NULL AND DISPLACED SUBJECTS

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ABSTRACT

This work explores three problems related to the syntactic position of clausal subject: Do all clauses require subjects? What conditions must be met for subjects to appear postverbally? Where are postverbal subjects attached?

The discussion begins with a study of expletives, in particular, of the relationship between expletives and postverbal subjects. It is hypothesized that expletives are fillers for the syntactic subject position at S-structure and that they are replaced, in Logical Form, by the 'semantic' subject of the clause. Various consequences of this hypothesis are probed, in particular, for Case theory and Binding theory.

Chapter 3 develops a theory of Case which incorporates both the Case Filter and the condition that heads of chains must be Case marked. The particular statement of this module of Universal Grammar has consequences for the status of null expletives and variables. There follows a discussion of the Case status of variables, in particular, in positions which are clitic doubled.

Ch.4 studies subject inversion. First, the 'licensing' conditions for postverbal subjects are discussed and the relevant facts from Hebrew are presented. It is then argued that Hebrew has a rule of subject postposing which adjoins a subject to VP, on the left. It is argued that Spanish utilizes the option of left, as opposed to right, adjunction to VP, while Italian does not. Various crosslinguistic differences can be accounted for on the basis of this distinction, especially with regards to the distribution of the 'definiteness effect'.

Ch.5 considers the pro module of UG. It is shown that null expletives which are replaced, in LF, by arguments which are 'personal', need to be supported as S-structure by coindexing with overt grammatical features.

A study of the possessive/existential alternation in Hebrew is the topic of the final chapter. It is proposed that the verb be/have is ambiguous between an unaccusative predicate taking a single argument to which nominative Case is assigned and a verb subcategorized for two internal arguments, one of which is marked with accusative Case, the other with inherent dative Case. The questions relating to this verb a considered with the intention of clarifying further the notion of syntactic subject.

Thesis Supervisor: Noam Chomsky
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Chapter One
INTRODUCTION

It is a question of some interest whether all clauses require subjects. On the face of things, the answer seems to be 'no'. Consider the Hebrew sentences in (1): All four are perfectly acceptable , yet not one of them displays what we would typically call a subject.

(1)   a.   kar
                  cold
                  'its cold'

        b.   meSa'amem likro 'iton
                  boring to read paper
                  'it is boring to read the newspaper'

        c.   yeS le-Gavriela xatul
                  is to-Gavriela cat
                  'Gavriela has a cat'

        d.   hodi'u 'al kax ba-radio
                  announced+3pl. about that on-the-radio
                  'this was announced on the radio'

As a first step, two notions of 'subject' must be distinguished. First, there is a semantic notion of subject. In (2a), for example, the NP Bill is the semantic subject of the sentence. It refers to the agent who ate the cake. In (2b), **Bill** is still the semantic subject, even though it appears in a different position from the one it occupied in (2a).

(2)   a.   Bill ate the cake

b.   the cake was eaten by Bill

The second notion of subject, and the one which is central to this work, is the syntactic or structural one. Although (2a) and (2b) are semantically equivalent (i.e. if one is true the other must be true,) they have a different structure. In (2a), the subject position is occupied by the NP **Bill**, which happens to also be the semantic subject of the sentence. In (2b), however, the subject position is occupied by the semantic object of the sentence, the NP **the cake**.

The claim which will be developed in the following pages can be stated as in (3).

(3)   While not all sentences have semantic subjects, they all have syntactic subjects.

The notion of syntactic subject that will be developed is a structural one. It will be argued that the sentences in (1) all have a subject position, which happens to be unexpressed phonologically. Some languages, like Hebrew, admit phonologically unexpressed (i.e., null) subjects; others, like English do not. Thus, the English equivalents for the sentences in (1a, b, d), (given in the glosses), all mark the subject position with a pleonastic element, **it**. The same difference can be seen in (4) below, where English posits **there** in a position which is null in Hebrew.

(4)   a.   higi'a IS mi-Africa
             arrived man from-Africa
             'there arrived a man from Africa'

       b.   parac viku'ax so'er

erupted debate lively
'there erupted a lively debate'

One way (4) differs from (1) above is in that there is NP in the sentence, in addition to the pleonastic formative, (null or overt,) which we can take to be the clausal subject. In fact, the sentences in (4) freely vary with those of (5), which manifest a subject. The subject in (4) can be said to be 'displaced'.

(5) a. iS higi'a mi-Africa
         man arrived from-Africa
         'a man arrived from Africa'

     b. viku'ax so'er parac
         debate lively erupted
         'a lively debate erupted'

There second main question which will be explored in this work can be stated as in (6).

(6) What are the conditions under which subjects may appear in a 'displaced' position?

To illustrate why this question is important, consider the fact that the sentences in (8) are only marginally acceptable as variants of those in (7), in contrast to the free variation among (5) and (6) above. The sentences in (8) belong to a more literary, 'Biblical' register than the fully colloquial sentences of (4).

(7) a. Gavriella nosa'at be-trempim
         Gavriella rides in hitches
         'Gavriella hitchhikes'

b.　　Finkelstein makSiv le- Mozart
Finkelstein listens to-Mozart

c.　　YehoSu'a mexayex
YehoSu'a smiles

(8)　a.　　??nosa'at Gavriella be-trempim
rides Gavriella in hitches

b.　　??makSiv Finkelstein le-Mozart
listens Finkelstein to-Mozart

c.　　??mexayex YehoSu'a
smiles YehoSu'a

The third issue dealt with in the course of this work has to do with the placement of the 'displaced' subjects. Some postverbal subjects will be shown to occupy the position of the direct object, (i.e, the 'subjects' of unaccusative verbs), while others, I will argue, are adjoined to VP.

The thesis is concluded with a study of existential and possessive constructions in Hebrew, which illustrate many of the points studied in earlier chapters.

This dissertation is written in the theoretical paradigm of 'Government and Binding Theory'. It presupposes familiarity with the work of Chomsky (1981), (1982), (1986a), (1986b) and the related literature. In particular, I will begin by assuming a theory of chains, based largely on the discussion in Chomsky (1986a) (1986b) and I will introduce modifications as I proceed. I

assume that links in a chain must meet the 'antecedent government' part of the the ECP, (9).

(9)   In a chain $C = (\alpha_1, \ldots \alpha_n)$, α_i must antecedent-govern α_{i-1}, for all α_i

Crucial to much of the discussion in this work is the Chain Condition, (10), which is a modification of Chomsky's condition (170), (1986a, 137).

(10)   If $C = (\alpha_1, \ldots \alpha_n)$ is a maximal chain, then α_1 is in a Case-marked position.

One corollary to the Chain Condition is condition (11).

(11)   If $C = (\alpha_1, \ldots \alpha_n)$ is a maximal chain, then α_n occupies its unique θ-position and α_i its unique Case-marked position.

The import of (11) is that a chain can have only one Case-marked position. This latter point will come to play a significant role especially in the discussions in Chapters two and three.

Other theoretical notions will be introduced in the course of the presentation.

Chapter 2: EXPLETIVES

2.1 Introduction

One way of posing the question of whether all clauses have subjects is to inquire into the role and function of pleonastic formatives such as **it** and **there** in English. Since these elements are apparently semantically empty, it is a question of some interest what syntactic function they play.

One difference between Hebrew and English is that Hebrew lacks such formatives. The absence or rarity of overt pleonastics seems to be a general property of Null Subject languages, (but see Appendix to this chapter.) Whereas the grammar of English requires **it** and **there** in (1), the corresponding structures in Hebrew in (2) are well-formed without them.

(1) a. there arrived a train

 b. it is clear that Reagan wants war

(2) a. higi'a rakevet
 arrived train

 b. barur Se-Reagan roce milxama
 clear that-R. wants war

One of the conclusions of this dissertation is that the empty subject position in (2) is, in fact, filled by a syntactically active, albeit phonetically null element. Hebrew will be shown to be just like English in having pleonastic elements which fill the clausal subject position. The difference between the two languages has to do with an independent factor, namely, the settings on

the parameters which govern the acceptability of phonetically null subjects. Hebrew is a 'null subject language'; English is not.

The empirical evidence supporting this claim will be laid out in Ch. 5 and will be embedded in a discussion of the pro module. But even granted this conclusion, it is still a mystery why grammars of natural langauge manifest pleonastics at all. An adequate theory of universal grammar ought to incoporate an analysis of pleonastics, explicating their role in the formation of grammatical sentences. And it is to that discussion that I now turn.

First, I argue that there is no Case theoretic reason to posit expletives in the subject position of clauses. I claim that Case transmission is not a viable means of satisfying the Case Filter. In 2.3, I proceed to derive the presence of expletives from the requirement that clauses have subjects. Expletives are viewed as 'place holders' for displaced subjects. Section 2.4 develops Chomsky's (1986b) idea that expletives are replaced in LF by the arguments whose place they fill at S-structure. I consider various problems that arise in the adoption of the Expletive Replacement Hypothesis, (ERH). Section 2.6 discusses **there** replacement in English, concluding that in **there...be** sentences, the expletive is replaced, at LF, by the entire small clause complement of **be** and not by the postverbal NP. I then discuss impersonal passives in Hebrew, which exemplify a case of expletive replacement by a PP. Sections 2.8, 2.9 are devoted to a treatment of the binding relationship in expletive argument pairs and of the number agreement problem raised by the earlier proposal on **there** replacement. The last section of Chapter 2 deals with the replacement of **it** in LF.

2.2 Against Case Transmission

One common view is that expletives are required in order to pick up Case which cannot be directly assigned to a postverbal NP. According to this theory, the role of expletives is to transmit Case. This position is explicitly defended in Burzio (1985), Chomsky (1981), and assumed in much other work.

One problem that this approach has had to contend with is that there are expletive argument pairs where no Case transmission seems to be going on. If one accepts the view that S' clauses may not have Case (Stowell (1981)), for example, then the pleonastic it in (3a) must be licensed by some other principle.[1] Similarly, if the oblique argument of impersonal passives such as (3b) is Case marked directly by the preposition sur, then no transmission needs to take place and the role of the expletive as 'Case transmitter' is redundant. A justification for the obligatorines of the expletives in (3), it seems, must be sought outside Case theory.

(3) a. It seems that John is intelligent

     b. Il a été discuté sur cette question

---

[1] In the works cited, the association of expletives and extraposed sentential subjects follows from the Chain Condition, (alias 'visibility hypothesis') which requires that θ-chains be headed by a Case marked element. What is relevant for the discussion here is that the expletive associated with an extraposed sentential complement is not, strictly speaking, needed to transmit Case. More on Case theory in Ch.3. See, also Davis (1986) for a discussion of the relationship between expletives and extraposed sentential subjects.

Another problem, of a more conceptual nature, is that the notion of Case transmission is inconsistent with the view that Case is assigned under government, that is, under a well defined structural configuration. This is so because the element assigning Case to the expletive does not govern the NP to which Case is transmitted. To avoid the inconsistency, one must stipulate that Case may be assigned by transmission but is checked under government, (Chomsky (1981).) But this raises the question of why Case assignment is not completely free, letting the checking mechanism do the work of constraining overgeneration.

The hypothesis I will develop in this section will, I hope, share none of these difficulties. The idea that I want to defend is that there is no Case transmission at all. In the ensuing discussion, I will presuppose familiarity with the 'Case transmission' literature and will make references to it insofar as those are necessary to elucidate specific points in the argument.

The main claim, then, is that expletives are not required for Case transmission and that one must look outside of Case theory for a justification for their presence. Case, I argue, is always assigned directly and locally, in the sense that it cannot be assigned to one element and then transmitted to another element.[2]

One frequently noted problem for the Case transmission theory is exemplified in (4)-(6)[3]

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[2]   This idea comes directly from work of Pollock (1981), (1983) and from recent research of H. Lasnik and A. Belletti, on whose work I draw heavily in the next few pages.

[3]   e.g. Burzio ch.2, Safir (1985: 150-152)

(4) a. *there is likely a man to be in the room

   b. *there seems a man to be in the room

(5) *sembrano tre ragazzi essere arrivati   (Belletti (1987))

(6) *John expects there to appear a bear to be in the square (Safir
    compare: John expects her to leave   (1985))

The question here is why Case inheritance fails. In (4), (5), and (6), the NP's
a man, tre ragazzi, and **a bear** appear in non Case positions: In the
subject position of nonfinite verbs. In all three sentences, however, the
expletive, **there** in (4) and (6), **pro** in (5) are in Case marked positions.
This is evidenced by the fact that those positions can be landing sites for NP
movement, in (7) and (8), and by the possibility of Exceptional Case Marking
by **expect** in (9). Yet all the sentences in (4)-(6) are unacceptable.

(7) a.   a man is likely to be in the room

   b.   a man seems to be in the room

(8) tre ragazzi sembrano essere arrivati

(9) John expects a bear to appear to be in the square

One could argue (following Burzio) that Case inheritance is clause-bound, so
that no transmission can take place in (4)-(6), because the postverbal NP is
separated from the expletive by a clause boundary. But the sentences in
(10)-(12) show that clauseboundedness plays no role here. (10)-(12) differ

minimally from (4)-(6) in that the postverbal NP is not in the subject position of the embedded infinitival but appears to the right of the embedded verb.

(10) a.   there is likely to be a man in the room

     b.   there seems to be a man in the room

(11) sembrano essere arrivati tre ragazzi

(12) John expects there to appear to be a bear in the square

Noting the facts in (10), Burzio claims that the English verb 'be' is exempt from the restriction on the clause-boundedness of Case inheritance.[4] However, even such a modification does not account for the wellformedness of (11), or of (13) below, since the postverbal NP is licit after a verb other than **be**, (Safir, op cit.: 151.)

(13) there seem to exist several solutions

Putting the issue in structural terms, then, why is a representation like (14a) illformed while (14b) is wellformed?

---

[4]   Note that one could argue that the postverbal NP in (10)-(12) receives its Case by transmission from the trace of the raised expletive, thus maintaining the clauseboundedness of Case transmission. Yet if an expletive can receive Case in situ, as subject of **to be** and **essere** it is not clear what requirement would compel it to raise to the subject position of e.g., **sembrare** in the first place.

An alternative, and perhaps a more natural one, would be to allow only clause-bounded Case transmission, but from a Case-headed, (i.e., well-formed) chain. Thus, in (10a) Case is transmitted from the chain (there,t) to **a man**.

(14) a.   [expletive] V [$_S$ NP V]

     b.   [expletive]$_i$ V [$_S$ t$_i$ V NP]

If Case inheritance were disallowed, the illformedness of (14a) would be explained as a Case Filter violation. In similar terms, the wellformedness of (14b) is due to the fact that when the NP appears to the right of the verb, it can be assigned Case. Let us hypothesize, then, that the embedded V in (14b) is a Case assigner.

An argument to the effect that unaccusative verbs Case mark their objects is made in Belletti (1987).

Belletti (1987)

Belletti's proposal is that unaccusative and passive verbs assign an inherent, partitive Case to their complements and that the definiteness effect associated with postverbal subjects of such verbs follows from a semantic incompatibility of 'strong' NP's with partitive Case. There are languages, e.g., Finnish, where partitive Case is morphologically represented; Belletti claims that even in languages where there is no overt morphological partitive Case, it is nevertheless assigned, albeit abstractly.

Belletti further assumes that partitive Case is sufficient to satisfy the Case Filter. Thus, under her assumptions, the postverbal NP **un uomo** in (15a), or 'a man' in (15b), is directly Case-marked partitive. There is no need, in her

system, for Case inheritance from a preverbal expletive, since the postverbal NP can acquire Case in-situ.

(15) a.   arriva un uomo

b.   there arrived a man

An inherent Case differs from structural Case is that it 'inheres' in the lexical entry of a verb rather than being assigned configurationally. Chomsky (1986a) proposes that inherent Case is assigned together with a θ-role. If so, argues Belletti, it is predicted that partitive Case will be blocked from an NP which is not θ-marked by the Case assigning verb. In the sentences in (4)-(6) above, the problematic NP is the subject of an embedded sentence. As such, it is not θ-marked by the governing verb. Even if it is assumed that **seem, sembrare, likely, appear** are unaccusative predicates, (an assumption which is supported, at least w.r.t to the Italian **sembrare**, by the fact that it takes the auxiliary **essere** and not **avere**, a standard diagnostic for unaccusativity in that language,) partitive Case will be blocked since these predicates do not θ-mark the subject of their sentential complements. The illformedness of (4)-(6) shows that these NP's can only receive Case from their governing verbs. If they could, alternatively, be Case marked by inheritance from the expletive, their illformedness would remain unexplained.[5]

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[5]   The assignment of nominative Case directly from INFL to a VP-internal subject is ruled out by the Minimality Condition since the VP-internal subject is 'shielded' by V from government by an element external to VP.

Thus, Belletti's argument has the consequence not only that direct partitive Case by the governing verb is the only Case that can be assigned to the objects of unaccusative verbs, but that that is the only way those NP's can be assigned Case. Due to its inherent nature, partitive Case is predicted never to be assigned across clause boundaries, through exceptional Case marking.

Partitive Case, however, is optionally assigned. For if it were obligatory, fronting the object into subject position would not alter the definiteness effect and (16b) should be as ungrammatical as (16a). the fact that (16b) is acceptable shows that partitive Case is not assigned.

(16) a. *there is the man in the room

      b. the man is in the room

Since the verbs in question cannot assign any other Case (specifically, they are not assigners of structural accusative Case), suspension of Case assignment compels the postverbal NP to move into a Case position, as in (17)-(19) below. Thus, the import of Raising as a last resort operation is maintained in this system: Raising will only take place when partitive Case is suspended.

(17) a. a man is likely to be in the room

      b. a man seems to be in the room

(18) tre ragazzi sembrano essere arrivati

(19) John expects a bear to appear to be in the square

Since the definiteness effect characterizes the objects of English **be** and **exist**, as well as the past participle **arrivati**, it may be assumed that they are all assigners of partitive Case.

(20) a.   *there is the man in the room

      (compare: there is a man in the room)

      b.   *there exists every unicorn

      (compare: there exist some unicorns)

      c.   *sembrano essere arrivati gli uomi della finestra

      (compare (11) above)

To conclude, Belletti's theory provides an explanation for the representations in (14). (14a) is illformed because partitive Case cannot be assigned across a

clausal boundary; (14b) is wellformed because the embedded V can <u>directly</u> Case mark NP.[6]

Case Adjacency

Stowell (1981) argues that objects which are directly Case marked by a governing verb must be adjacent to it. This accounts for the contrasts between (21a-d) and (21e-f), (22a,b) and (22c) and (23a) and (23b).

(21)   a.   Paul quickly opened [the door]

        b.   Jenny quietly read [her book]

        c.   Paul opened [the door] quickly]

        d.   Jenny read [her book] quietly

        e.   *Paul opened quickly [the door]

        f.   *Jenny read quietly [her book]

---

[6]   Pollock (1981), (1983) argues that unaccusative verbs and passive participles Case mark their objects. He shows that such an assumption can account for the contrast between verbs and adjectives in il-impersonal constructions.

(i)   a.   il est arrivé un homme
      b.   il a été tué un homme
      c.   *il était stupide un homme

True adjectives differ from verbs in their incapacity to assign Case. See also Davis (1984) for arguments that Case is assigned directly in these sentences.

Note that as things now stand, not all of Burzio's arguments have been answered, e.g., it is not clear from the discussion above why expletives need to be in Case-marked positions. I turn to this question in detail in Ch. 3 below.

(22) a.   John often sees Mary

     b.   John sees Mary often

     c.   *John sees often Mary

(23) a.   Bill saw a movie yesterday

     b.   *Bill saw ysterday a movie

If the Case filter could be satisfied by transmitting Case to the postverbal NP from **there**, the lack of adjacency of this NP to its governing verb ought to be irrelevant. Yet the adjacency violations illustrated in (21)-(23) repeat themselves in the paradigm in (24)-(27) below, as argued by Lasnik (1987) (and putting aside the parenthetical reading of the adverbials.)

(24) a.   there quietly arose a terrible storm

     b.   there quickly developed an argument

(25) a.   there arose a terrible storm quietly

     b.   there developed an argument quickly

(26) a.   *there arose quietly a terrible storm

     b.   *there developed quickly an argument

(27) a.   there often hangs a coat here

     b.   *there hangs often a coat here

Again, one could maintain the view that Case is transmitted by **there** but must be realized under adjacency but as far as I can tell, that is tantamount to saying that Case is assigned by the verb under adjacency and that **there** is doing no Case theoretic work.[7]

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[7]   Noam Chomsky (p.c) notes that (26a,b), (27b) are not as bad as they ought to be given the analysis in the text. He also cites (i) which is at least as good as (ii).

(i)   there arrived yesterday a strange letter
(ii)   there arrived a strange letter yesterday

It seems to me, however, that (i) as well as (26a,b), (27b) involve 'Heavy NP shift' of the indefinite NP, accounting for their marginal, as opposed to ungrammatical status. It is a well known fact that indefinite NP's may undergo HNPS while definite 'non-heavy' ones may not.. (Rochemont (1978), Stowell (1981).)   Thus, for example, while (iv) is a possible alternant for (iii) (vi) does not alternate with (v). (Thanks to H. Lasnik for discussing this point with me.)

(iii)   I gave a letter to him
(iv)   I gave to him a letter

(v)   I gave the letter to him
(vi)   *I gave to him the letter

Given the option of HNPS in (26a,b), (27b), an adjacency violation is circumvented in e.g. (26a), by assigning the postverbal NP a terrible storm Case in a structrue such as (25) and then moving the Case-marked NP to the right. Thus, the marginal, as opposed to ungrammatical status of (26a,b), (27b) is not a genuine problem for the analysis in the text.

A question which remains mysterious is why (26a) is still marginal to ungrammatical, in comparison with the fully acceptable (i). In other words why the 'escape route' offered by HNPS is not entirely acceptable in the former.

Lasnik (1987) discusses another set of examples, which make the same point as those of (4)-(6) and (10)-(12) above.

(28) a.   *I consider there a solution

       b.   I consider there to be a solution

If Case inheritance were a viable means for meeting the Case Filter, (28a) ought to be fine, since **consider** can (exceptionally) Case mark the subject of its small clause complement (viz. 'I consider John to be intelligent') and a derivation in which **there** is first Case marked by **consider** and then transmits Case to the NP **a solution** should be valid. The unacceptability of (28a) militates against Case transmission. The acceptability of (28b) can be accounted for under the assumption that **be** is a Case assigner.

To conclude this section, I have tried to argue in favor of two claims:

(i)   Case is always assigned directly and locally, never by transmission.

(ii)   The copula **be**, like Belletti's unaccusative verbs, is a Case assigner.

Case Adjacency with 'be': The link with Romance

Note, in passing, that **be** does not give rise to adjacency violations, (Lasnik (1987).) This can be accounted for under the assumption that unlike the English verbs in e.g., (21)-(23), **be** can be moved into INFL in the syntax.[6] A

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[6]   See Emonds (1976), Jackendoff (1972), Lasnik (1981).

possible representation for (29a), is, then, (29b), where the trace of the verb and the object NP are, indeed adjacent.

(29) a. there is often a terrible storm here

b. there [$_I$· is [$_{VP}$often [$_V$· t$_V$ a terrible storm here]]

Note that in order for (29b) to be acceptable w.r.t Case theory, we must make the auxiliary assumption that the trace of a verb retains the Case assigning property of its antecedent. This is argued for explicitly in Torrego (1984). We can generalize her argument and assume what, in any event, seems like the null lhypothesis, namely, that traces retain all the features of their antecedent except those that are intrinsically tied up with phonetic content.) This means that even though is is moved into INFL, it's trace retains the capacity to assign Case to the postverbal NP.

Furthermore, the ungrammaticality of (30a) is due to the fact that both has and the participle been cannot both move into INFL at S-structure. Thus, the representation of (30a) must be (31b), where the adjacency problem is retained.

(30) a. *there has been often a terrible storm here

b. there [$_I$· has [$_{VP}$[$_V$· been often a terrible storm here]]

The claim that movement of V to INFL in the syntax around an adverb obscures what would otherwise be an adjacency violation can be carried over directly to Romance where the adjacency condition, in the general case, does not seem to hold. The possibility of raising a verb in to INFL around a

V' adverb was first made in Emonds (1979) and has recently been pursued in Pollock (GLOW 1987).

To take one example, the grammaticality of (31a) (Rizzi 1986: p 531) which should be contrasted with the unacceptable (22c) above can be represented at S-structure as (31b).

(31) a. Gianni vede spesso Maria
          Gianni sees often Maria

      b. Gianni [$_{I'}$ vede+INFL [$_{VP}$ [$_{V'}$ spesso [$_V$ t$_V$ Maria]]]]

If this approach is correct then Case adjacency holds in Italian just as it does in English.

Note, now, that (32) is acceptable, contrasting minimally with the unacceptable English (30).

(32) ha entrato lentamente un uomo dalla finestra
      has entered slowly a man through the window

What needs to be assumed here is that the past participle **entrato** can move into INFL before S-structure and occupy it together with the auxiliary **ha**, an option which is unavailable in English. In Ch.4, we argue- for an equivalent case in Spanish- that the participle can incorporate with the auxiliary, in the sense of Baker (1985).

2.3   The Subject Position

If expletives do not transmit Case to a postverbal NP, we must look outside of Case theory for an explanation of their obligatory presence. Consider, now, the hypothesis that expletives are place fillers for postverbal (i.e., 'displaced',) subjects and that there is some grammatical principle that requires that clauses have subjects.

Such a principle has appeared under different names in the course of the development of generative grammar and is espoused by virtually all contemporary generative theories. Both Relational Grammar and GB theory possess such a principle: The 'Final 1 Law' and the 'Extended Projection Principle'. Both amount to the stipulation that,

(33)   **Subject Stipulation**
        Every clause must have a subject

There are a number of ways to conceptualize (33). Chomsky (1982), for example, links it to the projection principle. Yet there is something misleading, it seems to me, in such a linkage. The projection principle projects lexical information, e.g. a thematic array, onto a structure. For example, if a verb has a θ-marked object, an object position will be generated and when a verb does not have a θ-marked object, an object position will not be generated. However, a subject position is always generated, even when it is non-thematic, Chomsky (1981:26). It is precisely when the subject position is non-thematic that it is filled by an expletive. If (33) is conceptually linked to the Projection Principle, we cannot appeal to it for an explanation for why there are expletives.

The theme I would like to pursue is that (33) is a purely structural principle, i.e., Chomsky's (1981) **Principle P**. It is a stipulation to the effect that clauses must have a _structural_ subject position which I take to be the SPEC of IP in languages that can be characterized as configurational. (33) is thus, not a 'projection principle' in that it doesn't project a thematic array onto a phrase structure; rather it is a building block of that structure. Principle (33) is completely oblivious as to whether a verb has an external θ-role or not. It is precisely in regard to non-thematic subjects that the Subject Stipulation , (33), and the Projection Principle diverge: The Projection Principle will not project a syntactic position if there is no θ-role to be assigned to that position and consequently, a clausal subject will not be projected if there is no external θ-role. (33), on the other hand, requires that there be a subject position independently of whether the verb has a thematic subject or not.

When a verb does not assign an external θ-role, the subject position must still be represented and it is filled by a thematically-empty element, an expletive. The expletive may be null, as in Italian or overt, as in English, depending on the setting of the parameters of the **pro**-module.

There have been a number of attempts to derive the stipulation that clauses have subjects from more general principles, e.g., the arguments of Rothstein (1983) to the effect that (33) derives from a principle of predication which requires that every predicate have a subject.[9] In this work, I will not dwell on the derivation of (33) and remain neutral on the question of whether it

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[9]   See also Williams' (1980).

constitutes a primitive of grammatical theory or a derivable theorem thereof.[10]

Let us, then, view the role of expletives as fillers for a thematically empty, yet obligatorily generated position and proceed to consider the hypothesis made in Chomsky (1986) to the effect that expletives are replaced, at LF, by the arguments with which they are coindexed.

2.4 Expletive Replacement

The import of the Expletive Replacement Hypothesis, (ERH) is that even if a verb does not have an external argument, but only an internal one, that argument is obligatorily 'externalized', i.e. fronted to the subject position in LF.

Chomsky himself proposes that expletive replacement is an LF analogue for Raising at S-structure. Such a view is false, I believe, under a 'narrow' view of Raising, i.e. as a means for a non Case marked NP to get Case but true under a broader conception of Raising as a 'last resort operation'. Let us clarify this matter.

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[10]   Note that the claim that (33) is a primitive does not entail the committment to the claim that grammatical relations such as 'subject of' are primitive. Under the interpretation given to it in this work, (33) may be construed as a primitive of phrase structure, as the stipulation that IP must have a specifier position. Needless to say, this is problematic for conceptions of a category-neutral base, since reference is explicitly made to the specifier of a specific category, i.e. IP.

In 2.2 above we showed that expletives do not transmit Case, that they are redundant from the point of view of Case theory. A postverbal NP such as a **man** in (34) below can be Case marked partitive in situ and does not need to be fronted in order to receive Case.

(34)   there arrived three trains

If Raising is seen only as a way of satisfying the Case Filter then the replacement of **there** with **three trains** in LF is not a subcase of Raising. Suppose, however, that we construe Raising more broadly, as a subcase of **move-α** which is not tied to any particular module and can be utilized by the grammar to meet any requirement. Typically, it is employed as a 'last resort' operation for Case assignment, (at S-structure,) but it can also be used to replace an expletive in LF if such a a replacement is deemed necessary by some principle or another. Thus, Raising at S-structure is motivated by different principles than Raising in LF: In the former, it is Case-driven while in the latter, it is motivated by expletive replacment.[11]

Expletive replacement is, thus, quite similar to Raising or passive: All three operations create A-chains, Raising and passive at S-structure, expletive replacement in LF.

Deriving Expletive Replacement: Full Interpretation

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[11]   This distinction is not a principled one. One could argue that extraposed sentential subjects, while resistant to Case at S-structure, nevertheless require Case in LF and must replace an expletive in order to meet the Chain Condition. See Ch. 3 for an elaboration of this idea. There, I argue that only overt NP's need Case at S-structure but all A-chains must be headed by a Case marked element in LF.

Chomsky (1986a) has proposed that universal grammar incorporates a principle of 'Full Interpretation'. Taken in its strongest form, FI implies that at the levels of LF and PF, which constitute the interface of grammar with systems of language use, every element must be assigned an appropriate interpretation. Elements may not be simply disregarded as notational or representational redundancies.

Putting aside the application of FI to PF representations, consider the restrictions that FI imposes on LF. FI does not tolerate elements in LF representation which play no role in semantic interpretation. Conceivably, then, complementizers may be deleted in LF, and perhaps must be so deleted if they are semantically empty. Obviously, this has consequences for the notion of recoverability of deletion but one can imagine that recoverability of deletion does not apply at LF to elements which are not assigned an interpretation.

Consider the status of expletives. Since they bear no interpretation, but are merely place holders, they must be eliminated in LF. Unlike complementizers, however, expletives may not be simply deleted. This is so because their presence is required by (33), which we can take to be an independent 'licensing mechanism' at LF. Thus, expletives must be ⊖5 eliminated -by FI- but the position they occupy must be represented - by (33). This tension is resolved by replacing the expletive with an argument. Adjuncts cannot replace an expletive since the specifier of S- the subject position- is an A-position from which adjuncts are excluded. Seen in this

form, expletive replacement is a 'last resort' operation induced by the dual requirements of FI and (33).

The direct consequence of expletive replacement is that,

(35)   At LF, all clauses have subjects which bear θ-roles.

Since expletives must be replaced by arguments at LF, it follows that there are no LF representations with nonthematic subjects. This corollary will be shown to play a significant role in the theory of null subjects that will be developed in Ch. 5. There, I will argue that the the licensing principles which comprise the **pro** module treat on par null subjects which are argumental and null expletives. This rather surprising result is rendered more plausible if the **pro** module is sensitive to LF representations and if (35) is, indeed, characteristic of LF representations.[12]

2.5   What Is An Expletive Replaced By: Romance Free Inversion?

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[12]   Reuland (1983) deduces what amounts to expletive replacement from an interpretation of the Subject Stipulation which has (35) built into it. Chomsky's version assumes FI and a purely structural version of the Subject Stipulation.

On conceptual grounds, it seems to me that Chomsky's version is preferable in that it maintains an impoverished Subject Stipulation and derives Expletive Replacement from a more general principle, FI, which has broader explanatory power.

In a number of Romance languages, e.g., Spanish, subjects of intransitive verbs can either procede or follow the verb. Thus, (36a) and (37a) as well as (36b), (37b) are possible:

(36) a.   llego Juan
             arrived Juan

       b.   Juan llego

(37) a.   llamo Maria
             telephoned Maria

       b.   Maria llamo

It is generally assumed that the 'unmarked' constituent order is subject-verb and the reverse order is obtained through a process called 'free inversion'. Although we shall discuss inversion at greater length in Ch.4, let us, for now, assume the familiar hypotheses on inversion. Thus, it has been argued that the postverbal subject of an unaccusative verb like llegar occupies the position of the direct object while the postverbal subject of llamar is adjoined to VP.[13] As such, the postverbal subject in neither sentence satisfies the Subject Stipulation, since, in neither case is the subject SPEC of IP. The Subject Stipulation, in the format given to it in (33) compels us to postulate a null subject in (36),(37).[14]

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[13]   See, e.g. Burzio (1985), Jaeggli (1982) and much other work.

[14]   The existence of null expletives in inversion constructions has been proposed for a number of languages. For more extensive discussion see ahead and also Rizzi (1986), Safir (1985), Pollock (1983), Platzack (1985), among others. This view has been contested in a number of works, e.g. Borer (1986), Travis (1984), Adams (1987), Zagona (1982).

Being expletive, the null subject of (36), (37) is subject to replacement at LF. We assume that in LF the postverbal subject itself replaces the null expletive.

Let us turn now to a difficulty that this proposal encounters. Rizzi (1982) argues that the **complementizer/trace** effect is suspended in null subject languages like Spanish or Italian, an observation due originally to Perlmutter (1971), because a subject can be postposed and adjoined to VP and then extracted from this postposed position where it is presumably properly governed (by V or by the null subject.) The derivation of (38a) from (38b) is schematically represented in (38c).

(38) a.   chi credi che verrà
            who believes that will come

      b.   credi che qui verrà

      c.   [$_{COMP}$ chi$_i$] credi [$_{S'}$ che t$_i$ verrà t$_i$]

Modifying somewhat Rizzi's original assumptions, we can say that the null subject of **verrà** in (38c) is a null expletive **pro** , rather than a trace, or **PRO**, since a trace in the subject position is itself not properly governed and violates the ECP, (and **PRO** is governed.[15]) Suppose, then, that (38c) is actually (39).

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[15]   This depends on one's assumptions about affix hopping. In Chomsky (1981) the null subject is, in fact, PRO. The LGB account rests crucially on movement of AGR to V in the syntax eliminating a potential governor for PRO. This proposal is untenable in a theory that accounts for the amalgamation of V and AGR by movement of V to INFL. For evidence that this latter approach is, in fact, correct, see ahead, pp. 174 - 145.

(39) [$_{CP}$ chi$_i$ credi [$_{CP}$ che pro$_i$ verrà t$_i$]]

Since **pro** is not subject to the ECP (being a pronominal e.c.), the ECP problem that (38c) presents is avoided. I am assuming, then, that rightwards movement of the subject can leave an empty category pro.[16]

Consider, now, the LF representation of (39). **pro**, being expletive, must be replaced and the only potential replacement is the trace of the extracted wh-word **chi**. Suppose, then, that t$_i$ replaces **pro**, giving (40).

(40) [$_{CP}$ chi$_i$ credi [$_{CP}$ che t$_i$ verrà t$_i$]]

(40), however, seems identical to (38c) which, we argued, was illformed w.r.t to the ECP. We seem, then, to be in a quandary: By the null hypothesis on expletive replacement, **pro** can be replaced by traces as well as by overt NP's, yet such an operation would seem to recreate an ECP violation that the postverbal extraction of **chi** was designed to circumvent.

There is, however, a crucial difference in the way (40) and (38c) are derived.[17] In the latter, a trace in the subject position cannot be properly governed; in the former, a trace which is in a properly governed position at

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[16]   This is conceptually distinct from a 'functional' determination of e.c.'s, as in e.g., Chomsky (1981, ch. 6) (1982), Bouchard (1982), Sportiche (1983), but rather entails the hypothesis that empty categories can take on any features they please, subject to other constraints, as discussed in Brody (1984). The option of leaving a pro e.c. is possible in Italian due to positive setting of the null subject parameter in Italian and impossible in English because the grammar of English does not tolerate null subject pro's.

[17]   I am indebted to M. Browning for an extremely illuminating discussion of this matter. Some of these issues are discussed in Browning (1987).

S-structure is moved into a position which is not properly governed in LF.
Under Lasnik and Saito's (L&S) (1986) conceptualization of the ECP, which is
adopted in this work, it is assumed that the ECP is a filter which is sensitive
to the feature [+ -γ]. Let us also make explicit the null hypothesis about [γ]
marking, namely, that it can apply anywhere, or, perhaps more
conservatively, anywhere within the component in which the e.c. is formed,
i.e. S-structure or LF.[16] Following L&S, suppose that once [γ]-marked, the
status of an element is fixed w.r.t the ECP: If it has been [γ]-marked [-],
movement into a properly governed position will not render it [+γ].
Conversely, if an element is marked [+γ], it may move to a non properly
governed position without losing this value.

Seen in these terms, the difference between (38c) and (40) is clear: (40) is
derived by marking t_i [+γ] in its VP-adjoined position at S-structure and
then moving it to replace **pro** in LF This is posssible in Italian because of
the positive setting of the null subject parameter. (Recall that **pro**, by
definition, is not subject to the ECP.) In the English equivalent of (38a), the
null category in [SPEC/IP] cannot be **pro** but only trace, since **pro** is not
licensed in English. It is thus marked [-γ] and consequently ruled out by the
ECP.

2.6   THERE Replacement

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[16]   Letting [γ] marking be completely free will allow an empty category
which would otherwise be assigned [-γ] at S-structure to postpone it's [γ]
marking to LF. Restricting it to apply within the component in which it is
formed would disallow precisely that. The correct formulation of
[γ]-marking is ultimately an empirical question which I will not attempt to
resolve in this work.

The Problem

I have, until now, been assuming that expletives are replaced by their coindexed arguments. But it is far from obvious what is the actual coindexed argument. What actually does replace an expletive? Insofar as a postverbal NP can satisfy the Case Filter with inherent Case **in situ**, it does not need to move into a Case-marked position. Consequently, Case theory does not 'force' a postverbal NP to undergo LF expletive replacement or, what would amount to the same thing, LF Raising.

But there are more substantial differences between **there** sentences, in particular, the **there...be** variety, and their raising or passive counterparts, differences which could be accounted for rather straightforwardly if, in fact, **there** was not replacable by the postverbal NP in LF. Specifically, **there** sentences do not have the same meaning as their NP-movement variants.

Consider, first, the fact, noted in Williams (1984), that the postverbal subject of the **there** sentence in (41a), **someone**, cannot take wide scope over the modal **must**. (41a) cannot be represented as (41b), but only as (41c).

(41) a.   there must be someone in the house

  b.   *[someone$_i$ [must be t$_i$ in the house]]

  c.   [must [someone$_i$ [t$_i$ be in the house]]]

Sentence (42a), however, is ambiguous, it can be represented either as (42b) or as (42c).

(42) a.　　someone must be in the house

　　　b.　　[someone$_i$ [must be t$_i$ in the house]]

　　　c.　　[must [someone$_i$ [t$_i$ be in the house]]]

If **there** were replaced by **someone** in LF, it is not clear how (41b) could be blocked.

Safir (1985) discusses a related fact w.r.t the scope of negation. He notes that in (43a), the NP **many men** is obligatorily under the scope of the negation, while only optionally so in (43b).

(43) a.　　there aren't many men sick

　　　b.　　many men aren't sick

(43a) can be paraphrased <u>only</u> as (44a), while (43b) admits of both the paraphrases (44a) and (44b), although it is perhaps more naturally interpreted as (44b).

(44) a.　　It is not the case that many men are sick

　　　b.　　there are many men such that they are not sick

As before, if **many men** were to replace the expletive in LF, it is not obvious how to prevent it from taking wide scope over the clause.

A third related problem (again from Safir,) is exemplified in (45). The embedded postverbal subject **many ships** in (45a) cannot have scope

outside of the clause containing the verb which governs it, it cannot have the interpretation (46a), but only (46b). Once again, (45b) is ambiguous.

(45) a.   there seem to be many ships in the harbor

      b.   many ships seem to be in the harbor

(46) a.   for many x, x a ship, [there seem to be x in the harbor]

      b.   it seems that for many x, x a ship, [x are in the harbor]

If (45a) were represented at LF in a manner identical to (45b), it should mean the same thing as (45b). Evidently it doesn't.

THERE Replacement: The Proposal

The hypothesis I wish to consider is that **there** in the examples above is not replaced by the postverbal NP but rather by the entire small clause complement of **be**. The post-replacement representations of (41a), (43a), (45a) will, then, be,

(47) a.   [someone in the house]$_i$ must be t$_i$

      b.   [many men sick]$_i$ aren't t$_i$

      c.   [many ships in the harbor]$_i$ seem t$_i$ to be t$_i$

(47a-c) are just the right structures for ruling out wide scope reading for the NP's **someone, many men, many ships**. Consider (48):

(48) a.   someone$_i$ [$_{IP}$ [$_{SC}$ t$_i$ in the house]$_i$ must be t$_i$]

b.   many men$_i$ [$_{IP}$ [$_{SC}$ t_i sick]$_k$ aren't t_k]

c.   many ships$_i$ [$_{IP}$ [$_{SC}$ t_i in the harbor]$_k$ seem t_k to be t_k]

The SC in the subject position in (48) is not L-marked, hence a blocking category and a barrier. Furthermore, S is a barrier, by inheritance from SC. Be the categorial features of the small clause what they may, it seems reasonable to consider it to be a maximal category. Furthermore, it is an argument. As such, it doesn't tolerate adjunction. The conclusion is that t_i in (48a-c) is marked [$-\gamma$] and the structure is out by the ECP.

Yet as it stands, this proposal has the undesirable consequence that e.g. **many ships** in (47c) cannot have any scope at all and must be interpreted referentially. This is so, since the quantifier may not be Quantifier-Raised and therefore is in an A-position in LF, a position from which it presumably cannot exercise scope. Yet surely (49a) is grammatical, even though **no women** may only be interpreted quantificationally; (49b) manifests scope ambiguities between **some mice** and **every room** and the pronoun **his** in (49c) can be intepreted as a bound pronoun.[19]

(49) a.   there are no women in the room

     b.   there are some mice in every room

     c.   there is someone in his room

Clearly, then, the quantifiers in (49) must be able to exercise scope. One way of dealing with this problem is to assume, following Williams (1984), that

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19   I am grateful to K. Johnson, R. Larson and B. Schein for discussion of this problem.

when a quantifier cannot move (because movement would violate some principle of syntax,) it is interpreted in situ and is assigned the narrowest possible scope.

We certainly do not want to claim that **there** can *only* be replaced with a small clause, because it can appear with verbs that do not take small clause complements at all, such as arise, arrive, occur (e.g., 'there arose a storm'.) In these latter formations, **there** is replaced by the postverbal NP itself, just as in the Romance cases examined on pp.   above.

