ekki
John bought book-the not
'John didn't buy the book.'

c. *Jón hefur **bókina** ekki lesið.
John has book-the not read

(35) a. . . . at Peter uden tvivl ikke læste **den.** (Danish)
that Peter without doubt not read it
'that Peter without doubt didn't' read it.'

b. Peter læste **den** uden tvivl ikke.
Peter read it without doubt not
'Without doubt, Peter didn't read it.'

c. *. . . at Peter **den** uden tvivl ikke læste.
that Peter it without doubt not read

The position of object NPs is indicated relative to the main verb and sentential adverbials. Thus, the (a) examples above show the object NPs in their base (unmoved) position to the right of the main verb and sentential adverbs and negation. The (b) sentences show the object NPs shifted leftward, to the left of sentential adverbs and negation. Finally, the (c) examples show that this movement is not possible when the verb has not moved from its base position.

There are a number of differences and similarities among the Scandinavian languages with respect to object shift. The first difference concerns the range of NPs which may undergo shift. Icelandic optionally permits shifting of a full NP, while the Mainland Scandinavian languages permit only pronouns to shift:

(36) a. Hvorfor læste studenterne ikke **artikeln**? (Danish)
Why read students-the not articles-the
'Why didn't the students read the articles?'

b. *Hvorfor læste studenterne **artikeln** ikke?
Why read students-the articles-the not

Full NP shift in Icelandic is not obligatory, but shifting of pronouns is more or less obligatory (when the case-assigning verb has moved) in both Insular and Mainland Scandinavian.

(37) a. Hann las **þær** ekki. (Icelandic)
he read them not
'He didn't read them.'

b. *Hann las ekki **þær**.
he read not them

(38) a. *Peter læste uden tvivl ikke **den**. (Danish)
Peter read without doubt not it

b. Peter læste **den** uden tvivl ikke.
Peter read it without doubt not

Object shift is linked to movement of the main verb in both Mainland Scandinavian and Icelandic, but differences arise since the S-structure verb movement possibilities vary in the two types of languages. Icelandic shows verb movement to I(nflection) (V-to-I movement) as well as verb movement to C(omp) (V-to-I-to-C movement). Verb movement can thus appear in both main and embedded clauses in Icelandic. Mainland Scandinavian only permits V-to-I-to-C movement and does not exhibit V-to-I movement in the syntax. In other words, Mainland Scandinavian exhibits verb movement only in main clauses. This difference results in the fact that object shift may occur in both main and embedded clauses in Icelandic, but only in main clauses in Mainland Scandinavian.[18]

(39) a. *. . . að Jón keypti ekki **hann**. (Icelandic)
that John bought not it

b. . . . að Jón keypti **hann** ekki.
that John bought it not
'that John didn't buy it.'

(40) a. *. . . at Peter **den** uden tvivl ikke læste. (Danish)
that Peter it without doubt not read

[18] The behavior of pronominal objects in Swedish is somewhat different from the other Mainland Scandinavian languages in that the movement of pronouns is apparently optional (though semantic effects are seen). We do not attempt to present a complete account of all the crosslinguistic variation, but see Josefsson (1993) for an analysis of Swedish pronominal objects which is similar in spirit to that proposed here.

(40) b. . . . at Peter uden tvivl ikke læste **den.**
that Peter without doubt not read it
'that without a doubt Peter didn't read it.'

Finally, there is a semantic constraint imposed on shifted full NPs in Icelandic. These NPs must be definite, or specific, in interpretation. Shifting an existential indefinite, such as a bare plural, results in ungrammaticality:

(41) a. *Hann las **bækur** ekki. (Icelandic)
he read books not

b. Hann las ekki **bækur.**
he read not books
'He didn't read books.'

Shifting a definite object NP (whether plural or singular) is fine. Shifting a singular indefinite is bad, just as in the case of shifted bare plural objects:

(42) a. Hann las **bækurnar** ekki.
he read books-the not
'He didn't read the books.'

b. Hann las ekki **bækurnar.**
he read not books-the

(43) a. Ég las **bókina** ekki.
I read book-the not
'I didn't read the book.'

b. Ég las **bók** ekki.
I read (a) book not

c. Ég las ekki **bók.**
I read not (a) book

Since we are assuming the analysis proposed in Diesing (1990b, 1992b), in which indefinites are characterized as being potentially ambiguous, we expect that there would be some context-dependent variation in acceptability of indefinite object shift. Indeed, in contexts where a quantificational (rather than existential) interpretation is possible, shifting an indefinite object NP is grammatical. The shifted indefinite then yields an obligatory generic, or quantificational, interpretation of the object, however:

(44) a. Ég les ekki **bækur**.
I read not books
'I don't read books.' (existential)

b. Ég les **bækur** ekki.
I read books not
'I don't read books. (I just buy them . . . .)' (quantificational)

The example in (44a) shows that the unmoved indefinite object is interpreted existentially. However, when the indefinite is shifted, as in (44b), the result is a generic statement: 'Given any book, I don't READ it, I only BUY it.' This interpretation is similar to that of the scrambled indefinite objects in German discussed in section 2. As in the case of German, we assume that this interpretation in Icelandic results from the indefinite NP being bound by an abstract generic operator, by virtue of being incorporated into the restriction on the operator. This results in a presuppositional (quantificational) interpretation for the NP. Thus, it is only presuppositional NPs that shift in Icelandic.

To summarize the facts we wish to explain in our analysis, the full NPs that can be shifted in Icelandic are those which can receive a presuppositional interpretation – either by being definite or by being incorporated into the restriction of some quantificational operator. Mainland Scandinavian limits object shift to a subset of presuppositional NPs, namely the pronouns. Object shift in all the Scandinavian languages is linked to overt verb movement: V-to-I-to-C in Mainland Scandinavian, and both V-to-I and V-to-I-to-C in Icelandic. In addition, if we limit our attention to the case of pronoun shift, the parallelism to the Egyptian Arabic data is clear: pronoun shift in all instances considered so far is associated with movement of the main verb.[19]

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[19] Holmberg (1986) associates the occurrence of object shift in Scandinavian with the presence of morphological case marking (m-case) on the object NP rather than main verb movement. This correlation works nicely for the languages discussed here, in which only NPs with m-case (pronouns in Mainland Scandinavian, pronouns and full NPs in Icelandic) shift, but the correlation breaks down when other languages are considered, as Vikner (1990) points out. Faroese, which marks m-case on *all* NPs, does not allow object shift of full NPs (data based on Barnes 1992):