But if **there** can be replaced both by NP's and by (small) clauses, it is not clear what forces it to be replaced by a small clause in e.g., (41). Note that in these examples, it *must* be replaced by the small clause, for otherwise, the wrong scope facts would inevitably manifest themselves.

My proposal is that **there**-replacement is fundamentally free in that an expletive can be replaced by anything. Specifically, there are no categorial restrictions on **there** replacement. This means that there is no lexical restriction of the sort '**there** is associated with category of type XP (X={N,I,...})'.

The second part of my proposal is that there are independent Case theoretic reasons for preventing the postverbal NP from replacing the expletive in **there be** sentences. Since the NP cannot move and the expletive must be replaced, the entire small clause is raised, as a last resort.

THERE Replacement: The Argument

In 2.2, we presented a brief summary of Belletti's (1987) account of the definiteness effect. Her main point, to recall, is that unaccusative verbs assign an inherent partitive Case to their objects and that partitivity is incompatible with definiteness. She explicitly argues that partitive Case is inherent and cannot be assigned to NP's which are not θ-marked by the Case assigning verb.

Such an account, however, forces one to abandon the view that the complement of **be** in English is a small clause. The reasoning is simple: The NP which follows **be** is subject to the Definiteness Effect, hence it is assigned partitive Case by **be**. This, in turn, implies that **be** θ-marks this NP. But if so, then the NP cannot be the subject of a small clause, which is not a θ-position w.r.t the governing verb. Thus, Belletti's account compels one to view the relation between **be** and the NP which follows it as one of direct θ-marking. One may then adopt Jenkins' (1972), Williams (1984) position that the complement of **be** is an NP, (50a), or, alternatively, that **be** subcategorizes both for an NP and locative PP, as in (50b). Stowell's small clause analysis, however, must be rejected.

(50) a.   there is [NP a man in the room]

b.   there is [NP a man] [PP in the room]

But then, if the complement of **be** is an NP and not a small clause, we again lose an explanation for the difference between **there** sentences and their Raising variants.[20]

Let us maintain the small clause analysis and consider some adjustments in Belletti's theory of partitive Case.[21] Specifically, let us adopt a suggestion of H. Lasnik's, (p.c.), that partitivity may be assigned either inherently or structurally. More generally, suppose that the choice of whether to assign partitive Case inherently or structurally is basically free. I diverge, therefore, from Belletti's assumption that partitive Case is strictly θ-related. Partitivity is clearly a semantic notion, yet if it were linked in the lexicon to a θ-role, its optionality would deserve explanation. It is not clear how a Case which is supposedly linked to a verb's θ-grid in the lexicon could be suspended when that θ-role is discharged.

An alternative is to view partitivity as a semantic property, a feature, if you will, which is assigned either along with a θ-role or structurally, under government. Yet allowing partitive Case to be assigned structurally would deprive us of the otherwise quite elegant explanation for the ungrammaticality of (4)-(6) above, which, as Belletti argues, are illformed

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[20]   Unless one adopts Williams' (1984) proposal that **there** is a scope marker and not an expletive, but this is inconsistent with the approach to expletives pursued in this thesis.

[21]   In this, and the following, I am indebted to H. Lasnik for very helpful discussions.

precisely because the subject of the embedded clause is not θ-related to the governing verb and can thus not be assigned partitive Case.[22]

Let us assume, then, that the assignment of partitive Case structurally is a marked option of the verb **be** but does not extend to unaccusative predicates such as **seem, appear, exist** etc...

The exceptional property of **be** may, perhaps, stand at the root of the contrast in (51), which shows French **etre** and Italian **essere**, in contrast to English **be**, do not admit of small clause complements in which passivization has taken place, (From Burzio (1985:155-157).)

(51) a.   there were [many houses$_i$ built t$_i$]

 b.   *il a été [beacoup d'immeubles$_i$ construit t$_i$]

 c.   *pro furono [molte case$_i$ construite t$_i$]

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[22]   Belletti uses the θ-related nature of partitive Case also to account for the absence of bare plural NP's from the subject position of small clauses in Italian and Spanish. Regarding such sentences as (i), Belletti argues that **studenti** requires partitive Case. (overtly manifested, for example, in a Clitic Left Dislocated structure: 'lettere, non ne ho scritte' - 'letters, I of-them$_{cl}$ didnt write'), yet it is barred from the subject position of a small clause and does not allow clitic climbing of **ne**, (ii).

 (i)   *Consideravo [$_{SC}$ studenti intelligenti]
              (compare: Consideravo [$_{SC}$ gli studenti intelligenti])
 (ii)   *Studenti, ne consideravo [- intelligenti]

The illformedness of both is accounted for if one assumes that the subject of a small clause cannot be assigned partitive Case, due to the inherent nature of such Case.

We can suppose that **many houses** can be passivized within the small clause and moved into the subject position of the small clause in order to be assigned structural partitive Case by **be**. The impossibility of such an operation in French/Italian is due to the fact that the equivalents of **be** in those languages lack the property of assigning partitive Case structurally. A sentence such as (51) is good in French/Italian when the subject of the embedded small clause appears post-verbally, as in (51') and the expletive is raised into the matrix subject position.

(51')   a.   il$_i$ a été [t$_i$ construit beacoup d'immeubles]

        b.   **pro$_i$** furono [t$_i$ construite molte case]

Consider, now, a D-structure such as (52).

(52)   e will be [$_{SC}$ many men in the room]

If partitive Case is not assigned, **many men** must move into e to get Case, deriving 'many men will be in the room'. Suppose partitive Case is assigned. Since **many men** is inside a small clause, and thus cannot be θ-marked by **be**, partitive cannot be assigned at D-structure, so it is assigned structurally. **there** is inserted in the place of **e**, and 'there will be many men in the room' is derived.

At LF, **there** needs to be replaced. **many men** now bears structural Case and if it moves to replace **there**, the resulting chain will have two Cases, nominative at its head; structural partitive at its tail. Doubly Case marked

Chains violate the Chain Condition. Thus, we derive the consequence that **there** cannot be replaced by **many men**.

The principle of Full Interpretation requires that **there** be eliminated and the Subject Stipulation prevents it from being deleted; hence it must be replaced. The only candidate for replacing it is the small clause and the desirable LF representation is derived.

Interestingly, the hypothesis that partitive Case may be assigned structurally affords us with a straightforward explanation for the illformedness of (53).

(53) a.   *three women in the room will be

    b.   *some women in the office seem to be

Consider the D-structures of (53), given in (54).

(54) a.   e will be [$_{SC}$ three women in the room]

    b.   e seem to be [$_{SC}$ some women in the office]

The question here is why the small clause complement of **be** cannot be raised into the matrix position in toto. Suppose that partitive Case is suspended, as a prerequisite for Raising. Now, if the entire small clause is moved into the subject position, the small clause subject, **three women** in

(53a), **some women** in (53b), will not be able to get nominative Case from the matrix INFL because it will be embedded within a clausal subject, a position not generally accessible to government by INFL.[23]

On pp.   above, I argued that traces of postverbal subjects in a null subject language like Italian replace an expletive in LF and that, in general, once a trace is [γ]-marked, it may transport this feature along with it when moving into an otherwise non-properly governed position. The same logic can be carried over to (55a) below. Here, however, it is not the trace that replaces the expletive, but the entire small clause containing the trace. The relevant LF representation of (55a) is given in (55b).

(55) a.   how many men were there in the room?

---

[23]   Note that this fails to account for the acceptability of sentences such as (i), (Akmajian (1977).)

(i)   the moon over the mountains is a wonderful sight

Nor does the account in the text extend to (ii), since **a god** can be Case-marked in the subject position of **be**.

(ii)   *a god is

b.
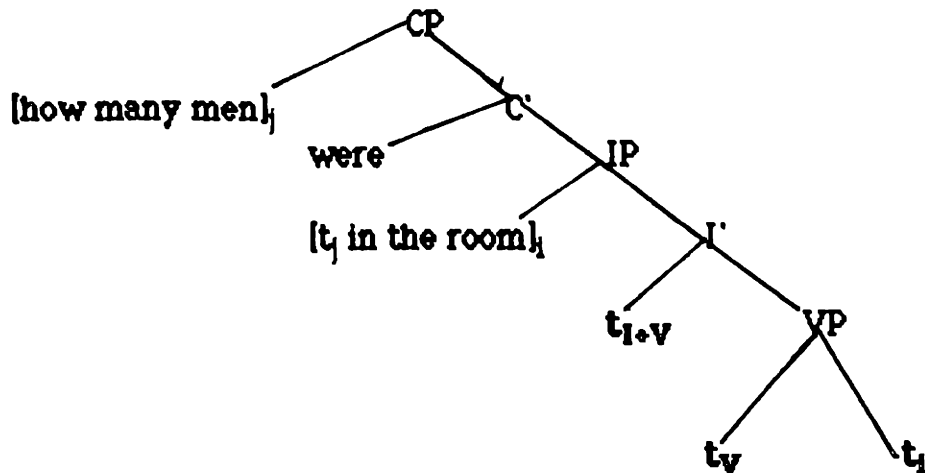
Since the trace t_j is marked [+γ] at S-structure it can appear, in LF, in what would otherwise be a configuration of an ECP violation.[24]

We can account for the contrast in (56), discussed by Safir (op.cit., p.159), in a similar vein.

(56) a.   [how many men]$_j$ did John say that [$_S$ there were [$_{SC}$ t$_j$ in the room]]

   b.   *[how many men]$_j$ did John say that [$_S$ t'$_j$ were [$_{SC}$ t$_j$ in the room]]

(56a) is equivalent, in all relevant respects, to (55a) above: t_j is marked [+γ] at S-structure and the entire small clause replaces **there** in LF. In (56b),

---

[24]   Assigning [+γ] to the subject of a small clause complement must be allowed for since (i) is grammatical. We may suppose that since SC is not a barrier, since it is L-marked by **consider**, but only VP, there is an intermediate trace, t'$_j$ adjoined to VP, as in (ii) which can assign [+γ] to t_j.

(i)   how many men did John consider foolish

(ii)   [how many men]$_j$ did [$_{IP}$ John [$_{VP}$ t'$_j$ [$_{VP}$ consider [$_{SC}$ t$_j$ foolish]]

however, the matrix clausal position is occupied by t'_1, not by an expletive. Traces of NP's to which a θ-role is assigned, as opposed to expletives, are subject to LF interpretation and are, thus, not replaced. While t_1 in (56b) is marked [+γ] at S-structure, as in (56a), t'_1 in (56b) is marked [-γ]. Since it occupies an A-position it cannot be deleted and violates the ECP. We have to also assume that t'_1 cannot be reinterpreted as, e.g., **pro** in LF. The following restriction on empty categories achieves that result:

(57)   Empty categories cannot change features

Care must be taken to distinguish the import of (57) from the claim made above that in null subject languages, movement may leave a pronominal trace, i.e **pro**. What (57) states is that values for the features of pronominality and anaphoricity, once assigned, may not be altered. Since the **pro** module does not license null pronominals in English, the e.c. must be a trace and thus subject to the ECP.

We have discussed replacement of expletives by NP's and by small clauses. One may ask whether other categories can participate in expletive replacement. Much research of recent years has converged on the idea that the principles generating phrase structure, the X-bar schemata, are category neutral. In the words of Stowell (1981: 267), then, "...it is impossible for any syntactic position to be specifically reserved for any particular category." From this it follows that the subject position cannot be specified as an NP position per se.

Within the context of our discussion of expletive replacement, Stowell's claim means that expletives should be freely replacable. This is trivially met in

sentences where there is only a single potential replacement for the expletive, in 'free inversion' configurations, for example, with an intransitive verb.

The **there** of **be** sentences, we claimed, is replaced by the small clause complement of **be**, but that cannot be an intrinsic property of **there**, since **there** can also be replaced by NP's, when the main verb takes a NP and not a SC complement. More important, however, is that the substitution of **there** by a small clause follows from Case theory in tandem with the Subject Stipulation and need not be stated as a property of **there** replacement.

We assume then, that expletives may be freely replaced and that more general constraints will inhibit the generation of illformed outputs. We are already equipped with several such constraints. For example, the characterization of the subject position as an A-position will bar the replacement of expletives by adjuncts (i.e. non-θ-marked elements) by the Chain Condition, (since the resultant chain will have no θ-role.[25]) We have seen that the interaction of the principle of Full Interpretation and the Subject Stipulation derive the obligatory thematicity of subjects in LF. Thus we need not stipulate that only θ-marked elements may replace an expletive. Furthermore, familiar constraints on structure preservation, in the sense of Emonds (1976) ensure that only maximal categories can move into SPEC/IP.

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[25]   I am putting aside problematic cases of PP preposing such as (i).

(i)   in the room is a book

For some discussion, see e.g. Safir (1985), Stowell (1981).

In the course of this work, we will encounter a number of cases where there will be more than one potential replacement for an expletive and we shall see that, modulo other restrictions, any one of the candidates can substitute the expletive. For instance, a range of locative constructions in Hebrew may be bracketed as either (58a) or (58b). The expletive may be replaced either by the locative PP-(58b)- or the small clause -(58a), (see Ch.6 for further discussion.)

(58) a. $[_{VP} V [_{SC} NP_{THEME} PP_{LOCATIVE}]]$

b. $[_{VP} [_{V'} V NP_{THEME}] PP_{LOCATIVE}]$

Let us, now, turn to the impersonal passive construction of Hebrew, in which a null expletive pro co-occurs with a postverbal oblique argument and is replaced by the PP containing the argument.

2.7   Hebrew Impersonal Passives and Expletive Replacement

The impersonal passive construction in Hebrew is restricted to a small class of predicates. An almost complete inventory is given in (59).

(59) sukam   'al ha-ce'adim le-bitul   xok ha-teror
        finalized   *on the-steps to-abrogate law the-terrorism*

                       `   ha-xadaS
                         the-new

'was finalized on the steps to abrogate the new Terrorism Law'

huxlat	'was decided'
dubar	'was spoken'
nixtav	'was written'
noda	'became known'
nimsar	'was relayed'
duvax	'was reported'

The verbs in (59) are passive in form and always singular in number. I have given the forms in the past tense although they are just as fine in the present or future tenses as well. These verbs all subcategorize for PP's and can also take clausal complements to varying degrees of acceptability:[26]

(60) a.   sukam   Se-ha-xok ha-xadaS hu anti-demokrati
          'was finalized'   *that the-law the-new it anti-democratic*
                        'that the new law is anti-democratic'

b.	huxlat	'was decided'
c.	*dubar	'was spoken'
d.	?nixtav	'was written'
e.	noda	'became known'
f.	nimsar	'was relayed'
g.	duvax	'was reported'

---

26   W.r.t. (60c), cf. the acceptable 'dubar 'al kax Se-ha-xok ha-xadaS hu anti-demokrati'= *was decided on it that the new law is anti-democratic*, an indication that dubar takes only a PP complement. The marginality of (60d) is eliminated when a locative PP or temporal adverbial is added, e.g. 'nixtav ba-'iton/etmol Se-ha-xok ha-xadaS hu anti-demokrati' = *was written in-the-paper/yesterday that the new law is anti-democratic*.

An important fact about these verbs is that they may not appear as bare predicates but require some sort of complementation. That is, (59) or (60) above would be unacceptable were it not for the presence of the postverbal PP or clause. A modifying adverb or adjunct phrase does not suffice to meet the restriction against what Safir (1985), in a discussion of basically parallel facts from French, called 'stripped predicates'. Thus, the sentences in (61) are all illformed, (cf. Kayne (1975), Pollock (1981, 1983).)

(61) *sukam ⎫
      *huxlat ⎪
      *dubar ⎪   φ/etmol/ecl-i ba-bayt
      *nixtav ⎬   *φ/yesterday /chez-me in the house
      *noda   ⎪   'φ/yesterday / at my place'
      *nimsar ⎪
      *duvax ⎭

Let us assume that the subject position of these passive forms is filled with a null expletive **pro**. At LF, this **pro** must be replaced by an argument, which we take to be the PP or S' complement of these verbs. Thus, the LF representation of (59) is given in (62).[27]

(62)

[pp·al ha-ce'adim le-bitul xok ha-teror ha-xadaS]   ⎧ sukam
    an the-steps to-abrogate law the-terror the-new   ⎪ dubar
    'on the steps to abrogate the new Terror Law'   ⎪ nixtav
                                                          ⎨ huxlat
                                                          ⎪ noda
                                                          ⎪ nimsar
                                                          ⎩ duvax

---

27   At S-structure, these PP's may appear in preverbal position, but as with English PP subjects, they are actually topicalized from the subject position and adjoined to IP, (see Stowell (1981).) I assume that whatever bars PP subjects at S-structure, let us say, Stowell's Case Resistance Principle, is inoperative at LF and the PP's may be moved directly into the subject position.

The 'impersonal' agreement manifested by the verb form is the typical form of agreement with impersonal subjects.

The illformedness of the stripped predicate constructions in (59) is due to the fact that there is no argument to replace the expletive with in LF leading to a violation of the principle of Full Interpretation.

It is worth emphasizing that **pro** in (59) is replaced by the postverbal PP and not by the oblique argument itself. The evidence for that is, as before, taken from the domain of scope assignment. If (59) could be represented as (63), we would expect (64) to be ambiguous between (65a) and (65b). (64), however, can only have the meaning (65a) with the NP **three steps** exercising narrow scope. If LF preposition stranding were allowed, (64) could give rise to a representation resembling (63), and nothing would prevent the NP **three steps** from adjoining to its clause and taking scope over the negation particle, contrary to fact.

(63) [$_{NP}$ ha-ceadim le-bitul xok ha-teror ha-xadaS]$_i$ sukam   al t$_i$
      the-steps to-abrogate law the-terror the-new was decided on
      'the steps to abrogate the new Terror Law were decided on'

(64) lo sukam al SloSa ceadim
      neg was decided on three steps
      'it wasn't decided on three steps'

(65) a.   it is not the case that it was decided upon three steps

      b.   there were three steps that were not decided upon

The impossibility of replacing **pro** by the oblique NP may be viewed as an instance of the impossibility of preposition stranding in Hebrew. Yet, in Ch.3 below, we claim the P-stranding must be universally available in LF. What rules out (63), however, is the ECP, since the e.c. in oblique object position is not properly governed. (In Hebrew, extraction from oblique object position is

possible only when a clitic doubles, and hence, properly governs the extraction site.)[26]

2.8   Expletive Argument Pairs and Binding Theory

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[26]   There are languages, e.g. German, Dutch, where the restriction against stripped predicates does not hold. At this point I do not understand why stripped predicates are allowed in the Germanic 'it was danced' construction. To pursue a speculation, note that in Germanic, impersonal passives are not restricted to a small class of verbs, as in Hebrew, but can be formed with any intransitive (unergative) verb. (Perlmutter (1978)). Another difference between Hebrew (and English/French) and Dutch, for example, is that Dutch **er** occurs productively with unergative and not merely unaccusative verbs, as the following sentence shows (from Reuland (1983).)

(i)   ik zag dat er iemand danste
        I said that there someone danced

Since **dance** is an unergative verb. (in Perlmutter's (1978) terminology,) its coocurrence with **er** suggests that subjects can, in general, be generated internallly to VP in Dutch, an option which is restricted in Hebrew (and English) to unaccusative (and passive) predicates. Given these independent differences between the two languages, one may consider Reuland's (1983) claim that Dutch impersonal passives involve a VP-internal phonetically null quasi-argument which then replaces **er** in LF. Hebrew, in this approach, will be said to differ from Dutch in not allowing quasi-arguments to be generated inside VP.

A problem with this explanation is that there are languages with VP internal quasi argument subjects and no impersonal passives. Such a language is Italian, where quasi argument subjects of weather predicates can be associated with either an unergative or an unaccusative D-structure, as demonstrated by the alternation between auxiliaries **essere** and **avere** in (ii), (From Belletti & Rizzi (1986)), yet Italian does not have an impersonal passive construction.

(ii)   a.   è piovuto   è ruotata
              is rained   *is turned*

        b.   ha piovuto   ha ruotato

The binding theoretic problem posed by expletive argument pairs is this: If an expletive is coindexed with an argument and moreover, c-commands it, then expletive argument pairs ought to be subject to the binding theory. The binding theory, in turn, would characterize such a coindexed pair as a condition C violation, since a referring NP, a name, is bound by the expletive.

In Chomsky (1981: 218) this problem was dealt with by the introduction of a different form of indexing for expletive argument pairs: Superscript indexing. Chomsky argues that the proper representation of (66a) is (66b) and not (66c).

(66) a.   there arrived three trains

      b.   there^j arrived [three trains]^j

      c.   there$_i$ arrived [three trains]$_i$

Superscripts were said to be invisible to the binding theory, unlike subscripts, which feed it. One motivation for incorporating superscripting into the grammar came from the theory of Case: Such a formal device could count as the means by which Case is transferred from an expletive to an argument. However, if Case transfer is not a genuine proccess, such independent motivation for superscripts is lost.

Safir (1985) proposed that all indexing is formally of the same type. In his system, expletives and arguments are coindexed, just as are anaphors and antecedcents. His Unity of Indexing Hypothesis (UIH, op. cit. :21), however, deprived him of an explantion for the lack of binding theoretic violations incurred by expletive argument pairs, which the introduction of superscripts

was designed to bypass. Safir then proposed that while postverbal definite NP's were indeed subject to the Binding theory, and it was the binding theory which was held, in Safir's theory, to be responsible for the definiteness effect, indefinite NP's were optionally exempted from the binding conditions. In brief, Safir made the following claims:

(a)   The binding theory does, in fact, apply to expletive argument pairs (which it must, given the UIH.)

(b)   This is what explains the definiteness effect.

(c)   Indefinite NP's, but not definite NP's can escape the effects of the binding Theory.

In this work, I adopt the approach to the definiteness effect advocated by Belletti (1987). Once one accepts that the DE is subject to a different explanation, Safir's UIH re-introduces the problem that co-superscripting was designed to circumvent, namely, the binding theoretic bind that coindexing an expletive argument pair leads to.

Adopting, in essence, Safir's UIH, Rizzi (1982), Chomsky (1986a) propose that a binding relation between an argument and a nonargument is not subject to binding theory.

"This makes intuitive sense, given the core sense of binding in terms of referential dependence." (Chomsky (1986:144))

Thus, an expletive may be coindexed with an argument, meeting the structural conditions for a binding relationship, but the latter fails to take place because of the nonargumental nature of the expletive. While this latter proposal is certainly reasonable, let us, following the proposal of

Chomsky (1986a:179), see if it is possible to allow binding theory to apply freely and to derive its nonapplicability to expletive argument pairs from the ERH.

One direction we can pursue is to allow the binding theory to apply freely at S-structure or at LF. If the Binding Conditions could be suspended at S-structure and applied only in LF, the replacement of the expletive with an argument would have the consequence of transforming a putative S-structure Condition C violation into a licit LF Condition A configuration. Consider (67). At S-strucure, the expletive argument pair does indeed, run afoul of Binding Condition C.

(67)   a.   there$_i$ arrived [three trains]$_i$

       b.   [three trains]$_i$ arrived e$_i$

Suppose, now, that the Binding theory is free not to apply at S-structure. At LF, (67b) is derived and the Binding Conditions apply. Now, condition C is trivially satisfied, because the only R-expression in (67b) is the subject, and it is free. Condition A applies, but the NP-trace of **three trains** is appropriately bound by its antecedent.

The proposal that Binding Theory and specifically, that Condition C may be free to apply either at S-structure or in LF does, perhaps, display some intuitive appeal. At the same time, however, there is rather robust evidence that it is false, and that Condition C must apply at S-structure. Consider (68).[29]

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[29]   I am indebted to A. Barss for discussion of this point.

(68)   a.   *he$_i$ likes [every picture of John$_i$]

      b.   John$_i$ said that Bill had seen HIM$_i$ (HIM with focal stress)

                                                            (Chomsky (1981:197))

The illformedness of (68a) is due to a Condition C violation induced by coindexing **John** and **he**. If Condition C could be suspended at S-structure and apply directly to LF representations, (68a) ought to be well-formed, since its LF, given in (69a) does not violate the Binding conditions.

(69)   a.   [every picture of John$_i$]$_j$ [$_S$ he$_i$ likes t$_j$]

      b.   HIM$_i$ [$_S$ John$_i$ said that Bill had seen t$_i$]

Exactly the reverse situation is manifested in (68b). **HIM** is coreferential with **John** and a Condition B violation is not manifested because **HIM** is free in its governing category - the embedded S. At LF, however, (68b) gives rise to a Condition C violation since the trace of **HIM**, an R-expression, is bound by **John**, (69b).

There is an alternative perspective on the applicability of the Binding Conditions to expletive argument pairs. In our discussion of **there**-replacement, we argued that optimally, the grammar should not impose upon **there** a limitation on the kind of categories, e.g. NP, that are allowed to replace it and that whatever restrictions do apply to **there** replacement, they should be made to follow from independent principles, notably, from Case theory. Suppose we now interpret this idea in terms of indexing, and claim that expletives do not need to be coindexed with the element that replaces them. Suppose, in other words, that the process of 'free indexing', can skip over an expletive. Since the latter is not required for Case theory,

It does not need to bear an index and is thus invisible to the Binding Conditions, which apply at S-structure.

We have argued that expletive replacement forms a chain in LF. As in all chains, there is a binding relationship between the head of the chain and it's tail. However, the chain formed by expletive-replacement comes into being only in LF. At S-structure, crucially, there is no chain relationship between the expletive and whatever will replace it. Thus, Condition C of the Binding Theory will apply vacuously to expletive-argument pairs at S-structure.

For the sake of explicitness, consider the representations in (70). (70a) is a licit S-structure representation: Crucially, **there** does not bear an index. Of course, it _may_ bear one, since it is assigned Case by INFL, but there is nothing that requires that it to, since it is replaced by an indexed element in LF. Binding Condition C applies to (70a) vacuously, as desired. Now at LF, **three trains** replaces **there** and in the course of move α, the subject position acquires an index, a proper chain is formed and the ECP satisfied.[30]

(70) a.   there INFL arrived [three trains]$_i$

b.   [three trains]$_i$ arrived$_i$+INFL$_i$ [$_{VP}$ t$_v$ t$_i$]

2.9   Agreement and other Problems

[30]   In Sect. 5.5, para we develop what is perhaps a more adaquate solution. There, we argue that Condition C, while indeed sensitive to S-structure representations, actually applies as a filter to LF representations. Such a mechanism allows expletives and arguments to be coindexed at S-structure. The elimination of the expletive by replacement in LF willy nilly disposes of the Condition C violation. The filter which then applies does not affect such sentences. Such a solution has implications for the problem of number agreement, discussed below in 2.9.

There are two problems that I can see with the account just presented. First, it seems not to generalize to cases such as (71a) below, since **there** and its trace must be coindexed through **move** α at S-structure, in order for the ECP to be satisfied, (through complex chain formation.) Once **there** acquires an index, it seems, nothing can prevent it from binding **three men**.

(71) a.   there$_i$ seem t$_i$ to be [three men]$_j$ in the room

      b.   there$_i$ seem t$_i$ to be [three men]$_j$ in the room

Yet this is not a genuine problem, because it rests on the assumption that the the chain formed by Raising of **there** , i.e. (**there**$_i$, t$_i$), must share an index with **three men**. There is, however, nothing which requires that. Furthermore, **there** is replaced, we have argued, not by **three men** but by the small clause complement of **be**, i.e., **three men in the room**, so there is no need to coindex **there** and **three men**, surely not at S-structure. (71a) should, then, be more appropriately represented as (71b).

The second problem is a more general one for the proposal in this chapter and has to do with number agreement. If **there** is replaced by the small clause complement of **be** and if, moreover, **there** doesn't bear an index at S-structure, it is not clear why the main verb obligatorily agrees in number with the postverbal NP, even in such cases as (71) above, where **there** is raised from the subject of the sentential complement of **seem**.

Let us assume that AGR features are anaphor-like and must be bound by LF, at the latest, (cf. Borer (1987)).[31] Consider, now, the possibility of assimilating the binding of AGR by the subject of a small-clause in subject position to the binding of **him** by the NP-internal possessor subject **his** in (72).

(72)   [every man's$_i$ mother] spoiled him$_i$

Let us follow Reinhart (1986) and define binding as in (73).

(73)   A node α binds a node β iff α and β share an index and α either c-commands β or is a specifier of a node c-commanding β.

According to this definition, the specifier (i.e., subject of) a small clause can bind an element which the small clause node c-commands.

In our discussion of impersonal passives in 2.7, we have seen that, in Hebrew, verbs bear 'impersonal' third person agreement with clausal subjects.[32] We may suppose that English differs from Hebrew in requiring that agreement is always with an NP, i.e., that there is no default impersonal agreement with non-NP subjects. Thus, impersonal constructions in English are formed either with **it**, which is an NP directly binding AGR or with **there** which is replaced by an element which can either satisfy the agreement itself (when it is a bare NP,) or which has a specifier acting as an antecedent for AGR.

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[31]   W.r.t to **it** in English and **il** in French, assume that the features of AGR are bound at S-structure since there is an available binder at that level.
[32]   See also, 5.9 below, where impersonal agreement is discussed in detail.

This proposed solution, however, conflicts with the analysis of (71) that we have just presented. We argued that the chain (**there**, t) does not bear the same index as **three men**. Now, in order for the trace of **there** to be properly governed, it must be linked to **there** through a 'complex' chain incorporating the verb **seem** and the matrix INFL. The latter, then, must be marked with the same index as **there** and consequently it is contra-indexed with **three men**. Yet in order for AGR to be bound it must be coindexed with its antecedent, **three men**. We might consider reinterpreting a suggestion of Chomsky (1982: ft.11) and permit indices borne by non-referential elements such as INFL to be reinterpretable in LF. Thus, an INFL which bears an index 'i' at S-structure may be reinterpreted as 'j' in LF in order to be appropriately bound.

To conclude this brief section let us summarize the main points. The problem conisdered is that while the semantics of **there** sentences suggest that **there** is replaced by a small clause and not an NP, the obligatory agreement with the postverbal NP favors the view that at some level, **there** is associated with an NP. I proposed to account for this association with the following assumptions:

a. English lacks an impersonal default agreement and only has personal agreement which is anaphor-like and requires an NP antecedent.

b. INFL and perhaps all non-arguments may change indices.

c. Reinhart's definition of binding, i.e. (73).

2.10 'It' Replacement

Let us, finally, consider it-replacement. Although there are various arguments in the recent literature to the effect that the pleonastic it, unlike, say, **there**, is not an expletive but a pronoun, I will continue to assume that 'expletive' it is a true expletive, (74).[33] Clearly, it <u>can</u> be a pronoun, (75). In addition, it can serve as a 'quasi argument', that is, as a pronoun of sorts. This is evidenced by the fact that it appears as the subject of temporal and weather predicates, where it can control PRO in an embedded clause, (76a-c).

(74)   it seems that Mary is unhappy

(75)   it's a bird, it's a plane, no it's superman!

(76)   a.   it rained

       b.   it snowed

       c.   it rained without [PRO snowing]

it, then, plays triple fiddle in the grammar of English: As pronoun, semi-pronoun and expletive. I will discuss only its role as an expletive.

Consider, now, the replacement of it in LF. The assumption that expletive it, like **there**, is replaced by the entire postverbal clause, as opposed to S-structure Raising which moves only an embedded subject, can account for a

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33   See Chomsky (1986a:92) for the suggestion that the pleonastic it of predicates such as **is obvious** is assigned a θ-role, as opposed to the it of **seems**. For a recent development of the idea that it, and perhaps more clearly, its Dutch counterpart **het** are pronouns, see Bennis (1987). See, also, Hazout (1986) and the Appendix to this chapter for the argument that Hebrew **ze** is a pronoun and not an expletive.

range of scope asymmetries between Raising and it-replacement in a very straightforward manner.

As discussed in, e.g., May (1985:97), the subject of an extraposed clause cannot be interpreted with wide, clausal, scope, whereas a Raised subject can be so interpreted. (77a) below may be construed as presupposing the existence of hippogryphs; (77b), on the other hand, entails no such presupposition.

(77)   a.   a hippogryph is likely to be apprehended

       b.   it is likely that a hippogryph will be apprehended

Under the assumption that it is replaced by the entire clause [a **hippogryph will be apprehended**] in LF, the opacity of (77b) can be attributed to the ECP, namely, to the impossibility of extraction of a subject of a clausal subject. The analysis of the unavailability of a wide-scope reading for the postverbal subject of a **there** sentence can be carried over to (77) in toto.

As in the case of **there** sentences, Case theory induces it replacement by the entire clause. Since the subject of the embedded clause is Case marked nominative by the embedded INFL, it cannot subsequently Raise and replace it, since that would violate the Chain Condition. Thus, an S-structure such as (78a) cannot give rise to an LF such as (78b), but only to (78c).[34]

(78)   a.   it seemed that [John left early]

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[34]   Note that, in fact, Case theory need not be invoked to rule out (76b), since t_i is marked [−γ] and thus violates the ECP.

b.   John$_i$ seemed that [$_S$ t$_i$ left early]

c.   [that John left early]$_i$ seems e$_i$

It is, therefore, appealing to assume that it, like **there**, is not associated, in any intrinsic way, with, say, an S' complement; rather, it fills in a position for the subject, and its replacement at LF with an argument is constrained by Case theory, ECP, etc..

One issue , which I am not entirely clear about, is why (78c) is not a possible S-structure representation.

Note, first, that many, if not most adjectives of extraposition do take sentential subjects, as the acceptability of (79) illustrates.[35]

(79)   [that Reagan funded the Contras] is obvious/is necessary

One may, then, suppose that the unavailability of sentential subjects is a specific property of Raising predicates. That, however, cannot be the case, since the acceptability of sentential subjects varies from one Raising predicate to another. While **seem, appear** do not tolerate sentential subjects, Raising participles such as **believed, expected** fare better, (80a), (80b).

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[35]   This correlates with the other properties distinguishing **seem, obvious**, etc... See ft.33.)

(80) a.   [that Reagan funded the Contras] is believed by everyone in Congress

      b.   [that John would leave early] was expected

Moreover, even **seem** and **appear** can take sentential subjects when they are followed by some predicative adjective:

(81) [that John will leave early]$_i$ seems [$_{IP}$ t$_i$ clear]

                                           appears [$_{IP}$ t$_i$ likely]

Whatever bars sentential subjects of certain predicates is related not to their character as Raising predicates but to their semantics: Seem and appear are inherently presentational, non-predicational verbs, perhaps even 'copular', as claimed by Rothstein (1983).

The descriptive generalization appears to be that there is some semantic or pragmatic incompatibility between clausal subjects and presentational or copular verbs. Gueron (1980) claimed that one of the distinguishing features of presentational sentences is in the way focus is assigned: In a presentational sentence, the subject is the nucleus of focus whereas in a predicational sentence, it is typically the VP which is focused.

Now, in (78c) above, for example, focus is assigned internally to the clausal subject and not to the entire clause. This may be due to the fact that focus cannot be assigned to an entire sentence, but only to subparts thereof. Whatever the reason is, the sentential subject of **seem** is not focused and

hence the entire clause cannot be intepreted as presentational but only as a predication. A predicational interpretation is made available when **seem** is followed by a predicational element, but is rendered uanvailable with **seem** alone.

If these distinctions are, indeed, statable in terms of intonational criteria such as focus, it is plausible that they may be overruled in LF, allowing a clause as a subject of **seem** and **appear** while maintaining the presentational interpretation. In reverse terms, it is not clear what can rule out, (78c) in LF. I grant, nevertheless, that this issue is in need of further study.

APPENDIX
Pleonastic Elements in Hebrew

Borer ((1983), (1986a)), citing sentences such as (82a), argues that the formative **ze** is a pleonastic in substandard Hebrew. Yet the acceptability of (82a), with **ze** should be contrasted with the unacceptable use of **ze** in (82b). This minimal contrast indicates that there is some lexical fact about the predicates **hexraxi** and **mutav** which licenses **ze** as the subject of the first predicate, but not of the second.

(82) a.   ze hexraxi Se-roS ha-memSala inhag be-Volvo
         it is necessary that -head the government will drive in-Volvo
         'it is necessary that the prime-minister will drive a Volvo'

     b.   *ze mutav Se-roS ha-memSala inhag be-Volvo
         it is better that -head the government will drive in-Vol/o
         'it is better that the prime-minister will drive a Volvo'

Hazout (1986) argues that **ze** is a referential pronoun and not an expletive. It's distribution is restricted to fully thematic subject positions, a fact which explains its absence from the subject position in (83) and the obligatoriness of a null subject.

(83) a.   (*ze) nimsera hoda'a   (unaccusative verb. No
         it was communicated message   subject θ-role.)
         'a message was communicated'

     b.   (*ze) carix la'avod   (arbitrary subject.
         it must to work   non or 'Quasi' referential
         'one must work'   θ-role.)

     c.   (*ze) duvax 'al ha-te'una   (impersonal passive. No
         it was reported about the accident subject θ-role.)
         'it was reported about the accident'

d.   (*ze) nimsar Se Dan higi'a   (passive. No subject θ-
      It was communicated that Dan arrived role.)
      'it was communicated that Dan arrived'

e.   (*ze) kar   ('weather' predicate.
      it cold   'Quasi'-referential θ-
      'it is cold'   role.)

Hazout claims that in (82a) above, ze receives the subject θ-role which is associated with the extraposed sentential complement of **hexrani**. Now, while some predicates assign the subject role to CP complements externally, i.e., via the subject position- **hexrani**, others are lexically specified to assign the subject θ-role internally, e.g., **mutav**. I will not pursue these ideas further in this work. I bring them up only to justify the point that when the subject position is non-thematic, ze may not appear. Hebrew can thus be seen to pattern like the other NSL's, in not having overt expletives.[36]

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[36]   But see Bursio, (1985) for discussion of the pleonastic ci in Italian. Hebrew ze seems to pattern more like French ça , then Italian ci.

CHAPTER 3
CASE THEORY

3.1   Introduction

The Visibility Condition (VC, Aoun (1979), Chomsky (1981)) or the Chain
Condition (Chomsky (1986b)), are intended to derive the effects of the Case
Filter (Rouveret and Vergnaud (1980), Chomsky (1980)) by making the
acquisition of Case a necessary condition for θ-role assignment. In more
general terms, the VC can be viewed as a licensing device operating at LF,
that is, at the level where the θ-criterion needs to be met.

The VC has been the subject of some controversy since it was originally
introduced. The bone of contention, to my understanding, has been over a
number of cases adaquately handled by the Case Filter which receive no
explanation under the VC. Thus, it is claimed, if some version of the Case
Filter must be assumed in addition to the VC, it can no longer be
persuasively maintained that the VC derives the effects of the Case Filter by
reducing them to a more principled licensing condition.

At the same time, the VC has an advantage over the Case Filter in that it can
predict the distribution of variables, on the assumption that they must be
Case marked. In order to derive the condition that variables be Case marked
from the Case Filter alone, one must introduce additional assumptions which

diminish the restrictive power of Rouveret & Vergnaud's original claim.[1] Furthermore, most if not all proposals which 'enrich' the Case Filter in some sense have left a recalcitrant residue, consisting mainly of counterexamples to the requirement that variables require Case, (e.g., Borer (1981),(1983)) or suggesting that variables receive Case under conditions different from those of overt NP's, as may be seen, for example, in the following contrast, (from Chomsky and Lasnik (1977:478).)

(1) a. *John believes sincerely [Bill to be the best man]

     b. who does John believe sincerely [t_i to be the best man]?

However, if variables do not require Case, than the 'residue' not covered by the Case Filter is eliminated and there is altogether no need for the VC. The problem with such a view is that there are other residues not covered by the Case Filter, namely, null arguments and expletives, which are restricted to Case marked positions, (overt expletives could be susbumed under the Case Filter qua overt lexical NP's.) Being phonologically null, like variables, they do not lie within the jurisdiction of the Case Filter and being non-variables, they would be unaffected by the various extended or revised Case Filters cited above. The distribution of expletives has been used as an argument in favor of the VC, recently in Chomsky (1986a), where it is argued that Case must be assigned to an expletive in order to be transmitted to the element with which the expletive form a CHAIN. The problem here is that, as we have tried to show, there is evidence that there is no Case transmission and

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[1]   For example, Chomsky (1981:175) assumes that the 'Extended' Case Filter applies to overt NP's or to variables, Borer (1983) assumes a separate condition for variables while Safir (1985) proposes to treat variables as lexical NP's.

that postverbal NP's in object position, for example, must be **directly** Case marked.

In what follows, I suggest a resolution of these difficulties. I will claim that Case theory consists of two conditions. The first is the Case Filter and the second is a slightly modified version of the VC as it is stated in Chomsky (1986a:137, i.e. the Chain Condition of Ch.1.) The claim is that Case theory is a licensing theory both for the input to the PF component (to meet some sort of 'phonological visibility') and into the LF component in order to satisfy 'θ-visibility'. I will argue that the Case Filter part of the module must only be satisfied by phonologcially overt elements, as originally claimed by Rouveret & Vergnaud while the LF condition must be met by all arguments. Prima facie, it seems reasonable to suppose that the null/overt dichotomy is relevant only at S-structure, since S-structure representations feed PF, the level at which the null/overt distinction is made fully manifest. On the other hand, principles applying in LF, i.e. to representations which are, in any case, nonovert, are not sensitive to the overt/null distinction. The proposal to admit into Case theory two components will be shown to have empirical advantages over other proposals, especially with regard to the status of variables.

3.2   Expletives and Case

In Ch. 2, it was shown that expletives do not transmit Case to a postverbal NP. Yet, as the paradigm in (2)-(4) seems to show, both it and **there** are restricted to Case marked positions (cf. Safir (1985:76), Travis (1984:238.)

(2)   *(for) it to appear that Mary likes beans would be shameful

(3)   a.   I wanted there to be a party

        b.   *I tried there to be a party

(4)   a.   I hoped for there to be three women in the room

        b.   *I hoped there to be three women in the room

Now, the fact that both **there** and **a party** in, e.g., (3) need Case argues, prima facie, against the Chain Condition- which requires that chains have a single Case-. But recall that partitive Case, which is the Case assigned by **be** in (3), can be assigned either inherently or structurally. Since **be** θ-marks a **party** in (3a), it can assign its Case inherently. In LF, the inherently Case-marked **a party** moves into a (structural) nominative position. The Chain Condition is not violated because the chain has only one structural Case.[2] In the examples in (4), partitive Case is assigned to **three women** structurally, (see above, pp.   ) and no Case is assigned to the small clause. At LF, the entire small clause complement replaces the expletive. In order for the chain to be well-formed, it's head must be Case-marked. This requirement is met in (4a) but not in (4b).

What is puzzling here is that the VC, in its standard formulation, would be satisfied if only the expletive had Case, since the head of the chain formed by replacing it in LF would be in a Case position and the chain visible for the θ-criterion. The VC does not require that the postverbal NP be marked with

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2   Note that inherent Case is assigned at D-structure. The element bearing it then moves, leaving a Case-free trace, so that the chain has only one Case-marked position, the head.

Case at all. Yet we have seen that it must be directly and locally Case marked .

Suppose, now, putting aside the status of the VC for a moment, that UG incorporates the Case Filter.

(5).   *NP if NP has phonetic content and has no Case

As stated, (5) immediately accounts for the fact that all overt NP's including expletive it must be Case marked (with the added provision that inherent Case is sufficient to satisfy it, a provision which is independently necessary to account for the satisfaction of the Case Filter by NP's to which structural Case is never assigned.)   As for expletive **there**, let us assume that it is treated as an NP by the Case conditions.

Note, now, that not only overt but also phonetically null expletives require Case. This can be seen in the following Italian sentences which were discussed originally in Burzio (1985).

(6)   a.   *sembra essere arrivati tre ragazzi
              seems to have arrived three boys

       b.   *voglio essere arrivati tre ragazzi
             I want to have arrived three boys

The relevant aspects of the representation of the sentences in (6) are given in (7).

(7)   a.   pro$_1$ sembra [$_S$ pro$_2$ essere arrivati [$_{NP}$tre ragazzi]

       b.   voglio [$_S$ pro$_2$ essere arrivati [$_{NP}$tre ragazzi]

The 'offending' element in (7) is **pro₂**, which occupies the subject position of an infinitive where Case is not assigned. Note that (inherent partitive) Case is assigned to the postverbal NP, **tre ragazzi**. If the Case module could be satisfied by merely having one member in a chain marked for Case, the Caselessness of **pro₂** in (7) ought to be irrelevant.

Further evidence that expletive **pro** appears only in Case marked positions is provided in the Aux-to-Comp construction in Italian, discussed in Rizzi (1982). Let us consider gerunds, (although a parallel argument can be made on the basis of the more stylistically marked construction involving Aux-to-Comp in infinitival complements. See Rizzi ((1982: ch 3 and 4), (1986) for discussion.) The relevant pair of sentences is given in (8).

(8)   a.   essendo arrivata una brutta notizia, non possiamo partire
               having arrived a bad piece of news, we cannot leave

       b.   avendo Maria telefonato a casa, Piero è partito
               having Maria telephoned home, Piero had left

Following Rizzi, let us assume that (8a) and (8b) have the same structure: The verbal auxiliary **avendo** or **essendo** is in COMP and the subject position is amenable to nominative Case marking by the fronted auxiliary, licensing the presence of an overt NP in (9b) and of **pro** in (9a).

(9)   a.   [CP essendo [IP **pro** arrivata........]]

       b.   [CP avendo [IP **Maria** telefonato........]]

The sentences in (8) should be compared to those of (10) where a PRO subject appears in a position which may not be occupied by an overt subject.

(10) a.   PRO avendo telefonato, Piero è partito

        b.   *pro avendo telefonato, Piero è partito

        c.   *Mario avendo telefonato, Piero è partito

Rizzi claims that the distribution of **pro** is coextensive with the domain of nominative Case assignment. Only PRO and not **pro** (or an overt NP) can occupy the subject position in (10) because in the absence of auxiliary fronting to COMP, the subject position is not governed and a context for Case assignment is not created.

The Case Filter, (5), cannot account for the fact that a null expletive such as the one in (8a) require Case since it applies only to phonetically overt elements. Yet even if a clause were added to the Case Filter, expanding its domain of application to include some phonetically null elements, we would be left bereft of an explanation for why it is that only the empty categories which head chains in LF (i.e. variables and **pro**) require Case, while traces of NP-movement do not.

Suppose, now, that we add (11) to the Case module, (following Chomsky (1986a:137) and Belletti (1987).)

(11) The head of a chain must be in a Case position (or be PRO.3)

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3   I have nothing to contribute to the theory of PRO in this thesis. Conceivably, PRO is made visible to the θ-criterion through means other than the Chain Condition and lies outside of the domain of Case theory altogether. Chomsky (class lectures, Fall (1986),) proposes that Control theory supplies the licensing theory for PRO.

(11) can be viewed as a precondition, a 'visibility requirement' for the assignment of a θ-role. (i.e. 'an element in chain C is assigned a θ-role iff C satisfies (11).') Null expletives get Case because at LF they are replaced by arguments and a chain is formed. Since expletive argument pairs are not transformed into chains until LF, (11) must be able to apply in LF. Does it also apply at S-structure? Let us suppose that it doesn't have to. (11), then, can be seen as condition which must be satisifed by LF.[4]

One question which must be addressed is why (11) cannot be satisfied by an inherently Case marked NP which transports its Case with it, so to speak, to the subject position, into which it is moved. Note that if that were possible, we could not derive the fact that expletives need Case from a condition such as (11), since a LF representation such as (12) would meet it, even if the expletive did not need Case.

(12) NP$_{+INHERENTCASE}$ INFL V t

As argued by Belletti, partitive Case can only be realized in LF in a Case-marked position, analogous to quirky Case in Icelandic which can only be

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realized at S-structure in a Case-marked position. This entails that all expletives must be in Case-marked positions.[5]

Consider, now, the sentences in (13). (13a) is ruled out because **there** is in a non Case marked position, in violation of the CF. A hypothetical sentence such as (13b), however, ought to be well formed since **pro** is nonovert and therefore needs to meet only Condition (11) and not the CF. At LF, **pro** will be replaced by t_i but the head of the chain will not be t_i but rather, **a man**, which is in a Case marked position, as subject of **is certain**. The LF representation of (13b) is given in (14).[6]

(13) a.   *[a man]$_i$ is certain [$_{IP}$ there to be seen t_i]

b.   [a man]$_i$ is certain [$_{IP}$ **pro** to be seen t_i]

(14)   *[a man]$_i$ is certain [$_{IP}$ t_i to be seen t_i]

The hypothetical (14b) which is predicted to be wellformed, must be distinguished from the unacceptable Italian sentence (7a), which I repeat in (15) below.

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5   This leaves open the status of Chomsky's (1986a) Uniformity Condition (UC) which requires that inherent Case be realized on an NP under government by the category that θ-marks it at D-structure. As stated, the UC rules out passivization of an NP inherently Case marked by V, since passivization moves its victim outside of the government domain of V.

It is tempting, in this context, to consider the possibility that the UC is itself reducible to the ECP, more precisely, to the Minimality condition. The ECP takes care of the 'standard' cases accounted for by the UC, i.e. passivization within NP.

6   (14b) may, however be ruled out as an ECP violation, since t_i is marked[−γ] at S-structure, (thanks to N. Chomsky for pointing this out to me.)

(15) *pro$_1$ sembra [$_S$ pro$_2$ essere arrivati [$_{NP}$ tre ragazzi]]

Since the matrix verb **sembra** does not agree with the postverbal NP **tre ragazzi**, the replacement of **pro$_1$** by **tre ragazzi** in LF would yield an ill-formed chain. Let us assume that Full Interpretation is met by replacing **pro$_1$** with the entire clause which follows **sembra**. Third person singular agreement on **sembra** can be taken to be agreement with an impersonal, clausal subject. **pro$_2$**, on the other hand, will be replaced by **tre ragazzi**, there being no other candidate around to replace it. Thus, the LF representation of (15) will be (16).

(16) [$_S$ [$_{NP}$tre ragazzi]$_i$ essere arrivati t$_i$]$_j$ sembra t$_j$

The illformedness of (15) is due to the fact that **pro$_2$** and hence, the chain headed by **tre ragazzi** in the LF representation (16), is not Case marked since **tre ragazzi** is in the subject position of a non-finite verb. Hence, condition (11) is violated.

The conceptual difference between the CF and (11) is that the former is an S-structure filter, a 'visibility' condition for PF representations, whereas (11) ties Case in with θ-role assignment. As stated, the CF has nothing to say about phonetically-null elements such as variables and null subjects. Furthermore, phonetically overt elements must be Case marked even if they do not head A-chains in LF. Suppose, then, that the Case module of Universal Grammar incorporates a condition on phonetic visibility which, indeed, is

neutral w.r.t empty categories as well as a condition on thematic visibility which is not sensitive to phonetic content.[7]

One matter left open in the discussion thus far concerns the status of moved **wh**-words w.r.t the Case conditions. Insofar as **wh**-words are phonetically overt, they should be subject to the Case Filter. Yet fronted **wh**-words do not occupy A-positions and, as such, are not subject to condition (11), which is stated as a condition on (heads of) A-chains. Suppose we extend this restriction to the CF, so that it too will be sensitive only to elements in A-positions. Consequently, fronted **wh**-words are not subject to the Case Filter.

Note, further, that this restriction has consequences for the status of 'sytlistically inverted' of VP-adjoined NP's. In principle, the VP-adjoined position may be Case marked directly by INFL since there is no barrier separating the two.[6] Yet if Case is assigned to the VP-adjoined NP and not to the preverbal **pro**, the latter would be bereft of Case and a well-formed chain could not be established in LF. Of course, the possibility of assigning Case to a VP-adjoined NP altogether, rests on the hypothesis that this position is an A-position. Suppose it is not. Then an NP in that position will vacuously satisfy the CF. Nominative Case, let us assume, is assigned by INFL to **pro**. One difference, then, between VP-internal and VP-adjoined

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[7]   These ideas are in the spirit of Aoun (1979) who proposed a distinction between features relevant to the PF component and features visible only in the LF component.
[6]   Crucially, no minimality barrier.

subjects is that the former get partitive Case from V and the latter get no Case at all.[9]

Our analysis thus far has led us to postulate a Case theory which consists of two conditions, (17a) and (17b). We have argued that an adaquate characterization of the distribution of Case requires both conditions and the CF (20a) cannot be simply subsumed under (17b).

(17) a.   The Case Filter   (applies by S-structure)

      b.   Condition (11)   (applies by LF)

'It' Replacement Revisited

It is perhaps not surprising that a theory which incorporates (17a) as well as (17b) has greater empirical coverage than a theory which makes do with a Case Filter alone. One example of the greater empirical adaquacy of (17) is that it can straightforwardly account for the illformedness of (18).

(18) *who$_i$ does it seem [$_S$ t$_i$ to be intelligent]

Since t$_i$ is non-overt, it will vacuously satisfy the CF and the ungrammaticality of (18) will be unexplained. (17b), however, rules it out since t$_i$ heads an A-chain, yet it is not Case marked.

We have argued that (17b) need only be satisfied by LF and, contrary to

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9   TOPIC's, clefts, left-dislocated NP's, etc... all occupy A'-positions and thus need not meet the Case conditions. The theory of Case is a theory about A-chains, (Chomsky (1981.)

(17a), does not have to be met at S-structure. At LF, however, expletive it is replaced by an argument. What needs to be ruled out is an LF representation wherein t_i can, itself, replace it and receive the nominative Case assigned to the matrix subject position, for ning a structure such as (19a) below. The LF of (18) must be something like (19b) if the illformedness of (18) is to be accounted for on Case theoretic grounds.

(19)　a.　who$_i$ does t_i seem [$_S$ t_i to be intelligent]

　　　b.　who$_i$ does [$_S$ t_i to be intelligent]$_j$ seem t_j

In our discussion of it replacement in 2.10 above, we claimed that in a sentence such as (20a), it cannot be replaced by the NP **John**, as in (20b), since **John** is Case marked internally to the embedded clause and movement into a Case marked position violates the Chain Condition. The LF representation of (20a) can only be (20c).

(20)　a.　it seems that John is intelligent

　　　b.　John$_i$ seems that t_i is intelligent

　　　c.　[John is intelligent]$_j$ seems t_j

Note that the reasoning which ruled out (20b) cannot be carried over to (18), since the trace could wait until LF and then move into the matrix subject position to replace the expletive, giving a well-formed output.

To rule out (18), then, some stipulation must be made to the effect that it can only be replaced by a clause. Such a stipulation, however, would rob us

of the very plausible account of the alternation between Raising and it-insertion in such pairs as (21).

(21) a.   John seems to be intelligent

       b.   it seems that John is intelligent

The standard account for (21) is that it is inserted as the subject of **seems** when Raising of **John** does not occur. A stipulation to the effect that it is somehow intrinsically restricted to only go with clauses loses the connection between it-insertion and Raising and compels us to formulate it-insertion in terms similar to those of Chomsky & Lasnik (1977), (22), missing an obvious generalization.

(22) Insert it in the position of NP in:

$$ NP \ V^* \ (PP)[_{S'} \begin{array}{c} for \\ that \ S] \\ +WH \end{array} [V^*=be, seem,... $$

Consider, now, an alternative, which would allow us to maintain the dual claims that expletives are not inherently marked so as to be replaced by an element of a specified category and that variables do not need to be Case marked until LF.[10] Suppose that expletive replacement is subject to some version of the A-over-A Condition, as in (23).

(23) Replace it with the highest category that can replace it

(23) would achieve the desired consequence since even if it were, in principle, replacable by an NP, (23) would force the clause in which it is

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[10]   Here I am following a suggestion due to N. Chomsky (p.c.)

embedded to replace it. Note that (23) need only apply to it because the replacement of **there** by a small clause, in the appropriate contexts, is independently guaranteed by Case theory, as shown above in 2.6.[11]

3.3 Variables and Case

One consequence of the discussion in the previous section is that nonovert categories need to meet only the part of the Case conditions that is checked in LF. It follows, then, that variables need not be Case marked until LF. This predicts that overt NP's and variables ought to manifest an asymmetry in their distribution which is explicable in terms of the level at which these items need to meet the conditions of the Case module. Let us consider a

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[11]   Alternatively, one could consider generalizing the A-over-A restriction, allowing it to apply redundantly in cases of **there** replacement. Pursuing this for a moment, suppose that the A-over-A condition is a principle of UG and not a local restriction on it replacement. This would have the effect of ruling out all instances of LF Raising. The question now, is, what rules in , S-structure Raising, or, why is the A-over-A condition suspended in (S-structure) Raising configurations? Suppose that the A-over-A is a weak condition at S-structure, which means that it may be overruled by a stronger condition. Suppose that the Case Filter is a strong condition and thus takes precedence over the A-over-A condition. What this amounts to is that when an NP needs Case the A-over-A principle can be overruled and the NP raised in order to meet the Case Filter.

Suppose that the weakness of A-over-A is not upheld in LF so that in LF it cannot be overruled. At LF, by hypothesis, all constraints have the same strength since there is no evidence to the contrary. This would achieve the desired result and prevent LF raising.

concrete example, which I gave above in (1) and which I repeat below in (24), (Chomsky and Lasnik (1977).)[12]

(24) a. *John believes sincerely [Bill to be the best man]

b. who does John believe sincerely [t_i to be the best man]

c. the man who I believe sincerely [t_i to be the best man]

The same pattern extends ω (25).

(25) a. we want very much [*(for) John to win]

b. who do you want very much [t to win]?

c. we'd prefer most of all [*(for) John to be the candidate]

d. who would you prefer most of all [t to be the candidate]?

(24a), (25a,c) are illformed, because they violate the adjacency condition on Case, crucially, at S-structure (see Ch. 2.) The question is what accounts for the acceptability of (24b,c), (25b,d). One possibility is that Case adjacency

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12   Pesetsky (1982) makes the proposal that e.g., (24b) has the S-structure (i). In (i), the adverb is adjoined to an INFL' which is extraposed and adjoined o VP on the right.

(i)   who$_i$ does [$_{IP}$ John [$_{VP}$ [$_{VP}$ believe [$_{IP}$ t_i [$_{I'}$ sincerely]] [$_{I'}$ to be the best man]]]

In as strucutre such as (i), the variable is indeed adjacent to the verb. The possibility of adjoining an INFL' to the right rests on the judgment one assigns to (ii), which Pesetsky views as grammatical but other speakers I have consulted consider marginal.

(ii)   John beleives Bill sincerely to be the best man

In more general terms, extraposition of INFL' presupposes that it is a constituent which is quite dubious.

simply does not constrain LF representations. In an account such as that of Stowell (1981), where the adjacency constraint is built-in as a component of Case theory, this is quite plausible, since there is independent evidence that the Case module treats LF representations differently from S-structure ones. However, if the adjacency constraint is viewed not as component of Case theory but, rather, as an instantiation of the more general constraint against c-command out of a binary-branching constituent, as argued in Kayne (1987), then it becomes less plausible to suppose that adjacency for Case is merely an S-structure effect. Kayne would consider the ungrammaticality of (24a) as following from the fact that the verb **believe** and the adverb **sincerely** form a constituent, as in (26). In (26) **believe** does not c-command Mary and hence cannot Case-mark it.

(26)

                    Mary

        believe sincerely
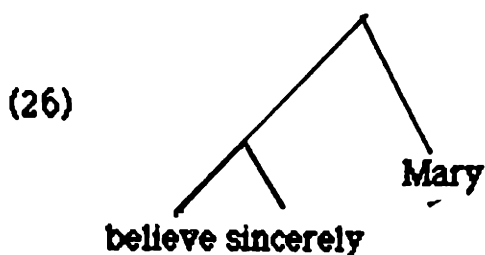
Claiming that adjacency does not effect LF representations is tantamount to saying that a different notion of c-command holds in LF. Suppose, then that adjacency must be met both at S-structure and in LF.

The problem, now, is to account for the acceptability of (24b,c). Since variables need to be Case marked only in LF, nothing prevents (24b), for example, from being represented at LF as (27), with the adverb **sincerely**, moved into the specifier of VP so as to have scope over it. If we add the auxiliary hypothesis that movement of **sincerely** does not have to leave a

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assignment to an intermediate trace is a form of Case transmission, a process which we argued is not sufficient to satisfy the Case conditions. One could argue that the ban against transmission of Case holds only of A-positions and that elements in A'-positions can transmit Case freely, (which is a consequence of the argument put forth in Borer (1981), (1983). See ahead, 3.4.) But note that even if **assure** could, in principle, Case mark into COMP in (29a), the direct object **you** would prevent it from doing so because of the adjacency effect. To get around this difficulty, Kayne (class lectures (1986),) proposes that (29a) is bracketed as follows, with **[you t to be the best...]** a binary branching constituent, (30).

(30)
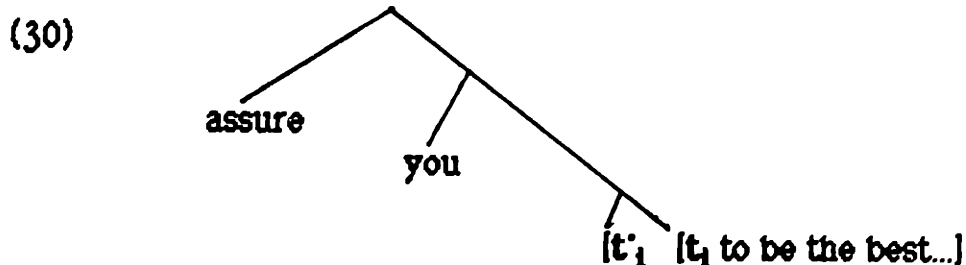
While such bracketing has the consequence of eliminating the adjacency problem, since **assure** now c-commands t'_1, it drives the COMP of the embedded clause further away from its governor and renders questionable the capacity of **assure** to govern and Case mark across two categorial projections.

Note that the account proposed for the sentences in (24)-(25) cannot be carried over to (29a) because the 'interfering' formative in (29a) is a θ-marked object and not an adverb that can be moved at LF and whose trace can be deleted. If **you** were, say, moved into the specifier of VP, the

projection principle would require that it leave a trace in it's θ-position and that trace would induce an adjacency violation in LF.

Consider, now, the possibility of moving the clausal complement of **assure** in LF into a position where the subject of the embedded clause would be adjacent to **assure**. Let us assume, contrary to Kayne, that **assure** is an S'-deleter so that the clausal complement in (29) is IP, not CP. The LF representation of (29a) is then, (31). **assure** has moved into INFL and the IP complement is left-adjoined to VP: **assure** is now in a position to Case mark t_i and condition (17) is met.

Note that **assure** in (29b) is assigning accusative Case twice. Once, to **you** at S-structure and again to the subject of [**t to be the best...**] from it's position in INFL in LF.

(31)
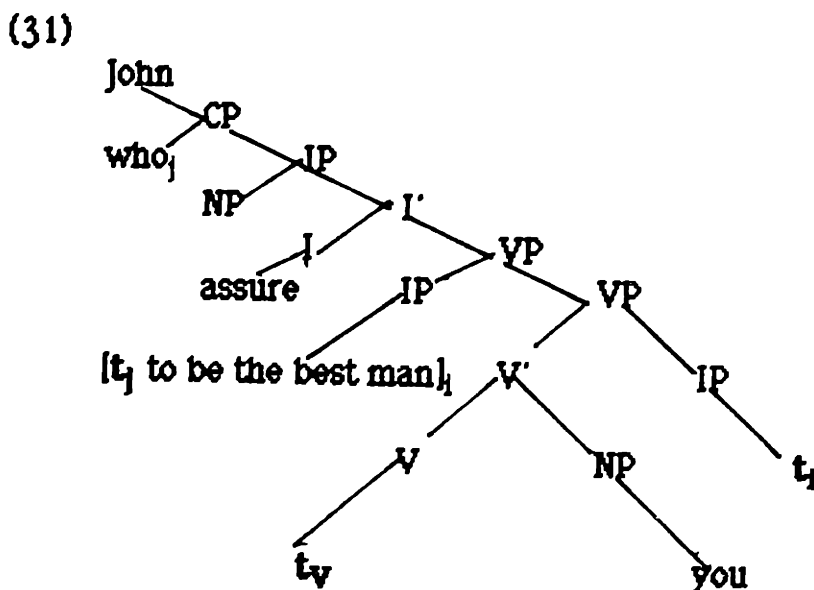
Those readers who would dismiss (31) as an overzealous manipulation of clausal architecture, should consider the price of ruling out such a derivation.

As far as I can see, (31) entails no ad hoc or otherwise unfamiliar assumptions.[13]

Consider, finally, the contrast beween the sentences in (32), (Kayne,(1983:5).)

(32) a.   Jean, que Marie croit être intelligent...

b.   *Marie croit Jean être intelligent.

As in the previous examples, let us view this contrast as a reflex of the asymmetry between variables and overt NP's w.r.t the level at which the Case conditions must be satisfied. Stated in such terms, the observation that needs to be explained is that **croire** behaves like **believe** only in LF. One way of capturing this difference, in terms amenable to an analysis such as the one I have been proposing, is to say that **croire** is an S'-deleter in LF but not at S-structure. If S' deletion is a genuine syntactic process, it should be available universally. The English speaking child is confronted with positive evidence that S' deletion is available at S-structure. The French child, on the

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[13]   Some speakers consider (29a) to be marginal (cf., the corresponding interrogative, ?**who did you assure me to be the best**...). One might consider attributing this to the interference of a weak barrier in the form of a VP segment in (31), which inherits barrierhood from IP. This requires that a complement IP, while L-marked when it is in its VP-internal θ-position, loses it's L-marking when moved to a VP-adjoined non-θ-position.

The difference between Kayne's (30) and our (31) is that the variable in (31) is separated from it's Case assigner, **assure**, by one full non-L-marked clausal projection, IP, (which is a blocking category but not a barrier,) and a segment of a maximal projection, VP. In (30), however, both CP and the constituent [you CP] are full projections. We might consider this as evidence in favor of Belletti and Rizzi's (1987) claim that segments are weaker barriers than full categories.

other hand, being exposed to no such cases, takes the 'unmarked' option and assumes that **croire** is an S'-deleter only in LF.[14]

3.4 Variables, Case and Clitic Doubling

One of the consequences of the treatment of variables presented above, is that it deprives us of the 'Case absorption' analysis for the inextractability out of clitic doubled positions. (Cf. Aoun (1979), Borer (1983), Jaeggli (1982), (1985) and much other work.) Taking Borer's (1983) theory of clitic-doubling as a starting point, let us see why this so.

Clitics are, in Borer's words, "generated as features on the head of their phrase. They do not fill the argument position which is the complement of this head. This position is independently generated and can be independently filled if a Case-assigning device is available" (op.cit. p. 63.) This latter claim is generally known as 'Kayne's Generalization'. Clitic-doubling constructions thus have the structure in (33). The clitic is generated attached to the head and is coindexed with the complement position.

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14   Note that in order to account for (i), which contrasts with English (ii), we must add that S' deletion in LF is optional, allowing PRO in the embedded clause, while it is obligatory at S-structure, (cf. Kayne (1983:112).)

(i)   Je crois avoir faire une erreur
(ii)   *I believe to have made a mistake

Alternatively, this contrast might be interpreted as evidence that PRO must be licensed only at S-structure, as suggested to me by H. Lasnik, (p.c.)

(33)
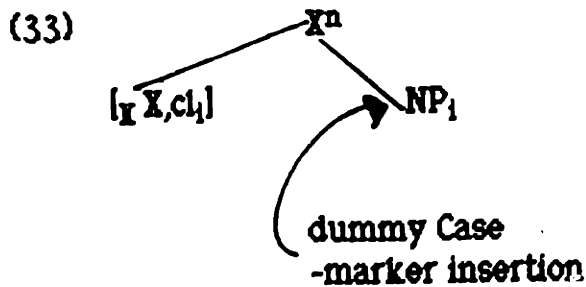
In Borer's theory, clitics are spellouts of the Case features of a head and thus deprive the coindexed NP of its Case. To give an example from Hebrew, (34) violates the Case Filter since the Case which is assigned to the NP **ha-mora** ('the teacher') is absorbed by the clitic -**a**.

(34) *beit-a_i ha-mora$_i$ 'omed 'al ha-giv'a
       house-her the-teacher stands on the-hill
       'her house the teacher stands on the hill'

(34) may be salvaged if **ha-mora** receives its Case by some other means. Borer shows that Hebrew instantiates 'Kayne's Generalization' by inserting a dummy preposition-like genitive Case marker, **Sel**, in a position adjoined to the Caseless NP. **Sel** can now assign Case to the possessor of **house** and the Case Filter is satisfied. This is shown in (35).

(35) beit-a_i Sel ha-mora$_i$ 'omed 'al ha-giv'a
       house-her of the-teacher stands on the-hill
       'the teacher's house stands on the hill'

Since a study of clitics is beyond the scope of this work, I will put aside further discussion of the subject and of the alternative approaches to clitics in the literature and press on to the topic of variables in clitic doubling constructions, which is the main theme under investigation.

If variables do not need to satisfy the Case Filter at S-structure, but only condition (17) in LF, then it is not patently obvious that they have to meet Kayne's Generalization. Consider the following reasoning. The main insight of most theories of clitic-doubling is that a clitic on a head deprives its doubled NP of Case. A question left open is the status of 'Case absorption' in LF. In more concrete terms, it is not clear what compels the S-structure in (33) to remain unchanged in LF? What rules out an LF representation of (36a) such as (36b), with the clitic simply deleted, or (36c), with the clitic replaced by its doubled NP, to name only two of a myriad possibilities? Crucially, though, it must be possible for a verb to assign Case twice, once to the clitic - at S-structure- and a second time at LF, to the variable in the argument position.

(36)   a.

$$X''$$

X+cl$_i$ / cl$_i$+X   NP$_i$

   b.

$$X''$$

X   NP$_i$

   c.

$$X''$$

{ X+NP$_i$ / NP$_i$+X }   [$_{NP}$t]$_i$
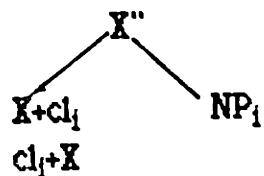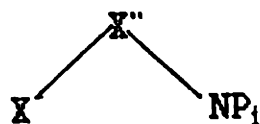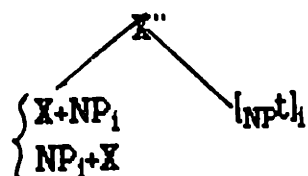
The leading idea here is that grammatical processes of a universal nature such as **affect** α, which may be restricted in certain languages or in certain configurations, must, in principle, be available as part of the endowment of

UG. Alternatively, ruling-out derivations such as those in (36b,c) above, would involve setting up complex rules, which would be hard to justify empirically and which would be inconsistent with the trend of recent grammatical theory to eliminate complex rules in favor of general principles.

The prediction made by the theory of Case put forth above is that, ceteris paribus, extraction out of clitic doubling configuration should not induce violations of the Case principles. In fact, we predict that in the absence of a a Case saving device, such as the genitive Case marker Sel in Hebrew, clitic doubling ought to be bad but extraction from clitic doubling structures ought to be good.

An examination of the very complex array of data relating to clitic doubling in those languages where this phenomenon is found will greatly exceed the scope of this investigation. I will confine myself to a small fraction of the documented facts, leaving the bulk of the investigation for future research.

Consider first the situation in Modern Standard Arabic (MSA), as described in Ayoub (1981), Mouchaweh (1986), Wahba (1984). wh-questions can be formed either with a gap, (37a), (38a) or with a clitic, as in (37b), (38b),

(Data from Wahba, op.cit., pp. 79 ff.)[15]

(37) a. man$_i$ ra'at Fatimat-un t$_i$
          who saw Fatima+NOM
          'who did Fatima see?'

      b. man$_i$ ra'at-hu$_i$ Fatimat-un t$_i$
          who saw-him Fatima+NOM

(38) a. man$_i$ qalat Fatimat-un 'ann 9aliyy-an ra'a
          who said Fatima+NOM that Ali+ACC saw
          'who did Fatima say that Ali saw?'

      b. man$_i$ qalat Fatimat-un 'ann 9aliyy-an ra'a-hu$_i$
          who said Fatima+NOM that Ali+ACC saw-him

The alternation between the gaps and the clitics in (37)-(38) is "consistent and free." (Wahba, p.79.) While Wahba regards the clitics in (37b), (38b) as spellouts of traces it seems to me that they should more appropriately be characterized as doubling a position occupied by the trace, (as is explicitly argued by Ayoub, (op. cit.).) Wahba shows that interrogation into syntactic islands is impossible even in the presence of a clitic, (39). This argues against treating the clitics as resumptive pronouns, since the strategy of employing resumptive pronouns in place of gaps is precisely a means of

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15   Similar remarks hold for relativization, e.g.,

      (i)   al-walad-u$_i$ alladhi ra'at Fatimat-un t$_i$...
            the-boy+NOM who saw Fatima+NOM...
            'the boy that Fatima saw...'

      (ii) al-walad-u$_i$ alladhi ra'at-hu$_i$ Fatimat-un t$_i$...
            the-boy+NOM who saw-him Fatima+NOM...

getting around a violation of subjacency which is incurred by extraction from an island.

(39) a. *'ayya bint-in$_i$ 9arafa 9aliyy-un [$_{NP}$ al-walad-a [$_{CP}$ alladhi$_j$
which girl+GEN knew Ali+NOM the-boy+ACC who

[$_{IP}$ t$_j$ daraba t$_i$/-ha$_i$]]]?
hit (-)her

'which girl did Ali know the boy whom hit (her)?'

b. *'ayy kitab-in$_i$ ya9rifu 9aliyy-un [$_{NP}$ al-mu'allifa$_j$ [$_{CP}$ alladhi
which book+GEN knows Ali+NOM the author+ACC who

[$_{IP}$ t$_j$ katab t$_i$/-hu$_i$]]]
wrote it

'which book does Ali know the author who wrote (it)?'

While the clitics are in free variation with gaps in (37b), (38b), the clitics are <u>obligatory</u> when extraction takes place from an NP, as shown in (40), (from Ayoub: 234.)

(40) a. *man ra'ayta [$_{NP}$ saahib-a t$_i$]
who you saw friend+ACC
'whose friend did you see?'

b. man$_i$ ra'ayta [$_{NP}$ saahiba-hu$_i$]

Let us assume that extraction with a clitic always proceeds from a 'doubled' position. While the clitics are optional in extraction from within VP, they are obligatory when extraction proceeds from within NP. The difference is that the clitic internal to NP, as in (40) above, is needed to properly-govern the trace. Traces in VP can be properly-governed by an intermediate trace

adjoined to VP. Such an option is unavailable for NP's , since NP's are θ–marked arguments and thus do not tolerate adjunction. If the clitics were merely 'spellouts' of traces, the asymmetry between extraction from NP and from VP would remain mysterious.[16]

The obligatoriness of clitics carries over to extraction from within PP, as shown in (41).

(41) a. *man$_i$ mararta [$_{PP}$ bi-t$_i$]
          who did you pass by?

      b.   man$_i$ mararta [$_{PP}$ bi-hi$_i$ t$_i$]

Since MSA does not allow prepositions to be stranded, as in (41a), a clitic is obligatory.[17]

The relevant clitic configuration for, (37b), (40b), (41b) above, are given in (42), below.

(42)

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16   This suggests that in MSA movement of a complement of NP does not proceed through the specifier of NP, contrary to, say, Spanish, (Torrego (1986).) I discuss this more fully in the Appendix on pp. below, w.r.t a parallel range of Hebrew data.

17   It is conceivable that (41a) is ruled out by the ECP. This would follow under two assumptions, first, that PP, like argument NP's (and CP's) resists adjunction and secondly, that PP does not contain a SPEC position. The first may, in general be true (cf. Chomsky (1986b).) As for the second, it is plausible that whatever blocks movement through [SPEC/NP] in Arabic affects PP as well. See Appendix for some further discussion.

```
           PP
      P
   bi-hiᵢ      [NP tᵢ]
```
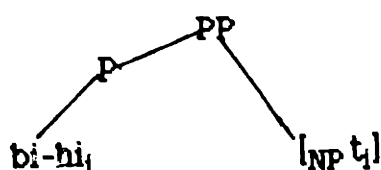
While the empty category in the the doubled position in (42) is a trace of **wh**-movement, as seems reasonable given its sensitivity to bounding effects, the e.c. in relative clauses and Topicalization constructions is a null resumptive **pro**. This is evidenced by its insensitivity to subjacency, (43) an indication that the gap is formed not by movement but by means of the resumptive strategy. (43a), with a clitic, contrasts with (43b), with a gap:

(43) a. qara'tu el-maqaalataᵢ llatii saafara   S-Sabu
          I read the article that travelled   *the young man*

          lladhii kataba-**haa**ᵢ
          who wrote-it

          'I read the article that the man who wrote went travelling'

      b. *qara'tu el-maqaalataᵢ llatii saafara   S-Sabu
          I read   the article   that travelled   *the young man*

          lladhii kataba tᵢ
          who wrote

Since **pro** is licensed in MSA in subject position, it is quite plausible that it appears elsewhere. I assume, then, that the relevant clitic structure for (43a) is (44).

(44)

```
              VP
          V  /  \
  wrote+it₁      [NP proᵢ]
```

Note that (43) is also compatible with a structure such as (45), where the clitic itself is the resumptive pronoun, generated in the argument position from which it undergoes cliticization onto V in the phonological component.

(45)

```
          VP
        /   \
       V     NP
       |     |
     wrote   it
```
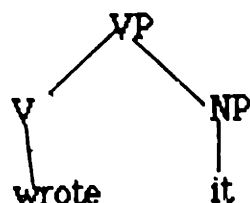
We have seen clitics are entirely optional in the grammar of MSA, modulo the ECP and restriction against P-stranding, which may be ECP-related. Suppose, now, that the clitic deletes in LF. This is, in fact, desirable, given the principle of Full Interpretation, since clitic configurations and gap-configurations are given a uniform interpretation. At LF, then, (37a) is indistinguishable from (37b). Since the clitic is out of the way, the variable can be Case marked directly by the head and condition (17b) is satisfied.

Interestingly, MSA disallows clitic doubling configurations when the clitic doubled NP is overt:

(46) a. *ra'aytu-hu 1-walada
          I saw-him the-boy+ACC

      b. *marartu bi-hi Zayd-in
          I passed near-him Zayd+GEN

c.   *zaa'a Sadiiqu-hu Zayd-in/un
        arrived friend-his Zayd-GEN/NOM

(46a-c) are only acceptable without the clitic. These facts are fully explicable by the Case absorption theories. The clitic in (46a-c) absorbs the Case due to the complement NP and the sentences violate the Case Filter.

The possibility of extraction from that same position, that is, the wellformedness of (46a-c) when the complement is a variable would remain mysterious if variables and overt NP's were subject to the same Case conditions. The approach advanced in this work, however, is capable of providing a natural explanation for this asymmetry: Variables are not subject to the Case Filter but only to Condition (17b) which applies to heads of A-chains in LF.

Considering first clitics on verbs, suppose that the free variation between clitics and gaps observed in S-structure representations is manifested also in LF so that a clitic configuration at S-strucutre may give rise to a non-clitic configuration in LF. The elimination of the clitic would allow Case to be directly assigned to the variable and condition (17b) would be satisfied.

Consider, next, clitics in NP's, which, we saw, are obligatory in extraction configurations. Their obligatoriness stems, we argued, from their role in [Y] marking the trace. Once marked for [+Y], however, the value for this feature remains fixed so that the clitic which assigns [+Y] to a trace is redundant in LF from the point of view of the ECP. Case theory, however, requires that the clitic delete, so that Case may be assigned directly to the NP complement trace.

Consider, lastly, clitics on prepositions. Their obligatoriness follows from the fact that prepositions in Arabic cannot be stranded, unlike some prepositions in English. However, nothing rules out preposition stranding in LF and the fact that it is attested at S-structure in English suggests that it ought to be available universally. I do not understand why some languages allow P-stranding at S-structure while others do not. I conjecture, however, that all languages allow P-stranding in LF. The wellformedness of structures derived from LF P-stranding depends on whether there is some device, e.g., a clitic, to assign [+γ] to the NP complement trace.

Egyptian Arabic

A slightly different array of facts is manifested in Egyptian Arabic (EA, Wahba (1984).) EA differs from MSA in that extraction is always out of a clitic doubling configuration, whereas in MSA clitics are obligatory only in extraction from NP and PP. A fronted **wh** operator in Topicalization constructions, questions and relative clauses, is obligatorily coindexed with a clitic inside the clause.

(47) a.   il-walad$_i$, Mona Saafit-*(uh$_i$) imbarih
            the-boy, Mona saw-him yesterday

      b.   il-walad$_i$ illi Mona Saafit-*(uh) imbarih
            the boy that Mona saw-him yesterday

      c.   miin$_i$ illi Mona Saafit-*(uh) imbarih
            who that Mona saw-him yesterday

As in MSA, interrogation out of a syntactic island in EA obeys subjacency whereas relativization and Topicalization do not.

(48) a.   il-beet dah$_i$, baba ye'raf [$_{NP}$ il-raagil$_j$[$_{CP}$ illi[$_{IP}$ t$_j$ bana-ha$_i$]]]
the-house this, father knows the-man that built-it
'this house, Father knows the man who built'

b.   il beet$_i$ [$_{CP}$ illi [$_{IP}$ baba 'aabil [$_{NP}$ il-raagil$_j$ [$_{CP}$ illi [$_{IP}$ t$_j$ bana-
the house   that father met   the -man   that   built

ha$_i$]]]]]...
it

'the man that Father met the man who built....'

c.   *miin$_i$ illi baba sara' [$_{NP}$ il kitaab$_j$ [$_{CP}$ illi [$_{IP}$ Mona iddat-uh$_j$
who that father stole the book   that   *Mona gave-it*

lii-ha$_i$]]]
to-her

'who did Father steal the book that Mona gave it to ?'

I will, again, assume that relative clauses and Topic constructions utilize the resumptive strategy, and that the empty category in the 'doubled' position in relative clauses and Topics is **pro** or, alternatively, that the clitic itself is the resumptive pronoun. Questions, on the other hand, are always formed

through movement, hence the empty category associated with a fronted **wh**-word is a trace.[18]

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[18]   Languages which make abundant use of resumptive pronouns typically disallow them from the position of gaps in root interrogatives. Putting the generalization differently, resumptive pronouns can vary with gaps only in constructions which are interpreted through predication, i.e. relative clauses, topicalization constructions, etc... In Shlonsky (1986), I argue that relative clauses with resumptive pronouns do not involve an operator in [SPEC/CP] and the relative clause is interpreted by being predicated of the head directly. Interrogatives, on the other hand, cannot be interpreted predicatively. An interrogative operator has semantic content which must be represented while an operator of relative clauses is merely a syntactic facilitator which is redundant from a semantic point of view. If we assume that operators may not be base-generated in an A'-position but only moved there we can derive the fact that interrogatives are incompatible with resumptive pronouns, since the latter fill the position from which extraction of the operator is launched.

The resumptive pronouns which do not vary with gaps, i.e., those which fill positions which are inaccessible to movement in e.g., English can occur in interrogatives as well as in relative clauses. Those may be viewed, not as base-generated pronouns but as pronouns inserted to save a sentence as a last resort. It is not surprising, then, that in these cases the pronouns become more acceptable as the presence of a gap gets worse. For example, they sound better in positions where a gap would violate ECP than in positions where a gap triggers a milder subjacency effect.

For the distinction between these two sorts of resumptive pronouns drawn along semantic lines, see Sells (1984).

As in MSA, clitic doubling of an overt NP in EA is impossible, since the clitic absorbs the Case of the complement NP and there is no saving device to Case mark the complement NP.[19]

(49) *Mona Saafit-hu$_i$ il-walad

Even though EA doesn't allow clitic doubling, it allows extraction from the position of the clitic doubled NP, which is precisely the prediction made by a Case theory such as the one I have been advancing.

Now, when the **wh**-word in EA questions is 'nonnominal', in Wahba's terminology, (i.e. when it is a pied-piped PP or an adjunct,) interrogation proceeds somwhat differently. The characteristic features of 'non-nominal' **wh**-words are given in (50), and illustrated in (51)-(52) (from Wahba: 22.)

(50) a.   The complementizer **illi** which is obligatory with 'nominal' **wh**-operators, is missing.

---

[19]   Lebanese Arabic differs minimally from EA in _having_ exactly such a saving device, in the form of the preposition **la** (Aoun (1979).)

(i)   Seft-o la Mahmuud
       I saw-him to Mahmuud
       'I saw M.'

(ii)   hkiit ma9-o la mahmuud
       I spoke with-him to M.
       'I spoke with M.'

(iii) Street kteeb-o la mahmuud
       I bought book-his to M.
       'I bought M.'s book'

b. No clitic may be associated with the operator.

(51) a. ma9a miin; Mona raahit il-Qahira t; ?
          with whom Mona went to-Cairo
          'with whom did Mona go to Cairo?'

      b. *ma9a miin; illi Mona raahit il-Qahira t; ?

      c. *ma'a miin; Mona raahit-uh; il-Qahira t; ?

(52) a. feen; Mona raahit t;
          where Mona went
          'where did Mona go?'

      b. *feen; Mona illi raahit t;

      c. *feen Mona raahit-ha; t;

At this point, I do not understand why 'nominal' wh-words behave differently from non-nominal ones. One possibility which may be worth considering is that EA does not possess clitics corresponding to PP's or to adjuncts so that the ungrammaticality of, say, (51c), (52c) is due to a categorial mismatch between the (nominal) clitic and the non-nominal wh-word. The status of the complementizer illi, however, is still mysterious to me. I present these facts as a basis for a comparison with Hebrew, to which I now turn.

Hebrew

Hebrew relatives and Topicalization constructions pattern like those of EA and MSA: The movement strategy and the resumptive strategy are in free variation.[20]

(53) a. ze ha-IS$_i$ Se-ra'iti (oto$_i$)
          this the-man that-I saw (him)
          'this is the man that I saw'

      b. IS ze$_i$ ra'iti (oto$_i$) etmol
          man this, I saw (him) yesterday
          'this man, I saw yesterday'

Clitics are obligatory in extraction from PP's and NP's. As in Arabic, NP-internal and perhaps PP-internal clitics in Hebrew are required by the ECP.[21]

(54) a. ze ha-IS$_i$ Se-xaSavti 'al-*(av$_i$)
          this the-man that I thought about-(him)
          'this is the man that I thought about'

      b. ze ha-IS$_i$ Se-ra'iti et im-*(o$_i$)
          this the-man that I saw acc mother-(this)
          'this is the man whose mother I saw'

As in the Arabic dialects discussed above, clitics in Hebrew relative clauses instantiate the 'resumptive strategy' and Island effects are circumvented.