(i) a. Jógvan keypti ikki **bókina**. (Faroese)
Jógvan bought not book-the
'Jógvan didn't buy the book.'

b. *Jógvan keypti **bókina** ikki.
Jógvan bought book-the not

4.2. *Particle Shift in English*

At this point, we will examine another case of apparent reordering of object pronouns with respect to the verb, this time from English. In a recent paper, Johnson (1991) proposes to extend the notion "object shift" to a number of constructions in English, among them the so-called *particle shift construction* (Bolinger 1971, Fraser 1976, among others). Johnson notes that there is a "characteristic paradigm" associated with the particle shift construction:

(45) a. Bert looked **the reference** up.
b. Bert looked up **the reference.**
c. Ernie threw **the trash** out.
d. Ernie threw out **the trash.**

(46) a. Bert looked **it** up.
b. *Bert looked up **it.**
c. Ernie threw **it** out.
d. *Ernie threw out **it.**

As the examples above show, a full NP object can appear on either side of the particle – the shift is optional. Pronouns, on the other hand, must appear "shifted" to the left of the particle.[20] As in Scandinavian and EA, the process by which pronouns shift is obligatory.

There are some well-known exceptions to the generalization that pronouns must obligatorily appear to the left of the particle in English. For example, stress on the pronominal object permits it to appear to the right of the particle.

Unlike Icelandic, Faroese does *not* permit V-to-I movement, however (see Vikner 1990 for more discussion). Déprez (1991) attempts to salvage the case-marking account by dissociating morphological case marking from the possibility of case marking a derived (i.e. moved) object in its moved position. Even on this sort of account, however, the true correlation seems to be between object shift and verb movement.

It is worth mentioning at this point that the Continental West Germanic languages (such as German, Dutch, and Yiddish) also exhibit a form of pronominal object shift (Lenerz 1977, den Besten 1983) which may be distinct from the scrambling discussed in section 2. The facts for these languages are somewhat different from Scandinavian, and are in some instances complicated by the presence of "agreeing complementizers" (for example, see Haegeman 1992 for West Flemish; Bayer 1984 for Bavarian). We will therefore reserve consideration of the full array of Continental Germanic languages for future research.

[20] Note that, contrary to common usage, we are considering the *pronoun* to be the element that undergoes the "shift" in the particle shift construction.

(47) a. If you want to ease your mind by blowing up somebody, come out into the court and blow up ME.
b. Fancy taking on HER! (Bolinger 1971, 39–41)

A pronominal object that carries deictic force also need not appear in the shifted position:

(48) I cleaned off ☞ that.

Conjoined object pronouns also are exceptions to the generalization that pronouns cannot appear to the right of the particle in the particle construction.

(49) Mikey looked up him and her.

Finally, not all (unstressed, non-conjoined) pronouns must appear in the shifted position. The indefinite pronoun *one* is perfectly felicitous on the right of the particle:

(50) a. I needed a new umbrella, so I picked up **one** at the store.
b. *I ordered a new umbrella, and picked up **it** at the store.

This last example shows that it is not simply the prosodic lightness of the (unstressed) pronoun that induces the pronoun to appear to the left of the particle (contrary to suggestions made in Kayne 1984 and elsewhere).

The English particle shift facts illustrate a basic generalization: unstressed definite pronouns must precede the particle in the particle construction. Deictic use or stress can override this constraint, and the behavior of the indefinite pronoun *one* shows that definiteness is the crucial factor. This last observation is especially important given the semantically driven explanation we have proposed for pronoun shift. At this point the parallel to at least the Mainland Scandinavian data is clear, in that English also obligatorily shifts object pronouns in the particle construction. In the following sections we will move toward an analysis that will account for the full range of data seen in Germanic, as well as the Egyptian Arabic facts.

4.3. *Putting It All Together: English and Scandinavian*

If the English particle shift facts are to be considered in some way comparable to Scandinavian object shift, the Scandinavian data needs to be reexamined in light of the exceptions noted above. In this section we look at the exceptions noted for the English pronoun shift construction to see whether they carry over to Scandinavian as well. First, just as in English, stress on a pronoun (and deictic use) can also override the obligatoriness of object shift for pronouns in Scandinavian:

(51) a. Hann las ekki **PÆR**.
He read not THEM (Icelandic)
'He didn't read them.'

b. *Hann las ekki **þær**.
He read not them

(52) a. Peter læste ikke **DEN**. (Danish)
Peter read not THEM
'He didn't read them.'

b. *Peter læste ikke **den**.
Peter read not them

Conjoined pronouns in Mainland Scandinavian *cannot* shift. This is not surprising, since Mainland Scandinavian does not permit full NPs to shift. Icelandic does permit full NPs to shift, and to the extent that conjoined pronouns are possible in Icelandic, they needn't shift:

(53) a. *Han saa **dig og hende** ikke sammen. (Danish)
he saw him and her not together

b. Han saa ikke **dig og hende** sammen.
he saw not him and her together
'I didn't see him and her together.'

(54) a. Ég þekki **hann og hana** ekki. (Icelandic)
I know him and her not
'I don't know him and her.'

b. Ég þekki ekki **hann og hana**.
I know not him and her
'I don't know him and her.'

Finally, indefinite pronouns (*en/ett* 'one') in Mainland Scandinavian behave just as in the English particle construction – they don't undergo object shift.[21]

[21] Thanks are due to Anders Holmberg for help with the Mainland Scandinavian data here, allowing us to correct an error made in an earlier version of this paper. Christer Platzack (personal communication) pointed out to us that some additional support for the proposal made here may be found in the behavior of the Swedish *naagon*, meaning 'some/any'. This indefinite must remain to the right of negation. If it undergoes object shift, it must incorporate into the negation to form a negative quantifier *ingen* 'no one'.

(55) a. Nej, jag har inget paraply, (Swedish)
No I have not umbrella
men jag köper möjligen **ett** i morgon.
but I buy possibly one tomorrow
'No, I have no umbrella, but I will possibly buy one tomorrow.'

b. *men jag köper **ett** möjligen i morgon.
but I buy one possibly tomorrow

(56) a. Nei, jeg har ingen paraply, (Norwegian)
No I have no umbrella
men jeg kjøper muligens **en** i morgen.
but I buy possibly one tomorrow
'No, I have no umbrella, but I will possibly buy one tomorrow.'

b. *men jeg kjøper **en** muligens i morgen.
but I buy one possibly tomorrow

One difference between English and Scandinavian is that while the indefinite pronoun in English need not shift, it optionally can. In Scandinavian the shifting of the indefinite pronoun is ruled out. This may be related to the fact that Mainland Scandinavian has a distinct generic indefinite pronoun, and this pronoun (as expected) must shift.

The properties of pronoun shift in the various Germanic languages can be summarized as follows: unstressed definite pronouns must in all cases shift. Stressed and conjoined pronouns (where possible) needn't shift in English and Icelandic. Several conclusions follow from these generalizations. The first is that the syntactic behavior of the unstressed pronouns is more like that of clitics than full NPs (see Kayne 1975 on the properties of clitics). It is these facts that lead Josefsson (1992) to propose that the shifted pronominals in Scandinavian are N^0 categories rather than NPs (Déprez 1991 reaches a similar conclusion; but see the discussion in

---

(i) a. Jag behövde ett paraply, men fann inte **naagot.**
I needed an umbrella, but found not any
'I needed an umbrella, but didn't find one.'

b. *Jag behövde ett paraply, men fann **naagot** inte.
I needed an umbrella, but found any not

c. Jag behövde ett paraply, men fann **inget.**
I needed an umbrella, but found none
'I needed an umbrella, but found none.'

Holmberg 1991 for a different proposal). Thus, the Germanic pronoun shift process can be analyzed as an instance of head movement. The pronouns attach to the main verb and move out of the VP with it, just as in Egyptian Arabic.[22] We will return to the details of this process below.

A second generalization which is consistent with the above conclusions concerning the categorial status of the shifted pronouns is that stressed and/or conjoined pronouns can only shift in languages which allow full NPs to shift (English and Icelandic). Thus, it appears that stressed and conjoined pronouns behave like full NPs rather than N^0 clitics.

In attempting to draw parallels between the various cases of object pronoun movement, a number of questions remain. First, object shift in Scandinavian is tied to movement of a main verb (just as in Egyptian Arabic). Does this also hold for English? Second, full NP shift in Icelandic requires that the shifted NP be definite or quantificational (rather than existential). Is this true for English? In the next section we will consider the first of these two questions; we will return to the second question in section 6.

5. Verb Movement and Shifting Pronouns in English – Johnson (1991)

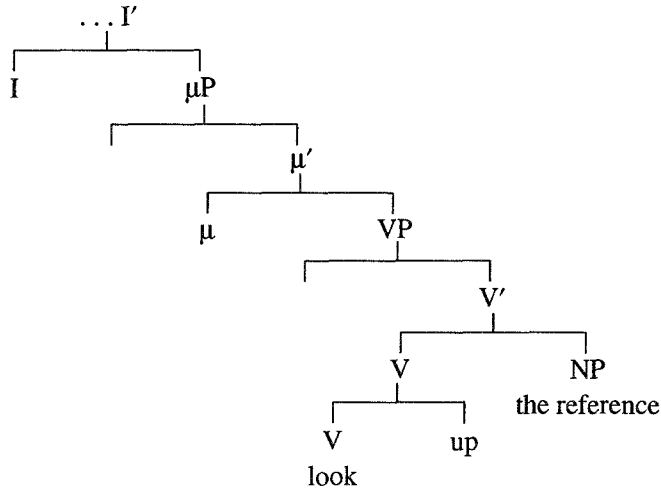
While it is clear from the discussion up to this point that both the Scandinavian and the Egyptian Arabic cases of pronoun movement are linked to verb movement, it is less clear that a connection to verb movement (at S-structure) can be maintained for English. However, Johnson (1991) proposes an analysis of English particle shift which finds its basis in the assumption that S-structure verb movement is relevant for English particle shift as well. In this section we give a brief summary of Johnson's analysis to show how it can be applied to the cases considered here. Johnson's proposal relies on the following initial assumptions:

(57) a. Specifiers of XP precede X′.
b. Verbs always move out of the VP they head – to a position labeled μ (cf. Pesetsky 1989).
c. Accusative case-marked NPs move to Specifier of VP.
d. Verb-particle combinations are generated as a complex verb.

[22] One difference between the EA case and the Germanic cases under consideration is that the Germanic languages appear to allow "excorporation" of the verb. Though excorporation has been regarded as impossible (Baker 1988, Kayne 1991), Roberts (1991) provides evidence that it should be allowed just in case the host is not morphologically subcategorized for the incorporated element. See also Josefsson (1992) for more discussion of this issue.

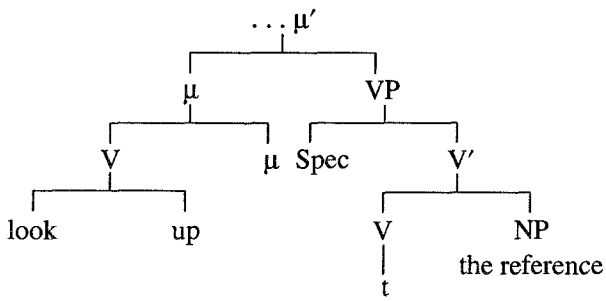
These assumptions yield the following underlying structure for particle constructions such as *look up the reference*/*look the reference up*:

(58)

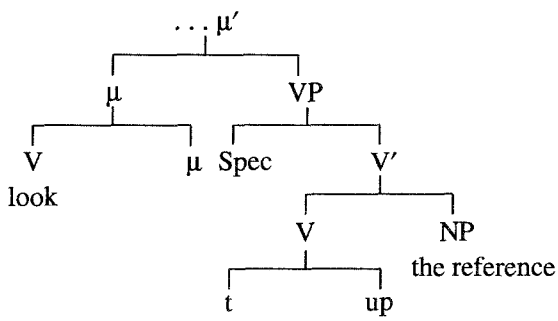


The two variants of the particle construction are generated, as a first step, by either allowing the complex verb *look up* to move as a unit, as in (59), or by separating *look* and having it raise to adjoin to μ on its own, as in (60).