(55) a. ze ha-IS$_i$ Se-hikarti [$_{NP}$ et ha-ISa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ ahava *(oto$_i$)]]]
          this the-man that-I knew acc the-woman that loved (him)
          'this is the man that I knew the woman who loved him'

---

[20] See Borer (1984) for a study of Hebrew restrictive relative clauses and resumptive pronouns. The facts discussed in this section are taken, for the most part, from Borer (1983), (1984). Resumptive pronouns in Hebrew are studied also in Doron (1982), Sells (1984), Shlonsky (1986).
[21] See the appendix to this chapter for some discussion of extraction from NP in Hebrew.

b. ze ha-iS$_i$ Se-hikarti [$_{NP}$ et ha-iSa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ xaSva 'al-
    this the-man that-I knew acc the-woman that-thought about-

    *(av$_i$)]]]
    him
    'this is the man that I knew the woman who thought about him'

c. ze ha-iS Se-hikarti [$_{NP}$ et ha-iSa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ ahava et im-
    this the-man that-I knew the woman that-loved acc mother-

    *(o$_i$)]]]
    his
    'this is the man that I knew the woman who loved his mother'

I will assume that the clitic in (55b,c) either doubles a **pro** or is resumptive in its own right. (The direct object pronoun **oto** in (53a), is not a clitic but a free standing pronoun. As such it itself is a resumptive pronoun and a clitic configuration is not manifested.)

Consider, now, free relatives (FR's. Borer (1983:72-77).) Like restrictive relatives, the free relative operator is associated with a clitic configuration.

(56) a. ze mi$_i$ Se-xaSavti 'al-*(av$_i$)
         this who that I thought about-him
         'this is who I thought about'

     b. ze mi$_i$ Se-ra'iti et im-*(o$_i$)
         this who that I saw acc mother-his
         this is who I saw his mother

(57) a. ze mi$_i$ Se-xaSavti Se-hem dibru 'al-*(av$_i$)
         this who that I thought that they talked about-him
         'this is who I thought that they talked about'

b.   ze mi$_i$ Se-xaSavti Se-ra'iti et im-*(o$_i$)
this who that I thought that-I saw acc mother-his
this is who I thought that I saw his mother

Borer shows that FR's, unlike restrictive relatives, are formed through movement. This is evidenced by their sensitivity to subjacency. Contrast the unacceptable (58a,b) below with the corresponding well-formed restrictive relatives in (55b,c) above.

(58) a.   *ze mi$_i$ Se-hikarti [$_{NP}$ et ha-iSa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ xaSva 'al-av$_i$]]]
this who that-I knew acc the-woman that-thought about-him
'this is whoever I knew the woman who thought about him'

b.   *ze mi$_i$ Se-hikarti [$_{NP}$ et ha-iSa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ ahava et im-o$_i$]]]
this who that-I knew acc the-woman that-loved acc mother-his

While clitics may be resumptive in restrictive relatives, they double a trace in free relatives and extraction obeys subjacency.

Furthermore, the free-standing direct object pronoun, oto, cannot be employed in FR's, since these can only be formed by movement and oto is not a clitic which is doubling an empty argument position but fills the argument position itself. Contrast (55a) with (59).[22]

(59)   *ze mi$_i$ Se-hikarti [$_{NP}$ et ha-iSa$_j$ [$_{CP}$ Se- [$_{IP}$ t$_j$ ahava oto$_i$)]]
this who that-I knew acc the-woman that loved him
'this is who I knew the woman who loved him'

---

22   In FR's the **wh**-element plays the role both of the operator and of the relative head. It is not surprising, therefore, that FR's pattern like interrogatives in disallowing a resumptive pronoun from filling the position of the gap.

Hebrew FR's, then, behave like EA and MSA interrogatives in that the clitic doubles the trace of movement.

Insofar as S-structure clitic doubling is concerned, Hebrew may be placed halfway between EA and Lebanese Arabic: It has a 'saving' device, the preposition-like element **Sel**, but the device has a restricted distribution. It appears only in NP's, never in PP's or VP's. This follows from the fact that it is an assigner (or realization) of genitive Case which is restricted, in Hebrew to NP-internal positions.[23]

(60) a.   kaniti et sifr-o$_i$ Sel Dan$_i$
           I bought acc book-his of Dan
           'I bought Dan's book'

      b.   *dibarti 'im-o$_i$ Sel Dan$_i$ (cf.   dibarti 'im Dan)
           I spoke with-him of Dan   *I spoke with Dan*
           'I spoke with Dan'

      c.   *ra'aiti oto$_i$ Sel Dan$_i$ (cf.   ra'aiti et Dan)
           I saw him of Dan   *I saw acc Dan*
           'I saw Dan'

While clitic doubling of overt NP's is more restricted in Hebrew than in, for example, Lebanese Arabic, we have seen that extraction out of the doubled NP position, i.e., free relativization, is independent of whether or not Sel is available. Sel is unavailable in PP's, (60b), and clitic doubling of an overt NP is, in fact, impossible. Extraction from the doubled position in a PP, however, is fine, as the acceptability of (56a) above illustrates.

---

[23]   In this respect, Hebrew differs from MSA and from Classical Arabic, where genitive Case is also assigned in PP's, (overtly in the latter.)

The point here, once again, is that Case theory applies in different ways to variables and to overt NP's. Overt NP's require Case at S-structure which an overt clitic would absorb. So either the clitic is not generated or a Case marking device is inserted. Variables, however, may postpone Case-marking to LF. A clitic which is present in the S-structure representation is deleted, allowing for direct Case assignment of the variable.

The peculiarity in the grammar of Hebrew, in comparison to the dialects of Arabic surveyed above, is that questions disallow the clitic configuration altogether. Consider the sentences in (61), which minimally contrast with the free relatives of (56) above.

(61) a. *ma_i xaSavti 'al-av$_i$ t_i ?
          what I thought about-it
          'what did I think about?'

      b. *mi_i ra'iti et im-o$_i$ t_i ?
          who I saw acc mother-his
          'whose mother did I see?'

Note that the ungrammaticality of (61) cannot be due to a violation of some Case principle, since the equivalent sentences in Arabic are fine, w.r.t Case. This is the crucial point. It is not clear how to prevent Case from being assigned to the doubled variable in (61).

Hebrew interrogatives pattern like EA nonnominal interrogatives, ((51), (52) above.) They are incompatible with clitic configurations and they induce deletion (or non-generation) of the complementizer. Hebrew FR's, on the other hand, pattern just like EA nominal interrogatives: They are fine with

clitics and the COMP position is filled. Thus, the nominal/nonnominal bifurcation among **wh**-words in EA is found in the contrast between interrogatives and free relatives in Hebrew.

And, in fact, the only way to form question out of PP or NP in Hebrew, is to pied-pipe the entire PP or NP, as shown in (62).

(62)   a. $[_{PP}$ 'al ma$]_i$ xaSavti t_i ?
               about what I thought
               'what did I think about?'

        b. $[_{NP}$ et im-o$_j$ Sel mi$_j]_k$ ra'iti t_i ?
               acc mother-his of whom I saw
               'whose mother did I see?

Adjunct **wh**-words can also be extracted; yet there is no clitic doubling the extraction site, nor is COMP filled with the complementizer **Se**.

(63)   a.   matai$_i$ noladta t_i ?
               when you born
               'when were you born?'

        b.   eifo$_i$ ata gar t_i ?
               where you live
               'where do you live?'

To determine whether interrogation in Hebrew always extracts a 'nonnominal' **wh**-word, we must look not only at extraction from within NP or PP, but also at direct object extraction. We cannot test for this with the free standing pronoun **oto** because interrogation, like free relativization, does not employ the resumptive strategy and a pronoun in place of a gap will always lead to ungrammaticality.

Now, although clitics on finite verbs are rather marginal in Modern Hebrew-
although they were used productively in earlier stages of the language-
clitics on non-finite verb forms are widely attested, especially in the written
idiom, where they freely vary with the free standing pronoun forms oto,
ota, etc....

(64) a.   bata le-vakr-o$_i$/ le-vaker oto$_i$ be-beit ha-sohar
            you came to-visit-him   in-house the-jail
            'you came to visit him in jail'

            (compare: ??etmol bikarta-hu be-beit ha-sohar)
                        yesterday you visited-him in-house the-jail

      b.   tixnanti li-r'ot-a$_i$/ li-r'ot ota$_i$ ha-'erev
            I planned to-see-her   the-evening
            'I planned to see her this evening'

            (compare: ??etmol re'iti-ha)
                        yesterday I saw-her

Crucially, now, interrogation of a direct object of non-finite verbs is totally
impossible with a clitic, only a gap is possible:

(65) a.   *(et) mi$_i$ bata le-vakr-o$_i$ be-beit ha-sohar
            acc who you came to-visit-him in-house the-jail
            'who did you come to visit him in jail'

      b.   (et) mi bata le-vaker t$_i$ be-beit ha-sohar
            acc who you came to-visit in-house the-jail
            'who did you come to visit in jail'

The ungrammatical (65a) contrasts minimally with the perfectly acceptable FR, (66).

(66) ze mi₁   Se-bata   le-vakr-o₁   be-beit ha-sohar
      this who   that-you came   to-visit-him in-house the-jail
      'this is who you came to visit in jail'

Although I find this asymmetery rather mysterious at present, let us see what sort of generalization sems to be emerging. It appears that Hebrew does not have nominal **wh**-interrogative operators; rather, that all interrogation in Hebrew is a form of pied-piping. Notice that if **mi** ('who') in (65) was an NP, (65a) should be grammatical, just as it is in Arabic.

Hebrew manifests the 'nominal'/'non-nominal' dichotomy found in Egyptian Arabic, with a twist. Let us conjecture that both **et mi** and **mi** in (65) are PP's. Notice that one of the differences between Hebrew and, say, EA is that Hebrew, but not EA, employs an accusative marker, **et**. One may try to relate the two facts. Suppose that the combination [et-NP] is not an NP with **et** adjoined to it, as argued by Borer (1983), Borer and Grodzinsky (1986), but a PP of sorts, perhaps an indexed PP, (see ahead, section 6.3.) Suppose, further, that **et** has a null counterpart which is in complementary distribution with **et**, i.e., it appears before indefinite NP's. The unacceptability of (65) now follows from a categorial mismatch between the

clitic, which is nominal and the fronted wh-word which is not. (65a), for example, should be represented as either (67a) or (67b).[24]

(67) a.   *[pp et who]ᵢ did you come to visit-[NP oᵢ] [pp tᵢ] in jail?

b.   *[pp 0 who]ᵢ did you come to visit-[NP oᵢ] [pp tᵢ] in jail?

This conclusion is rather speculative and is in need of further clarification and elaboration. I will leave matters as they are for now. Suffice it to realize that the contrast between interrogatives and FR's in Hebrew, with respect to extraction from a clitic doubled position, has nothing to do with Case theory.[25]
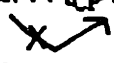
Borer (1981) (1983) on Free Relatives

Borer (1983) explains the FR/interrogative contrast in Case theoretic terms. She argues that variables do not need Case; rather, the (A'-) chain of which they form a tail needs Case and it can receive Case either through its head or through its tail. On the assumption that the clitic, in both constructions, absorbs the Case due to the variable these configurations can only be saved by assigning Case to the head of the A'-chain. FR's, she argues, adopting the

_____

[24]   The claim that et-NP is a PP and not an NP is inconsistent with some recent analyses, e.g. Borer (1983), Borer and Grodzinsky (1986). The crucial data in B&G (1986) involve a contrast between PP traces and traces of et-NP's. An NP complement of P which needs to be bound from outside the PP cannot be so bound once the PP is moved; a trace of a pp does not reveal its internal structure. The NP of an et-NP category, on the other hand is accessible to binding from outside the et-NP category, even when it is moved. This contrast can be straightforwardly explained if et-NP is simply an NP. I leave this matter open.

[25]   Another matter left open in this discussion is clitic doubling and extraction in the various Romance languages and dialects.

essence of Groos and van-Riemsdijk (1979), differ from interrogatives precisely in that the **wh**-operator is accessible to Case marking from outside. Interrogative **wh**-words, however, cannot be Case marked in COMP. The difference between the two is illustrated in (68), (Borer (1983: 77.))

(68) a.   **Free Relatives:**
X... $[_{CP}$ mi$_i$ $[_{C'}$ Se $[_{IP}$ xaSavti $[_{PP}$ al-av$_i$ t$_i$]]]

Case assignment, where X has Case-assignment features

   b.   **Interrogatives**
X... $[_{CP}$ mi$_i$ $[_{IP}$ xaSavti $[_{PP}$ al-av$_i$ t$_i$]]]

No Case assignment

We have several reasons for rejecting this analysis. First, we have argued, on the basis of many examples, that clitics do not interfere with Case marking of variables. Thus, the variables in both interrogatives and FR's can be Case marked. Secondly, we have reasons to believe that Case is assigned directly to A positions, to heads of A chains and cannot be transmitted through a chain. Thirdly, Borer's analysis predicts that a sentence such as (99a) below should be grammatical, since Case can be assigned by the verb **hire** to **whoever** in satisfaction of the Case conditions.

(69) a.   *I'll hire whoever$_i$ it seems t$_i$ to be a good worker
   b.   I'll hire whoever$_i$ it seems t$_i$ is a good worker

The contrast between (69a) and (69b) constitutes another argument in favor of direct and local Case assignment.

APPENDIX

ON EXTRACTION FROM NP IN HEBREW

One question left open in the discussion above is why wh-extraction from within NP in Hebrew and Arabic may not proceed through [SPEC/NP], making the clitic redundant from the point of view of the ECP. Consider the hypothesis that Hebrew (and Arabic) NP's do not possess specifier positions. Consider the structure proposed for Hebrew (construct state) NP's in Borer (1983), which I give in (70) below. Borer's analysis implies that Hebrew NP's may lack SPEC. Let us hypothesize that they do not have one.

(70)

```
        N"                              N"
        |                               |
        N'                              N'
       /  \                            /  \
      N    N"                         N    N"
      |    |                         /     |
     beit  ha-mora              halixat    ha-mora
     house  the-teacher          walking    the-teacher
```

     'the teacher's house'   'the teacher's walking'
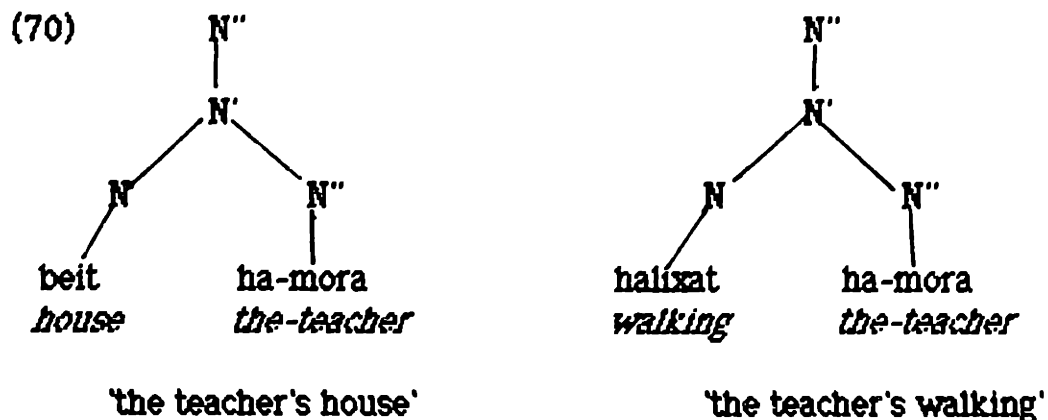
In Hebrew, as in Arabic, 'subjects' of NP's (i.e. possessors, agents) always appear to the right of the head noun. Furthermore, elements which figure as specifiers of NP in such languages as English, are typically nominal heads in Hebrew. This is evidenced, for example, with quantifiers such as 'all', 'part', 'most', and numbers by the fact that they take pronominal clitics. In addition, these elements undergo the phonological modifications

characteristic of construct heads, (71). Lastly, some of them can be prefixed by the definite article **ha-**, (72).

(71) kol ------> kul-am
     all   *all-them*   'all of them'

     xelek-----> xelk-o
     part   *part-it*   'part of it'

     rov-------> rub-i
     most   *most-me*   'most of me'

     SloSa-----> SloSt-am   'three of them'   (compare: bayt---> beit-am)
     three   *three-them*   *house* *house-them*
                                          'their house')

(72) ha-kol   ha-rov
     the all   *the-most*
     'everything'   'the most/majority'

The definite determiners **ha-** in Hebrew and **'al-** in Arabic, appear as proclitics on the complement of the head noun and on every postnominal modifier, as in (73). This can be taken to mean that the definite determiner doesn't occupy a syntactic position but, rather, definiteness is assigned as a feature like, say, gender, as proposed in Borer (1986b).

(73) beit ha-mora ha-telavivit ha-gvoha
     house the-teacher the-Tel-avivian the-tall
     'the tall Tel-Avivian teacher's house'

The definiteness feature, **ha**, can appear with demonstratives, which are presumably adjectives, unlike English, e.g.,

(74) a.   ha-iS ha-ze
         the-man the-this
         'this man'

Suppose, then, that Hebrew NP's do not have a SPEC position.[26] We then predict that the ECP will be satisfied either when there is a clitic properly-governing the extraction site or if the extracted element leaves a trace adjoined to NP. This latter possibility is ruled out in the general case, since NP's are arguments and adjunction to arguments is disallowed. But in Hebrew, NP's can also be employed predicatively and it is precisely in such cases that extraction out of NP is possible, (as noted, originally, by E. Doron.) Contrast (75a) with (75b).[27]

(75) a.   *Sel-mi ra'ita xaver?   NP argument
         of-whom you saw friend
         'whose friend did you see?'

     b.   Sel mi Dani xaver?   NP predicate
          of-whom Dani friend
          'whose friend is Dani?'

---

[26]   This has obvious implications for the DP hypothesis of Abney (1987), which I will not explore. See Ritter (1986) for an application of the DP hypothesis to Hebrew construct-state NP's.

[27]   The ungrammaticality of (i) below, which is taken by Borer (1986b) to be an indication that the definite determiner ha- does block extraction, and consequently does occupy the [SPEC/NP] position, is somewhat misleading since, as noted in Rappoport (1987), for many speakers, predicate nominals cannot be definite, independently of extraction, (ii).

(i)   *Sel mi ata ha-xaver
       of whom you the-friend

(ii)   *Dani ha-xaver   (cf. Dani xaver)
      Dani the-friend

Moreover, the absence of a specifier position in NP explains why a non-specific NP, such as **a picture** in (76b) manifests the same ungrammaticality as the definite (76a).[26] The unacceptability of both (76a) and (76b) are to be attributed to the ECP.

---

[26] Borer (1986b) provides the following contrast as evidence for an (LF) specificity effect. (i) can be interpreted with **three people** exercising wide scope; (ii) cannot be so interpreted. This may be taken as an indication for the existence of a specificity effect in Hebrew, allowing extraction out of (non-specific) NP but disallowing it in specific NP's, i.e., those NP's the SPEC of which is filled. But then it is not clear why the contrast does not extend to the other cases discussed.

(i) yad-am₁ Sel SloSa anaSim₁ hurma be-mexa'a
     hand-them of three people was raised in-protest
     'hands of three people were raised in protest.'
     (three people, three hands.)

(ii) *ha-yad Sel SloSa anaSim hurma be-mexa'a
      the-hand of three people was raised in-protest
      (only available interpretation: three people, one hand.)

Notice, also, that the wide-scope reading for **three people** in (iii), which is structurally identical to like (i) except for the absence of the clitic -am, is unavailable. Borer assigns (iii) a '?' and ranks it between (i) and (ii). To my ears, (iii) is as unacceptable as (ii), under the intended, wide-scope interpretation.

(iii) yad Sel-SloSa anaSim hurma be-mexa'a

The contrast between (i) and (iii) shows that the presence of the clitic at S-structure is relevant for the possibility of wide-scope interpretation. I have no explanation for this fact at present. Yet if the correct characterization of the facts is that (i) contrasts with (ii) and (iii), then clearly, the contrast has nothing to do with whether SPEC/NP is filled or not.

(76) a.   *Sel mi raita et ha-tmuna
              'of whom did you see the picture

        b.   *Sel mi raita tmuna
              'of whom did you see a picture'

Chapter 4
SUBJECT INVERSION

4.1 Chapter Abstract

Studies of subject inversion generally distinguish two types of inverted structures, (1a) and (1b), (Burzio (1986), Chomsky (1981) and much other work.)

(1) a.

```
            IP
          /   \
        NP      I'
              /    \
             I       VP
             |      /   \
             V         SUBJ
```

b.

```
            IP
          /   \
        NP      I'
              /    \
             I       VP
                   /    \
                 VP      SUBJ
                /  \
               V     NP
```
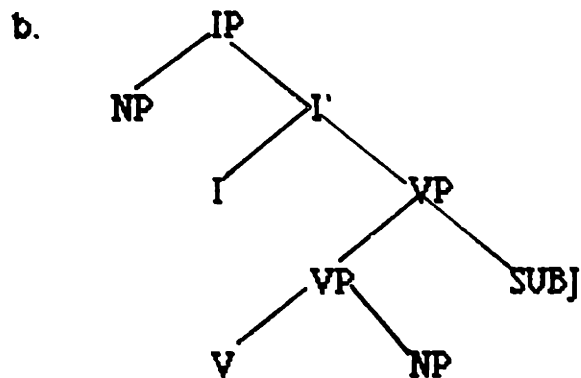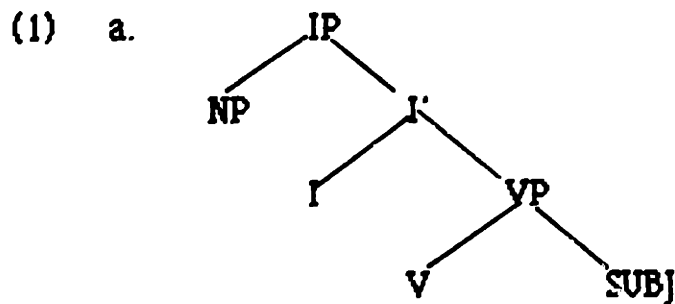
In (1a), the subject appears as sister to the verb, in the position occupied by objects of transitive verbs. In (1b), the subject is sister to VP and appears (Chomsky)-adjoined to it.

The purpose of this chapter is to explore aspects of these two configurations. I begin by presenting several diagnostics which can be used to distinguish them.

Section 4.3 gives a descriptive characterization of the conditions under which inversion is licensed in Hebrew.

In Section 4.4 I proceed to apply the diagnostics presented in 4.2 to Hebrew data, arguing that they pattern in a manner similar to those of Romance, in employing essentially two strategies of inversion, which yield the configurations (1a) and (1b), respectively.

The possibility that inversion of type (1b), or 'triggered' inversion, as I will call it, is the product not of adjunction of the subject to VP but rather of the preposing of V to a clause-inital position is then considered. I develop a number of arguments in favor of the view that triggered inversion is a form of subject postposing and not of verb preposing.

In 4.6, I show that the difference between Hebrew and Italian Free inversion lies in the place of attachment of the postverbal subject. In Hebrew, postverbal subjects are adjoined to the left of VP, in the general case and in Italian they are adjoined to VP on the right. Spanish, on the other hand, allows both options freely. The possibility of adjunction of a subject to the left of VP constitutes an argument in favor of amalgamating V and INFL by raising the verb into INFL and against lowering INFL to the verb. The argument is based on word order facts in languages such as Hebrew and Spanish.

4.7 correlates the difference between Hebrew/Spanish on the one hand and Italian, on the other, w.r.t the place of attachment of a VP-adjoined subject with a number of other differences, chief among them being the distribution of the definiteness effect (DE) in inversion configurations.

Chapter 4 is concluded with a brief suggestion to extend the analysis of post verbal subjects to VSO languages in general.

4.2 Subjects Internal to VP and Subjects Adjoined to VP

Structure (1a) is correlated with sentences such as those in (2), i.e., where the verb belongs to the 'unaccusative' class, (2a), or (2b) where the verb in its passive state. Also correlated with this structure are cases of **there**-constructions in English with **be** and other unaccusative predicates, shown in (2c) as well as il-impersonals in French, (2d).

(2)   a.   arriva un uomo

        b.   furono invitati molti esperti

        c.   there was a hippopotamus under my bed

        d.   il est arrivé trois hommes

Structure (1b) is associated with Romance 'free inversion', which effects all intransitive verbs and, somewhat marginally, transitive verbs in e.g., Italian, Spanish, Romanian, Catalan, Portugese, (3a,b). French 'Stylistic Inversion', exemplified in (3c) has also been argued to give rise to a representation such as (1b) (Kayne and Pollock (1977).

(3)   a.   telefona Gianni

      b.   ?mangia la mela Gianni

      c.   Quand a téléphoné Jean?

Research of recent years has uncovered many regularities associated with the classes of unaccusative and unergative verbs or of subclasses thereof in a variety of languages. I will review three correlations, which have or can be used to distinguish the two inversion configurations, (1a) and (1b) above. The three processes I have in mind are the cliticization of the pronoun ne in Italian, the distribution of the possessive dative le in Hebrew and the distribution of the DE. I present a short summary of each.

'ne'-Cliticization [1]

Quantified NP's can be pronominalized, in Italian, by means of the pronoun ne, meaning 'of it' or 'of them'. The pronoun is cliticized onto the verb, stranding a quantifier element (such as **molto, poco, alcuno, due** 'much/many', little/few. some, three'). Putting aside the exact characterization of 'ne-cliticization', it has been argued that the distribution of ne-Cl reflects structural differences which can be captured by the configurations in (1a,b) and cannot be attributed merely to lexical properties of the verb.[2] Informally speaking, ne-Cl is restricted to apply only to direct objects, as shown in (4).

---

[1]   From Burzio (1986).
[2]   For discussion of ne-cl see Belletti & Rizzi (1981), Burzio (1986).

(4)   a.   Giovanni **ne** inviterà molti   (dir. object)
G. of-them will invite many
'Giovanni will invite many of them'

       b.   *Giovanni **ne** parlerà a due   (indir. object)
G. of-them will talk to two

       c.   *Molti **ne** arriveranno   (subject)
Many of-them will arrive

       d.   *Molti **ne** telefoneranno   (subject)
Many of-them will telephone

The possibility of **ne**-cl. in (4) can then be accounted for by assuming that the post-verbal NP's in (4) occupy the position of the direct-object. Specifically, inversion with verbs of the 'arrivare' class can be represented as (1a) above.

(5)   a.   **ne** saranno invitati molti   (subject of passive)
of-them will be invited many

       b.   **ne** arriveranno molti   (subject of unaccusative)
of-them will arrive many

The contrast between (5b) and the unacceptable (6) can be captured by assigning the structure in (1b) to (6) and that of (1a) to (5b).

(6)   ***ne** telefonavano molti
of-them telephoned many

The inverted subject of an unaccusative verb such as 'arrivare' is said to occupy the D-structure direct object position whereas the inverted subject of a 'telefonare'-type verbs does not.

The Hebrew Possessive Dative 'le'[3]

In the following sentences, the direct object NP must be interpreted as possessed by the dative NP.

(7)   a.   ha-yalda axla le-dan et ha-tapu'ax
          the-girl ate to-Dan acc the-apple
          The girl ate Dan's apple'

       b.   ha-yeled Savar le-Ruti et ha-xalon
          the-boy broke to-Ruti the window
          'the boy broke Ruti's window'

       c.   ha-kelev Saxav 1-i al ha-mita
          the-dog lay to-me on the bed
          'the dog lay on my bed'

The possessive interpretation is obligatory even when the direct object is questioned, (8).

(8)   a.   et-ma ha-yalda axla le-Dan?
          acc-what the-girl ate to-Dan
          'What of Dan's did the girl eat?'

       b.   eize-xalon ha-yeled Savar le-ruti?
          which window the-boy broke to-Ruti

       c.   al-ma Saxav 1-i ha-kelev?
          on-what lay to-me the dog

---

3   Taken from Borer and Grodzinsky (1986), (B&G.)

Furthermore, a le-phrase can only possess VP-internal material; subjects cannot be possessed by a le-phrase. The sentences in (9) are good only when the PP is present.

(9) a.   ha-kelev Saxav le-ruti *(al ha-mita)
       *the dog lay to-Ruti *(on the-bed)*

   b.   ha-yalda yaSva 1-i *(al ha-kise)
        *the-girl sat to-me *(on the-chair)*

   c.   ha-po'alim avdu le-Dan *(ba-xacer)
       *the-workers worked to-Dan *(in-the-yard)*

B&G characterize these facts by means of the following descriptive statement.

(10)   Possessive datives must c-command the possessed element or its trace

Interestingly, a class of non-transitive verbs seem to violate (10). All the sentences in (11) are grammatical under the intended, possessive reading. If it is supposed that these verbs are 'unaccusative', that is, generate their surface subjects in the position of the direct object, the generalization in (10) can be maintained.

(11) a.   ha-maftexot naflu 1-i
        the-keys fell to-me
        'my keys fell'

   b.   ha-mixnasaiym nikre'u le-Dani
        the-trousers tore to-Dani
        'Dani's trousers were torn'

   c.   ha-pgiSa hit'axra 1-i
        the-meeting became late to-me

'my meeting was late'

d.   ha-xatul met le-Rina
       the-cat died lo-Rina
       'Rina's cat died'

Since much of this chapter will be concerned with inversion constructions in Hebrew, let us, for now, merely note that postverbal subjects of unaccusative verbs may be interpreted as possessed by the dative NP, in conformity with the generalization in (10) and the structure in (1a), whereas inverted subjects of unergative verbs cannot be so interpreted. The datives in (12a) and in (13a) function as 'ethical' and not as a possessive datives. The unavailability of a possessive interpretation of the post-verbal subject in (12a), (13a) demonstrates that the postverbal subjects in these sentences are not c-commanded by the dative pronoun; hence, they cannot be inside the VP.[4]

(12) a.   *lo yaxolti le-hikanes ha-baita ki   xanu   l-i tustusim
             neg I could to-enter the-house because parked to-me mopeds

             'al ha-midraxa
             on the-sidewalk

             'I couldn't enter my house because mopeds were parked on the sidewalk and they blocked access to my house/it aggravated me.'

      b.   lo yaxolti le-hikanes ha-baita ki   naflu l-i ha-maftexot
             neg I could to-enter the-house because fell to-me the -keys

             'al ha-midraxa
             on the-sidewalk

---

[4]   The ungrammaticality of (13a) below shows that the Hebrew verb le-hikanes ('enter') is not unaccusative, as pointed out to me by H. Borer (p.c.)

'I couldn't enter my house because my keys fell on the sidewalk'

(13) a. *be-emca ha-seret nixmesu l-i yeladim ra'aSanim
in-middle the-movie entered to-me children noisy
'In the middle of the movie (there) entered noisy children and it aggravated me'

b. be-emca ha-seret nikre'u l-i ha-mixnasaiym
in-middle the-movie tore to-me the -trousers
'in the middle of the movie my pants torer'

The Definiteness Effect

The **definiteness effect** (DE), to recall, refers to a restriction on a subclass of 'inverted' constructions in a variety of languages, according to which the post-verbal NP position can only be occupied by 'weak' NP's. Although there is a great deal of controversy in the current literature over the nature of the DE, most accounts agree that, descriptively speaking, the DE is restricted to effect subjects which appear underlyingly in the position of the Dir. Obj and does not effect NP's adjoined, say, to VP. To give an example, the DE appears with il-impersonals in French but is suspended with stylistically-inverted subjects. It is not surprising, given the correlation between the DE and the placement of the postverbal subject, that il-impersonals are restricted to verbs of the 'unaccusative' variety whereas

'Stylistic Inversion' can take place with all verb classes, in particular, with unaccusatives.[5]

(14) a.   Il est arrivé un homme/*l'homme

b.   Quand est arrivé un homme/l'homme?

In (14a) the NP **un homme** occupies the direct object position and is, thus, subject to the DE. (14b), on the other hand, is not derived directly from (14a). Rather, the postverbal subject is first raised into the clausal subject position, where the DE does not apply. The **wh**-word **quand** triggers Stylistic Inversion, which then postposes the subject and adjoins it to VP.

Similarly, In English, we have seen that the DE appears in **there**-constructions with the verb **be** and with a class of verbals which Milsark (1974) termed 'inside' verbals. The DE is suspended in **there**-constructions with 'outside' verbals.

(15) a.   There was a hippo/*the hippo in my bathtub

b.   There arose a terrible storm/*the terrible storm

c.   There hung on the wall a map of Palestine/the map of Palestine

The verb **be** as well as the 'inside' verbals were analyzed by Burzio (1986) as unaccusative, that is, as conforming to the structure in (1a), whereas

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[5]   Pollock (1986) notes that il can also co-occur in contexts of Heavy NP Shift, as in (i) below. The impossibility of **en**-cliticization in (ii) shows that the postverbal NP **beacoup des linguistes** is adjoined to VP.

(i)   il a mangés dans ce restaurant beacoup de linguistes
(ii)   *il en a mangé...

Milsark's 'outside' verbals are VP-final and, hence, can be viewed as adjoined to VP, in conformity with (1b).

So far, we have reviewed three arguments for distinguishing two structures of subject inversion. The arguments were designed to motivate the assignment of structure (1a) to inversion with unaccusative and passive verbs. To complete the picture, we must now turn to an argument in favor of assigning structure (1b) to other instances of occurences of inverted subjects.

Extraction of Postverbal Subjects

Rizzi (1982) observed that negative quantifier-like elements can be construed with a scope marker in a higher clause only when they appear in the inverted subject position. The contrast in (16) is commonly treated as a direct effect of the ECP.[6] In the unacceptable case, the trace of the LF-extracted **nessuno** will not be c-commanded by a local antecedent and will hence fail to satisfy the ECP.

(16) a.   Non pretendo che ti arresti nessuno

       b.   *Non pretendo che nessuno ti arresti

As for the good case, (16a), several options may be considered. One position where the ECP would clearly be satisfied is the direct object position, which, as we have seen, may contain the subject of unaccusative and passive verbs.

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[6]   Since I am assuming a different version of the ECP and a different characterization of empty catergories from that of Rizzi (1982), I am taking the liberty of restating Rizzi's observation.

arrestare, however, is not such a verb, as can be learned from the impossibility of **ne**-cliticization. So structure (1a) must be ruled out for (16).

One configuration in which the ECP is satisfied is afforded by adjunction to VP, which was given as (1b) above and is repeated here as (17). In (17), the postverbal subject is properly governed by the preverbal null subject **pro**. We can, thus, regard the extraction facts as arguing in favor of associating inversion with verbs which are not unaccusative, i.e., unergative and transitive, with structure (17).

(17)
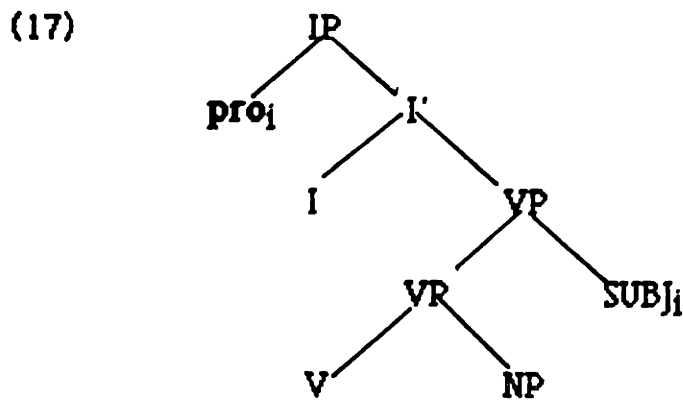
4.3 A Description of Subject Inversion in Hebrew

The Descriptive Tools

One generalization which emerges in the study of postverbal subjects in Hebrew is that the degree to which inversion configurations are acceptable correlates with the degree to which the subject can be interpreted as **new information** introduced or presented into the discourse. Conversely, inversion is degraded in contexts where the subject is presupposed or where it constitutes **old information**.[7]

Before turning to the actual discussion of these phenomena, I introduce certain descriptive notions. Following Chomsky (1971), Jackendoff (1972), Guéron (1980), Horvath (1986), among others, let us suppose that the interpretation of sentences involves discourse-related notions such as **focus** and **presupposition**. Jackendoff ((1972), cited in Horvath (1986:93)) characterizes **focus** as "the information in the sentence that is assumed by the speaker not to be shared by him and the hearer" and **presupposition** as "the information in the sentence that is assumed by the speaker to be shared by the hearer." A focused element is thus the locus of **new information** whereas a presupposed element carries **old information**. Topicalized elements, as distinct from focalized ones, constitute, by and large, **old information**. Sentences will be said to be **presentational** when "the

VP denotes, essentially, the appearance of the subject in the world of the discourse". **Predicative** sentences are those in which the subject "refers to an individual or object (or set of these) whose existence in the world of discourse is presupposed." (Guéron (1980:653)). Thus, the subjects of **presentational** sentences are focused whereas the subjects of **predicational** sentences are **presuppositional** or **topicalized**.

A word of caution is in order: These notions are notoriously imprecise and serve, at best, as rough descriptive generalizations. I will not attempt a more precise characterization and will continue to use them in a rough, descriptive way. Furthermore, these notions are relational, in that new information must be understood relative to something else in the clause which may be construed as presuppositional, and vice-versa. This already suggests an observation which will be of some importance in my discussion of the Hebrew data below: Subjects can be focalized either directly, by being assigned focal stress or moved to a position to which a focal interpretation is assigned or indirectly, by having their presuppositional character or topicality attenuated relative to another clausal element which is topicalized directly. Let me give an example of what I mean. In (18) below, the existence of some specific book is **presupposed**. This can be seen from (19). In order for a discourse to be 'natural' in Jackendoff's terms, successive sentences must share presuppositions. A pairing of (18) with (19a) results in a 'natural discourse' since both sentences share the presupposition of the existence of a specific book. A paring of (18) with (19b) is deemed unnatural because in (19b), the book is no longer presupposed, rather, the presupposition is that John asked Bill to tell his students to do something or other.

(18) this book, John didn't ask Bill to get his students to read

(19) a.   in fact, John asked him to get them to translate it to Latin
     b.   in fact, John asked him to let them go home early

Going back to (18), notice that the Topicalization of **the book** has the consequence of indirectly focalizing the subject of the sentence, **John**. This can be seen by considering (20) which is also an appropriate response to (18).

(20) that's right, Mary did (ask Bill to get his students to read such and such a book.)

VS order is acceptable in Hebrew to the degree that subject can be taken as **new information**. There are, roughly speaking, two ways in which the appropriate semantic/pragmatic context for inversion can be set up. The first is with the use of verbs of presentation, appearance, existence or change of state. These verbs are presentational by their very meaning and hence, their subjects may be naturally construed as 'new information'. These cases are discussed imediately below. Alongside this class of verbs, practically any non-presentational verb can admit of a postverbal subject but in the absence of inherent semantic features, various syntactic and discursive devices come into play to downplay the topicality of the subject and induce a presentational context. The most common strategy for downplaying the topicality of the subject in Hebrew is to topicalize another element, thereby reducing the relative topicality of the subject. This type of inversion, which I have chosen to term 'triggered inversion ', is discussed in a later section. With verbs of a presentational nature, no 'trigger' is necessary although the presence of a trigger of some sort frequently renders VS order more

acceptable. This is particularly clear with non-existential presentational verbs (or 'presentational impersonals', as Safir (1985) calls them.)

It is important to draw a distinction between presentational vs. non-presentational verbs on the one hand and structural differences having to do with the placement of the postverbal subject, on the other. The property which distinguishes triggered from free inversion is a semantic/pragmatic one whereas the placement of the postverbal subject follows from the **syntactic** distinction drawn between unaccusative verbs on the one hand and other verb classes, on the other. I will show that 'triggered' inversion correlates with VP-adjunction of the postverbal subject. As for inversion which is not triggered, I will show that truly 'unaccusative' and passive verbs differ from unergative presentationals in that only the unaccusative ones generate their subjects VP-internally. The discussion of these syntactic properties will be carried out in section 4.4 where the diagnostics for 'unaccusativity' discussed in 4.2 will be employed and new ones introduced. I begin, however, with a discussion of inversion in presentational contexts.

Inversion with Presentational Verbs

As noted, the class of verbs which most readily admit of inverted subjects are verbs of existence, appearance, and more generally, verbs which introduce the subject into the discourse as new information rather than presuppose it or regard it as old information. Consider the examples in (21), where inversion is deemed perfectly natural.

(21) a. hay-u l-i pic'ei bagrut 'ad Se-hitxalti le-hitmare'ax be-mic kiwi
were to-me wounds adolescence until that-I began to
smear+reflexive in-juice kiwi
'I used to have acne until I began to smear myself with kiwi
juice'

b. kayam-im anaSim Se-mesugalim li-rcoax biSvil kesef
exist-pl. people that-capable   to-murder for money
'there exist people capable of murdering for money'

c. lo kayemet medina ka-zot
NEG exist-sing.fem state like-that-fem
'there doesn't exist such a country'

d. xaser xelek ba-mexona
missing+s.m. part-s.m. in-the-machine
'There is a piece missing in the machine'

e. xala 'aliya ba-temperatura
come about increase in-the-temperature
'the temperature has risen'

The shared semantic attribute of these predicates is that their grammatical
subject is not presupposed but is introduced as 'new information'. The
sentences in (21) are not predicational, in Guéron's (1980) sense, in that they
merely assert of the subject that is exists or that it fails to exist.

Alongside this class of existential verbs there is another class of intransitives
which allows free, that is untriggered inversion:

(22) a. ne'elmu me-ha-sifriya SloSa kraxim Sel Brittanica
disappeared from-the-library three volumes of Brittanica
Three volumes of Brittanica disappeared from the library'

b.   hofi'a ktav-'et xadaS
appeared journal new
'a new journal has appeared'

c.   parac viku'ax so'er
broke-out argument stormy
'a stormy argument broke out'

d.   higi'a do'ar
arrived mail
'mail has arrived'

e.   nirdema le-Rina   regel
became numb to-Rina foot
'A foot of Rina's became numb'

With regards to these verbs, the presentational meaning is strongest when the verb is in the past tense. There is a clear degradation in the acceptability of inversion when the present tense variant is employed, viz. (23), (and compare with (21) above, where tense plays no role.)

(23) a.   ??magi'a do'ar
arrives mail

b.   ??mofi'a ktav-et
appears journal

c.   ??porec viku'ax
breaks-out argument

The degradation is due to the attenuation of the presentational aspect of these verbs when they appear in the present tense. The sentences in (23) denote more of a habitual, continuous state of affairs, rather than a novel occurence. Thus, for example, (23b) has the interpretation that a journal usually appears, not that it has just begun to appear and , in fact, inversion is

remedied when the habituality is made explicit, by, e.g., the addition of a pre-clausal temporal adjunct which assumes the pragmatic role of the presupposition, against which background, the subject can be taken as **new information**.[6]

(24) a. be-Sa'a Smone magi'a ha-do'ar
at-hour eight arrives the-mail
'at eight o'clock the mail arrives'

  b. kol Savu'a mofi'a ktav-et (xadaS)
every week appears journal (new)
'every week a new journal appears'

  c. hu rak nixnas la-xeder ve-kvar porec viku'ax
he only comes into-the-room and-already breaks-out argument
'he just comes into the room and already an argument breaks out'

This class of intransitives, some of which are unaccusative (e.g. 'fall', 'become numb') others which are not, are presentational under certain circumstances. We may view them as an intermediate case between the free inversion of true existentials and triggered inversion. Alternatively, one might consider the past tense specification necessary for their 'free' inversion as a trigger of sorts, a deictic temporal element which is topicalized, thus setting-up a presuppsitional context for the inverted subject.