(59)

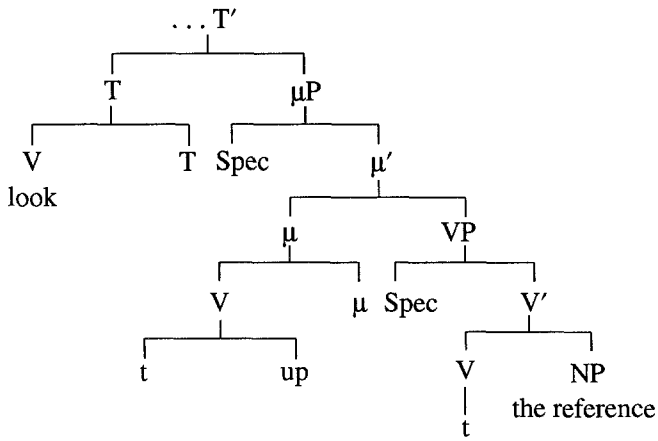


(60)

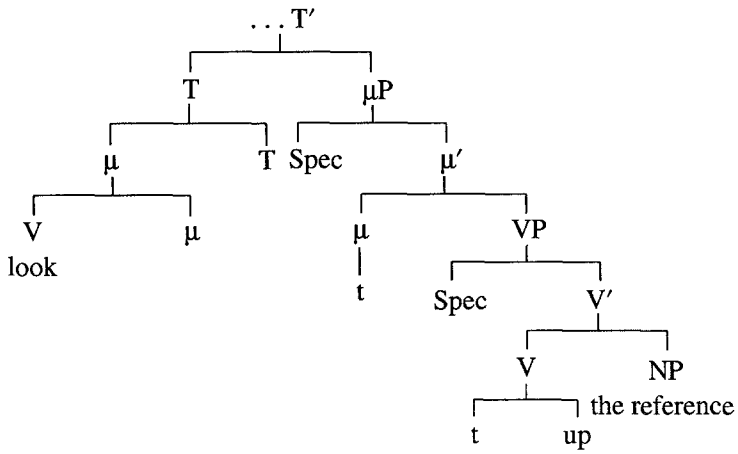


Note that the separation of the verb and particle in the structures shown above is optional. Johnson claims that the obligatory cases of shift result from verb movement to tense, which cannot take the particle with it. (He follows here a constraint on verb movement proposed in Koopman (1991) which prohibits a verb+particle from combining with the tense morpheme.) This in turn yields two possible derivations:

(61)



(62)



Alternation of the object NP position relative to the particle does not simply depend on when the verb and particle separate in the derivation. This contrast arises as a result of certain assumptions Johnson makes about case marking, following Holmberg 1986. Holmberg proposes that case marking may occur at different levels of the derivation. Thus, in Johnson's analysis of particle shift the alternation between the two positions of the NP with respect to the particle is derived from differing possibilities for the assignment of Accusative case, as well as the option of leaving the

particle stranded in its D-structure position by the initial movement of the verb.

Johnson assumes that structural case is assigned by μ under government, but case assignment can be delayed until the verb raises to T. Thus, Accusative case can be assigned to either [Spec, VP] (assigned by the verb in μ) or [Spec, μP] (assigned by the verb in T). In the former case, the particle may precede the NP (if it is carried to μ with the verb) or follow it (if the particle is stranded in its base position). In the latter case, the particle always follows the NP (it cannot be carried up to T with the verb). As we mentioned above, this gives rise to obligatory "shift" of the NP to the left of the particle.

Johnson's approach nicely links particle shift to verb movement, and also gives a derivation which allows for some obligatory instances of shift, but there are a number of questions that remain. First, there is still no account for why pronoun shift is obligatory. In other words, Johnson shows how obligatory shift *can* happen, but not why in the case of pronouns it *must* happen. Another shortcoming is that there is no explanation of the definiteness factor (that is, the exceptional behavior of the indefinite pronoun *one* in English, and the restriction on shift of full NPs in Icelandic). Furthermore, in treating both full NP shift and pronoun shift as movement to specifier (XP) positions, Johnson's analysis gives us no account of the clitic-like behavior of shifted pronouns. A final problem with Johnson's analysis lies in his proposal that verbs move to T at S-structure in English. This leaves the classic differences between French and English (as analyzed by Emonds 1978, and more recently by Pollock 1989) unexplained. Since the reason Johnson proposes this additional movement of the verb is to derive the obligatoriness of the shifted order with pronominal objects, an alternative account of this obligatoriness may do away with this difficulty.

6. What is μ?

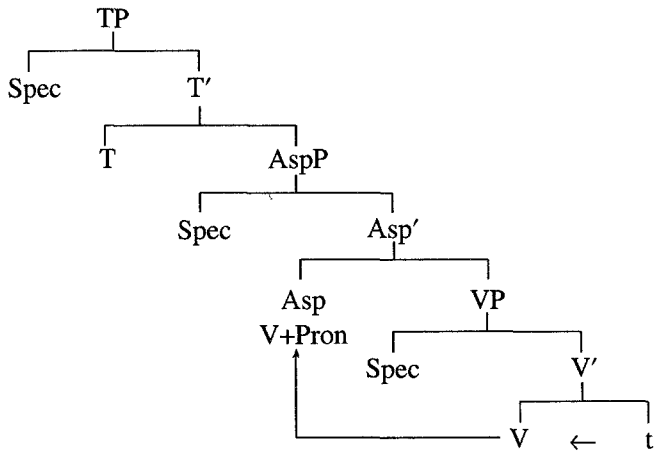
We will approach the answers to the questions laid out at the end of the preceding section by way of answering yet another question: What is the identity of the head μ? Johnson considers this question, and he very tentatively suggests a connection to AgrO or some other affix which even nontensed verbs must raise to attach to. We will instead pursue the possibility that English is like Egyptian Arabic in that there is an Asp head to which main verbs move. One clue that indicates that this may be a reasonable way to proceed is the fact that obligatory pronoun shift occurs with progressives and perfectives in English:

(63) a. Bert is picking **them** up.
b. *Bert is picking up **them**.

(64) a. Bert has picked **them** up.
b. *Bert has picked up **them**.