It is interesting, in this context, to consider the verb **'telephone'**, since it has often appeared in the literature as a prototypical unergative verb, minimally differing from an ergative intransitive such as **'arrive'**.

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[6] On the suspension of the definiteness effect in (2i), see ahead, 4.8.

This verb readily permits a postverbal subject, as in (25).

(25) tifen avi-xa
      telephoned father-yours
      'your father called'

Note that **'telephone'** is ambiguous between a presentational predicate and a verb reporting an action.[9]   Consider the following two contexts.

(26) a.   The telephone rings. Someone answers and later reports to me
            that your father telephoned.

      b.   Someone asks what your father did and I answer: "Your father
            telephoned".

The first context is the presentational one, in which your father's telephoning is a form of appearance. In Hebrew, as in English, the sentence 'your father telephoned' with S-V order is ambiguous between (26a) and (26b). The reverse order forces the first, presentational reading. While the sentence in the S-V order can occur with a 'goal' PP, as in (27a) below, the PP may not co-occur with the V-S order, as shown by the unacceptability of (27b).

(27) a.   avi-xa tifen le-Dan
            father-yours telephoned to-Dan
            'your father called Dan'

      b.   ??tifen avi-xa le-Dan

---
9   I am grateful to H. Borer for pointing out these facts to me.

The PP in (27) places the 'report' interpretation in relief and downplays the presentational one. The most natural interpretation of (27a) is of an utterance made by a person present in the location from where the telephone call was initiated whereas (25) above, with the VS order, is most naturally interpreted as an utterance on the part of someone on the receiving end of the telephone call.[10]

As noted above, one property of these presentational constructions is that the grammatical subject is introduced, presented or brought into existence. Whenever a predicational interpretation looms in the foreground, SV order is judged preferable to VS order. In (28) below, both VS and SV order are acceptable when the subject is animate, yet in (29), where the subject is inanimate, there is preference for a postverbal subject, (Givón's (18-19).)

(28) a.　　ba'a elay etmol iSa axat
　　　　　came to-me yesterday woman one
　　　　　'some woman came to me yesterday'

　　　b.　　iSa axat ba'a elay etmol
　　　　　woman one came to-me yesterday

(29) a.　　ba'a elay etmol telegrama dxufa
　　　　　came to-me yesterday telegram urgent
　　　　　'an urgent telegram came to me yesterday'

　　　b.　　??telegrama dxufa ba'a elay etmol
　　　　　telegram urgent came to-me yesterday

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[10]　The same observations hold of the Italian verbs '**telefonare**', '**parlare**', '**esclamare**' which are unergative (i.e., they take the auxiliary '**avere**', and do not permit **ne**-cliticization, two well-known characteristics of unergativity as opposed to unaccusativity in Italian,) yet invert with the same freedom as ergative verbs such as '**arrivare**'.

As Givón points out, it is not the human/non-human dichotomy which is relevant but rather the active agent/non-agentive one, for even when there is a human subject but the verb clearly denotes an involuntary action, VS order is favored.

(30) a.   nafal Sam iS exad le-tox ha-te'ala
             fell there man one into-the-ditch
             'some man fell into the ditch over there'

     b.   ?iS exad nafal Sam le-tox ha-te'ala
             man one fell there into the ditch.

It follows from the discussion above that intransitive action verbs, such as verbs of motion, which are clearly predicational in nature will not permit inversion. This is illustrated in (31).

(31)   ??racu / halxu / ca'adu /kipcu SloSa yeladim le-bet ha-sefer
        ran/walked/marched/hopped three-children to school

There is a sense in which a sentence like '**ran three children to school**' is presentational even though VS order is unacceptable. It seems to me, however, that the 'appearance' meaning of such a sentence is derivative, an extention of the primary sense of '**run**', which denotes an action predicated of an agent and not merely an affected subject. In this respect, the verbs in (31) differ from presentational intransitives, such as '**telephone**' in (25) above in that verbs like '**telephone**' are presentational in a primary, underived sense.

Inversion with Passive Verbs

Passive verbs, like unaccusatives, admit of postverbal subjects even in the absence of a trigger.

(32) a.　ne'exal le-Ruti ha-kiwi
　　　　was-eaten to-Ruti the kiwi
　　　　'R.'s kiwi was eaten'

　　　b.　nignevu le-Arie kol ha-maxbarot
　　　　were stolen to-Arie all the notebooks
　　　　'All of A.'s notebooks were stolen'

　　　c.　Sulma agrat televiziya
　　　　was paid tax television
　　　　'a television tax has been paid'

　　　d.　nirSema aliya ba-laxut
　　　　was registered an increase in-the-humidity
　　　　'an increase in the humidity was registered'

However, VS order is far less acceptable when the agent is specified. Compare (33) with VS order and (34) with SV order.

(33) a.　*ne'exal le-Ruti ha-kiwi al-yedei ha-xatul
　　　　was-eaten to-Ruti the kiwi by the-cat
　　　　'R.'s kiwi was eaten by the cat'

　　　b.　*nignevu le-Arie kol ha-maxbarot al yedei talmidim me-hakita
　　　　were stolen to-Arie all the notebooks by the students from-the-class
　　　　'All of A.'s notebooks were stolen by the students in the class'

(34) a.　ha-kiwi Sel Ruti ne'exal al-yedei ha-xatul
　　　　the-kiwi of Ruti was eaten by the-cat

　　　b.　kol ha-maxbarot Sel Arie nignevu al yedei talmidim me-hakita
　　　　All the-notebooks of Arie were stolen by students from -the-class

The interference of an overt agent with VS order requires some explanation because the semantic relationship between the verb and the grammatical subject of these passives seems to be unaffected by the presence of an overt agent. But this is not entirely true, however because the 'by'-phrase typically is the most highly focused element in the clause. In (33a) above, it is the cat which is focalized, introduced as new information. This has the effect of interpreting the kiwi as presupposed, as old information and this directly decreases its acceptability as a postverbal subject. In the absence of an overt 'by'-phrase, (36a) is a possible continuation to (35a), under the presupposition that something or other of Ruti's was eaten. When an agent is specified, however, as it is in (35b), (36a) is inappropriate since the NP **kiwi** is no longer the focus of the sentence but constitutes part of it's presupposition, namely, that someone ate Ruti's kiwi. As a result, a more natural response to it is (36b).

(35)   a.   lo ne'exal le-Ruti ha-kiwi
                neg was-eaten to-Ruti the kiwi
                'R.'s kiwi was not eaten'

        b.   lo ne'exal le-Ruti ha-kiwi al-yedei ha-xatul
                neg was-eaten to-Ruti the kiwi by the-cat
                'R.'s kiwi was not eaten by the cat'

(36)   a.   ne'exal la ha-tapu'ax
                was eaten to-her the-apple
                'her apple was eaten'

        b.   ki 'im al-yedei ha-kelev
                rather by the-dog
                'rather, by the dog'

Another factor which influences VS order, especially in cases where the core meaning of the verb is not presentational, as in passives of action verbs, is the presence of some deictic element in the clause. Thus, (32) above fare less well when the possessive dative is absent. The presence of the dative sets up what Givón has termed a 'relevance link' by establishing a spatio/temporal presupposition with which the new participant can be connected.

To conclude, I have discussed the relevance of presentationality to the acceptability of VS order. The ability to cast the postverbal subject in the role of a new participant seems to be the factor which most clearly influences the acceptability of the inverted order.

Triggered Inversion

Alongside these cases of what we can loosely term 'free' inversion, as the Romance linguists have termed a similar phenomenon in the Romance null-subject languages, postverbal subjects are permitted in Hebrew under an overt 'trigger'. As in the case of 'free inversion', the process is optional, although pragmatic factors, such as those discussed, may induce a preference for one type of order over another. As noted in Borer (1984), the trigger may be an adverb, (37a), a wh-word, (37b), a fronted pronoun, (37c), or prepositional phrase, (37d). A complementizer (Se or 'im,) does not suffice to trigger inversion, (37e), neither does a wh-trace in COMP, (37f). In addition, clefts, such as (37g) license inversion.[11]

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[11]   See Borer (1984b) for a discussion of these facts in a different context.

(37) a.   **kol boker** metapes/tipes Dan al ha-har
      every morning, climbs/climbed D. up the mountain
      'every morning, D. climbs/climbed the mountain'

b.   **be-eize** Sa'a metapes Dan al ha-har?
    at what time climbs D. up the mountain
    'at what time does D. climb the mountain?'

c.   ze ha-har Se-**oto** ro'e Dan mi-ba'ad la-xalon
    this the mountain that-it sees Dan through the window
    'this is the mountain that D. sees through the window'

d.   ze ha-har Se-**'alav** metapes Dan bi-yemei xamiSi
    this the mountain that-on it climbs Dan on Thrusdays
    'this is the mountain that D. climbs on Thrusdays'

e.   *lo yada-ti Se / 'im metapes Dan 'al ha-har
    I didn't know that/if climbs D. up the mountain
    'I didn't know that/if D. climbs the mountain'

f.   *'al ma$_i$ xaSav-ta [$_{CP}$ t$_i$ Se- [$_{IP}$ metapes Dan t$_i$]]
    on what did you think [$_{CP}$ t that [$_{IP}$ climbs Dan t]]
    'on what did you think that D. climbs?'

g.   ze haya **ha-har ha-ze** Se-ra'a Dan mi-ba'ad la-xalon
    it was the-mountain the this that-saw Dan through the window
    'it was this mountain that D. saw through the window'

In all these cases, the 'trigger' is a topic of some sort, a presupposition.[12] As a consequence, the 'relative topicality' of the subject, in Givon's terms, is decreased and made to conform to the generalization of the previous section, namely, that subjects must constitute 'new information' in order to be permitted in the postverbal position. In (37a), a temporal adverb permits inversion by setting-up a temporal situation into which the postverbal

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[12]   W.r.t inversion underneath a wh-word, see ahead, p.153.

subject may be introduced as a new participant. In (37c) and (37d), a
fronted and topicalized pronoun or PP is accented. It is precisely because
the topicalized element must be construed as **old information** in order to
permit VS order, that syncategorematic elements such as complementizers
and elements which are phonetically-null cannot induce inversion, since they
lack any semantic content.

Borer (1984) also notes that even when a pronoun is not fronted, inversion is
nonetheless acceptable in relative clauses. Thus, alongside (37c), we have
(38).

(38)   ze ha-har Se-ro'e Dan mi-ba'ad la-xalon
       this the mountain that sees Dan through the window
       'this is the mountain that D. sees through the window'

It is interesting, however, that inversion cannot take place in lower clauses,
even if relativization is of a deeply embedded NP as in (39).

(39)   *ze ha-har   Se-amar Xanan Se-ro'e Dan   mi-ba'ad la-xalon
       this the mountain that-said Xanan that sees Dan through the window
       'this is the mountain that Hanan said that D. sees through the window'

Now, if we wish to maintain the generalization that inversion is sensitive to
an overt trigger, some explanation must be devised to account for (38).
Borer's explanation is that the relative pronoun, oto in (41c) is first fronted
into COMP, triggering inversion and then optionally deleted. Deletion is only
possible, she claims, in the topmost COMP. In Shlonsky (forthcoming), I
argue that the fronted pronoun is not in COMP in (37c), but, rather, is
topicalized and adjoined to IP. I also argue against an analysis of movement
and deletion for relative clauses. My account for the the fact that inversion

is possible in (38), is that the relative head itself is the trigger for inversion since it is the locus of focus in the sentence and allows the postverbal subject to be downplayed.[13]

Inversion Beneath a WH-word

Consider, now, inversion triggered by a **wh-word**. It is generally assumed that the fronted **wh**-word is focused, not topicalized. It ranges over a set of possible answers, all of which constitute **new information**. Given the generalization that VS order is acceptable only when the subject is not construed as old information, these cases are problematic. I will assume

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[13] One set of problems for the account in the text, is that inversion seems to be licensed even when the trigger does not create a presupposition, as is illustrated in (i).

(i) a.   **be-meSex kol xayav,**   lo azav Kant et Koenigsburg
          in-duration all life-his,   *neg left Kant acc Koenigsburg*
          'all his life,   K. never left Koenigsburg'

     b.   ...."..........................   lo axal Dan suSi kol kax tari
                                                                   neg ate D. sushi so fresh
                                                                   'D. hasn't eaten such fresh sushi'

     c.   ...."..........................   lo Sama   Smuel negina
                                                                   neg heard Shmuel playing

                                                                   ko yafa
                                                                   so beautiful
                                                                   'Shmuel never heard such
                                                                   beautiful playing'

The trigger in (i), is, however, assigned stress. This suggests that intonational criteria enter into the determination of wellformedness of inversion constructions, above and beyond their semantic import. I leave this and related questions for further research.

that, in fact, the trace of **wh**-movement is the focalized element, not the **wh**-phrase itself, which can serve as a TOPIC licensing inversion.

This concludes my discussion of the considerations that influence, indeed license VS word order. It should, perhaps, be added that these pragmatic restrictions are characteristic of present-day colloquial and informal written Hebrew. In the formal, literary idiom as well as in the revivalist dialect of the early days of Modern Hebrew, VS order was less restricted and more common.

In the remainder of this thesis, my strategy will be to idealize inversion and assume that it is always possible **in principle**. Such idealization is standard practice in syntax, where the boundaries between 'grammar' and language use are often not self-evident and must be drawn and redrawn as our understanding of these questions deepens. It is plausible, I think to view VS order as licensed both by principles of grammar and by principles of discourse. In this thesis, I explore what a grammar needs to specify in order to make VS order, or inversion, possible. The principles of discourse grammar which apply to inversion will not be studied further in this work.

4.4   The Two Inversion Strategies in Hebrew

In the previous section, I demonstrated that VS order in Hebrew is permitted in sentences with verbs which are presentational by nature and, more generally, when an appropriate presentational context is established, generally by means of topicalizing another element in the clause and thereby reducing the relative topicality of the subject.

In this section, I discuss the placement of postverbal subjects in Hebrew. I will show that Hebrew unaccusative and passive verbs generate their subjects in the position of the direct object while inversion with presentational intransitives (e.g. **telephone**') and 'triggered' inversion involves a VP-adjoined subject.

It is of some interest, I believe, that this bifurcation, familiar from studies of Romance sytax, is found in a language such as Hebrew which is typologically remote from, say, Italian. This fact suggests that the characteristic properties of inversion follow from universal parameters which cut across typological classes of languages.

The Distribution of the Possessive Dative

Consider, then, VS order with unaccusative predicates, as in (40).

(40) a.   nikr'a 1-i zug mixnasaiym
            tore to-me pair pants
            'a pair of pants of mine tore'

      b.   ne'elam 1-i otek Sel Bariers
            disappeared to-me copy of Barriers
            'my copy of 'Barriers' has disappeared'

      c.   nirdema le-Rina regel
            became numb to-Rina a foot
            'Rina's foot became numb'

In section 4.2, I discussed a number of diagnostic tests for determining whether a postverbal subject appears inside VP or adjoined to it. One of

those tests showed that VP-internal subjects must be interpreted as possessed by a (non-subcategorized) dative PP whereas VP-adjoined subjects may not. As can be seen from the glosses for (40) above, the possessive interpretation is forced. The dative in sentence (41) below, for example, cannot be merely 'ethical' w.r.t. the speaker, even when mention is made of an explicit possessor; (41) cannot have the interpretation of (i), but only that of (ii).

(41)   naflu 1-i ha-maftexot Sel Dani 'al ha-ricpa
       fell to-me the-keys of Dani on the-floor

   (i)   *Dani's keys fell on the floor (and it affected me)
   (ii)   'my set of Dani's keys fell on the floor'

By the same test, passive verbs can be shown to have VP-internal subjects as well.

(42)   a.   ne'exal le-Ruti ha-kiwi
            was eaten to-Ruti the-kiwi
            'Ruti's kiwi was eaten'

       b.   nignevu le-Arie kol ha-maxbarot
            were-stolen to Arie all the notebooks
            'All of Arie's notebooks were stolen'

The diagnostic afforded by the possessive dative is only applicable, however, to a subclass of passives, those where the postverbal NP can be naturally possessed. Where possession is unnatural, the dative induces a different meaning. In (43a) below, the dative is more readily interpreted as benefactive than as possessive and in (43b) it picks out the subcategorized dative NP as the one possessed, presumably because of the fact that of the

two potential candidates, 'house' and 'damage', the first more readily admits of possession.

(43)   a.   Sulma l-a agrat ha-televizíya
            was paid to-her tax the-television
            'the television tax was paid on her behalf'

       b.   nigram l-i nezek la-mexonit
            was caused to-me damage to-the-car
            'my car was damaged'

The Distribution of the Refelxive Dative

There is, however, another diagnostic test, also due to B&G, which can be utilized to establish the position of the postverbal NP in these sentences. Alongside its appearance as a possessive, the Hebrew dative can function as a reflexive element, appearing obligatorily in the form of a clitic, unlike possessive datives which may be clitics as well as full NP's.[14] In (44), (B&G's (8),) the '*' does not indicate ungrammaticality but unavailability of the reflexive reading.[15]

(44)   a.   ha-yalda$_i$ axla l-a$_i$/*le-Rina et ha-tapu'ax
            *the-girl ate to-her/*to-Rina acc the-apple*
            'the girl ate the apple'

       b.   ha-yeled$_i$ Savar l-o$_i$/*le-Dani xalonot le-hana'ato
            *the-boy broke to-him/*to-Dani windows for-pleasure his*
            'the boy was engaged in window breaking'

---

[14]   The function of datives as reflexive clitics was originally discussed in Berman (1981) where numerous outher functions played by the Hebrew datives are distinguished.

[15]   There is no Binding prinicple B violation in (44) because the refelxive dative does not occupy an argument position.

c. ha-kelev$_i$ Saxav 1-o$_i$/*la$_j$ al ha-mita$_j$
   *the-dog lay to-him,/*to-her on the-bed*
   'the dog lay on the bed'

An additional property of these datives is that they must be linked to an argument. The obligatory coindexing with the subject in (44c) and the resulting unavailability of the reflexive reading when the dative is linked to the prepositional object, indicate that these reflexive datives are subject-oriented. Given this fact, it is not surprising that the reflexive dative is incompatible with unaccusative verbs. This is shown in (45), (B&G's (28).)

(45) a. *ha-yeladim$_i$ naflu la-hem$_i$
        the-keys fell to-them
        'the keys fell'

     b. *ha-xalon$_i$ niSbar 1-o$_i$
        the window broke to-it
        'the window broke'

     c. *ha-pgiSa$_i$ hukdema 1-a$_i$
        the meeting was-advance to-it
        'the meeting was advanced'

     d. *ha-uga$_i$ ne'exla 1-a$_i$
        the-cake was-ate to-her
        'the cake was eaten'

Unergative intransitives are perfectly compatible with the reflexive dative, an indication that the restriction cannot be stated in terms of transitivity. Rather, the relevant factor seems to be the presence of an external θ-role. B&G propose the following descriptive rule.

(46)   Reflexive datives must be coindexed with an argument bearing an external θ-role

In this respect, the reflexive dative is the complement of the possessive dative in that the latter requires an internal argument to be linked to.[16] The prediction we can now make is that if the subject of a passive verb occupies the VP-internal position , where an internal θ-role is assigned, it will be incompatible with the reflexive clitic. Consider (47).

(47) a.   *ne'exal l-c_i ha-kiwi$_i$
            was eaten to-it the-kiwi
            'the kiwi was eaten'

     b.   *nignevu la-hen$_i$ kol ha-maxbarot$_i$
            were-stolen to them all the notebooks
            'All of the notebooks were stolen'

     c.   *Sulma l-a$_i$ agrat ha-televiziya$_i$
            was paid to-it tax the-television
            'the television tax was paid'

     d.   *nigram l-o$_i$/l-a$_i$ nezek$_i$ la-mexonit$_i$
            was caused to-it damage to-the-car
            'the car was damaged'

Triggered Inversion

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[16]   This is not entirely precise since the restrictions on the possessive dative are structural (i.e., c-command) while the reflexive dative is sensitive to lexical properties such as the specification of an 'external' θ-role.

Let us now employ the dative diagnostic to 'triggered' VS order in sentences with unergative verbs. Consider (48).[17] These examples illustrate the fact that the reflexive dative may be linked to a postverbal subject, nonwithstanding the reversal of the linear order of the subject and the verb. This is not a surprising result, given (46), since the subject of these verbs bears the external θ-role and the VP-adjoined position may be a θ-position.

(48) a. lamrot ha-dieta, zolel l-o_i Smuel_i burekas gvina
      despite the-diet devoures to-him Smuel cheese-pies
      'despite the diet, Smuel devoures cheese-pies'

b. ze ha-kelev Se-ito   tiyel l-o_i   Dan_i be-
      this the-dog that-with-him   promenaded to-him Dan on
      'this is the dog with which Dan took a walk on

      Sabat
      Saturday
      Saturday'

c. kol erev axarei ha-avoda xozeret l-a_i Sula_i le-'ita ha-bayta
      every evening after the-work returns to-her Sula slowly home
      'every evening after work, Sula returns home slowly'

To conclude, on the basis of the diagnostics afforded by datives in Hebrew, we can establish that postverbal subjects of unaccusative verbs and passives

---

[17] There is some semantic or pragmatic incompatibility between VS order and the reflexive dative. The dative effects a subtle change of meaning in the verbs, "...giving a clear imperfective flavor to the predicates with which they are associated." (B&G, p.14). This sense of an on-going activity conveyed by the attachment of the reflexive dative conflicts with the presentational aspect of VS order, rendering it somewhat unnatural. The status of the sentences in (48) is, thus, somewhat idealized for the purpose of this discussion.

are VP-internal and correlate with structure (1a) while postverbal subjects of unergative and transitive verbs do not. W.r.t the latter, there are two logical possibilities: Either the subject remains in place in [SPEC/IP] and the verb is raised around it, or the subject is postposed and adjoined to VP.[18] Note, also that these two options are not mutually exclusive: It is possible that both verb-preposing and subject postposing take place in the same sentence.

At this juncture, I have no evidence that verb-preposing (V-P) does not take place. The thrust of the next section is to demonstrate that the subject, in 'triggered inversion', is, nonetheless, postposed and does not appear in [SPEC/IP].

4.5   Triggered Inversion: Verb Preposing or Subject Postposing?

Consider, first, a sentence such as (49a). In the subject postposing account which I will develop in the coming pages, (49a) is assigned the S- structure (49b), in which the subject is adjoined to VP on the left and the verb raised to INFL.

(49)   a.   xaSavti Se-kol boker metapes Dan 'al ha-har
            I thought that-every morning climbs Dan the-mountain

       b.   I thought [$_{CP}$ that [$_{IP}$ every morning [$_{IP}$ pro$_i$ [$_{I'}$ climbs [$_{VP}$ Dan [$_{VP}$ t$_v$ the mountain]]]]]]]

       c.   I thought [$_{CP}$ that [$_{IP}$ every morning [$_{IP}$ climbs [$_{IP}$ Dan [$_{VP}$ t$_v$ the mountain]]]]]

---

[18]   Verb-preposing is argued for, under slightly different assumptions, in Doron (1983).

d.   I thought [$_{CP}$ that every morning [$_{IP}$ climbs [$_{IP}$ Dan [$_{VP}$ t$_v$ the mountain]]]]

In a theory espousing verb-preposing, it is not clear where the verb is to be attached. Insofar as the surface ordering of the constituents is an indication for syntactic structure, it appears that the verb is adjoined to IP, in a structure such as (49c). It is far from clear, however, how such a structure is derived. Is the verb first adjoined to IP and then the trigger is moved and adjoined to IP forming another IP segment? Or does the trigger move into COMP and the verb adjoins to IP, as in (49d)? If inversion were restricted to root sentences, one could argue that Hebrew manifests the Germanic V-2 phenomenon, or some variation thereof, but this is much less tenable w.r.t. embedded contexts where the trigger appears between the verb and the complementizer. It should be noted that inversion is as acceptable in embedded contexts as it is in root ones, (provided there is an appropriate trigger.)

Moreover, what of sentences such as (50), in which several adverbs appear between the complementizer and the verb? Under a subject postposing account, these sentences are all assigned structures similar to (49b.) A verb-preposing would be hard-pressed to account for this data.

(50)   amru l-i   Se-etmol   be-Sa'a SeS lamrot
         said-3pl. to-me   *that-yesterday*   *at-hour six despite*

         cfirat ha-az'aka tipes   Dan   'al ha-har
         hoot the-alarm climbed   *Dan*   *on the-mountain*

         'I was told that yesterday, at six o'clock, despite the hoot of the alarm, Dan climbed the mountain'

Weak Crossover

Consider the following paradigm of facts from the domain of **weak crossover (wco.)**[19]

(51) a.   mi$_i$ t$_i$ ohev et hor-av$_i$ yoter mi-kulam?
          who$_j$ loves   acc parents-his$_j$ more than -everybody?
          'who$_i$ loves his$_j$ parents more than anybody else?

   b.   ?*et mi$_i$ hor-av$_i$ ohavim t$_i$ yoter mi-kulam?
        acc who$_j$ parents-his$_j$ love t$_j$ more than -everybody?

   c.   ?et mi$_i$ ohavim t$_i$ hor-av$_i$ yoter mi-kulam?
        acc who$_j$ love t$_j$ parents-his$_j$ more than -everybody?

---

[19]   These facts were brought to my attention by Hagit Borer, (p.c.) The same array of judgments extends to w.c.o effects with quantifiers, although judgment on these sentences is harder to elicit, for reasons I do not understand.

(i)   kol yeled$_i$ natan matana la-ganenet Sel-o$_i$
      every child gave present to-teacher of-him
      'every child gave a present to his teacher'

(ii)   ?*zohi ha-matana Se-ha-ganenet Sel-o$_i$ natna le-kol yeled$_i$
       this the-present that-the teacher of-him gave to -every child
       'this is the present that his teacher gave to every child'

(iii)   ?zohi ha-matana Se-natna ha-ganenet Sel-o$_i$ le-kol yeled$_i$
        this the-present that-gave the teacher of-him to -every child
        same as (ii)

(51b) is a paradigmatic **wco** case: The possessive pronoun **his** cannot be interpreted as bound by the question operator **who**. Notice, now, that when the subject appears after the verb, the bound reading of the pronoun is felicitous, albeit marginally less so than in (51a), where the variable appears to the left of the verb, presumably in [SPEC/IP]. If the VS order in (51b) and (51c) were derived merely by preposing the verb, the contrast between the two sentences would remain mysterious for, on all accounts, V-P ought not to effect a binding relationship among noun phrases, the relative position of which has not been altered. If, however, the postverbal subject in (51c) does not occupy the [SPEC/IP] position, but rather, is adjoined to VP, we have, at least, the beginnings of an explanation.

I argue that (51c) must be represented as (52). The verb is in INFL and the subject is adjoined to VP on the left.[20]

(52)   who$_i$ [$_{IP}$ pro$_i$ [$_{I'}$ love[$_{VP}$ parents-his$_i$ [$_{VP}$ t$_V$ t$_i$]] more than anybody else?]]

Of course, we must still provide an analysis for these facts since they don't fall out from any of the existing proposals. In the next section I digress to present how I intend to deal with **wco**.

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20   Note, again, that V-P is not ruled out. If V is, indeed, preposed, then (51c) can also be represented as (i), where V, 'love' has raised into I and then into C.

(i)   [$_{CP}$ who$_i$ love [$_{IP}$ pro$_i$ [$_{I'}$ t$_{V+I}$ [$_{VP}$ [his$_i$ parents]$_j$ [$_{VP}$ t$_V$ t$_i$]]] more than anybody else?]]

Treatments of Weak-Crossover

There are, grossly speaking, two approaches in the current literature to the phenomenon of wco, exemplified in the English example (55).

(53)   *who$_i$ does his$_i$ mother love?

The first approach attributes this phenomenon to a violation of some condition on operator binding stated on LF representations. One such LF-oriented analysis is the Bijection Principle (BP) of Koopman and Sportiche (1983). Another proposal, along similar lines, has been made by Safir (1984)- the Parallelism Constraint on Operator Binding (PCOB) and there are certainly others.[21]

The second approach to wco views it as being essentially an S-structure effect related to the absence of c-command between the antecedent and the bound pronoun, ((Reinhart (1982), Haïk (1984).)

Consider, first, the proposal of Koopman and Sportiche (1983). Their BP states:

(54)   **Bijection Principle** (Koopman & Sportiche p.146)
       There is a bijective correspondence between variables and A'-positions.

---

[21]   E.g., Higginbotham (1980), May (1985).

The idea of the BP is that in a structure such as (55) below, the operator binds two variables, the trace of the operator itself and the pronoun. (55) violates the BP.

(55) who$_i$ [...x$_i$...x$_i$...]

The PCOB of Safir was designed to improve upon some cases, specifically in parasitic gap constructions, where the BP was shown to make wrong predictions. The PCOB states:

(56) **Parallelism Constraint on Operator Binding** (Safir's (6))

If O is an operator and x is a variable bound by O, then for any y, y a variable of O, x and y are [α pronominal].

The PCOB basically says that when two variables are bound by a single operator, they may either be both [+pronominal] or [-pronominal]. Mixes of the two are not allowed. This has the consequence of admitting multiple variable binding in parasitic gaps and ruling it out in weak crossover cases.

Reinhart's and Haïk's view of wco is that the phenomenon is related not to A'-binding by an operator but rather to anaphoric binding by an antecedent in an A- position at S-structure. Reinhart's condition on bound pronominal anaphora is given below.[22]

(57) **Condition on Bound Pronominal Anaphora** (Reinhart, p.122)

Quantified NP's and wh-traces can have anaphoric relations only with pronouns in their c-command domain.

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[22]   Haïk's (1984) **Condition on Variables** says the same thing, i.e. "X binds Y... only if X c-commands Y at S-structure (Haïk, op.cit, p.211.)

Under this condition, (53) above is ruled out because in the (simplified) representation (58), t_i does not c-command the pronoun.

(58)   who$_i$ [$_{IP}$ [$_{NP}$ his$_i$ mother]...[$_{VP}$ loves t_i]]

In (59) below, by contrast, the trace does c-command the pronoun, yielding the bound interpretation.

(59)   who$_i$ t_i loves his$_i$ mother?

This latter approach differs from that of Koopman and Sportiche and of Safir in that the condition is stated in terms of the c-command relations between arguments at S-structure and not as a condition on A'-binding.

Back to Hebrew

Let us turn back to the Hebrew data. Recall that we are trying to account for the considerable improvement in a bound interpretation of a postverbal pronominal subject. Whether one chooses an operator-binding approach to **wco** or an S-structure oriented one, one must, willy nilly, admit that a binding relationship holds between the direct object in (51c) and the postposed subject. This is an unwelcome result, because it obliterates the subject-object asymmetries the bulk of which can rather naturally be accomodated by the assumption that subjects may not be bound by objects.

Reconsidering the paradigm of data in (51), we see that in fact (51c) is somewhat marginal in comparison with (51a). An adaquate theory of **wco** must account for the tripartite distinction corresponding to the three cases in

(51). (51a) is an uncontroversial case, for under any plausible binding theory, subjects must be able to bind objects. Similarly, (51b) must be excluded by any reasonable theory. This leaves (51c). If one were to say that in (51c), the postverbal subject is bound (hence, c-commanded) by the object, the different status of (51a) and (51c) would remain unexplained. Intuitively, what needs to be said is that although the object does not c-command the postverbal subject in (51c), the relationship between the two NP's is 'closer' than that of an object and a preverbal subject. Let us label 0-command the command of a clausal subject in [SPEC/IP] by a direct object. 0-command characterizes the opposite, if you will, of c-command. It is quite plausible that between a c-command relation restricted, say, to a domain defined by an immediately dominating branching node and 0-command, lies a graded continuum which could be correlated with increasingly degraded referential dependency, under ideal conditions. After all, no particular notion of hierarchical proximity is, in any a-priori sense, more basic than any other; the question of which hierarchical relations are grammatically significant in yielding the correct domain for referential dependency is an empirical one.

The object in (51c) neither c-commands the postverbal subject (in the sense attributed to Reinhart (1976)) nor m-commands it (in Chomsky's (1986b) sense). It does, however, stand in a relation which we can define as z-**command**:

(60)   **z-command**$_{df}$ = A node α z-commands a node β iff for every maximal projection γ dominating α there is at least one segment of γ dominating β.

The condition on **wco**, be it LF-oriented or S-structure oriented can now be restated in terms of z-command, where the less restricted domain defined by this relation is predicted to yield marginal yet not entirely unacceptable binding dependencies.[23]

This completes the digression on **wco**. To recapitulate, the main point I am trying to make is that even if V-P did take place, the clausal subject must still be permitted to invert. In the next section, I briefly discuss a similar case in Spanish.

Weak Crossover and Inversion in Spanish

One of the better known proposals concerning V-P was made in Torrego (1984) for Spanish. Torrego assumes that the preposed verb is adjoined to S (=IP). She also assumes that the preposed verb properly-governs the subject, thereby accounting for long-distance extractions of subjects from a position that would, in the absence of V-P, not be a licit extraction site. Thus, her approach conflicts with approaches to null subjects which relate the possibility of long-distance subject extractions and the absence of superioirty effects with postverbal subjects to the possibility of subject postposing.

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23   The same reasoning can be extended to sentences such as (i), where a quantifier in object position z-commands a pronoun embedded in a postverbal (extraposed) sentential subject. (i) should be contrasted with (ii), where the sentential subject is preverbal and a binding relationship cannot be established.

(i)   ?it bothered every man$_i$ that he$_i$ was sick

(ii)   *that he$_i$ was sick bothered every man$_i$

Torrego assigns the sentence in (61) the structure (62a) whereas, say, Jaeggli (1982), assigns (61) the structure in (62b).[24]

(61)   Juan no sabe qué dijo quién
       J. neg know what said who
       'Juan doesn't know what who said'

(62)   a.   Juan no sabe [cp qué_j [ip dijo [ip quien [vp t_v t_j]]]]

       b.   Juan no sabe [cp qué_j [ip [ip pro_i [vp [vp dijo t_j] quien_i]]]]

The proposal that a subject trace is properly-governed by a preposed verb was made by Torrego under a different theory of the ECP. While it is not clear how to translate her propsal into the terms of the ECP adopted in this thesis, let us assume that that problem can be somehow resolved.

The account, however, fails to generalize to cases such as (63) which, as Torrego herself notes, independently require an analysis such as that of Jaeggli (1982). Long-extraction of the subject is possible in (63), even though V-P has not occured.[25]

(63)   quién no sabes si tal vez haya hablado ya con ella?
       'who don't you know whether has talked to her already?'

---

[24]   I am taking the liberty of restating Jaeggli and Torrego in terms of some recent proposals concerning phrase structure and the typology of empty categories. The substance of their claims remains unchanged, though.
[25]   COMP is filled by *si* which does not obligatorily trigger inversion, cf. (i) (Torrego's (16),)
       (i)   No sè si **Juan** llegara pro fin a tiempo o no.
               'I dont know whether John will arrive on time or not'

Consider, now, the data in (64). We see that, just as in Hebrew, wco effects are eliminated when the subject appears post-verbally. In (64c), subject postposing has occured just as in the Hebrew examples in (51) above.[26]

(64) a.   todo chico$_i$ dio un beso a su$_i$ madre alguna vez
            'every child$_i$ gave a kiss to his$_i$ mother some time

      b.   *?su$_i$ madre dio un beso a todo chico$_i$ alguna vez
            'his· mother gave a kiss to every child$_i$ some time' .

      c.   ?que tipo de beso dio su$_i$ madre a todo chico$_i$ alguna vez
            'what kind of kiss gave his$_i$ mother to every child$_i$ some time?'

As the reader will have surely noticed, the subject in (64c) appears between the verb and the indirect object and not at the end of VP. Similar remarks hold for the Hebrew examples in (51). This suggests that the postposed subjects are adjoined to the left of VP. I will consider this issue more fully in 4.7 below.

The Distribution of the Definiteness Effect in Hebrew : Trigerred vs. 'Free' Inversion

This section presents another argument in favor of a characterization of triggered inversion in terms of adjunction of the subject to VP. The argument is based on the distribution of the definiteness effect.

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[26]   I am indebted to Itziar Laka, Ester Torrego and Juan Uriagereka for judgements and discussion of these facts.

As noted originally in Borer (1983), postverbal subjects in Hebrew obey the Definiteness Effect (DE). This is illustrated in (65) below with unaccusative and passive verbs.

(65) a.　karati Se-hofi'u Snei kitvei-'et xadaSim
　　　　I read that-appeared two journals new
　　　　'I read that two new journals appeared'

　　　　*karati Se-hofi'a ktav ha-'et ha-ze
　　　　I read that-appeared the journal the this

b.　noda 1-i Se-parca milxama nora'a
　　　became known to-me that-broke-out war terrible
　　　'I found out that a terrible war broke out'

　　　*noda 1-i Se-parca ha-milxama
　　　became known to-me that broke out the-war

c.　Samati Se-niftax kiosk xadaS
　　　I heard that-opened new kiosk
　　　'I heard that a kiosk opened'

　　　*Samati Se-niftax　　　ha-kiosk
　　　I heard that -opened　　the-kiosk

d.　karati ba-'iton Se-karta te'una be-yom SliSi　　.
　　　I read in-the-paper that-occured accident on-day third
　　　'I read in the paper that an accident occured on Tuesday'

　　　*karati ba-'iton karta ha-te'una be-yom SliSi
　　　I read in-the-paper that-occured the-accident on Tuesday

Interestingly, the DE is suspended when a trigger for inversion appears clause initally.[27]

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[27]　There are other factors which attenuate and even eliminate the DE. for example, the DE is completely suspended when a possessive dative is employed, as in many of the examples in the previous sections.

(66) a. karati Se-lamrot hitnagdut ha-cenzura, hofi'a ktav ha-'et
I read that-despite opposition the-censorship, appeared journal

ha-ze
the this

'I read that despite the censorship's opposition, this journal appeared'

b. noda 1-i Se-be 1967 parca ha-milxama
became known to-me that-in-1967 broke out war the war

ha-nora'it be-yoter
the-terrible the-most

'I learned that in 1967, the most terrible war broke out'

c. Samati Se-pit'om niftexa ha-delet ve-Santa Claus nixnas
I heard that-suddenly opened the-door and Santa Claus came in
'I heard that suddenly the door opened and S.C came in'

d. karati ba-'iton Se-be-yom SliSi karta ha-te'una
I read in-the-paper that-on-Tuesday occured the-accident

ha-nora'it ha-zot
the-terrible the this

'this terrible accident occured on Tuesday'

In 4.2 above we used the distribution of the DE to argue in favor of distinguishing two types of structures for inversion. We noted that VP-internal subjects obey the DE, whereas subjects adjoined to VP do not. The DE is supsended in (66) above precisely because the trigger creates the necessary environment for NP postposing and adjunction to VP. (65) above should be correlated with an S-structure such as (67a) below, with the subject inside VP. Triggered inversion, as in (66), correlates with (67b).

(67) a.
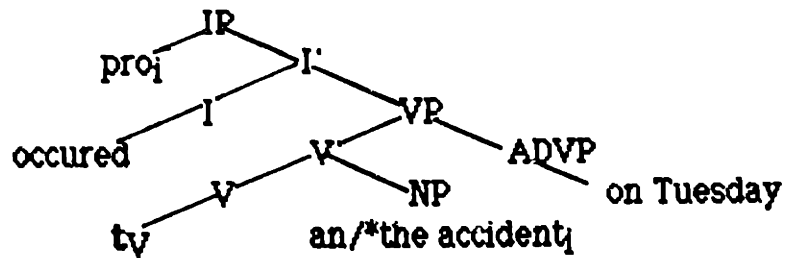
b.
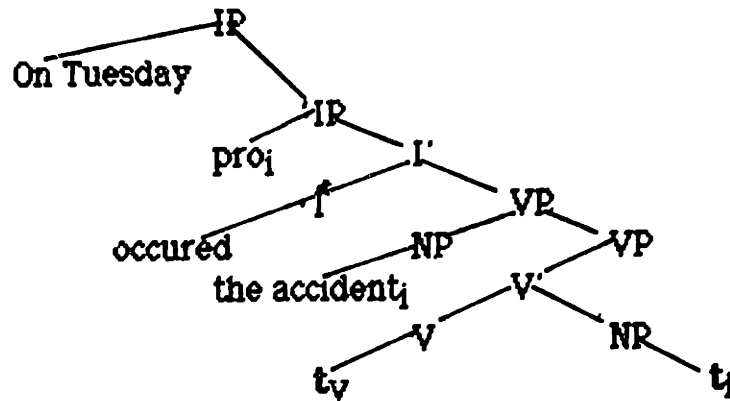
4.6 The Derived Word Order of Inversion

Hebrew: Adjunction to VP on the Left

Before proceeding to compare Hebrew and Italian with respect to the distribution of the DE, some words must be devoted to a discussion of word order in inverted contexts.

We have argued in favor of base-generating post-verbal subjects of verbs which are not unaccusative in a position adjoined to VP. Most, if not all works on subject inversion have assumed a structure such as (68) below, with the subject right-adjoined to VP by movement.

(68)
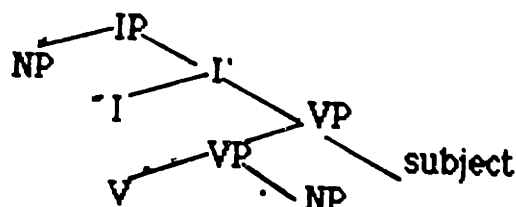
The choice of right adjunction over left-adjunction while, perhaps, natural in a theory which assumes a subject postposing rule, (cf. Baltin (1978),) is entirely unmotivated in a theory espousing **move** α. This is so since the alternative, namely, adjunction to the left of VP, would satisfy all the conditions on movement which right adjunction would. More generally, metatheoretical considerations favor the view that adjunction should not be restricted at all, particularly not in its directionality. Furthermore, there are putatively base-generated adjunction structures where the adjoined element is, presumably, left-adjoined to its category. I have in mind small clauses, etc...

In what follows, I present empirical evidence that postverbal subjects may, in the general case, be base-adjoined either on the left or on the right of VP. I will show that Hebrew utilizes both left-adjunction and right-adjunction to VP. Italian, however, lacks the left-adjoined option. I will further show that the difference between Hebrew and Italian cannot be reduced to a general typological difference between, say, Semitic languages and Romance or Indo-European ones, because Spanish behaves like Hebrew in allowing both left and right base-adjunction to VP.

Consider, first, VS order with an unergative presentational like 'telephone'. Verb amalagamation with I creates a configuration where it is impossible to

tell whether the subject of **'telephone'** is left-adjoined, as in the S-S (69b) below or right adjoined to VP as in (69a).