While these data are merely suggestive (though they do show decisively that obligatory pronoun shift cannot be due to verb movement to T, as proposed by Johnson), we propose that the head μ is in fact really Asp. This possibility not only explains the association of pronoun shift with the marking of progressive and perfective aspect in English, but also brings analysis of pronoun shift in English in line with the tentative proposal made concerning the attached object pronouns in Egyptian Arabic. That is, pronominal objects raise to a VP-external head position via S-structure head movement of the verb.[23] The tree in (65) shows the path of the verb raising to Asp, taking with it any pronominal object.

(65)



Thus, although the pronoun is base-generated in the complement position of the verb (an XP position), it behaves as a head (X^0) in that it can attach to the verb and raise with it via head movement. This brings up the question of how an argument generated in a phrasal position can undergo head movement. Haegeman (1992), in her discussion of pronominal clitics in

[23] The head Asp may in fact be a particular instantiation of a more general notion of an inflectional head associated with transitivity, similar to that proposed by Murasugi (1992). One possible way of implementing this would be to allow the exact instantiation of the features of the head to vary: in some cases they could be associated with aspect as suggested here (and see Ramchand 1991 for another such proposal), while in other cases the head might be associated with another feature or set of features – for example, those associated with voice, as in the analysis developed by Kratzer (1994).

West Flemish, suggests a way of resolving this apparent categorial conflict in terms of Muysken's (1983) theory of X-bar phrase structure rules.[24] She suggests that the categorial ambiguity involved can be represented in terms of Muysken's features [maximal] and [projection]: pronouns would be [+maximal] and underspecified for [projection]. The [–maximal] feature makes them incompatible with modifiers (unlike true N^0 heads). The two available options for the feature [projection] permit pronouns to appear in specifier positions, as in V2 clauses in Scandinavian ([+projection]), or to display clitic-like behavior ([–projection]).

Recall that English differs from EA (and Mainland Scandinavian as well) in that it seems to have the additional possibility of moving phrasal objects. Our claim is that these phrasal objects raise to a specifier position. We will assume that full NPs can move to [Spec, VP]. (We will postpone discussion of why full NPs in EA *cannot* shift to a later section.) Thus, shifted pronouns and shifted full NPs have different landing sites. Parallel to Johnson's analysis, the alternation in the ordering of the full NP and the particle depends on whether the NP is assigned case in its base position and the verb+particle combination raises to Asp, or the verb separates from the particle before raising to Asp, necessitating movement of the NP to [Spec, VP] to receive case.[25]

This proposal raises an important question concerning the interpretation of the shifted full NP objects. Since we are claiming that in English they move to a VP-internal specifier position, we expect that it would *not* be the case that shifted objects must receive a specific interpretation (unlike the case of German object scrambling, or Icelandic full NP shift). Mahajan (1991) suggests that only specific NPs can shift in the English particle construction, but a careful examination of the data does not bear out this claim.[26]

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[24] Muysken's proposals are also adopted in the analyses of pronominal movement given by Déprez (1991), Josefsson (1992), and Uriagereka (1992), among others.

[25] Of course, if a VP-internal subject analysis is to be maintained, [Spec,VP] cannot be the subject position (as suggested in Diesing 1990a, 1992a,b). We therefore adopt the sort of analysis proposed by Koopman and Sportiche (1988), in which the subject is generated in a position adjoined to VP.

[26] Mahajan's claim is based on a contrast seen in examples such as (i):

(i) a. He let out a yell.
b. *? He let a yell out.

Mahajan suggests that the difference in grammaticality between (i.a) and (i.b) is due to a prohibition on shifting indefinite NPs to the left of a particle. But, contrary to what one would expect if this were the case, shifting a definite NP in this context is also rather awkward:

(66) a. I put **mittens** on.
b. I put on **mittens**.
c. I washed **dishes** off.
d. I washed off **dishes**.

(67) a. ?I wrote **stories** up.
b. I wrote up **stories**.
c. ?I gobbled **sardines** up for lunch.
d. I gobbled up **sardines** for lunch.

While there may be some contrast in meaning in the examples above, it is not at all clear that the difference is one of specific/nonspecific interpretations. Evidence that an indefinite reading is in fact available comes from extraposition facts. As is well known, extraposition from an NP requires that the NP be an indefinite with a nonspecific interpretation (Guéron 1981, Reinhart 1987, Diesing 1992b). If shifting an indefinite to the left of the particle resulted in a specific interpretation, as object shift in Icelandic does, we would expect that extraposition would be impossible in these cases. Extraposition is in fact possible from an indefinite NP which appears to the left of a particle in the verb-particle construction.

(68) a. Bert threw **some pictures of his dogs** out.
b. Bert threw **some pictures** out of his dogs.

We will therefore assume that shifted full NPs in English can have an indefinite interpretation, and this is a result of the fact that they move to the specifier position of the VP rather than a VP-external position.[27]

To summarize, as in Egyptian Arabic, the obligatoriness of particle shift with pronouns results from the semantic requirement that the pronoun raise out of VP. The verb raising to the Asp head provides the means by which the pronoun can move at S-structure. The verb must separate from the particle to allow the pronoun to attach to V and get a ride out of VP.

(ii) *?He let the yell out.

The contrast seems to be more readily explained by the idiomatic nature of the phrase *let out a yell*. As Fraser (1976) notes, idiomatic phrases like *blow off steam* do not allow the shifted order of the NP and particle (**blow steam off*). Note also that in other (less idiom-like) contexts *let out* permits an indefinite NP to the left of the particle:

(iii) He let a cat out.

[27] This of course does not preclude moment of the object NPs at LF.

Finally, full NPs that shift can move to a VP-internal specifier position to give the shifted order, and this shifting is not subject to any semantic constraint.

Note that our analysis differs from Johnson's in a number of respects. First, we only exploit one instance of S-structure verb movement – that of V-to-Asp. Since the difference between pronominals and full NPs is linked to pronominals being heads and the semantic requirement that they leave the VP, there is no need to require the additional step of verb movement to T that Johnson uses to distinguish the pronominals from full NPs. This in turn allows the commonly assumed accounts (Emonds 1978, Pollock 1989) of the word order differences between English and languages like French to be maintained.

6.1. *Scandinavian Again*

In section 4.3 we observed that the pronoun shift in the English particle construction exhibits behavior very similar to that of the pronoun shift in Scandinavian. The fact that the object pronouns in all the Germanic languages under consideration behave more like heads than XPs suggests that they should be given a common analysis – the pronouns attach to the verb and shift via head movement. But, if the English particle shift construction is in fact to be analyzed analogously to object shift in Scandinavian, we have a few differences between the particle shift and object shift constructions yet to account for. The first of these concerns the environments in which pronouns can shift. Recall that object shift in Mainland Scandinavian only occurs in conjunction with movement of the main verb to Comp (V-to-I-to-C), and that Icelandic minimally requires verb movement to inflection (V-to-I). This differs from the particle shift construction, in which even untensed verbs induce pronoun shift.

(69) a. He tried to wash **it** out.
b. *He tried to wash out **it**.

However, it is also clear that the pronouns which shift in the particle construction do not move to the same position as the pronouns in the object shift construction, since they cannot precede sentence-level adverbs:

(70) a. *He washed **it** yesterday out.
b. *He claimed to have washed **it** yesterday out.

Note also that in particle constructions objects can shift in Icelandic in contexts where no verb movement to T has taken place:

(71) a. Í gær hafa þeir sent **þa** upp. (Icelandic)
yesterday have they sent them up
'Yesterday they have sent them up.'

b. Í gær hafa þeir sent **peningana** upp.
yesterday have they sent money up
'Yesterday they sent money up.'

In Mainland Scandinavian, there is some crosslinguistic variation as to whether sentences such as those in (71) are possible. Norwegian and Danish show behavior similar to Icelandic and English, while Swedish does not. Accounting for all the variation seen in Mainland Scandinavian is beyond the scope of this paper (see Taraldsen 1983 and Åfarli 1985 for some relevant discussion); we will simply assume that while there is crosslinguistic variation in whether or not object shift to the left of a sentential adverb takes place, depending on the S-structure verb movement options available, there is evidence in all three types of languages for a case of "short" verb movement to Asp, which licenses shifting of objects to the left of a particle.[28] In the discussion below, we will distinguish these two types of object movement as *object shift* and *particle shift* respectively.

A second point of variation between the various cases of object movement in Germanic concerns which element may undergo shift – pronouns only, or full NPs as well. We will discuss these differences toward the end of this section.

Focusing first on the issue of verb movement alone, if we make the reasonable assumption that what is commonly referred to as V-to-I movement in Scandinavian is actually V-to-T movement, various differences between the particle shift and the object shift constructions become apparent. First, in the case of the particle shift constructions the verbs clearly move to some point below T. We claimed above that the verb is moving to Asp in these cases. This "shortest" verb movement occurs in all the Germanic languages discussed here. Second, there is variation in whether the S-structure verb movement required for object shift obtains. English main verbs never move beyond Asp, whereas in Icelandic they can move to T or on to C. Mainland Scandinavian displays the short verb movement to Asp seen in English in the particle shift construction, but does not have verb

[28] Alternatively, one could take the approach suggested by Collins and Thráinsson (1994), in which in addition to inflectional heads above the VP, there is also the possibility of inflectional heads within the VP in a "VP-shell" structure (Larson 1988, Travis 1991). We believe that regardless of the approach taken, the results presented here remain valid.

movement to T at S-structure, while it does allow V-to-I-to-C. The issue then is how to account for the variation in the "distance" of S-structure verb movement that is possible in each case. Assuming the existence of the three inflectional heads C(omp), T(ense), and Asp(ect), the differences between English, Mainland Scandinavian, and Icelandic with respect to verb movement (and the leftward movement of objects that is linked with it) may be explained in terms of the morphological properties of these heads.

Recent work has converged on the idea of deriving certain word order differences from differences in the "strength" of features in inflectional morphology. An early example of this approach in the literature is Kratzer (1984), focusing on English and German word order. More recent instantiations of this idea can be found in Pollock (1989) and Chomsky (1992). The basic intuition behind the distinction between "strong" and "weak" features is that strong features must attach to a lexical head (e.g. a verb) in the overt syntax, while weak features attach later in the derivation (i.e. at LF).[29] The strength of any given feature is a point of parametric variation. A feature that is strong in one language may be weak in another.

This idea gives us a means for characterizing the differences in verb movement among the various Germanic languages considered here, and thereby also an explanation for the varying distribution of pronoun shift. We assume that the hierarchical arrangement of the three inflectional heads in the Scandinavian languages is similar to English, but that the heads differ crosslinguistically with respect to their morphological strength. Beginning with the particle construction, we assume that since in this case object movement occurs in all the languages, the main verb *always* moves to Asp. Thus, the Asp feature is strong – it must be realized on the verb at S-structure. English does not show any further S-structure movement of the main verb, so T and C are weak, and consequently no shifting of objects to the left of sentential adverbs is seen. This contrasts with Mainland Scandinavian, in which there is also no V-to-T movement (T is a weak feature), but V-to-T-to-C occurs obligatorily at S-structure. Therefore C, or whatever feature in C is responsible for inducing verb-second – for the purposes of simplicity we will follow Platzack and Holmberg (1989) in assuming that there is a finiteness operator [+F] in C – is strong. This gives the result that Mainland Scandinavian exhibits S-structure movement of the main verb to C, but not to T. Since verb movement is constrained by the Head Movement Constraint (Baker 1988, and see also the discus-

[29] Chomsky (1992) actually characterizes this distinction in terms of a process of "feature-checking," which may occur either before or after the phonetic realization process ("spell-out").

sion of Egyptian Arabic above) the verb must move through the inflectional heads below C on its way to C. Therefore, in Mainland Scandinavian the verb will pass through T if and only if it moves to C. Since pronoun shift to the left of the sentential adverb (as opposed to the shorter shift seen in the particle construction) is tied to movement of the main verb to T, pronominal object shift in Mainland Scandinavian will only occur when the main verb moves to C. Otherwise, the movement of the verb and concomitant shifting of object pronouns is delayed until LF.

Finally, in the case of Icelandic, again Asp is strong; pronominal shift in the particle construction is seen in the absence of verb movement to T. But T is strong as well, as evidenced by the fact there is main verb movement in embedded clauses. So is the feature [+F] in C, which accounts for the obligatoriness of verb-second in main clauses. Thus we see pronominal object shift when the verb undergoes either V-to-C or V-to-T movement. In both cases the verb must pass through T, and this verb movement triggers pronoun shift. The movement of the verb *enables* the object pronouns to move, and the unselectivity of existential closure *forces* them to move.