(69) a.
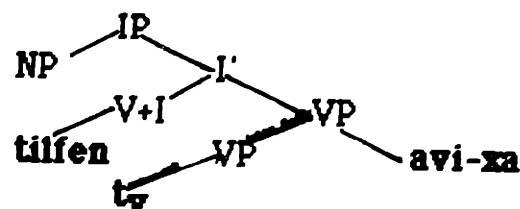
b.
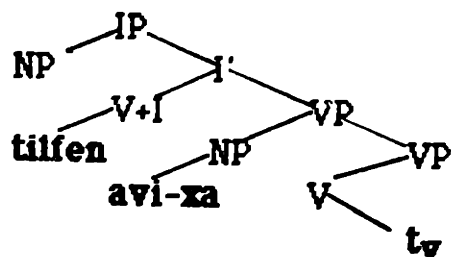
In order to establish the place of the VP-adjoined subject, we must construct examples with verbs which have subcategorized complements. In such cases we have seen that VS order requires a trigger. Consider (70)-(73).

(70) a. lo γadanu 'im omnam tesapek ha-toxnit et ha-hanhala
neg knew+we if in-fact will satisfy the-plan acc the-managment
'we didn't know if in fact the plan will satisfy the management

  b. *lo γadanu 'im omnam tesapek et ha-hanhala ha-toxnit
neg knew+we if in-fact will satisfy acc the-management the-plan

(71) a. elu ha-kartisim Se-otam natan Dan le-iSto
these the-tickets that-them gave Dan to-wife-his
'these are the tickets that Dan gave to his wife'

  b. *elu ha-kartisim Se-otam natan le-iSto Dan
these the-tickets that-them gave to-wife-his Dan

(72) a.   karati Se-be-meSex kol xay-av, lo azav Kant et Koenigsburg
       I read that-in-duration all life-his, neg left Kant acc Koenigsburg
       'I read thatall his life, K. never left Koenigsburg'

    b.   *karati Se-be-meSex kol xay-av, lo azav et Koenigsburg Kant
       I read that-in-duration all life-his, neg left acc Koenigsburg Kant

(73) a.   sipru l-i   Se-'ad   Se-hu lo higi'a le-N.Y, lo axal Dan
       told to-me that-until that-he neg arrived to N.Y., neg ate D.

       suSi kol kax tari
       sushi so fresh

       'I was told that it wasn't until he arrived in N.Y., that, D. ate
       such fresh sushi'

    b.   *sipru l-i Se-'ad Se-hu lo higi'a le-N.Y, lo axal suSi
       until that-he neg arrived to N.Y., neg ate sushi

       kol kax tari Dan
       so fresh D.

The examples in (70)-(73) demonstrate that postverbal subjects in Hebrew appear between the verb and its complements. In Italian, as we shall see promptly, such VSO order is typically associated with a unique intonational pattern, with a comma pause between the postverbal subject and the complement. In Hebrew, however, such an intonation pattern is not attested. These facts suggest, then, that the unmarked position of a postverbal subject in Hebrew is between the verb and its complements.

Verb Raising or INFL Lowering?

Consider, now, the relevance of these facts for the question of how V amalgamates with I. If V+I amalgamation involved a rule which lowered

AGR to V, along the lines of 'Rule R', (Chomsky (1981),) there would be no obvious way to derive the word order of VSO. In order for the subject to appear between the verb and its complements, it would have to be lowered into a position inside VP. This would raise numerous problems, ranging from violations of the projection principle to issues of Case assignment and, on such grounds alone, is clearly undesirable.

If, on the other hand, V raises to I, then the correct word-order is obtained by allowing the subject to appear left-adjoined to VP, as in (69b) above, and a host of problems are avoided. Both options are diagrammed in (74).

(74) **VS WORD ORDER WITH INFL LOWERING**
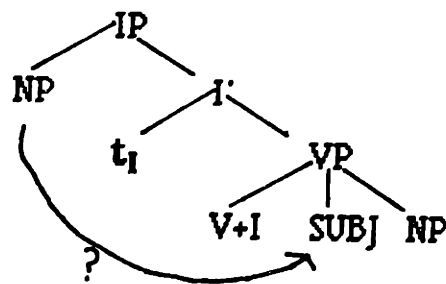
VS WORD ORDER WITH VERB RAISING
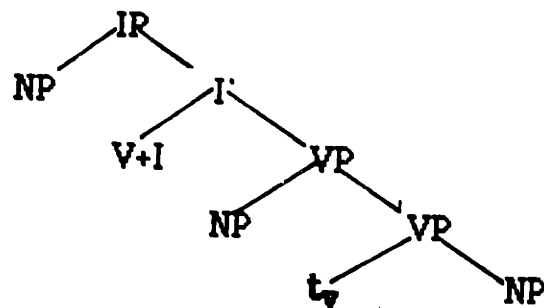
In a language like Italian or French, were postverbal subjects are adjoined to VP on the right, there is no way of telling whether, indeed, V moves to I or I

to V. The evidence favoring Verb raising to I is provided in a grammar in which postverbal subjects are typically adjoined to VP on the left.

Heavy NP-Shift in Hebrew: Right Adjunction to VP

Nonetheless, left-adjunction is not the only option in Hebrew. When it is phonolgically 'heavy', the subject may, indeed, appear on the right. The judgments in (75)-(78) reflect preference rather than grammaticality. Various factors enter into the determination of such preference. Note, for example, that when both the subject and the object are 'heavy', as in (78), the right-adjoined subject is less acceptable. The right-adjoined position is restricted in Hebrew to heavy NP's, where heaviness is construed relative to the 'weight' of other NP's in the clause. It seems reasonable to assimilate these sentences to the phenomenon of 'Heavy NP-Shift' which, I will assume, instantiates a case right-adjunction to VP.28

(75) a.   ?lo yadanu 'im omnam tesapek ha-toxnit   le-   hakamat
           neg we knew if in-fact will satisfy the-plan for-the-construction

           megurei-keva   et ha-hanhala
           dwellings-permanent   acc the managment

           'we didnt know if, in fact, the plan to construct permanent
           dwellings will satisfy the managment'

---

28   As noted above, in Ch.2, ft. , indefinite NP's can quite freely undergo HNPS. Thus, (75)-(78) are quite good even when the clause final NP is phonologically 'light' though indefinite.

b.   lo yadanu 'im omnam tesapek   et ha-hanhala
neg we knew if in-fact will satisfy   acc the managment

     ha-toxnit le-hakamat   megurei-keva
the-plan for-the-construction   dwellings permanent

(76) a.   ʔelu ha-kartisim Se-otam natan dod-i ha-Samen mi
these the-tickets that-them gave uncle mine the-fat from

     -herzeliya le-iSt-o
-Herzeliya to wife-his

'these are the tickets that my fat uncle from Herzeliya gave to his wife'

b.   elu ha-kartisim Se-otam natan   le-iSt-o   dod-i
these the-tickets that-them gave   to-wife-his uncle-mine

     ha-Samen mi-herzeliya
the-fat from-Herzeliya

(77) a.   ʔbe-meSex kol xay-av, lo azav ha-filosof   ha-germani
in-duration all life-his, neg left the-philosopher the German

     ha-dagul Kant et Koenigsburg
the-great Kant acc Koenigsburg

'all his life, the great German philosopher K. never left Koenigsburg'

b.   be-meSex kol xay-av, lo azav et Koenigsburg   ha-filosof
in-duration all life-his, neg left acc Koenigsburg the philosopher

     ha-germani ha-dagul Kant
the-German the-great Kant

(78) a.   'ad Se-hem lo higi-u   le-N.Y, lo axl-u   krov-av
until that-neg arrived-3pl to N.Y., neg ate-pl relatives-his

          ha-polanim Sel Dan suSi kol kax tari
the-Polish of D.   sushi so fresh

          'it wasn't until they arrived in N.Y., that Dan's Polish relatives ate such fresh sushi'

  b.   ?'ad Se-hem lo higiu le-N.Y,   lo axlu suSi kol kax tari
until that-neg arrived-3pl to N.Y.,   neg ate-pl sushi so fresh

          krov-av ha-polanim Sel Dan
relatives-his the-Polish of D.

The picture which emerges from these observations is that UG makes available VP-adjoined positions. These may be on the right or on the left of VP. I have tried to show that these positions are available **in principle**, subject to various pragmatic, semantic and phonological considerations.

Let us turn, now, to Italian.

Word Order and Inversion in Italian

VS order in Italian, as in Hebrew is rather marginal with transitive verbs in the unmarked case. There are, however, contexts in which VS order is acceptable and, contexts where it is obligatory. One such context where

inversion is obligatory is in a clause embedded beneath a **wh**-*interrogative*. Consider (79), (80).[29]

(79) a.   Quando ha mangiato la pasta Mario?
when has eaten the pasta M.?

b.   Quando ha mangiato Mario, la pasta?

c.   *Quando ha mangiato Mario la pasta?

(80) a.   A chi ha detto la verità Mario?
to who has told the truth, M.?

b.   A chi ha detto Mario, la verità?

c.   *A chi ha detto Mario la verità?

Considering, first, the sentences in (79a) and (80a), note that their Hebrew equivalents would be unacceptable. Conversely, (79c), (80c), are unacceptable in Italian, but fine in Hebrew. The difference between the two lanaguages is that VSO word order is unacceptable in Italian but constitutes the unmarked case of inversion in the latter. VOS order, on the other hand, is acceptable in Italian whereas it is restricted to heavy NP's in Hebrew.

Antinucci and Cinque (A&C: (1977)) note that VSO order is available when a pause occurs between the subject and the verbal complements. This is illustrated in the (b) examples of (79) and (80). The pause is followed by a

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[29]   I ignore here and throughout inversion with transitive verbs to which the direct object is cliticized, as in e.g., (i), (ii).

(i)   Quando l'ha mangiata Mario?
(ii)   A chi l'ha detta Mario?

fall in intonation suggesting that the elements following the subject constitute an afterthought of some sort. A&C argue that the verbal complements are right dislocated across the subject, 'marginalized' in their terms. This is illustrated in (81).

(81)
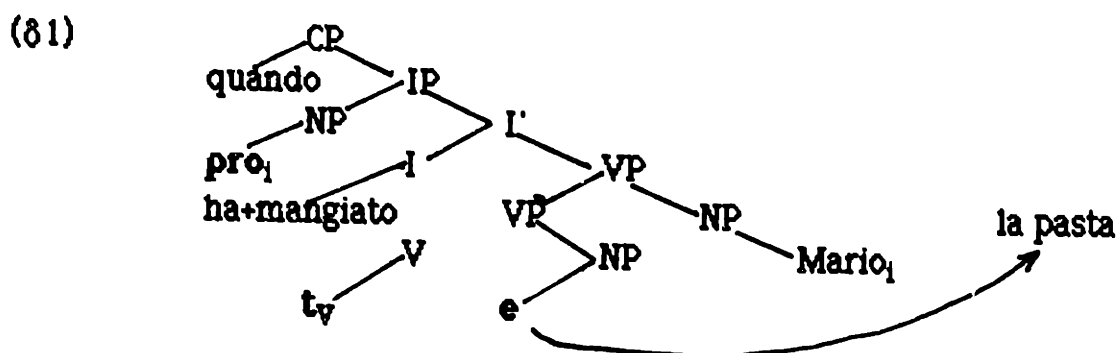
This process of 'marginalization' is closely tied up with focalization in Italian and serves to 'license' VS order. The marginalized elements are eliminated as potential carriers of focus, which can be assigned to the postverbal subject. In this respect marginalization represents, alongside Topicalization in Hebrew, another syntactico-pragmatic device for setting-up a context in which a postverbal subject may be construed as new information. In general, postverbal subjects in Italian must be adjacent to the verb. Marginalizing the complements by right-dislocating them, achieves that end, as does cliticization of the object, mentioned in ft. above.[30]

The workings of this process of marginalization can also be observed with double-object verbs, as in (82). (82a) constitutes the unmarked SVO order. Under inversion the subject must follow the verb. It is followed by a pause and then the complements appear in any order.

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[30]   Note that I am ignoring a grammatical reading of (92c), (93c), namely, one where the subject, **Mario**, is marginalized, but then the meaning is different- the object **la pasta**, is focalized

(82) a.   Giorgio ha dato un libro a Piero
Giorgio has given the book to Piero

      b.   *Ha dato un libro a Piero Giorgio

      c.   *Ha dato un libro Giorgio a Piero

      d.   Ha dato Giorgio, un libro, a Piero

      e.   Ha dato Giorgio, a Piero, un libro

Now, to further test the claim that postverbal subjects in Italian are on the right of VP, we must find a context where marginalization does not have to apply. It is in these contexts that the unmarked order of constituents under inversion can be observed in a pristine form. One such context is in a clause embedded under a locution which requires the subjunctive mood. Consider (83), where VSO order in the embedded clause is unacceptable. Here, marginalization does not apply and VOS order in the only acceptable order of constituents.[31]

(83) a.   credo che abbia scritto questa lettera Mario
I believe that has written this letter Mario

      b.   ??credo che abbia scritto Mario questa lettera

It seems, then, that the unmarked order of constitutents in Italian free subject inversion constructions is one where the subject appears after the complement, adjoined, I assume, to VP on the right. A complement may follow the subject when it is separated from it by an intonational break,

---

which we can take to be a form of right dislocation.[32] The strategy of adjoining a subject to the left of VP is evidently, unavailable in the grammar of Italian.

4.7 On Certain Differences and Similarities Among Italian, Hebrew and Spanish

Subjects of Infinitves Embedded Beneath a Raising Verb[33]

In Ch.3, we discussed the illformedness of sentences like (87a). We argued that in the absence of Case transmission from the null expletive, the NP **tre ragazzi** violates the Case Filter, because it is not in a position to get either nominative Case (being the subject of an infinitive) nor partitive Case (due to the clausal boundary separating it from the verb **sembrare**.) (84a) contrasts with the fully acceptable (84b), where the NP **tre ragazzi** is adjoined to VP, and receives nominative Case from INFL. The wellformed structure of (84b) is given in (84c).

(84) a.   *sembrano tre ragazzi essere arrivati

      b.   sembrano essere arrivati tre ragazzi

      c. $[_{IP}$ pro$_i$ $[_{I'}$ sembrano $[_{VP}$ t$_v$ $[_{IP}$ t$_i$ essere arrivati $[_{NP}$ tre ragazzi$]_i$]]]]

      d. $[_{IP}$ pro$_i$ $[_{I'}$ sembrano $[_{VP}$ $[_{VP}$ t$_v$ $[_{IP}$ t$_i$ essere arrivati t$_i$]] $[_{NP}$ gli ragazzi$]_i$]]

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[32]   For some development of the theory of of 'marginalization' in Italian see, in addition to Antinucci and Cinque's article, Calabrese (1985) and references cited therein.

[33]   This section has benefitted from discussions with A. Belletti.

Since **tre ragazzi** is indefinite it may appear in the complement position of **arrivati**. If, however, we replace **tre ragazzi** with a definite NP, e.g., **gli ragazzi** a representation such as (84c) is impossible, only (84d), where the postverbal NP is adjoined to VP rather than internal to it.

Borer (1986a:412) makes parallel observations w.r.t Hebrew, citing the sentence I give in (85). Under the hypothesis that **begin** is a Raising verb in Hebrew, (98) can receive the same explanation as (84) and (85b) can be assigned a structure equivalent to (84c).

(85) a.   *hitxil-u gSamim la-redet
             began-pl rains   to-fall

      b.   hitxil-u la-redet gSamim

Now, when we replace the indefinite **gSamim** with the definite **ha-gSamim**, we may observe an interesting difference between Italian and Hebrew. Since adjunction to VP on the left is the means by which postverbal NP's escape the DE, in Hebrew, we predict a pattern such as that of (86). (86a) is unacceptable, since adjunction to the right of VP, as in (84d), is available only to 'heavy' NP's. By contrast (86b), which has the structure (86c) is fully acceptable in Hebrew but not in Italian.

(86) a.   *hitxilu-u la-redet ha-gSamim
             began-pl to-fall the-rains

      b.   bi-diyuk etmol hitxil-u ha-gSamim la-redet
             precisely yesterday, began-pl the-rains to fall

      c.   trigger $[_{IP}$ pro$_i$ $[_{I'}$ began $[_{VP}$ rains$_i$ $[_{VP}$ t$_v$ $[_{IP}$ t$_i$ to fall t$_i$]]]]]

The Definiteness Effect in Triggered Inversion

Since left adjunction to VP is not a viable option in Italian, it is predicted that a VP-internal subject (i.e., a subject of an unaccusative or passive verb) will not be able to 'escape' the DE by being adjoined to the left of VP, but only by being adjoined to its right. Thus, when an unaccusative or passive verb takes a VP internal (subcategorized) complement and the subject appears between the verb and the complement, the subject is sensitive to the DE, since it is in VP and not adjoined to it on the left. This is precisely the observation of Belletti (1987), who provides the data which appear in (87) and (88) below.

(87) a. All'improviso è entrato un uomo dalla finestra
          suddenly entered a man from the window

      b. *All'improviso è entrato l'uomo dalla finestra
          suddenly entered the man from the window

(88) a. E' stato messo un libro di Gianni sul tavolo
          has been put a book of Gianni on the table

      b. *E' stato messo il libro di Gianni sul tavolo
          has been put the book of Gianni on the table

The presence of the subcategorized PP in (87b), (88b), indicates that the subject is inside VP where it cannot receive nominative Case, but only partitive Case and therefore it manifests the DE. On pp.   above, we saw, that the DE is suspended under triggered Inversion in Hebrew since a postverbal subject can adjoin to VP on the left and occupy an A' position to which Case need not be assigned. Thus, Hebrew and Italian contrast minimally. Compare (87), (88) above, with (89), (90) below.

(89) a.   *amru 1-i Se-hofi'a ha-xalban derex ha-xalon
           told to-me that-appeared the-milkman through the-window
           'I was told that the milkman appeared through the window'

      b.   amru 1-i Se-pit'om hofi'a ha-xalban derex ha-xalon
           told to-me suddenly appeared the-milkman through the-window
           'I was told that the milkman appeared through the window'

(90) a.   *lo yadati 'im haya munax ha-sefer 'al ha-Sulxan
           neg I knew if was placed the-book on the-table
           'I didn't know whther the book was placed on the table'

      b.   lo yadati 'im etmol haya munax ha-sefer ha-ze 'al ha-Sulxan
           neg I knew if yesterday was placed the-book the-this on the table

More striking, perhaps, is the contrast between Italian and Spanish, to which we now turn.

Word Order and Inversion in Spanish

Spanish, like Hebrew and unlike Italian, permits both VSO and VOS orders in inversion configurations. Consider (91).

(91) a.   (aqui) comió Juan las tortillas
           (there) ate Juan the tortillas

      b.   (aqui) comió las tortillas Juan

      c.   las comió

All speakers I have consulted agree that both (91a) and (92b) are possible variants. Moreover, there is no intonational pause between the subject and the object in (91a), indicating that Spanish does not utilize a device such as

'marginalization', although cliticization of the object does take place, as in Italian, and speakers do find (91c) better than (91a) or (91b) where the presence of an overt complement must be offset by a trigger of some sort, but this option is irrelevant for our discussion.

Consider, now, inversion in a subjunctive clause, (92), and recall that the Italian equivalent of (92a) is unacceptable. Italian allows only (92b).

(92) a.   espero que escriba Juan la carta
            I hope that write-SUBJ Juan the letter

      b.   espero que escriba la carta Juan

Speakers of Spanish note a difference in meaning between (92a) and (92b). (92a) is construed as a response to a concern about Juan, about what he will do. (92b), on the other hand is a response to a concern about the writing of the letter which the speaker presupposes, is something which must be done. In (92a), Juan is presupposed and the letter is focalized and in (92b) it is the writing of the letter which is presupposed and Juan focalized. These observations suggest that in Spanish, unlike in Italian, a focalized element need not be adjacent to the verb. Rather, there seems to be evidence that the position of highest focus in spanish , to the right of the verb, is clause final

This is further supported by the facts in (93). Suppose, first, that a property of a **wh** element **in situ** is that it must always be the most highly focused element in the clause. The degraded status of (93b) can be made sense of under the assumption that the NP **las chicas**, being clause-final, is focalized to a higher degree than the **wh**-word, **quienes**.

(93) a.   Donde no vieron a las chicas quienes?
Where neg saw the girls who?
'Where didn't who see the girls?'

b.   ??Donde no vieron quienes a las chicas?

Verb-preposing in Spanish has been argued to be triggered by a subclass of **wh** interrogatives, (Torrego (1984).) If left-adjunction to VP is indeed an option in Spanish, obligatory V-P across a VP to which a subject is left-adjoined would be indistinguishable from V-P across a preverbal subject, since the surface order of words would be the same. However, some interrogative words do not trigger V-P so that VSO order in these cases can come about only by adjoining a subject to the left of VP and not by V-P. An interrogative such as **porque**, for example, does not trigger V-P although it does create a context for free inversion with transitive verbs. In (94), we again see that both right adjunction and left adjunction are admissible options.

(94) a.   porque manejaría Juan este coche?
why will drive Juan this car
'why will J. drive this car?'

b.   porque manejaría este coche Juan?

The possibility of adjoining subjects to the left of VP in Spanish, but not in Italian, accounts for the contrast between (87b), (88b) above and the corresponding Spanish sentences in (95b), (96b) below which pattern like the Hebrew sentences in (89b), (90b).

(95) a. De repente entró un hombre por la ventana
suddenly entered a man through the window
'suddenly, a man entered through the window'

b. De repente entró el hombre por la ventana
suddenly entered the man through the window

(96) a. estaba dejado un libro de Juan encima de la mesa
was put a book of Juan on the table
'a book of Juan's was on the table'

b. estaba dejado el libro de Juan encima de la mesa

The suspension of the DE in these examples is due to the (string vacuous) adjunction of the postverbal subject to the left of VP. A plausible structure for (96b) is given in (97).

(97)
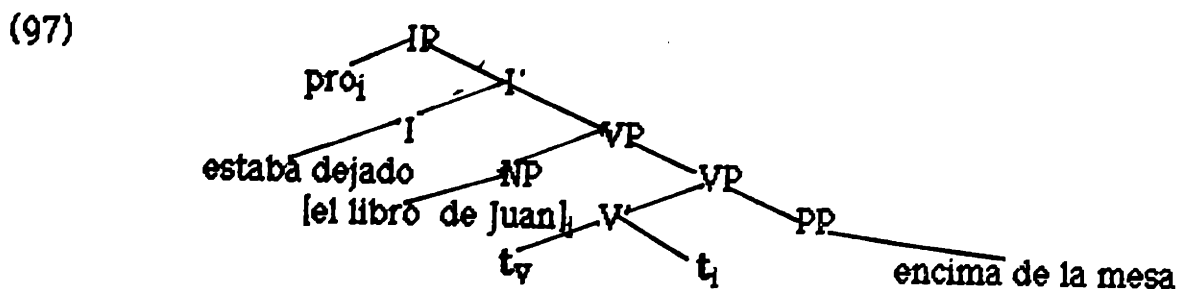
I think that this contrast between Spanish and Italian is particularly interesting since it strongly suggests that what is going on here has nothing to do with semantics. It is rather implausible that the verb **entrare** in Italian means something different from Spanish **entrar**, yet the DE is manifested in one language but not in the other.

The possibility of assigning a structure such as (97) to (96b), rests crucially on the the possibility of verb fronting into I in the syntax, even when I is

filled by an auxiliary such as **estaba**. That this is, in fact, a possibility, can be shown on the basis of (98), an example of a yes-no question with a verbal auxiliary in I.[34] Note that verb-preposing in this case can invlove the auxiliary alone or the auxiliary and the verb.

(98)　a.　está María terminando el libro?
　　　　　'Is Mary finishing the book?'

　　　b.　está terminando María el libro?

Let us assume, with Chomsky (1986), that raising into the head of COMP is restricted to heads in the X' sense (See Travis (1984), Baker (1985).) In (98a), an element in I has raised into COMP and in (98b), V moves first into I and then together with I, into COMP. Let us further assume that in this latter step, V has incorporated with I, in the sense of Baker (1985), and it is the incorporated head which is raised into C.

In Spanish, movement into COMP is possible also with V+ modal, V+aspectual and V+restructuring verb combinations, as shown in (99)-(100), which we may also take to be cases of incorporation.

(98)　a.　Con quién podrá Juan ir a N.Y.?
　　　　　'With who will John be able to go to NY?'

　　　b.　Con quién podrá ir Juan a NY?

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[34]　　The examples in this section are taken from Torrego (1984) where they are analyzed in somewhat different terms.

(99) a.   A quién acaba Juan de hablar?
          'Whom did J. just finish talking to?'

     b.   A quién acaba de hablar Juan?

(100) a.   Qué viene María a hacer aqui?
          'What has M. come to do here?'

     b.   Qué viene a hacer María aqui?

As Torrego (1984) notes, the auxiliaries **ser** and **haber** are an exception to this generalization. If a verbal sequence involves **ser** and **haber**, both the finite form of the auxiliary and the main verb must obligatorily raise. Let us assume that these auxiliaries obligatorily trigger incorporation.[35]

(101) a.   Qué ha organizado la gente?
          'What have people organized?'

     b.   *Qué ha la gente organizado?

(102) a.   Por quién fue organizada la reunión?
          'By whom was the meeting organized?'

     b.   *Por quién fue la reunion ornanizada?

It seems, then, that we can maintain the view that verbs may raise to INFL in the syntax of Romance, making available a representation such as (97) above

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35   This may be due, at least in the case of auxiliaries formed with **haber**, to their affix-like nature which bars them from appearaing as bare morphemes. This is less plausible for **fue**, which can appear also as a main verb. while the form of **haber** which may appear as a main verb, **hay**, is morphologically distinct from the auxiliary form.

4.8   A Final Speculation: VSO Languages

I have argued that the combination of verb raising to INFL and subject adjunction to the left of VP yield VSO word order in Hebrew and Spanish. It is tempting, though far beyond the scope of this work, to extend this derivation to VSO languages in general. The claim, if pursued, would be that VSO languages have the structure of $[pro_i-V-S_i-O]$ with the subject adjoined to VP on the left and the verb raised into INFL.

Such a structure seems, at least superficially, to account straightforwardly for some of the well-known properties of VSO languages. For example, Chung (1983) has shown that in Chamorro, a surface VSO language, the subject is properly governed. This, she argues, follows from the fact that Chamorro manifests no 'complementizer/trace' effects and allows extraction from sentential subjects, unlike, say, English. Similar arguments have been made for Irish (McCloskey (1979), (1982).) This is precisely what characterizes the VP-adjoined subject position in the Romance Null Subject languagues. Moreover, Chamorro and, in fact, all VSO languages are **pro-drop** languages. Treating VSO-hood as an instantiation of subject adjunction to VP provides a cohesive account of the ECP properties of the subject position in VSO languages as well as of the their **pro-drop** character.[36] It also provides a natural explanation for Greenberg's Universal no. 6: "All languages with dominant VSO order have SVO as an alternative or as the only alternative base order." If subject adjunction to VP does not take place, the subject appears in its canonical position in [SPEC/IP]. The **pro-V-S-O**

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[36]   Chung (1983, ft.8) considers and then rejects this possibility.

account, thus, maintains the claim of Emonds (1979) and others that VSO word order is 'derived' in some sense from an underlying SVO order. It differs from the proposals of e.g., Emonds, (1979), Sproat, (1985) in assimilating VSO-hood to Romance free inversion and not to (Germanic) verb raising.

One question which such as account immediately poses is why VSO word order is restricted in, say, Spanish and Hebrew, and requires some sort of 'trigger' of a pragmatic nature whereas no such trigger is needed in 'hard core' VSO languages. I leave this matter for future research.

Chapter 5
THE pro MODULE

5.1 Chapter Abstract

In this chapter, I explore some properties of the **pro** module of UG, mainly on the basis of data from Modern Hebrew. I propose various modifications in the principles governing the distribution of **pro**, and, in particular, the null expletive **pro** of inversion constructions.

The main fact discussed in this chapter is that postverbal subjects do not admit of 'long' **wh**-movement in Hebrew. I discuss the relevant data in 5.4. My account for this datum rests on an the claim that the postverbal subject is required to identify the features of the null subject. A similar range of facts from French is discussed in 5.5.

Section 5.6 relates the theory of **pro** advanced to the hypothesis that expletives are replaced by arguments in LF, (Ch.2). The analysis of the Hebrew and French extraction facts forms the basis for an argument in favor of a 'strong' version of the 'Extended' Projection Principle, 5.7.

In later subsections, I propose an enrichment of the theory or **pro** by incorporating the feature [+/- person] into the set of features which AGR can be set for. The distinction person/nonperson is then shown to play a significant role in the distribution of **pro**-drop in Hebrew.

5.2 Null Subjects of Inversion

Let us begin with the null subject of the type of inversion constructions discussed in Ch. 4. Recall that Hebrew manifests two types of inversion configurations, which I have descriptively labelled 'free Inversion' and 'triggered inversion'. Some examples are given in (1) and (2) below, with the associated structures (3a) and (3b).

(1)　**Free Inversion**

    a.　UNACCUSATIVE:

        ne'elm-u　　　　sfarim me-ha-sifriya
        disappeared-pl.　books from-the-library
        'books have disappeared from the library'

    b.　PASSIVE:

        Sulma agra　be-sax　　　Smonim Sekel
        was paid fee for-sum　　eighty Sekels
        'an 80-Sekel fee was paid'

    c.　UNERGATIVE:

        tilfen avi-xa
        telephoned father-your
        'your father telephoned'

(2)　**Triggered Inversion**

    a.　kol yom kona　　ha-yalda smalot
        every day buys　the-girl dresses
        'every day the girl buys dresses'

b.   et ha-matana ha-zu   yiten   Dan le-im-o
     acc the-gift the-this   *will-give*   *Dan to-mother-his*
     'this gift, Dan will give to his mother'

c.   et ma   natan Dan le-im-o?
     acc what   *gave Dan to-mother-his*
     'what did Dan give his mother?'

(3)   a.
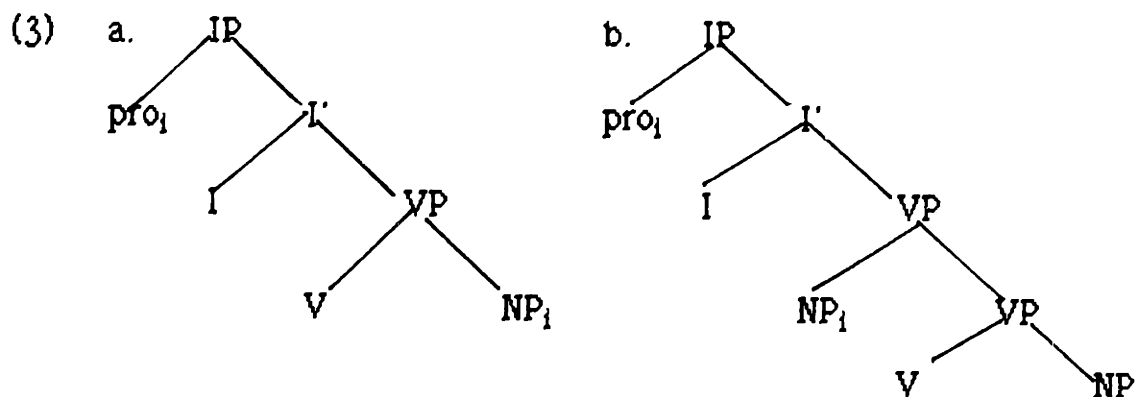
As the structures I have assigned to the inversion constructions indicate, I am assuming that the preverbal subject position is occupied by a null expletive subject, a **pro**. The question I would like to address is, what are the licensing-conditions for **pro**?

As shown by (1) and (2), inversion is possible with third person agreement in both the present, past and future tenses. Thus, in (1a), we have inversion with a third person plural, in (1b) and (1c), third person singular agreement. In (2a) the verb is in the participial, present tense and in (2b) and (2c) the tense specification is future and past, respectively. This state of affairs contrasts with argumental **pro**-drop in Hebrew which, as Borer (1983) has shown, is restricted to the first and second person in the future and past tenses. Whatever conditions must be met in order for an argumental **pro** to

be licensed, and I will address those in the latter part of the chapter, it appears that those conditions are relaxed for a null expletive, since it may appear in a wider range of environments. This, precisely, is the observation of Rizzi (1986) who suggests that an expletive **pro** need only be formally licensed whereas an argumental **pro** must be assigned grammatical features (ϕ -features) by association with the licensing head. Rizzi separates the notion of formal licensing from content assignment, or recoverability, (4).[1]

(4)   **pro MODULE** (Rizzi (1986))

    a.   Formal Licensing:
            -**pro** is Case-marked by X_y^0

    b.   Feature Assignment/Recoverability:
            -Let X be the licensing head of an occurence of **pro**: Then **pro** has the grammatical specification of the features on X coindexed with it.

Note, first, that we can dispense with the condition that **pro** must be Case marked by the licensing head. This is so because the requirement that **pro** receive Case is independently required by the Case conditions, as discussed in Ch.3, since the position occupied by **pro** heads an A-chain in LF. Furthermore, if Case may only be assigned under government, again, as a general condition, then (4a) is altogether redundant. To distinugish English, which doesn't have **pro**, from Italian, suppose that formal licensing consists

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[1]   I follow Rizzi in remaning neutral on the question whether features are assigned to an otherwise featureless **pro**, or recovered from a **pro** which is generated with features.
    See, also, Adams (1987), where formal licensing is construed in terms of government in a canonical direction.

of some abstract feature, call it Feature F, the presence of which is subject to parametric variation.

In the terms of (4), Hebrew can be described as a language where **pro** is formally licensed, hence null expletives are attested but where feature assignment is restricted to first and second person past and future inflections.

The main arguments of this chapter are constructed on the basis of the extraction properties of postverbal subjects. Before, proceeding, however, some general remarks about extraction and **wh**-movement in Hebrew are in order.

5.3 Properties of 'Long' Wh-Movement in Hebrew

As noted, originally, in Reinhart (1982), **wh**-island violations are almost imperceptible in Hebrew.[2] This is illustrated in (5) with direct and indirect objects.

(5) a. et ma   lo yadat   le-mi Dani natan
      acc what neg 2fs-know   to-who D. gave
      'what didn't you know to whom D. gave'

   b. le-mi   lo yadat   et ma D. Salax
      to whom   didn't 2fs-know what D. sent
      'to whom didn't you know what D. sent'

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[2]   The unbounded nature of **wh**-movement in Hebrew is restricted to extraction across a **wh**-island. Complex NP's, adjuncts and subjects all constitute islands in Hebrew.

The subjacency effect discernible in the English sentences corresponding to (5) is not manifested in Hebrew. There is some awkwardness in (5), due, I believe, to the complexity of processing multiple interrogations from the same clause. Far better sentences can be constructed with Topicalization or with relative clauses. Thus (6) below is even better than the corresponding interrogative.

(6)   hine ha-sefer Se-eineni zoxer le-mi Salaxti (oto)
        here the book that-I dont recall to-whom I sent (it)

The resumptive pronoun is obligatory in the English gloss, an indication that movement from the object of **sent** all the way up to the matrix COMP violates subjacency. The pronoun is optional in Hebrew, indicating, by the same logic, that extraction is licit.

Reinhart (1982) also showed that the cross-linguistic variation described in Rizzi (1982) cannot be captured by parameterizing the set of bounding nodes since **wh**-movement across a **wh**-island in Hebrew is, truly, unbounded whereas in Italian, for example, it is merely less bounded than in English. In the following example, an acceptable Hebrew sentence is juxtaposed with an unacceptable Italian one. The relevant configuration is given in (7c).

(7)   a.   et ha-ba'aya ha-zo   lo hayiti roce   la-da'at
                acc the-problem,the-this   neg I would have wanted to know

                et mi   hayinu creixim li-S'ol mi patar
                acc who we should have had to ask who solved

                'this problem, I wouldn't want to know who we should have had
                to ask who solved'

b.　　*questo incarico, che non so proprio chi possa avere indovinato
a qui affidero, mi sta creando un sacco de grattacapi

'this task, that I really dont know who might have guessed to
whom I will entrust, is getting me into trouble'

c.　　$[WH_i...[WH_2...t_2...[WH_3...t_3...t_1]]]$

Rizzi (1982) notes that when the resumptive strategy is employed in (7b),
the sentence is substantially improved. There is no measurable difference in
acceptability between the sentence in (7a) with or without a resumptive
pronoun in place of a gap.

Yet another difference between Hebrew and English/Italian is that in the
former there is no principled limit to the number of extractions per clauses.
Thus, Doron (1982) cites the following sentence with five gaps.

(8)　　mi-mi$_1$ Dani amar Se-et ha-smartutim ha-ele$_2$　　hu lo mevin
from-whom Dani said that-acc the -junk the-these he neg understand

eix$_3$ be-mea dolar$_4$　　　　et Rina$_5$ hiclax-ta t$_3$ le-Saxne'a t$_5$
how for one hundred Dollars　　acc Rina you suceeded to-convince

li-knot t$_2$ t$_4$ t$_1$
to buy

'who did D. say that this junk, he doesn't understand how, for $100,
Rina, you succeeded to convince to buy from'

It is interesting to note, in this context, that even under Chomsky's (1986b)
theory of bounding, the Hebrew facts do not receive a natural explanation.
This seems to me to be an outstanding problem which I will not attempt to

resolve. I merely bring it up as background information for the analysis of subject extraction which follows in section 5.4 below.

The second remark that needs to be made is that there are no **that/t** effects in Hebrew with a [-**wh**] complementizer. This fact, originally noted in Doron (1983), is analyzed in Shlonsky (forthcoming) as deriving from the syntactic movement of the complementizer and its adjunction to a maximal projection to its right before S-structure. Thus, sentence (9a) below is represented at D-structure as (9b) and at S-structure as (9c).

(9)   a.   mi xaSavt   Se ohev Su'it
           who you thought   that likes beans
           'who did you think likes beans'

      b.   [IP xaSavt [CP [C' [[C Se [IP [NP mi_i] ohev Su'it]]]

      c.   mi_i [IP xaSavt [CP t'_i   [IP [NP t_i] Se+ohev Su'it]]]

Whereas **Se** appears in the head of CP at D-structure, it is adjoined to the verb at S-S.[3] Since Se-adjunction empties CP of it's head, there is no longer any minimality barrier intervening between t' and t in (9c). Hence, the variable t is properly-governed by t', which explains the acceptability of (9a).

The complementizer **Se**- contrasts with the complementizer '**im** ('if') in that the latter remains in it's D-structure position in C and the trace of the subject

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[3]   Actually, **Se** adjoins a higher projection of V+I and not the verb itself. For discussion of the details, see Shlonsky (forthcoming).

embedded beneath it fails to meet the ECP. Consequently, (10) is ungrammatical.

(10) *mi lo yadati 'im ohev Su'it
     who NEG I knew if likes beans
     'who didn't I know whether likes beans'

Given these properties of the Hebrew complementizer system, a long-extracted subject over Se- will always have the option of leaving a trace in the position of [SPEC/IP], since a variable in that position will not violate the ECP. Since we are interested in investigating the properties of extraction from the VP-adjoined position, we must neutralize this option. In order to control for that in the examples that follow, I shall embed the variable under a complementizer such as 'im or in a **wh**-island. Since **wh**-islands in Hebrew do not block extraction, ʔe expect subjacency effects with long-extracted subjects to be also neutralized.

5.4 Extraction of Postverbal Subjects: Hebrew

Consider, now, the array of facts illustrated in (11)-(13). While direct objects may be long extracted in Hebrew, as shown by the acceptability of (11-13a), a subject of an unaccusative or passive verb may not be extracted over a **wh**-island. (11-13b).

(11) a.   (et) ma   lo yada-ta   'im   Dani hepil?
          (acc) what neg knew+2ms whether   Dani dropped+3ms
          'what didn't you know whether Dani dropped?'

     b.   *?ma lo   yadat'a 'im   nafal   'al ha-ricpa?
          what neg   knew+2ms if   fell+3ms   on the floor
          'what didn't you know whether fell on the floor?'

(12) a.   eize sfarim ein-ex yoda-'at   lama ha-studentim gonvim
            which books neg+2fs know+2fs why the-students   steal

      me-ha-sifriya?
      from-the library

      'which books don't you know why the students steal from the
      library'

      b.   *eize sfarim ein-ex yoda-'at lama ne'elamim me-ha-sifriya
            which books neg+2fs know why disappear-pl from-the library
            'which books don't you know why (they) disappear from the
            library

(13) a.   eize manhig lo yadata 'im ha-C.I.A. racax?
            which leader neg knew+2ms if the-C.I.A. assasinated
            'which leader didn't you know whether the C.I.A. assasinated?'

      b.   *eize manhig lo yadata 'im nircax (al-yedei ha-C.I.A.)
            which leader neg knew+2ms if was-assasinated (by the-C.I.A.)

      'which leader didn't you know whether (he) was assasinated
      (by the C.I.A.)'

If the trace of the extracted subject was in the [SPEC/IP] position, the
unaceptability of (11,12,13b) could be straightforwardly explained as an ECP
violation, since the trace of the extracted subject would not be properly
governed. However, we have seen that subjects of unaccusative and passive
verbs may appear in their D-structure θ-position which is the structural
direct object position. The question is why a trace of an unaccusative subject
is illicit in exactly the same structural position where a trace of an object is
fine. What rules out a representation such as (14b) while allowing (14a)?

(14) a.   wh$_i$.....[$_{CP}$ wh [$_{IP}$ Dani [$_{VP}$ dropped t$_i$]]

b.   *wh_i.....[$_{CP}$ wh [$_{IP}$ pro$_i$ [$_{VP}$ fell t_i]]]

Under the assumption that extraction of the subject may proceed from the postverbal θ-position, an appeal to the ECP cannot be made. This is so since the the traces in both (14a) and (14b) are properly governed.

Furthermore, the sentences in (15) show that LF-extraction of an inverted unaccusative subject may proceed freely and the subject/object asymmetry characteristic of S-structure extraction is eliminated in LF, (as noted first in Borer (1983)). Thus, the subject **wh**-in-situ in (15a) shows no superiority effects when it is postverbal. In preverbal position it is ruled-out, as shown in (15b), presumably by the ECP. Similarly, a VP-adjoined quantifier in (16a) can be associated with a scope marker in a higher clause whereas it cannot when appearing in the preverbal subject position. The examples in (17) show that direct objects pattern like the inverted subjects, as is to be expected.

(15)   a.   ma   kana mi?
              what bought who

     b.   *ma mi .   kana?
           what who   bought

(16) a.   ein-eni xoSev-et   Se-nitan   kol hesber   le-
             neg-1sg think-2sf that-was given any explanation for-

             hitnahagut-o
             behavior -his

             'I dont think that any explanation was given for his behavior'

     b.   *ein-eni xoSev-et   Se-kol hesber   nitan   le-
             neg-1sg think-2sf that-any explanation was given for-

             hitnahagut-o
             behavior -his

(17) a.   mi   kana ma
             who   bought what

     b.   ein-eni xoSev-et   Se-hu natan kol hesber   le-
             neg-1sg think-2sf that-he gave any explanation   for-

             hitnahagut-o
             behavior -his

             'I dont think that he gave any explanation for his behavior'

Before proceeding, let us note that the same range of facts can be reproduced with VP-adjoined subjects which appear, for example, under triggered inversion. In the (a) examples of (18) an object is wh-moved and in (19) it is relativized. Subject extraction is blocked in both cases, as in (18,19b).

(18) a.   (et) ma lo yadata le-mi natan Dani
             (acc) what neg you know to-who gave D.
             'what didn't you know to whom Dan gave'

     b.   *mi lo yada'at be-eize Sa'a metapes al ha-har
             who neg you knew at-what time climbs up the mountain
             'who didn't you know at what time climbs up the mountain'

(19) a.   ze ha-iS Se-xana lo sa'ala mi hekir
this the-man that-Hannah neg asked who knew
'this is the man that Hanna didn't ask who knew'

b.   *ze ha-iS Se-xana lo Sa'ala et mi hekir
this the-man that-Hanna neg asked acc who knew
'this is the man that H. didn't ask who (he) knew'

The same reasoning which ruled out an ECP account for the extraction facts with the VP-internal subjects can be carried over to these cases. The availability of LF extraction, as shown by the contrast in (20), patterns together with the contrast in (15), (16) above.

(20)   a.   mi lo   yada ex oxel mi   et ha-gvina?
who neg knew how eats who acc the cheese
'who didn't know how who eats the cheese?'

b.   *mi lo   yada ex mi   oxel et ha-gvina?
who neg knew how who eats acc the cheese

More generally, the parallelism between VP-internal and VP-adjoined subjects strongly suggests that it is not the trace of **wh**-movement which is offensive. How, then, are we to account for the fact that Hebrew mimics the Italian paradigm in LF, permitting long-distance **wh**-movement of a subject, while patterning like English at S-structure, blocking a parallel type of movement?

5.4 The Extractability of Postverbal Subjects and the Theory of pro

My approach will be to relate the possibility of postverbal subject extraction to the licensing principles for null subjects. I will show that expletives in inversion constructions are subject to a requirement more restrictive than formal licensing. Indeed, I will claim that the **pro** module treats on par expletives associated with postverbal subjects and null arguments. This consequence follows, I suggest, from Chomsky's Expletive Replacement Hypothesis, which has the result that the preverbal subject position of both argumental **pro** drop and subject inversion constructions is the position in which the external θ-role is realized in LF.

Some direct evidence that the principle violated in (11)-(13) and again, in (8)-(9) above, concerns the preverbal **pro** and not the postverbal trace itself, is given in (21). In (21b,c), with the verbal inflection for first and second person, extraction of a subject over a **wh**-island is considered fine. To recall, It is precisely in the environment of first and second person agreement that argument **pro**-drop is possible in Hebrew, as shown in (22b,c). The ungrammaticality of (21a), should be correlated with (22a), where argument **pro**-drop is unacceptable.

(21) a. *Xaym, af exad   lo Sa'al   lama 'azav   et
         X.,   no one   neg asked-3ms why left-1ms acc

         ha-mesiba mukdam
         the-party early

         'Haym, nobody asked why (he) left the party early'

b. ani ve-at, af exad lo Sa'al   lama 'azav-nu et ha-
I and -you, no one neg asked -3ms   why left-1pl acc the-

mesiba mukdam
party early

'me and you, nobody asked why (we) left the party early'

c. ata ve-Xaym, af exad lo   Sa'al   lama 'azav-tem et ha-
you and Xaym, no one neg asked -3ms why left-2pl acc the-

mesiba mukdam
party early

'you and Haym, nobody asked why (you) left the party early'

(22) a.   *azav   b.   azav-nu
        pro *left+3ms*   *pro* *left+1pl.*
        'he left'   'we left'

c.   azav-tem
        pro *left+1pl.*
        'you (pl.) left

Thus, this paradigm shows that the possibility of extracting a subject
correlates with the capacity of AGR to license argumental **pro** drop. Now,
the mere fact that subject inversion, i.e., without extraction, is acceptable in
Hebrew means that **pro** must be formally licensed in Hebrew just like it is
in, say, Italian and unlike, say, English. Put differently, the account of these
Hebrew facts must concede that the availability of expletive **pro** depends on
more than formal licensing. The generalization that, I think, must be drawn
from the Hebrew facts is that **pro** must be associated with phonologically
overt grammatical features at S-structure. Under inversion, the postverbal

NP itself supplies these features, by being coindexed with **pro**, which it must be, since it replaces it in LF. Extraction of a postverbal subject strands **pro**, so to speak, since the features borne by the trace are phonologically null.

As a first approximation, then, I propose to substitute (23) for the feature assignment procedure, given above in (4b).

(23) Feature Assignment/Recoverability
      -Coindex **pro** with phonologically overt grammatical features.

We now interpret richness of agreement as an S-structure property of the phonological explicitness of the representation of grammatical features. In Italian, for example, AGR is rich in virtue of overtly representing ϕ-features. The features of **pro** are thus fully recoverable from AGR alone. A postverbal subject may thus be freely extractable; and it is. In Hebrew, overt features of person are represented in the first and second person conjugations in the past and future. Consequently, only with such agreement can postverbal subjects be extracted.[4] The third person marker, though, is discretely represented, by, say, the absence of features in the past tense. This suggests that the notion of phonological overtness is insufficient to characterize Hebrew **pro** drop. I will address this issue shortly and will argue that the third person marking in Hebrew marks the feature impersonal and does not designate a person. This predicts that only impersonal subjects may be dropped with third person agreemeent; the prediction turns out to be valid, as we shall see. However, since our purpose is to demonstrate that null

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[4]   As stated, (23) does not rule out a recovery of features from a fronted **wh**-word. What needs to be said, intuitively, is that **pro**'s features must be recovered from the element that actually replaces it in LF. See ahead, pp.221-227 for discussion.

expletives and null arguments are treated the same way by the **pro** module, let us proceed, for the present, under the assumption that Hebrew AGR is impoverished in the third person. Since the feature assignment procedure for **pro** takes place at S-structure, it is predicted that postverbal subjects may be freely extracted in LF, since, at LF, and only in LF are the overt features no longer needed for assignment to **pro**, since it is eliminated by expletive replacement.

5.5   Extraction of Postverbal Subjects: French

Confirmation for the approach advocated here comes from French. Consider (24)-(26), data discussed in Pollock (1986).

(24) a.   Il faudrait que viennent plus de linguistes à nos réunions

      b.   *Combien de linguistes faudrait-il que viennent à nos réunions?

(25) a.   J'aurais aimé que soient condamnés plus de coupables

      b.   *Combien de coupables aurais-tu aimé que soient condamnés?

(26) a.   Pierre a nié qu'aient été relaxés des criminels

      b.   *Combien de criminels Pierre a-t-il nié qu'aient été relaxés?

The (a) examples in this paradigm illustrate inversion of the subject in a subjunctive clause, which is an environment in which this sort of inversion is possible. Following Pollock, let us assume that the preverbal position is occupied by an expletive **pro**. Thus, (24a) should be represented roughly as (27).

(27) Il faudrait que [$_{IP}$ **pro**$_i$ viennent [$_{NP}$ plus de linguistes]$_i$ à nos

réunions]

Like Hebrew, the postverbal subject cannot be extracted, as shown by the unacceptability of the (b) examples in (24)-(26). Let us hypothesize, as seems plausible, that **pro** in French is formally licensed, as it is in Italian. French differs from Italian, however, in that agreement is less phonologically explicit. Thus, French patterns like Hebrew in requiring that **pro**'s features be recovered or assigned by the postverbal NP itself. The parallelism with Hebrew, if true, engenders the prediction that the postverbal subject be extractable in LF, a prediction borne out by the **wh**-in situ examples in (28).

(28) a.   Qui aurait aimé que soient condamnés combien de coupables?

b.   Qui a niait qu'aient été relaxés combien de criminels?

Now, unlike Hebrew, French has an overt expletive, **il**. When **pro** in the sentences in (24)-(26) is replaced with **il**, a postverbal subject is freely extractable. This is illustrated in (29)-(31).

(29) a.   il faudrait qu'il vienne plus de linguistes à nos réunions

b.   Combien de linguistes faudrait-il qu'il vienne à nos réunions?

(30) a.   J'aurais aimé qu'il soit condamné plus de coupables

b.   Combien de coupables aurais-tu aimé qu'il soit condamné?

(31) a.   Pierre a nié qu'il ait été relaxé des criminels

b.   Combien de criminels Pierre a-t-il nié qu'il ait été relaxé?

Under the theory proposed here, the extractability of the postverbal subject under il receives a natural explanation. Since the sentences involve an overt expletive, which is endowed with overt grammatical features, and not a null expletive, the conditions of the **pro** module are trivially satisfied and a postverbal subject may be freely moved.[5]

Let me mention another, more tentative consequence.[6] Under the account I am developing, an expletive **pro** in languages with impoverished agreement features must be supported by overt features assigned by the postverbal subject itself. If the postverbal subject is extracted, **pro** is stranded because its features cannot be recovered by the overt environment. Now, certain languages permit extraction from inside a subject. Specifically, both French and Italian allow the head of a QP to be extracted, leaving behind it's specifier. I conjecture that in a language like French extraction of a quantifier ought to have an intermediate status: Sentences in which a bare quantifier is extracted ought to be marginally better than sentences where the entire subject has been moved. Although judgments are subtle, there are speakers who accept the contrast exemplified in (32).

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[5]   Note that French does not allow construal of an embedded quantifier such as 'personne' with a matrix scope marker even when the quantifier is a postverbal subject, (i). Thus, (i) is judged comparable to (ii), where **personne** appears in the [SPEC/IP] position. The fact that no improvement occurs when **pro** is replaced by il, as in (iii) suggests that there are independent reasons barring long distance scope construal of a subject quantifier. In this respect, French differs from Hebrew (cf. (10).)

(i)   *il ne faudrait que vienne à nos rèunions personne
(ii)   *il ne faudrait que personne vienne à nos rèunions
iii)   *il ne faudrait qu'il vienne à nos rèunions personne

[6]   I am grateful to R. Kayne, (p.c.) for pointing out this consequence.

(32)   a.   *j'aurais aimé qu'en soient publiés [NP e]

       b.   ??j'aurais aimé qu'en soient publiees [NP trois e]

Let us suppose that the features of **pro** can be partially recovered by coindexing with a postverbal subject which is partially overt, a characterization which, I think, is intuitively clear, although it remains an interesting question how to make it more precise.

5.6   pro Drop, the Expletive Replacement Hypothesis and Binding Condition C

If this general approach is on the right track, it suggests that we rethink the distinction between the null expletive of inversion and a null argument. Specifically, if both null expletives and null arguments are subject to the same licensing conditions, that is to say, if they are treated by the **pro** module as elements of the same type, as the Hebrew and French facts seem to suggest, then it is surely not the D-structure or S-structure characterization of the subject position as thematic or non-thematic that is relevant for the assignment of features.

But there is, in fact, a level of representation where the distinction between expletives and arguments is obliterated, the level of LF, since at LF expletives are replaced by arguments. It seems, then, that the **pro-module** must be sensitive to the LF properties of the subject position, that is, to whether it is filled by an argument or not. One is led to the conclusion that

the **pro** module identifies **pro** w.r.t LF by assigning overt features to a null subject which is to be interpreted as argumental.[7]

Let us summarize the main points made so far. I have shown that the conditions which a null subject of inversion must meet in order to be licensed are really the same as those that must be met by a null argument. I argued that a necessary condition for feature assignment to both occurences of null subjects is that the features are copied off or recovered from a phonologically overt element. The analysis thus demonstrates that rich agreement must, minimally, be taken to mean the overt representation of features and not an abstract property. The parallelism between inversion and argument **pro** drop is obscured in Italian due to the language's rich agreement, which can always assume the role of the feature assigner itself. In Hebrew, however, the role of the postverbal NP in licensing the null subject is revealed precisely by the variability in the capacity of AGR to support a null subject. I concluded by suggesting that the identity between the null subject of inversion and argument **pro** is perhaps less puzzling than it first sounds, when embedded in a theory of expletive replacement.

One issue which has been left vague in the discussion so far, concerns the formal relationship between the source of ϕ features and the null subject.

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[7]   An alternative approach would be to treat both cases of **pro** as uniformly expletive at S-structure. We would then assume that in argumental **pro** drop cases, it is AGR itself, and not **pro**, which is assigned the external θ-role. Expletive **pro** is then replaced by AGR in LF. This raises the question of the status of the Structure Preserving Constraint (SPC) of Emonds (1976), Chomsky (1986b) in LF. One possibility is that the SPC holds of move α which occurs prior to S-structure and that it is relaxed in LF, permitting an X^0 to move into a specifier position.

Insofar as INFL is the source of features, the relationship can be stated in terms of government, maintaining, the (modified) version of Rizzi's (1986) licensing schema given in (4a) above. In cases where the source is not INFL but the postverbal NP itself, it is not clear what formal relationship holds between **pro** and the source NP. At LF, to be sure, a chain is formed incorporating the S-structure position of the postverbal NP as its tail and **pro** as its head. But the chain is not formed until LF while the **pro** module is operative at S-structure. Thus, it seems that the **pro** module (at S-structure) is sensitive to A-chains formed in LF. **pro**'s features are recovered (at S-structure) by co-indexing with the appropriate (overt) features. This is the formal relationship between **pro** and the source NP. Furthermore, in LF, this coindexing is interpreted as a chain relationship, as seems natural. This has the consequence of ruling-out feature recovery from a **wh**-word, since the two do not form a chain.[6]

Note, now, that coindexing **pro** and the postverbal NP at S-structure is inconsistent with our explanation for why there is no Condition C violation in expletive argument pairs. In 2.8 above, to recall, we argued that the postverbal NP and the expletive do not need to be coindexed until LF, while Condition C applies at S-structure. Put plainly, the contradiction is as follows: the **pro** module requires that **pro** be coindexed with the postverbal NP at S-structure but the binding theory requires that they not be thus coindexed.

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[6]   See Borer (1987a) for discussion of **pro** which is controlled by a matrix NP. I will not discuss those cases in this work.

Yet there is an alternative interpretation for the ungrammaticality of the examples (68) in Ch.2, which is consistent with the the observation that Condition C is sensitive to to S-structure representations.9

(68)   a.   *he$_i$ likes [every picture of John$_{i}$]

       b.   John$_i$ said that Bill had seen HIM$_i$

Suppose that the binding theory, much like Lasnik & Saito's (1984) ECP, has two components: A feature-assigning mechanism, which, in the case of Condition C, applies at S-structure, and a filter which applies in LF. Concretely, suppose that a Condition C violation is encoded at S-structure by marking the antecedent

[-ω]. The LF filter rules out sentences which contain such marks. Thus, in (68a), **he** is assigned [-ω] and the sentence is ruled out in LF. Conversely, **John** in (68b) is marked [+ω]. Now, an expletive which is coindexed with a postverbal NP is indeed marked [-ω], just like **he** in (68a). The difference is that an expletive, but not **he**, is eliminated at LF, so that the filter applies to it vacuously. Since the feature [-ω] is eliminated along with the expletive, the sentence is not ruled out. This interpretation of Condition C allows **pro** and the postverbal NP to be coindexed at S-structure thus meeting the **pro** module.

5.7   An Argument in Favor of a Structural Subject Position

There have been a number of linguists, e.g., Adams (1987), Borer (1986), Travis (1984), who have advanced the position that in inversion

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9   Here I am following a suggestion of N. Chomsky (p.c.)

constructions, there is no subject position other than the one occupied by the postverbal subject itself. For instance, Borer (1986:401) assumes that the [SPEC/IP] position is not obligatory. "...INFL does not require the presence of a particular position; rather, it requires a coindexed NP in some position."

Note, now, that the extraction facts discussed above provide an argument against the 'I-subjects' type of approach and in favor of a theory incorporating a 'strong' version of the 'Subject Stipulation', along the lines developed in ch.2. A theory which assigns a sentence such as (1) above, a structure such as (33), i.e., one bereft of a [SPEC/IP], would be hard pressed to explain why the postverbal subject is inextractable.

(33)
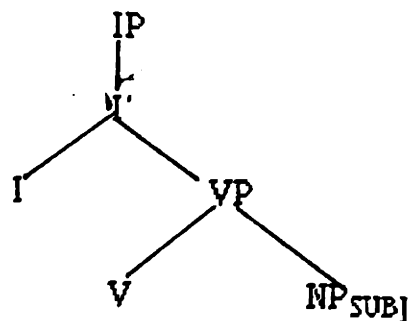
5.8   Expletive pro in Raising and Extraposition

In the previous sections, I discussed the conditions under which a null expletive of inversion is licensed. I claimed that null expletives of inversion need to be identified by overt features of person and number at S-Structure. Consider, now, the case of expletives associated with S' extraposition and Raising constructions, such as that illustrated in (34).

(34) a.   nidme   li   Se-Venezia Soka'at
pro seem+3ms to-me that-Venice sinking+sf
'it seems to me that Venice is sinking'

b.   barur   Se-Reagan ken yada   'al
pro clear+3ms   that-Reagan yes knew about

ha'avarot ha-ksafim la-Contras
transfers the funds to-the-Contras

'it is clear that Reagan did know about the transfer of funds to the Contras'

c.   racuy   Se-tagi'a   mukdam
pro preferable+ms that-arrive+2ms   early
'it is preferable that you arrive early'

These cases are problematic at first glance. A postverbal subject, a clause in these examples, bears no features of person and number and yet a null subject **pro** is acceptable. Note that we cannot test for extractability in this case, because there is no **wh**-form for clauses. But that doesn't effect the main point which is that these sentences contradict, prima facie, the claim that null subjects must be identified by overt grammatical features such as person and number.

One possible way out of this dilemma, but one which I will not pursue, is afforded if we assume that the **pro** of Raising/extraposition is a 'true' expletive, as opposed to the null subject of inversion which, perhaps, is not. Following Rizzi's reasoning, then, a 'true' expletive needs only to be formally licensed and is not required to meet the feature assignment condition in (23). Rizzi's analysis, which rests on a classification carried out in Travis (1984), yields a tripartite distinction between referential null arguments, quasi-argumental null subjects and non-argumental, i.e. expletive null

subjects. Whatever else might be true, I think that the Hebrew facts show that it is inaccurate to lump together null subjects of inversion and null subjects of extraposition. But this would lead to a four way distinction between, arguments, quasi-arguments, expletives of inversion and expletives of Raising/extraposition. Surely something is being missed here, since the expletives of inversion are licensed under the same conditions as null arguments.

The alternative I will pursue makes only a two way distinction, on the one hand, between **pro** which is replaced in LF by an argument which requires a specification of person, typically, a referential NP and, on the other hand, **pro** replaced by an argument which is impersonal, typically an S' or a non-referential NP argument. In effect, then, I propose to redistribute null expletives: Those of subject inversion will be treated like referential **pro**, while those of Raising/extraposition will be assimilated into the class of non-referential **pro**'s which will also include the null subjects of weather and temporal predicates, **pro**$_{arb}$ and impersonal passives. I will suggest that the line of demarcation ought to be drawn between impersonal subjects, on the one hand and subjects which have a specification of person, on the other.

5.9 Argument pro-Drop in Hebrew and the Feature [+/-person]

As a point of departure, recall that I have, until now, been assuming that Hebrew differs from Italian in the degree to which AGR is endowed with overt φ features. Consider, now, the inflectional paradigm of Hebrew, given in table (35). I have starred the persons and tenses where argumental **pro-**

drop is unacceptable and have suppressed the phonological alternations induced by affixation.

(35)

Inflectional paradigm with root "Smr" = 'guard'

PAST

	singular	plural
1	Samar-ti	Samar-n-u
2m	Samar-ta	Samar-t-em
2f	Samar-t	
3m	*Samar-Ø	*Samar-Ø-u
3f	*Samar-Ø-a	

FUTURE

	singular	plural
	?e-Smor	ni-Smor
	ti-Smor	ti-Smor-u
	ti-Smor-i	
	*y-i-Smor	*yi-Smor-u
	*t-i-Smor	

PRESENT (participle)

Singular	plural
*Somer	*Somer-im

Putting aside the participial present tense, let us note that an argument on the basis of morphological overtness is hard to sustain, as a glance at future tense person morphology will tell. In the future tense, number, gender and person are all represented by discrete morphemes. Given all that has been said thus far, it is not clear why pro-drop should not be available in the future third person.

It is possible that the restriction on third person **pro** drop in the future is modelled on analogy with the past tense, where the morphology is overtly different in the first and second persons. But this begs the question of why the grammar is not set the other way around, with the future tense serving as the basis for analogy. Moreover, even in the past, where arguably the third person is not represented overtly, it is still clearly discrete since it is the only person which is non-overt.

In fact, let us strengthen these observations to the claim in (36).

(36) Hebrew past and future tense AGR is as rich in its ϕ features as is AGR in Italian.

This claim rests on the assumption that the absence of an overt feature, such as a third person affix in the past tense, can itself be taken to be a distinctive feature. This seems quite reasonable, especially since only one of the three persons, in the past tense, is unmarked and the language learner can unambiguously identify it. But if this is right then we must once again revise the feature assignment procedure which was tentatively given in (23). What needs to be said, I think, is that **pro** must be associated with **discrete**, rather than **overt** features. In order for a non-overt feature to be discrete, there must be at most one non-overt feature in a given paradigm; all the rest must be overt.

(37) **Feature Assignment/Recoverability**
    - Coindex **pro** with phonologically discrete grammatical features

But now we are faced with the task of explaining the restrictions on Hebrew **pro** drop. Following Benveniste (1966), my approach will be to capitalize on an obvious difference between first and second persons, on the one hand, and third person, on the other. That first and second person differ, in some fundamental way, from the third person is a well-noted fact. Thus, first and second person are always presupposed in a discourse, while third person is not. Moreover, first and second persons are intrinsically argumental

whereas third person may be an argument or a non-argument. There couldn't be first and second person expletives.[10]

Let us suppose, then, that first and second person are inherently persons, while third person is, in principle, ambiguous between a personal reading and an impersonal one.

Let us further suppose that the theory of markedness regards as unmarked only the inherent persons, first and second. Third person, in the unmarked case, is treated as impersonal. Thus by the theory of markedness, the Hebrew paradigm constitutes the unmarked case. For a speaker to learn that Italian third person can be a person as well as impersonal, positive evidence must be accumulated.

Imagine that in order for third person to be regarded as a person, it is assigned the feature [+p]. If it is [-p] it is interpreted as impersonal. Thus the marked nature of Italian agreement can be captured by the following rule,

(38)   Assign [+p] to the third person marker

The grammar of Hebrew, being unmarked for this feature, contains no such rule. The feature [p], I assume, is assigned along with the person features, in accordance with the assignment/recoverability procedure (37).

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[10]   "The "third person" is not a "person"; it is really the verbal form whose function is to express the *non-person*" (Benvensite, p.198.)

A **pro** which is assigned features by a third person which is [+p] can be replaced by an argument bearing a personal third person in LF. When the specification for [p] is negative, only an impersonal argument can appear in the position occupied by **pro**. In Hebrew, where the third person is [+p] only in the first and second person AGR, and [-p] in third person AGR, since rule (38) does not apply, an argument bearing a person feature can only appear either with first or second person agreement, or, alternatively, when the feature [+p] can be assigned to **pro** by an overt, or, what amounts to the same thing in this instance, a phonologcially discrete third person NP. Thus, we can maintain our prior generalization that the **pro** of inversion must be associated with an overt element at S-structure. The only modification that needs to be introduced is that the overt element is needed not in order to assign a person feature which a putatively impoverished AGR cannot, but rather to supply **pro** with the feature [+p], which AGR, although perfectly rich, is not marked for.

This analysis predicts that null subjects which are replaced by impersonal subjects may appear with third person inflection. In addition to the Raising/extraposition examples in (34), we can see that this prediction is borne out w.r.t impersonal passives in (39), temporal predicates, (40), and constructions with **pro**arb as in (41).

(39) a. niztav   'al-av   ba-iton
         write-passive   *about-him   in+the-paper*
         'it was written about him in the paper'

   b. huxlat   'al hazzarat ha-plitim
       decide-past-passive   *on return the-refugees*
       'it was decided on the return of the refugees'

(40) a. kar
cold
'it is cold'

b. meSa'amem
boring
'it is boring'

(41) a. be-Tel Aviv Sotim   capuccino 'im kacefet
in-Tel Aviv drink+1pl/   capuccino with whipped cream
'in Tel Aviv (they) drink capuccino with whipped cream'

b. hifsiku li-mkor sigariot ba-kiosk
stop-1pl-past to-sell cigarettes in-the-kiosk
'(they) stopped selling cigarettes at the kiosk'

The sentences in (39)-(41) all illustrate impersonal subjects which, as we can plainly see, are permitted with third person inflection.

The proposal that the person marker needs to be specified for whether is it to be interpreted as a person marker or as impersonal has the consequence of enriching the pro module by the addition of another parameter. The proposal bears similarity to Borer's (1983) proposal that the third person AGR in Hebrew is marked [-referential]. I have chosen not to use this feature since it is not clear to me what implicit commitment it entails for e.g., the referential status of clauses. The intuition behind both ideas, I think, is the same, namely, that morphological explicitness and formal licensing are not sufficient to license a null subject. I am also taking a neutral position w.r.t to Borer's recent proposal that third person AGR in Hebrew is anaphoric, (Borer (1987).)

Let me summarize the discussion. I have argued that by the admission of a third factor into the licensing theory for **pro**, the feature [p], we can achieve a more precise characterization of different grammatical systems. Hebrew is like Italian in having both a formally licensed **pro** and a rich agreement system. It differs, from it, however, in having impersonal, that is, [-p] third person agreement. In English, **pro** is simply not formally licensed. As for French, let me tentatively suggest that French, like Hebrew, has an impersonal third person, but it differs from Italian and Hebrew in lacking a fully discrete system of person features. This would account for the fact that Hebrew, but not French allows null non-referential null subjects such as quasi arguments. The non-extractability of postverbal subjects in Hebrew is due, I claimed, to the incapacity of AGR to mark **pro** as [+p], even though it is perfectly able to mark it for ϕ features.

The approach to **pro**-drop developed in Adams (1987) and Rizzi (1986) establishes two distinct conditions that a null subject has to meet in order to be licensed, a government requirement, (government by a head in its canonical direction for Adams, Case marking by a head for Rizzi,) and a binding relation - 'feature identification'.

The analysis presented in this chapter suggests that the two conditions are truly separate and quite independent of each other since they can be met by **pro** by association with two different elements, (INFL for the government requirement, the postverbal subject for feature identification.)

Such approaches have the consequence of making the **pro** module similar in content to the ECP, under versions which consider it to consist of two

distinct principles (e.g., Chomsky (1986b).) A direct object trace, for example, meets the government requirement of the ECP through association with the governing verb and is antecedent-governed, i.e. feature-identified, by association with a chain. Both conditions can be met by association with a single element: This is so in passive and Raising constructions, where the trace of a passivized element is both **head**-governed and **antecedent**-governed by V. Of the two conditions, head-government seems to be be a general condition which applies to empty and overt categories alike (for Case purposes, for example.) Feature identification, on the other hand, appears to be a condition specific to empty categories. But this is only so because it is a condition on chains. An overt element in a θ-position trivially satisfies 'antecedent government' since it is a single membered chain and antecedent governs itself. If this line of thought is correct, then there is no ECP, per se, or a **pro-module**, but only general conditions on chains and arguments, as argued, originally, by Bouchard (1982).

CHAPTER 6
THE BE/HAVE ALTERNATION: POSSESSIVES, EXISTENTIALS AND LOCATIVES IN HEBREW

6.1   Chapter Outline

This chapter attends to some aspects of the syntax of existential and possessive constructions, illustrated in (1a) and (1b).

(1)   a.   **Possessive**
yeS/haya/yhiye le-xanan sefer
is/was/will be DAT-Xanan book
'Hanan has/had/will have a book'

b.   **Existential/Locative**
yeS/haya/yhiye sefer 'al ha-madaf
is/was/will be book on the-shelf
'a book is/was/will be on the-shelf

The outline of the discussion is, as follows. I begin by considering the special character of the verb **yeS** , which is the present tense form used in possessives and existentials. I then proceed to the categorial status of the dative possessor in, e.g., (1a), concluding that albeit being a PP, it is the clausal subject in the possessive construction.

An interesting fact about the Hebrew verb **yeS** is that it assigns accusative Case when used in its possessive guise as well as in a subclass of locative phrases which may be characterized as quasi-possessive. It is shown that

yeS is basically ambiguous between **be**, taking a single argument, and **have**, which assigns two θ-roles.

Some problems w.r.t. verbal agreement, particularly with the **h.y.y**, i.e., the future and past tense forms of **be/have**, are discussed in the final section.

6.2   The status of **yeS**

Doron (1983) notes that the verb **yeS** differs in a number of ways from the past and future forms of **h.y.y**. Most obvious, perhaps, is the fact that **yeS** is morphologically unrelated to the past and future forms of the verb, which derive from the triconsonantal root **h.y.y**. The root, **h.y.y**, however, is 'defective' in that it does not have a present tense form. Rather, it's morphological present tense is an optional nominative pronoun, as shown in (2). This is argued for, in detail, in Berman and Grosu (1976), Doron (1983), Rappoport (1987) and I refer the reader to those works for a development of these ideas.

(2)   a.   Dani haya more
          D. was teacher

      b.   Dani yhiye   more
          Dani will be teacher

      c.   Dani (hu) more
          Dani (the) teacher

Arguably, the defectiveness of **h.y.y** carries over to the possessive construction. This construction differs, however, from the copular one in that the vacancy left in the verbal paradigm of **h.y.y** is filled by the particle

yeS and not by a pronoun. In the copular construction, the nominative pronoun is entirely optional, as shown by (3c). In contrast, yeS-less possessive clauses are restricted to a formal register and are rarely found in colloquial speech.

(3) a.   le-Dani haya more
          DAT-Dani be.there-PAST teacher
          'Dani had a teacher'

    b.   le-Dani yhiye more
          DAT-Dani be.there-FUT teacher
          'Dani will have a teacher'

    c.   leDani ??(yeS) more
          DAT-Dani (be.there-PRES) teacher
          'Dani (has) a teacher'

Doron (op. cit.), also notes that yeS never appears as an auxiliary, in contrast to h.y.y. In (4a), the past tense form of h.y.y is used along with a present participle; in (4b), the future form of this root appears with a predicate nominal. Neither one is possible with yeS, (4c), (4d).

(4) a.   Xanan   haya   rac   le-betsefer
          X.   h.y.y-3ms-PAST   run-PARTICIPLE to-school
          'Hanan used to run'

    b.   Xanan yhiye   more
          X.   h.y.y-3ms-FUT   teacher
          'Hanan will be a teacher'

    c.   *Xanan yeS   rac   le-betsefer
                      run-PARTICIPLE to-school

    d.   *Xanan yeS more

The more restricted distribution of **yeS**, in comparison with the forms derived from **h.y.y**, shows that **yeS** is truly a different verb which fills in some, but not all of the gaps in the **h.y.y** paradigm.

There are other differences between **yeS** and the forms derived from **h.y.y.**, primarily in the pattterns of verbal agreement, but since those are rather complex, I put off discussion of them to section 6.14. In order to facilitate the presentation, then, I will discuss the possessive and existential constructions with **yeS** first, coming back, in a later section, to the **h.y.y** forms.

To conclude this factual presentation, note that the verb **yeS** has a negative counterpart, **ein**, which patterns exactly like **yeS** , (5a). To obtain the negative reading with the **h.y.y**.-derived forms, the negation particle **lo** appears to the left of the verb, as shown by (5b,c,).

(5)   a.   le-Dani   ein   more
           DAT-Dani   neg be/have-PRES teacher
           'Dani does not have a teacher'

      b.   le-Dani   lo haya   more
           DAT-Dani   neg be/have-PAST teacher
           'Dani did not have a teacher'

      c.   le-Dani   lo yhiye   more
           DAT-Dani   neg be/have-FUT teacher
           'Dani will have a teacher'

While **yeS** and **ein** pattern in the same way in the possessive construction, (Doron, op. cit.), rather substantial differences emerge in the existential/locative construction, due to the fact that **ein** has an allomorph

which has the role of sentential negation. I will not discuss the particle **ein** in this work.[1]

6.3 The Categorial Status of the Dative Possessor: le-Phrase as a PP

Borer and Grodzinsky (1986) claim that the dative element does not display the branching characterstic of genuine PP's. The evidence is taken from the domain of anaphoric binding: A le-NP can serve as antecedent for an anaphor inside a PP while a 'im-NP cannot. The conclusion that B&G draw is that le-NP is a dative marked NP, which does not branch, while 'im-NP is a true PP.

(6)   a.   Xanan siper le-Aliza 'al acma
            Xanan told to-Aliza about herself

     b.   *Xanan diber 'im Aliza 'al acma
            Xanan spoke with Aliza about herself

While the facts in (6) are certainly robust, I take issue with the interpretation given to them by B&G. The capacity of an antecedent to bind an anaphor from within a le-NP does not necessarily imply that the dative phrase is a NP. It is also compatible with the view that dative phrases are PP's, but that the affixal nature of the dative preposition or Case marker allows the index of the NP within the PP to percolate up to the PP node so that the PP ends up bearing an index and can serve as an antecedent for anaphor binding.

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[1]   For discussion see Borer (1983), Doron (op. cit.), Ritter (1985) among others.

(7)

$$PP_i$$

$[p \, \theta] \qquad P_{DAT} + NP_i$
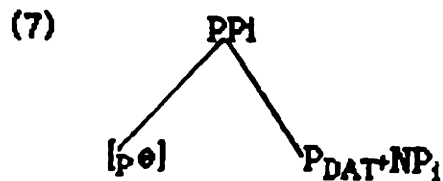
Whereas the possessive datives under discussion are constructed of a NP and an affixed Case marker (or preposition), exactly the same sort of index percolation seems to be necessary in PP's where a prepositional object pronoun is cliticized onto a preposition in a configuration such as (8).

(8)

$$PP_i$$

$P + pro_i \qquad [\theta]_i$
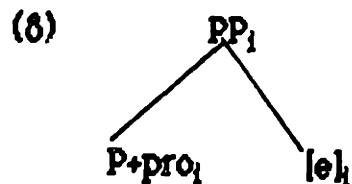
The argument, due to Sells (1984) is, as follows. Borer (1984), Sells (1984) noted that the [-wh] complementizer Se- in Hebrew may delete when it is flanked by two elements bearing the same referential index. This state of affairs arises when the complementizer appears between a wh-operator on its left and a preposed or Topicalized NP on it's right.[2]

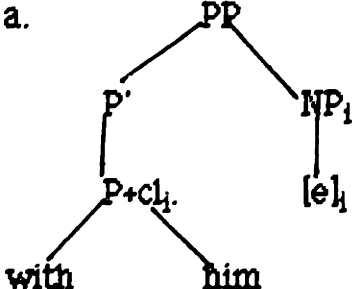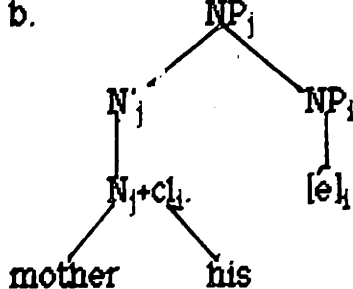(9)   Delete Se in the environment .....op_i Se XP_i.....

Consider the three relative clauses in (10) and the relevant structure in (11).

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[2]   This is a somewhat simplified statement of the conditions for complementizer deletion in Hebrew. For further elaboration, see Shlonsky (forthcoming).

(10) a.   ha-baxur (Se)-oto ra'iti
           the-guy that-him I saw
           'the guy that I saw'

     b.   ha-baxur (Se)-imo   yacati le-seret
           the-guy that-with+him   I went out to-movie
           'the guy that I went to the movie with'

     c.   ha-baxur *(Se)-imo   yac'a le-seret
           the-guy that-mother+his went out to-movie
           'the guy that his mother went to the movie'

(11)   the guy [$_{CP}$ op$_i$ Se[$_{IP}$ $\genfrac{}{}{0pt}{}{NP}{PP}$ [$_{IP}$ ....]]]

In (10a), and (10b), **Se** may delete; in (10c) it may not. The crucial contrast is between the homophonous PP and NP in (10b) and (10c). Assume, following Borer (1983), that the structure of the NP **imo** and the PP **imo** is similar: (10c) is a clitic configuration headed by N to which a pronominal clitic is attached and (10b) is a clitic configuration headed by P. Yet **Se** may only be dropped when the clitic configuration is headed by P.

(12) a.

          PP
       P'   NP$_i$
   P+cl$_i$ [e]$_i$
  with   him

     b.

          NP$_j$
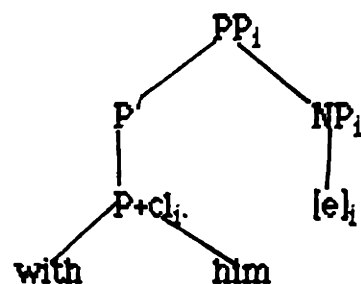   N'$_j$ NP$_i$
   N$_j$+cl$_i$ [e]$_i$
  mother   his

Se may not be deleted in the NP case, (10b), since the index of the maximal projection of N bears the index of **mother**- the head N- and not of the clitic **his**. The relativized NP in (10c), and thus the operator to the left of the

complementizer, are coindexed with **his** not with **mother**. The condition for complementizer deletion is not met because the flanking operator and NP do not bear the same index.

In order to understand why the deletion of **Se** is possible in (10b), we must recall that P, as opposed to N, is not a referential expression and therefore does not bear an index. In a PP, in contrast to an NP, no conflict arises between the index of the pronominal clitic and that of the head because the head of the PP does not bear a referential index. This intuition can be implemented if we assume that when P and NP amalgamate, both in the case of the possessive datives above as well as in cases of pronominal cliticization to P, the index of the NP can percolate upwards and the dominating PP displays the index of an NP embedded within it. Thus, the PP in (10b) can be represented as (13).

(13)

$$
\begin{array}{c}
PP_i \\
\diagup \quad \diagdown \\
P' \qquad NP_i \\
| \qquad \qquad | \\
P+cl_i \qquad [e]_i \\
\diagup \quad \diagdown \\
with \qquad him
\end{array}
$$

It is thus possible to maintain the view that the dative NP's are not NP's but indexed PP's . As such, they may count as antecedents for the purposes of binding.[3]

In 6.6, we shall see that treating the dative phrase as a PP has an additional advantage: It explains why possessor subjects are treated as 'impersonal' by verbal agreement. We shall see that agreement is always with an NP; indexed PP's, though arguments, count as impersonal w.r.t agreement

6.4   The Grammatical Function of the Dative Possessor

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[3]   Left unexplained, however, is the contrast between (i) and (ii) below. Note however, that while (iii) is grammatical, so is (iv), suggesting that there are other factors involved here.

(i)   Xanan siper 1-a$_i$ [$_{PP}$ 'al acma$_i$]
       Xanan told to-her$_i$ about herself$_i$

(ii)   *Xanan diber 'im-a$_i$ [$_{PP}$ 'al acma$_i$]
       Xanan spoke with-her$_i$ about herself$_i$

(iii)   Xanan$_j$ diber 'im-a$_i$ [$_{PP}$ 'al acmo$_j$]
       Xanan$_j$ spoke to-her$_i$ about himself$_j$

(iv)   Xanan$_j$ siper 1-a$_i$ [$_{PP}$ 'al acmo$_j$]
       Xanan$_j$ told to-her$_i$ about himself$_j$

The main thrust of this section is to show that the dative in the possessive construction is an argument of the verb, indeed, that it is the subject of the clause. I will show,

(a)   that the dative is obligatory, an indication that it is an argument which receives a θ-role.

(b)   that it can be co-occur with an internally possessed NP.

(c)   that it shows up in argument positions, specifically, in the clausal subject position.

Consider (14). If the dative in (14) is, indeed, an argument of the verb, one expects it to co-occur with a possessed NP since it's thematic relationship to the possessed NP is mediated by the theta marking verb and it has no access to the internal structure of the possessed NP.

(14) yeS/haya   le-Dani   sefer Sel   Aliza
       be   DAT-Dani   book of   Aliza
       'Dani has Aliza's book'

If the dative possessor, were anything but an argument of the verb, i.e., if it were related directly to the NP as e.g., a possessor internal to the NP, or an adjunct predicate of sorts, it could not co-occur with an NP which has an internal possessor.

The dative which occurs with **yeS** is , moreover, obligatory. The simplest interpretation of this fact is that it is an argument which is θ-marked by the verb.

Consider, now, the fact that the dative can occur preverbally with no stresss intonation typical of a Topic reading. The stress intonation of (15a) is identical to that of (15b), a transitive clause with an agentive subject, which suggests that the dative phrase occupies the subject position rather than a preverbal Topic position. Preverbal themes, as in (15c), are acceptable only under Topic intonation.

(15) a. le-Dani   yeS   sefer
          DAT-Dani   is   book
          'Dani has a book'

      b. Xanan kara sefer
          Xanan read book
          'Hanan read a book'

      c. SEFER, yeS le-Dani
          A BOOK, is DAT-Dani

Mimicking a test for subjecthood proposed in Belletti & Rizzi (1986), note that extraction over a topicalized dative is quite marginal, (16a), (17a) while extraction over the possessor dative in (16b), (17b) is far more natural.[4]

---

4   When the verb 'to be/to have' is not followed by phonologcially-overt material, the order [...NP$_{DAT}$ V] is unacceptable, (i).
(i)   *ze ha-sefer Se-le-xanan yeS
       this the-book that-DAT-Xanan is
       'this is the book that Hanan has'
While I have no account for this fact, I think it relates to a similar restriction on existential constructions in English, as shown in the contrast between (ii) and (iii).

(ii)   a man is in the room
(iii) *a man is

(16) a. ??ze ha-sefer Se-le-xanan nata-ti etmol
          this the-book that-to-Xanan gave-1ms yesterday
          'this is the book that to Hanan I gave yesterday'

      b. ze ha-sefer Se-le-xanan yeS ba-bayt
          this the-book that-to-Xanan is at-the-house
          'this is the book that Hanan had at home'

(17) a. ??lo yada-ti ma   le-xanan   nata-ti   etmol
          neg knew-1ms   what DAT-Xanan gave-1ms   yesterday
          'I didnt know what, to Hanan, did I give?'

      b. lo yada-ti   ma le-xanan yeS ba-bayt
          neg knew-1ms   what DAT-Xanan is in-the-house
          'I didnt know what Hanan has at home?'

Note, now, that (16,17b), while certainly better than (16,17a), are still not perfect. (16,17b) are somewhat degraded in comparison with sentences where the le-phrase appears to the right of the verb **yeS**, i.e., inside VP, as in (18) below.

(18) a. lo yada-ti   ma yeS le-xanan ba-bayt
          neg knew-1ms   what is DAT-Xanan in-the-house

      b. ze ha-sefer Se-yeS le-xanan ba-bayt
   *this the-book that-is to-Xanan at-the-house*

Suppose, then, that the dative phrase in (16,17b) is not, in fact, in the subject position, as but in Topic position, adjoined to IP (cf. Stowell (1981).) We may then try to explain the difference between (16,17a) and (16,17b) in

the following terms. (I am grateful to R. Kayne for pointing this out to me this idea which is due originally to J. Frampton.)