In all of the Germanic languages discussed here, stressed pronouns differ from unstressed ones in two ways. First, they are deictic or contrastive in nature; in this respect they function as "new" information. Therefore, they can remain within the VP without violating Heim's Novelty Condition.[30] Second, they are distinguished syntactically as well as semantically from unstressed pronouns, in that they are full NPs rather than N^0s and therefore cannot undergo head movement.

As we mentioned above, the Germanic languages vary with respect to another property as well: whether full NPs can shift. For example, English and Icelandic allow full NPs to shift, but the Icelandic full NP shift seen in the object shift construction is limited to NPs with a definite or specific interpretation, while the shift seen in the particle construction does not seem to show this semantic restriction. In terms of the analysis presented here (based on the Mapping Hypothesis), Icelandic object shift allows full NPs to shift only to a VP-external position. The available position that fulfills this description is [Spec, Asp]. Full NP shift in the particle construction is apparently less constrained, as both indefinite and definite/specific NPs can shift. This suggests that shifted full NPs in

[30] This raises the question of what the semantic type of stressed or deictic pronouns is We will not deal with this issue in detail, other than to suggest that perhaps these pronouns are instances of type $\langle\langle e, t\rangle, t\rangle$. See Partee (1987) as well as Neale (1990) for more detailed consideration of this possibility. For further discussion of syntactic contrasts between stressed and unstressed pronouns, see Montalbetti (1984) and Larson and Lujan (1990).

the particle shift construction appear in a VP-internal position at S-structure, namely [Spec, VP], as we proposed above for English. Finally, Mainland Scandinavian does not allow object shift to move full NPs at all – somehow there is no specifier position available.

The variation thus boils down to whether or not a specifier is available, and if one is available, which one it is ([Spec, VP] or [Spec, Asp]). Note that shifting into a given specifier requires that there be S-structure movement of the verb into the head immediately *above* that specifier. Object shift into [Spec, Asp], as seen in Icelandic, requires V-to-T movement, and shift into [Spec, VP] (the particle shift) requires the verb to move to Asp. Allowing V-to-I-to-C only (as in Swedish) does not suffice to license full NP shift to [Spec, Asp], though verb movement to Asp will license NP shift into [Spec, VP]. In other words, a full NP in either [Spec, VP] or [Spec, Asp] must be licensed by either a strong Asp head or a strong T head, respectively.

These observations bring to mind the analysis of full NP shift in Icelandic proposed by Jonas and Bobaljik (1993). Jonas and Bobaljik note that in order for the subject to be able to raise to the specifier above a shifted object without violating the "Shortest Movement" condition of Chomsky (1992), verb movement to the head above the shifted object must take place. The verb movement allows the subject to skip over the lower specifier occupied by the shifted object by rendering the higher specifier equidistant from the base position of the subject. On Jonas and Bobaljik's account then, the possibility of full NP object shift is linked to the availability of the [Spec, TP] position at S-structure, and the licensing of this specifier is linked to S-structure movement of the verb to T in Scandinavian. This is parallel to the situations described above; the shifting of full NP objects is only permitted when the "next specifier up" is licensed for movement of subjects. Pronominal object shift, being an instance of head movement, does not involve movement into a specifier position, and therefore is not subject to this condition.

To sum up, not only are the landing sites for shifted full NPs and pronouns different (the former landing in a specifier, and the latter moving into a head position), the landing site for shifted full NPs varies cross-linguistically as well. By virtue of licensing verb movement to T at S-structure, Icelandic permits object shift into a VP-external position, and this is reflected in the requirement that the shifted NP be specific or definite (as predicted by the Mapping Hypothesis in conjunction with the scoping constraint). By contrast, English allows only verb movement to Asp at S-structure. Consequently full NPs can only shift to the VP-internal [Spec, VP], and thus even existential indefinites can undergo shift. Since

pronouns move via the head movement of the verb, they raise out of VP regardless of whether the verb moves only to Asp or further to T or C. Thus, we see the semantically driven movement "piggy-backing" on the available options for S-structure movement, which in turn are determined (at least in Scandinavian) by the strength of the various inflectional features.[31]

6.2. *Return to Egyptian Arabic*

Returning to the question raised in the discussion earlier in this paper concerning the motivation of the attachment of object pronouns in Egyptian Arabic, there appear to be significant correspondences between this object attachment in EA and the "object shift" we have surveyed in Germanic. Recall that in EA object pronouns must move out of the VP via head movement of the verb to Aspect; however, full NPs cannot move out of the VP at the level of the syntax. We may note also that EA, like Germanic, shows no movement of conjoined or stressed pronouns.

(72) a. *šaaf-**u** **wi** **hiyya**.
saw-him and she

b. šaaf-**u** wi šaaf-**ha**.
saw-him and saw-her
'He saw him and (he) saw her.'

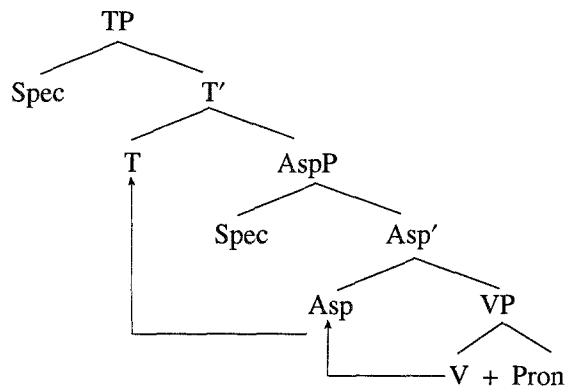
Since object pronouns cannot be conjoined, it is necessary to conjoin clauses, as in (72b). There are no stressed object pronouns in EA; focus may be placed on an object by using a left dislocation construction with a resumptive object pronoun.

(73) HUWWA/ir-raagil-da, ʕali šaaf-**u** imbaariH.
HE/the-man-that Ali saw-him yesterday
'HE/THAT man, Ali saw him yesterday.'

[31] Note that while German scrambling (as presented in section 2) shows semantic properties similar to object shift, scrambling is independent of S-structure verb movement. Thus an explanation in terms of the strength of inflectional features will not account for the German scrambling data. At this point we will simply assume that German permits more movement options than Scandinavian, allowing it an additional means for satisfying the Scope Condition. This assumption is supported by the fact that scrambling exhibits a number of A-bar properties (such as licensing parasitic gaps) not seen in object shift. See Diesing (1994) for more discussion on the relationship between semantically driven movements and other S-structure movement options in Germanic.

We propose that, as in the case of Germanic, it is the definiteness of object pronouns that fores them to move out of VP (to get out of the scope of existential closure), and that they do so via head movement in conjunction with the movement of the verb.

(74)



A question not fully explored here is why full NPs in Egyptian Arabic cannot undergo object shift. A possible clue may lie in the fact that as noted earlier, subjects move through *both* [Spec, AspP] and [Spec, TP], as shown by the "spreading" subject agreement on both the copula and main verb:

(75) ʕali kaan biyibiiʕ ig-gamal.
Ali BE (3ms-Past) selling (3ms-Imperf.) the-camel
'Ali was selling the camel.'

The spreading agreement itself can be accounted for in terms of Spec-Head agreement, with the subject moving through the successive specifier positions (cf. the discussion of Swahili in Carstens and Kinyalolo, in press). If this is correct, this subject movement would leave no empty specifier position for a full NP object to land in, and thus full NP shift would be excluded. Thus, the absence of full NP shift in EA results from the obligatory spreading of subject agreement. We will not address here the question of why agreement is triggered on both the T and Asp heads (or rather, why the subject must move through both [Spec, Asp] and [Spec, TP]), but instead refer the reader to the proposals presented in Carstens (1993).

Another issue remaining is the fact that unlike the Germanic languages discussed here, EA does not have any free-standing (i.e. stressed) pronominal objects (see the cleft example above), though free-standing subject pronouns do exist. It is of interest to note in this context that there are

languages with no free-standing pronouns at all occupying argument positions. An example of such a language is Straits Salish (Jelinek 1993). In Straits Salish there are only pronominal affixes (objects) and clitics (subjects). Object pronouns attach to an overt Transitivizer (abbreviated Tran), which appears in an inflectional node above the predicate, and subject clitics appear in a second-position clitic string which includes T. The pronouns incorporate into the inflectional heads. Just as in Egyptian Arabic, this places these definite pronouns out of the reach of existential closure.

As we have seen in the discussion of Germanic, stressed, contrastive object pronouns (by virtue of their status as novel information) do not need to be moved out of the scope of existential closure. Since the Straits Salish pronominal affixes and clitics are all non-contrastive elements that must raise to inflectional heads, the grammar needs to provide a mechanism that can be used to place contrastive emphasis on a pronoun as novel information. Straits Salish grammar provides such a mechanism in the form of a set of lexical items that mark the semantic features of person and number. These items bear some similarity to the "anaphoric NPs" – such as *the former, the latter* – noted in Heim (1982).

(76) a. Who signed this document, the plaintiff or his attorney?
b. It was the latter.

Compare the Straits Salish sentence:

(77) nəkw-lə-0
YOU-Past-3Abs
It [was] YOU.

The Salish person predicates resemble anaphoric NPs in being deictic elements that can serve as the syntactic predicate of a sentence. Ordinary pronouns in Salish cannot serve as syntactic predicates. These "deictic predicates" are confined to two syntactic positions. They may serve as the lexical head of a main clause:

(78) nəkw-yəxw-0 sə nə-ten
YOU-Evid-3Abs Det:Fem my-mother
It must be YOU who are my mother.

(Salish has no copula, in any paradigm.) Or, when under the scope of a determiner/complementizer, one of these person predicates may serve as the lexical head of an adjoined subordinate clause:

(79) leŋ-t-0-sə̓n sə̓ nə̓kw
see-Tran-3Abs-1sNom Det:Fem YOU
I saw the [one who is] YOU.

These deictic predicates cannot appear as subject or object pronouns in ordinary main clauses, whether phonologically attached or free-standing.

(80) a. cey-sxw
work-2sNom
You worked.

b. *cey-nə̓kw
work-YOU

c. nə̓kw cə̓ cey
YOU Det work
YOU'RE the [one who] worked.

(81) a. *leŋ-t-oŋə̓ɬ-nə̓kw
see-Tran-1pAcc-YOU
[YOU saw us]

b. leŋ-t-oŋə̓ɬ-sxw
see-Tran-1pAcc-2sNom
You saw us.

Thus, the Salish data provide further evidence for distinguishing stressed pronouns from their unstressed forms syntactically as well as semantically. For further discussion of Salish argument structure, see Jelinek (1993).

In conclusion, the Egyptian Arabic object pronoun facts are straightforwardly explained along the same lines as the Germanic pronominal object shift. The main difference is that EA does not have a stressed form of the object pronouns and must resort to a cleft construction for deictic or contrastive interpretations. The data from Salish shows that this absence of stressed pronominals is not unique to EA.

7. Summary and (Some) Consequences

We began by identifying some grammatical constraints on the interpretation of noun phrases: the Scoping Constraint, which requires that the relative scope of operators be set as early as possible; and Type Mismatch

Resolution. We then argued that these constraints accounted for the fact that Egyptian Arabic has no free-standing object pronouns. The attachment of object pronouns to the verb is triggered by their definiteness in conjunction with the scoping constraint – they must move in order to get out of the scope of existential closure. In the case of Egyptian Arabic, the pronominal objects are able to move out of the VP by attaching to the V and raising with it to an Aspect node above VP. This analysis was motivated by evidence from the inflectional system of EA, as well as the syntax of negation. We also showed that this phenomenon is not peculiar to Semitic. Pronominal object shift in English and Scandinavian follows a pattern similar to that seen in Egyptian Arabic; this shift co-occurs with verb movement. Here again we identified an association between the raising of object pronouns and the presence of a distinct Aspect inflectional node. Where tense and aspect are associated with distinct inflectional nodes, it is Aspect that is associated with transitivity and object marking. Though the Scandinavian languages differ in the conditions under which pronominal objects shift at S-structure, we proposed that these differences among the various cases of pronoun shift within Scandinavian may be explained in terms of varying "strength of features."

Of course, many questions remain to be answered. The relationship between the sort of semantically driven movement described here and the morphologically driven movement advocated by Chomsky (1992) needs to be explicated. Also, we have confined our attention here to NPs in complement positions of verbs. The properties of complements of other categories such as prepositions and nouns also need to be investigated. It is our hope that the approach outlined here will serve as a useful starting point for investigating these and other matters.

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