The basic difference between (16,17a) and (16,17b) is that in (16,17a) both the Topicalized and the wh-moved element originate in VP while in (16,17b), the dative PP is Topicalized from the clausal subject position, to which it is previously (A)-moved from inside VP. (16,17a) involve Topicalization (i.e, adjunction to IP) and **wh**-movement from inside VP while in (16,17b) there is only **wh**-movement from inside VP and Topicalization proceeds from the subject position.

Let us see how a 'Barriers' type approach can be made to account for the gradation in acceptability discernable in these sentences. Consider, first, the phrase marker in (19), which corresponds to the (b) examples in (16) and (17). Let us follow Belletti & Rizzi (1986: ft.27) in assuming that the defective character of IP, its incapacity to be an inherent barrier, holds only when IP is monosegmental. When an element is adjoined to IP, IP is no longer defective. Thus, movement of NP_j over IP in (19) crosses a single barrier, IP. This produces a mild 'single barrier' violation, accounting for the contrast between (16,17b) and the sentences in (18) where no Topicalization has taken place.

(19)
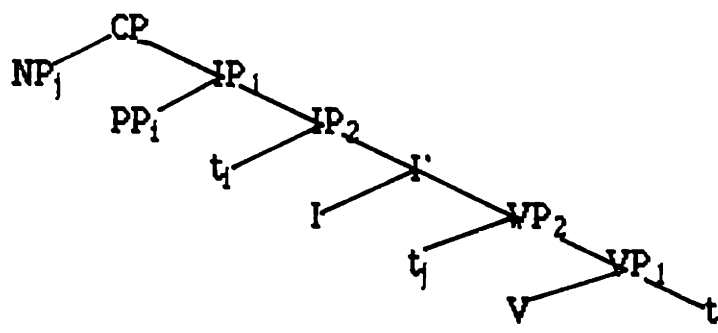
Consider, now, (20), which corresponds to the more deviant (16,17). Movement of NP_j across the Topicalized PP_i again crosses the weak barrier formed by the bi-segmental IP. Yet the degraded character of (16,17a) suggests that an additional barrier is crossed.

(20)
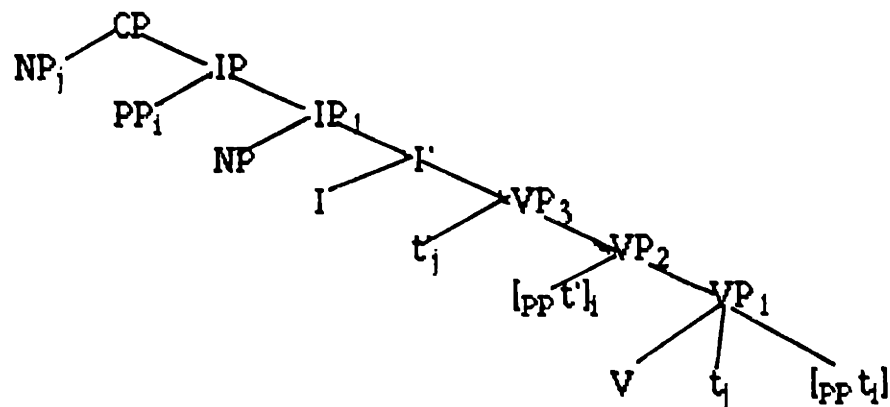
The obvious place to look for the additional violation is in the multiple extraction from VP. Consider the VP in (20) closely. It differs from the VP in (19), in having three segments. Moreover, each extraction path, that of NP_i and that of PP_i crosses one segment of VP which does not immediately dominate it. One might suppose that a segment of a category acts as a barrier for elements which are not excluded by the category of which it is a segment and which it doesn't immediately dominate.[5]

Crossing of a single barrier produces only mild ill-formedness, the sensitivity to which is rather variable among speakers. Yet even speakers who find (16,17b) marginal, sense a clear contrast between those sentences and those in (16,17a), where two barriers are crossed. The contrast is accounted for under the hypothesis that segments participate in the calculation of barriers in the manner discussed.

Note, moreover, that even (16,17a) are not as bad as, say, 2-barrier violations in English wh-movement. In the latter case, the barriers crossed are all maximal projections while the barriers crossed in (16,17a) are

---

5   One might consider relating the barrierhood of a bi-segmental IP and the case of multiple extraction from VP. Suppose that in both cases a segment may inherit barrierhood from some categorial projection which is in some sense defective. In the case of VP, the category does not dominate an adjoined trace, (since not every segment of it does,) while IP is defective in some other sense. But in both cases, a higher segment can inherit barrierhood from lower segments w.r.t an element which it doesn't immediately dominate. In (20), then, VP_3 is a barrier for PP_i by inheritance from the set {VP_2, VP_1}. Likewise, VP_2 is a barrier for t'_j, since it doesn't immediately dominate t_j. In (19), IP_1 inherits barrierhood from IP_2 w.r.t trace adjoined to VP.

segments. As Belletti & Rizzi speculate, it seems natural that a barrier yields a stronger violation when it is a category than when it is a segment.

Returning to the main topic of discussion, note that this array of facts again suggests that the le-NP in (16,17b) but not in (16,17a), while perhaps not in the actual subject position at S-structure, (or PF), nevertheless moves through that position in the course of its Topicalization.

6.5   The Status of the Possessed NP

The following set of examples demonstrate that the theme NP patterns like an object and not like a subject under LF extraction. The sentences in (21) illustrate a typical superiority paradigm: An object wh-word but not a subject can remain in-situ. If ma in (22b) were subject-like, (22b) should be wellformed, like (21a). The fact that it is illformed, shows ma in (22) is an object.

(21)   a. ma_1 meziz ma_2?
             what moves what

       b.   *ma_2 ma_1 meziz?

(22)   a.   le-mi yeS ma
             DAT-who has what

       b.   *ma le-mi yeS   or   *ma yeS le-mi[6]

---

[6]   See ft. 4 above.

Consider, now, the fact that the possessed NP, the theme, is marked with accusative Case, as indicated by the obligatory presence of the particle et when it is definite.

(23) a.   yeS 1-i et ha-banana
               is to-me acc the banana
               'I have this banana'

       b.   le-Dani yeS et ha-sefer ha-ze
               DAT-Dani is acc the-book the-this
               'Dani has this book'

A pronominal theme in a possessive construction always appears in the accusative form of the pronoun, never in its nominative form.

(24) a.   yeS 1-i oto
               is to-me it-ACC
               'I have it'

       b.   *yeS 1-i hu
               is to-me it-NOM

Moreover, the theme may not be moved into the subject position, (25a). Even when et does not appear, i.e., when the theme is indefinite, it may still not raise into the subject position, (25b). The sentences in (25) are acceptable only when the fronted theme is stresssed. The fronted theme does not trigger agreement on the verb, which remains third person singular even though the NP in question, **bananas** is feminine plural.

(25) a.   *et ha-banana yeS le-xanan
              acc the-banana is DAT-Xanan

       b.   *banana yeS le-xanan

Note, also, that extraction across the fronted theme is marginally unacceptable, (26), providing further evidence that it is adjoined to IP and not in subject position. (26) should be contrasted with an example such as (27), where the possessed NP is extracted over the possessor, as in (17b) above.

(26) a. ??le-eize yeled lo xaSav-ti   Se-et ha-ca'acu'a
         DAT-which child neg thought-1ms   that acc the-toy

         ha-ze yeS kvar harbe zman
         the-this   is already long time

         'to which child didn't I know that these toys belong (to him)
         already for a while'

     b. ??le-eize yeled lo xaSav-ti   Se-harbe ca'acu'im   yeS
         DAT-which child neg thought-1ms   that many toys   is

         kvar harbe zman
         already long time

         'to which child didn't I know that many toys belong (to him)
         already for a while'

(27) eize ca'acu'a lo xaSav-ti   Se-le-xanan yeS kvar harbe zman
     which toy neg thought-1ms that-DAT-Xanan is already long time
     'which toy didn't I think that Hanan has already a long time'

On the basis of the evidence surveyed in this section, the following statements appear to be true.

(a) The dative in the possessive construction is the subject of the construction.

(b)   The possessed NP or theme is the object of the construction.

We must still ascertain whether the possessive dative is an internal or an external argument. Put differently, is it an underlying object of *yeS* or a subject? The question is of particular importance since the dative NP may freely occur either to the left or to the right of the verb, as shown in (28), (modulo the discussion in ft.4 above.)

(28) a.   yeS/haya le-Dani sefer
            be/was DAT-Dani book

      b.   le-Dani yeS/haya sefer
            DAT-Dani be/was book

Recalling the discussion in Ch.4, verb-initial clauses are restricted, in Hebrew, to unaccusative verbs and a small class of 'presentational' unergative predicates. Suppose that the possessive dative is an underlying subject, moved rightwards and adjoined to VP in (28a). Even if we put aside the obvious word order problem, such a derivation implies that dative Case can be assigned directly to a subject. However, there is no evidence whatsoever that INFL in Hebrew is capable of assigning dative Case. Moreover, dative is an inherent Case, linked to a θ-role. Inherently Case-marked objects, for example, receive their Case from V which assigns them a theta role. But w.r.t. clausal subjects , Case and θ-assignment bifurcate: A clausal subject is theta-marked by V or VP and Case marked by INFL. Thus, allowing dative subjects to be generated in the subject position means divorcing inherent Case from θ-role assignment, which results in the loss of some explanatory power w.r.t the behavior of inherently Case-marked NP's in e.g. NP's. (See Chomsky (1986a) for discussion.)

Furthermore, if the possessive dative is not an NP, but really a PP, the grammar of Hebrew must be set so as to allow PP's to be base-generated as subjects and the natural question to ask, then, is why Hebrew does not display an abundance of PP subjects.

But there is also direct empirical evidence that the D-structure position of the dative phrase is, indeed, in the VP and not in the subject position. The evidence is that pronominal possessive datives pattern like subcategorized benefactive datives in obligatorily cliticizing onto the verb.

When a dative NP is pronominal in Hebrew, it is obligatorily a clitic, (Borer (1983)). We can convince ourselves of that by considering the data in (29) and (30). Whereas the order of the direct and indirect objects in the double object (dative) construction in Hebrew is free, although preference is given to the order V NP_{DAT} NP_{ACC}, (29a), the dative object, by contrast, must appear adjacent to the verb when it is pronominal, (30).

(29) a.   Xanan natan le-Aliza neSika
            Xanan gave to-Aliza kiss

      b.   ?Xanan natan neSika le-Aliza
            Xanan gave kiss to-Aliza

(30) a.   Xanan natan 1-a neSika
            Xanan gave to-her kiss

      b.   *Xanan natan neSika 1-a
            Xanan gave kiss to-her

The clitic nature of a pronominal dative is preserved in the possessive construction, as evidenced by the impossibility of inserting an adverb between the verb and the dative possessor in (31).[7]

(31) a. *yeS tamid   1-o   tapuxim
          is *always* *Dat-him* *apples*'
          'he always has apples'

    b.   yeS 1-o tamid tapuxim

---

[7] More generally, the possessive datives differ from the benefactive ones in disallowing altogether the order where the theme in adjacent to the verb, i.e., V NP$_{theme}$PP$_{dative}$ Thus, the equivalent of (29b) in the possessive construction is much worse,

(i) ??yeS tapuxim le-Dani
     is apples to-Dani
     'Dani has apples'

This difference is, perhaps, due to the fact that the possessive dative is base-generated as a left sister to V', i.e. in a VP such as (ii), while in the double object construction it is in a complement small clause, (iii).

(ii) [$_{VP}$ le-Dani [$_{V'}$ yeS tapuxim]]
(iii) [$_{VP}$[$_{V'}$ natan [$_{S}$ le-Dani tapuxim]]]

The surface order of constituents in the possessive construction, (ii), is derived by movement of the verb leftwards into INFL.

Note, also, that although (iv) is acceptable when the adverb is focalized, (v) remains unacceptable even under focal stress.

(iv) yeS tamid le-DANI tapuxim
      is always DAT-Dani apples
      'Dani always has apples'

(v)   *yeS tamid 1-0 tapuxim

It would be rather marked if the le-phrase were to cliticize onto the verb from the subject position. A more reasonable view is that it is internal to VP at D-structure, and it is from the VP-internal position that it may cliticize onto V.

Let us, then, assume that the possessive dative is an internal argument of yeS. The verb yeS is an unaccusative verb ... it takes a direct object and does not assign a θ-role to it's subject. it does, however, assign accusative Case and thus counterexemplifies Burzio's claim that the principle (32) is a linguistic universal, (as noted by Borer (1983), Doron (1983).)

(32) A verb (with an object) Case-marks it's object if and only if it θ-marks its subject

6.6 Accusative Objects in Locative Constructions

A number of linguists have discussed the fact that accusative Case is assigned to the theme not only of possessive constructions, but also to the theme of locative sentences, as shown in (33).[6]

(33) a.   yeS et ha-sefer   ha-ze / oto ba-sifriya   ha-leumit
           be acc the-book   the-this / it in-the -library   the-national
           'this book/it is (to be found) in the national library'

     b.   yeS et ha-meilim ha-elu /otam   be-kol xanut
           be acc the-coats the-these /them   in-every store
           'these coats/they are (to be found) in every store'

     c.   yeS et ha-mexonit   ha-zot / ota   ecel kol
           be acc the-car-fem   the-this-fem / it-fem   chez every

           soxen ba-arec
           agent in-the country
           'this car/it is (to be found) chez every dealer in the country'

These sentences share the structure given in (34).

(34) yeS   et NP locative PP

Note, first, that the theme NP must appear with et when it is definite, hence the ungrammaticality of (35).

(35) a.   *yeS ha-sefer ha-ze   ba-sifriya   ha-leumit
           is   the-book the-this   in-the -library   the-national

     b.   *yeS ha-meilim ha-elu   be-kol xanut
           is   the-coats the-these   in-every store

---

[6]   See, for example Borer (1984), Doron (1983), Hermon (1984) Ziv (1976), (1982a,b).

c. *yeS ha-mexonit   ha-zot   ecel kol soxen
    is the-car-fem   the-this-fem   chez every agent

The ungrammaticality of (35) is due to the fact that **yeS** in these sentences assigns accusative Case to it's theme object just as it does in the possessive construction examined above.

Unlike the possessive construction, however, the theme NP in these locative sentences may be fronted into the clausal subject position, as in (36) below.

(36) a.   ha-sefer ha-ze   yeS-no ba-sifriya   ha-leumit
           the-book the-this is-3ms in-the-library   the-national
           'this book is (=can be found) in the national library'

      b.   ha-meilim ha-elu   yeS-nam   be-kol xanut
           the-coats the-these   is-3pl   in-every store
           'these coats can be found in every store'

      c.   ha-mexonit   ha-zot   yeS-na ecel kol   soxen
           the-car-fem the-this-fem   is-3fs chez every dealer
           'this car can be found chez every dealer'

Two properties characterize **yeS**-sentences in which the theme is fronted: The accusative marker **et** is absent and an agreement suffix appears on the verbal element **yeS**. Let us assume, on the basis of these two properties, that the fronted theme in (36) is nominative.
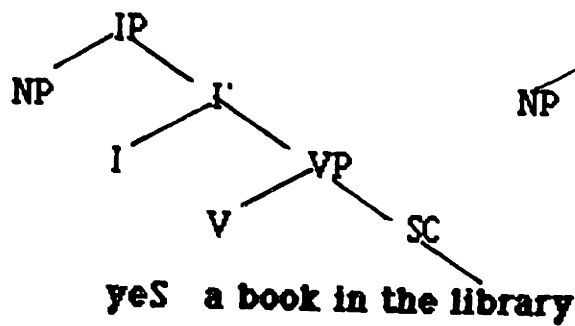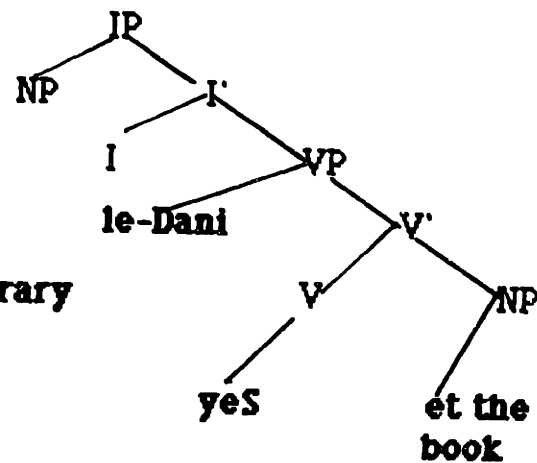
The sentences in (36) should be compared to possessive sentences, i.e., to (37), where fronting the theme NP is unacceptable, with or without overt agreement, a fact we noted w.r.t the examples in (25).

(37) a. *ha-sefer ha-ze yeS le-Dani

b. *ha-sefer ha-ze yeS-no le-Dani

Descriptively, then, the possessive construction differs from the locative one in that in the former, **yeS** assigns accusative Case to its object obligatorily and, moreover, takes a dative-marked possessor as it's subject. In the locative construction, on the other hand, **yeS** is ambiguous: It may pattern like the possessive **yeS**, taking an accusative object and- as we shall shortly see- a locative subject, or it may behave like an unaccusative verb taking a single theme complement, which appears in the subject position and triggers agreement.

This ambiguity in the status of **yeS** correlates with an ambiguity in its meaning or use: It assumes the semantic role of both 'have ' and 'be' and may be used to denote possession as well as existence. Let us take the correlation of these two sorts of ambiguities literally: Assume that in its possesssive use, **yeS** is indeed like 'have', that is, a verb which assigns accusative Case, as in 'John has the book' while in it's existential/locative function, it is, like 'be', an unaccusative verb, as in 'John is in the room' or 'there is a man in the room'.

Let us, then, suppose, that in it's existential guise, **yeS** takes a small clause complement, to which it assigns a single θ-role. The possessive **yeS**, on the other hand, is a two-argument verb. The putative structures are given in (38). I propose that the dative NP in the possessive construction appears as a left sister to V'. (cf. also ft. 7 above, p249) The correct order of the two arguments, $NP_{DAT} NP_{ACC}$ is derived when **yeS** fronts to I.

(38) **Existential yeS**   **Possessive yeS**

```
        IP                              IP
      /  \                            /   \
    NP     I'                       NP      I'
          /  \                            /   \
        I     VP                        I       VP
             /  \                     le-Dani     \
            V     SC                                V'
                                                  /   \
        yeS   a book in the library             V     NP
                                               /        \
                                             yeS      et the
                                                      book
```

We have seen that in the possessive construction, **yeS** is unamibguously 'have': The theme is accusative and the possessor is the clausal subject. The difference between the Hebrew 'have' and 'have' in, say, English or Romance, is that in the latter cases, the possessor is nominative while in Hebrew it is assigned an inherent dative Case. This difference, however, is superficial in nature since both in Hebrew and in English/Romance the possessor NP is a member of a nominative Chain. In Romance, there are no dative possessor subjects although there are dative experiencer subjects in the class of psych-verb constructions exemplified by the Italian verb **piacere**, for instance. Furthermore, dative (quirky) subjects are quite common in many languages, (e.g., Icelandic).9

But let us return, now, to the 'have/be' alternation observed in the locative sentences in (33) and (36). Consider, first, the 'have'-type sentences, (33).

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9   Gueron (1987) argues, in fact, that French **avoir** and English **have** have phonologcally unexpressed dative possessor subjects, making those verbs even closer to the Hebrew construction under examination.

The theme, we see, is marked accusative and therefore cannot be a member of the nominative chain, that is, it cannot be the NP replacing the null expletive in LF.

(39) a. *et ha-sefer ha-ze yeS   ba-sifriya   ha-leumit
   the-book the-this is   in-the-library   the-national

b. *et ha-meilim ha-elu   yeS be-kol xanut
   the-costs the-these   is   in-every store

c. *et ha-mexonit   ha-zot   yeS ecel kol   soxen
   the-car-fem the-this-fem   is   chez every dealer

Furthermore, we see in (40) that it cannot appear in the subject position altogether, (unless, of course, **yeS** is inflected, as in (36) above. There, however, **yeS** appears in its existential guise and the theme is nominative.) Note that it is Case and not definiteness which is relevant here, since even an indefinite theme, i.e. one which does not require marking with **et**, is systematically barred from the clausal subject position.

(40) a. *sefer ka-ze yeS   ba-sifriya   ha-leumit
   book like-this is   in-the-library   the-national

b. *meilim ka-elu   yeS be-kol xanut
   costs like-these   is   in-every store

c. *mexonit   ka-zot   yeS ecel kol   soxen
   car-fem   like-his-fem is   chez every dealer

If the theme is not the subject, it behooves us to ask whether the locative PP can assume the subject position. Since clauses require subjects, something must be associated with that position.

Interestingly, the range of PP's which can co-occur with an accusative theme is rather restricted, (41).

(41) yeS et ha-sefer ha-ze   ba-xanut   *in-the store*
      is acc the-book the-this ecel Dani   *chez Dani*
                                 *'al ha-madaf   *on the-shelf*
                                 *mi-taxat la-Sulxan *under the-table*
                                 *ba-aron   *in-the cupboard*

Contrast (41) with (42), where an indefinite theme can co-occur with the entire range of PP's. Let us assume that in (42), **yeS** appears in its existential gown, so that the theme is coindexed with the subject position. To avoid confusion, let us put off the question of why **yeS** in (42) is uninflected, as compared with the sentences in (36) above, which were given as the paradigm cases for the existential **yeS**.

(42) yeS sefer   ba-xanut   *in-the store*
      is book   ecel Dani   *chez Dani*
                    'al ha-madaf   *on the-shelf*
                    mi-taxat la-Sulxan *under the-table*
                    ba-aron   *in-the-cupboard*

The generalization which seems to be lurking here, as pointed out to me by R. Kayne, (p.c.), is that felicitous matching of accsuative themes with locative PP's is modelled after the possessive construction: The acceptable PP's are those which denote some sense of possession and are not 'purely' locative. Thus, the book's being in the library or at the agents' implies that the library or the agent are not merely places where the book may be found, but also institutions that 'possess' the book in some sense. These cases contrast with the PP's 'on the shelf' and 'under the table' which simply indicate a place.

Ziv (1982a,b) notes that (43a) is grammatical, an indication that the theme is interpreted as non-specific, non-unique. Relevant to our discussion, is her observation that (43a) is inconsistent with a locative reading. It is, however, perfectly consistent with a possessive reading. Another example which makes the same point was suggested to me by A. Marantz (p.c.)

(43) a.   yeS et ha-sefer ha-ze   ba-sifriya   be-SloSa otakim
         is acc the-book the this in-the-library in-three copies
         'this book is in the library in three copies'

    b.   be-derex klal   yeS et ha-sefer ha-ze ba-sifriya   aval
          usually   *is acc the book the this in-the-library but*

            ha-yom be-mikre ein oto   ki   Xanan   Sa'al oto.
            the-day by chance neg is it   *because Xanan borrowed it*

            'this book is generally in the library but today, by chance, it isn't here because Hanan borrowed it.'

Suppose, then, that the locative construction where the theme NP is accusative mimicks the possessive construction, and where a dative possessor subject is fully grammatical, a locative one is acceptable to the degree that it can be interpreted as a possessor.

Note that it is not the mere occurence of the prepositions **be** (='in') or **ecel** (='chez') which serves to license accusative themes. Rather, these prepositions more readily admit of a quasi-possessor interpretation than other prepositions. In (44a), for example, the accusative NP cannot co-occur with the preposition **be**, since the relation of 'children' to 'school' is not one of possession. Contrast (44a) with (44b), which is acceptable precisely

because 'blackboards', as opposed to 'children', can be possessed by a school.[10]

(44) a.   *yeS et ha-yeladim ha-ele be-xol betsefer
            is acc the-children the-these in-every school

     b.   yeS et ha-luxot ha-ele be-xol betsefer
           is acc the-blackboards the-these in-every school

In 6.3 above, I argued that the dative possessors should be analyzed as indexed PP's rather than as dative Case marked NP's. The possessor-like locative PP's which assume the role of subjects, however, are more like genuine PP's than indexed ones, since e.g., **ecel** (='chez'), does not have clitic properties. In this repsect the locative PP's differ from the possessive dative PP's.

They are similar, though, in a different sense. They are both subcategorized by a verb and occupy a slot in the verb's thematic grid. We may assume, then, that locative PP's may assume a referential index in virtue of their being subacategorized for.

6.7   Impersonal Agreement with a Dative Subject

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[10]   The notion 'possessor' is perhaps not the precise one, given the fact that an accusative theme can also co-occur with e.g. **beyn** (='in between'), (i).

   (i)   yeS et ha-sefer ha-ze beyn   ha-encykolpediot
          is acc the-book the-this in between   the-encyclopaedias

Clearly, a more refined notion that 'possession' is called for. Perhaps the relation should be characterized as 'belonging' or 'appertaining to'.

A question left unanswered so far is why the dative PP does not agree with the verb. Whereas Doron (1983) claimed that *yeS* is a "bare V" which does not bear any agreement, I would like to argue that *yeS* bears 'impersonal' agreement in relation to it's dative subject. The third person singular agreement which is characteristic of the possessive construction can be taken to be another instance of the 'impersonal' agreeement discussed in Chapter 5. There, to recall, it was shown that subjects which are not, strictly speaking, personal, trigger third person singular 'impersonal' agreement. It seems quite reasonable, then, to assimilate dative PP's into this class, which includes non or quasi-argumental NP subjects and subjects which are not NP's (e.g., clauses, PP's.) Although dative PP's are indexed by percolation from the NP embedded within them, 6.5, we must assume that the categorial nature of the subject, i.e. the fact that it is PP, albeit an indexed PP, counts for agreement. This implies that the feature [+person] is, in and of itself, insufficient to trigger personal agreement. In addition, personal agreement can only be manifested when the subject is an NP.

Impersonal agreement with verbs other than *yeS*, however, is third person singular whereas *yeS* appears stripped of any ϕ-features. In Ch.5, a distinction was drawn between agreement features, (ϕ-features) and the feature [person]. It was argued that whereas distinctive specification of ϕ-features is indeed a necessary condition for argumental **pro**-drop, it is not sufficient; the person marker must be specified as [+ person] if **pro**-drop is to be licit. Impersonal subjects, we saw, are specified as third person singular. In some sense, however, any specification of ϕ-features for an impersonal subject is redundant since impersonal subjects do not require specification of person, number or gender. Let us suppose that these

features are present on verbs with impersonal subjects simply because the
Hebrew verbal morphology does not have uninflected tensed verb forms.
But from the point of view of the agreement, those features are entirely
redundant. The verb yeS differs from other verbs in that it has an
uninflected finite form and can thus support an impersonal subject even in
the absence of overt φ-features.

The fact that yeS does not display any overt agreement with it's subject may
erroneously be taken to be an indication that clauses with impersonal
subjects have no INFL node. I will assume that clauses with yeS are regular
clauses which contain an INFL node, although INFL may be stripped of φ-
features. This INFL node, although empty of φ-features is, nonetheless,
capable of assigning nominative Case to the subject position. This is perhaps
why it tolerates a dative (PP) subject. The presence of INFL and the
assignment of nominative Case should, thus, be seen as independent of
verbal agreement.

Although I will have more to say on this matter shortly, note that if the PP
subject of yeS constructions is base-generated inside VP and then optionally
raised into [SPEC/IP], movement of yeS into I is also necessary in order for a
proper chain to to be formed so that the empty category left by movement
of the possessor into the subject position be properly governed.

We have seen that yeS can take PP subjects. However, it would not be
surprising if it co-occurred with other types of impersonal subjects. This
excpectation is borne out, as noted by Doron (op. cit:193). In (45a) below,

yeS occurs with a null arbitrary subject and in (45b) the subject is a null expletive coindexed with a clausal argument.

(45) a. yeS lixtov xibur
          to write essay
          'One must write an essay'

     b. yeS Se-haSamayim mit'anenim
          that-the sky cloud-up
          'Sometimes, the sky clouds up'

6.8 pro-Drop in Possesssive yeS-Constructions

It is interesting, at this juncture, to look more closely at pro-drop in the possessive construction. (46a) is acceptable only with the interpretation that there is some unspecified possessor: It is unacceptable as an existential assertion, minimally contrasting with (46b), where both the existential and the possessive readings are available. The superficial difference between (46a) and (46b) is in the definiteness of the theme. This superficial difference masks a deeper one, namely, that in (46b), the theme, which is indefinite, must be associated with the nominative chain since there is no other element in the clause which could assume the subject position. Consequently, the theme NP is parsed as the surface subject of the clause.

(46) a. yeS et ha-sefer ha-ze
          is acc the-book the this

     b. yeS sefer ka-ze
          is book such
          'there is such a book'

Consider, now, the case of (46a). If the theme in (46a) is construed as part of the nominative chain, i.e., if the S-structure of (46a) is taken to be (47a), we would have a chain marked for Case twice: For accusative at it's tail and for nominative at its head. Since doubly Case marked chains violate the Chain Condition, (47a) cannot be the right structure for (46a). Rather, there must be 2 chains in (46a), as shown in (47b): **pro** is not chain coindexed with anything in the clause and is interpreted as a null subject, a null possessor.

(47) a.   **pro**$_i$ yeS [et this book]$_i$

      b.   **pro**$_i$ yeS [et this book]$_j$

(46b), on the other hand, is potentially ambiguous: since the theme is indefinite and bears no overt mark of accusativity, it could be construed as part of a nominative chain. Such a structure underlies the existential interpretation of (46b). Alternatively, (46b) may be assigned the same structure as (46a), yielding the null possessor reading.

The lack of specificity associated with the null possessor is due to the fact that the relevant notion of 'possession' ranges over a certain subclass of locative/possessive relations which admit of possession by inanimate objects. Perhaps, then, the non-specificity of the null possessor is due to the fact that it may be interpreted as inanimate, blurring somewhat our distinction between 'possession' and 'existence'. The fact that **pro**-drop is possible in this construction provides further evidence that the type of identification or retrieval of impersonal subjects differs from that of personal subjects.

This concludes our discussion of the possessive yeS in Hebrew. I turn now to some properties of the existential yeS.

6.9 Existential yeS

In the paradigm examples of the existential yeS construction, the theme, i.e. the non-locative element, appears preverbally and agrees with the inflected yeS. I repeat the sentences of (36) above in (48), for convenience.

(48) a. ha-sefer ha-ze yeS-no ba-sifriya ha-leumit
          the-book the-this is-3ms in-the-library the-national
          'this book is (=can be found) in the national library'

      b. ha-meilim ha-elu yeS-nam be-kol xanut
          the-coats the-these is-3pl in-every store
          'these coats can be found in every store'

      c. ha-mexonit ha-zot yeS-na ecel kol soxen
          the-car-fem the-this-fem is-3fs chez every dealer
          'this car can be found chez every dealer'

The obligatoriness of the inflectional suffix follows from the fact that the subject of the sentences in (48) is personal and thus must agree with the verb.

Borer (1983) has shown that pro-drop in existential yeS constructions is impossible, contrary to the possessive yeS construction discussed above.

(49) *yeS-na ba-gan
      be-3mf in-the-garden
      'she is in the garden'

\Moreover, long extraction of the subject of an existential **yeS** sentence is deviant, (50a), in contrast to extraction out of a possessive **yeS** sentence, (50b).

(50) a. *eize sefer lo yadata 'im yeS-no 'al ha-madaf
   which book neg knew+2ms if be-3ms on the shelf
   'which book didn't you know whether is on the shlef'

   b. eize sefer lo yadata 'im yeS ba-sifriya
   which book neg knew+2ms if be in-the-library
   'which book didn't you know if (it) is in the library'

The existential **yeS** construction thus recreates the pattern already observed with personal subjects of other verbs in Hebrew.

6.10 The Inflectional Suffixes: Subject clitics or AGR?

Borer (1983) analyzes the agreement suffixes in (48) as clitics properly governing the empty object position. In her system, **yeS** is not a proper governor. Hence, when the D-structure object is fronted into the subject position, a clitic must be generated on the verb in order to satisfy the ECP.

At the same time, however, these suffixes pattern like markers of agreement. But in Borer's system the combination of these two properties yields a paradox: As clitics, these suffixes absorb Case but as agreement markers, they must assign it.

This situation is reminiscent of several North Italian dialects in which alleged subject clitics may co-occur with referential subjects. Although I

have little to add to the discussion of subject clitics in these dialects I would like to claim that the suffixes in Hebrew *yeS* constructions are agreement markers and not clitics. Of course, I am now burdened with the task of accounting for the extractability of the object that Borer's system captures with the assumption that the suffixes in question are, indeed, clitics.

Recall that the version of the ECP adopted in this work considers this principle to be a well-formedness condition on chains. Stated simply, links in a chain must each be antecedent-governed. Thus, even if *yeS* itself were a proper governor, (cf, Ritter (1985),) the antecedent government requirement would still need to be satisfied.

Suppose, as we have throughout this thesis, that this requirement is met in passive and Raising by the formation of a chain whose members are [SPEC/IP], I, V and the empty category in the object position. The first two links are established in virtue of the coindexing of I and [SPEC/IP]. I and V are co-indexed by V-raising into I while the verb and the e.c. are coindexed since V governs the e.c. Seen in these terms, Borer's paradox disappears, since proper government of the empty category, under this approach, does not require a clitic but rather a 'complex' chain which includes AGR. We can, thus, conclude that the suffixes in (46) are, indeed, agreement markers.

Recall, now, that in the possessive *yeS* construction, the possessive dative may be raised into subject position, as in (51) below. But in (51), *yeS* bears no overt agreement, so how is the ECP satisfied?

(51)   le-xana yeS et ha-sefer

In 6.6, to recall, I argued that the subject of **yeS** in e.g., (51) is impersonal, in the sense of Ch.5. As such, it does not possess ϕ-features and does not trigger agreement. However, **yeS** may still move into I, there may and, in fact, probably must still be an INFL node assigning nominative Case to the chain headed by the dative element. Put differently, a stipulation to the effect that **yeS** <u>does not</u> move into INFL would be entirely unprincipled. Thus, it must be assumed that **yeS** may always move into INFL, even when INFL bears no features.

To underscore, movement of **yeS** into I is independent of the presence of overt ϕ-features; those, I believe, are required only by the presence in the subject position of an NP which bears ϕ-features itself .

6.11 Hebrew as a North Italian Dialect

In 6.6 above, I argued that a locative PP can be interpreted as a clausal subject of a possessive **yeS** to the degree that it can mimic the semantics of possession or of 'belonging to'. Such a state of affairs arises when the theme is definite and hence barred from being a postverbal subject. I noted that when the theme is indefinite, it can co-occur with the entire range of locative PP's. Being indefinite, the theme can be a postverbal subject and the semantic restrictions on the PP are lifted.   In (52), **yeS** appears in its existential cloak, that is, as an unaccusative verb taking a single complement.

(52) yeS sefer ba-xanut   *in-the store*
  is book   ecel Dani   *chez Dani*
       'al ha-madaf   *on the-shelf*
       mi-taxat la-Sulxan *under the-table*
       ba-kufsa   *in-the-box*

Note, now, that when **yeS** is inflected, it doesnt felicitously admit postverbal subjects. To my ears, and to the ears of a number of speakers I have consulted, inflection on **yeS** in (53) is of mildly reduced acceptability. Other speakers find the contrast between (52) and (53) much stronger and contend that an inflected **yeS** in (53) is clearly marginal. The variation seems to be idiolectal.

(53) yeS-no sefer ba-xanut   *in-the store*
  is-3ms book ecel Dani   *chez Dani*
       'al ha-madaf   *on the-shelf*
       mi-taxat la-Sulxan *under the-table*

Notice, however, that the sentences in (53), where inflection is optional, or marginal, differ in the surface order of **yeS** and the theme from those in (48) above, where inflection is obligatory. In the latter, the theme is preverbal, in the former it is postverbal. This state of affairs is reminiscent of the situation in the North Italian dialects, where the distribution of overt agreement markers (the alleged 'subject clitics') is rather arbitrary among the different dialects.[11] Leaving this matter for future research, I merely note that, on the basis of the North Italian facts, it is not surprising that the acceptability of agreement with postverbal subjects of **yeS** is subject to variation.

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[11] See Brandi and Cordin (1986), Safir (1985), Rizzi (1985) for discussion of these agreement patterns.

6.12 The have/be Alternation: An Interim Summary

If, indeed, postverbal subjects of existential **yeS** do not (obligatorily) trigger agreement on the verb, sentences like (54) below, which I analyzed above as instances of the possessive **yeS** - viz. the semantically appropriate PP's- are, in fact, ambiguous: They may also be parsed as instances of the existential **yeS** albeit with phonetically unrealized agreement.

(54) a.   yeS sefer ka-ze   ba-sifriya   ha-leumit
          is book like-this   in-the -library   the-national
          'there is such a book in the national library'

   b.   yeS meilim   ka-elu   be-kol xanut
          is coats   like these   in-every store
          'there are such coats in every store'

   c.   yeS mexonit ka-zot   ecel kol soxen   ba-arec
          is car-fem like this-fem chez every agent   in-the country
          'there is a car like this chez every dealer in the country'

Recall, now, that in our analysis of **there**-constructions in English, we argued that the expletive is replaced by the entire small clause complement of **be**.

Suppose, now, that the existential **yeS** is like **be** in that it's complement is a small clause and that **yeS**, like **be**, may assign its partitive Case either structurally or inherently. Under these assumptions an S-structure such as (55a), can be associated with an LF such as (55b).

(55) a. **S-structure**
pro yeS [$_{SC}$ such a book in the library]

b. **LF**
[$_{SC}$ such a book] in the library]$_i$ **yeS** t$_i$

To sum up the discussion in the last few pages, a sentence like (56) below is derived by moving a VP-internal NP into the subject position, much like in a passive or Raising construction. Agreement in (56) is obligatory.

(56) ha-sefer ha-ze yeS-no ba-sifriya ha-leumit
the-book the-this is-3ms in-the-library the-national
'this book is (=can be found) in the national library'

If the theme NP remains **in situ**, as in (54) above, in the VP it may be assigned two distinct structures. In one of them, **yeS** assigns two θ- roles, the theme is assigned accusative and the locative PP is coindexed with the subject **pro**, (57).

(57) **pro$_i$ yeS** book$_{ACC}$ [$_{PP}$ in the library]$_i$

The other structure, (55), is one where **yeS** is existential and assigns a single θ-role to a small clause complement, which replaces **pro** in LF.

6.13 Stylistic Inversion in yeS Clauses

There is another possible representation for (54) which we have not considered.

(58) **pro$_i$** [$_I$ **yeS** [$_{VP}$ a book$_i$ [$_{VP}$ t$_V$ t$_i$ on the shelf]]]

In (58), yeS has raised into I and the postverbal NP 'a book' is adjoined to VP on the left. In Ch.4, it was shown that in languages such as Hebrew and Spanish, adjunction to the left of VP is the unmarked strategy for subject postposing. Given a string such as (54), however, it is impossible to tell whether adjunction to VP has taken place or whether the postverbal subject is still inside VP. This is so since movement of yeS to INFL renders adjunction of a VP-internal NP to the left of VP string vacuous. In order to 'force' inversion, a definite postverbal subject must be employed. Since definite subjects are, as a rule, barred from the object VP-internal position, unless marked with et, a possibility which is neutralized in (58) by the presence of a PP which does not co-occur felicitously with accusative themes, such a NP generated inside VP would be compelled to adjoin to VP in order to escape the definiteness effect.

In Ch.4, we noted that adjunction to VP is licensed by a trigger such as a fronted adverb. We also noted that a 'heavy' NP can adjoin to VP on the right, also escaping the DE. This is shown for yeS clauses in (59)-(60).

(59) a.   ?me'az etmol, yeS/-nam ha-sfarim ha-elu   'al ha-madaf
            since yesterday, be-ims the-books the-these   *on the-shelf*
            since yesterday these books are on the shelf'

      b.   ?karega yeS-nam Dani ve-MoSe
            now, be-ims Dani and-Moshe
            'Now, there are Dani and moSe'
            (Doron, op. cit. 170)

      c.   ba-khila   ha-israylit kan yeS-na ha-hargaSa......
            in-the-community the-Israeli here be-3fs the-feeling
            'in the Israeli community here there is the feeling......'
            (Tobin (1982) (22); cited in Ritter (op. cit.))

(60) yeS/-no Sam ha-musax haxi tov le-mexoniyot yapaniyot
      be/-3ms the-garage the most good for-cars Japanese
      'there is there the best garage for Japanese cars'

The marginality that some speakers find in sentences like those in (59), as opposed to the naturalness of (60), is due, I think, to the interaction of two factors: First, there is a carryover from the marginality of inflection on yeS when it's subject is postverbal, an indication that in Hebrew, as in, say, Trentino, the restriction on overt agreement is founded on considerations of linear order and not hierarchical order. When yeS is stripped of inflection, however, the marginality remains. This may be due to the fact that inversion in (59) is string vacuous and some sort of parsing mechanism prefers the less marked 'accusative' structure over the more highly marked inverted one, even though the PP 'on the shelf' is semantically inappropriate as a clausal subject. Thus, even though inversion is 'forced' syntactically, speakers still prefer to associate (59) with an accusative structure, albeit an ill-formed one.

This speculation predicts that when adjunction is not string vacuous, it ought to be fine, since the parser would not be faced with a potential ambiguity. Adjunction to VP on the right, which is not string vacuous if there are other elements inside VP, is restricted in Hebrew to 'heavy' NP's and in fact, the DE can be circumvented by right-adjunction more naturally than by left-adjunction, as shown in (60).

6.14 Other Unaccusatives which Assign Accusative Case

The analysis developed so far carries over to a range of sentences discussed in Shoshani (1980) and Borer (1983, 1986). Consider the following paradigms. The verbs in (61)-(63), pattern like the locative **yeS** sentences we have just examined, in giving rise to three possible representations.

(61) a.   hayta ktuva   yedi'a   xaSuva   ba-'iton
          was written-f   message-f important-f   in-the-paper
          'An important message was written in the paper'

     b.   yedi'a xaSuva   hayta ktuva   ba-'iton
          message important was -f written-f in-the-paper
          Same as (61a).)

     c.   haya katuv   'et ha-yedi'a   ha-zot ba'-iton
          was written-m   acc the-message the-this-f in-the-paper
          'This message wa written in the paper'

(62) a.   meforatim harbe dvarim   ba-karoz   ha-ze
          specified many things-m-pl   in-the-leaflet the-this
          'Many things are specified in this leaflet'

     b.   harbe dvarim   meforatim ba-karoz   ha-ze
          many things-m-pl specified in-the-leaflet the-this
          (same as (62a))

     c.   meforat 'et   ha-dvarim ha-'ele   ba-karoz ha-ze
          specified acc the things the-these   in-the-leaflet
          'These things are specified in this leaflet'

(63) a.   karta   l-i   te'una   xamura ba-derex
          happened-f DAT-me accident-f serious-f on-the-way
          'I had a serious accident on the way'

     b.   te'una   xamura karta   l-i   ba-derex
          accident-f   serious-f happened-f   DAT-me on-the-way
          (same as (63a).)

c.　kara　　　1-i　　　　kvar 'et　　ha-te'una　ha-zot
happened-ms DAT-me　already acc the-accident-f the-this-f

kodem
before

'I already had this accident before'

In the (a) sentences in (61)-(63), the subject position is null at S-structure and the verb, being unaccusative, assigns it no θ-role. The (a) examples thus illustrate typical unaccusative configurations with a postverbal (VP-internal) subject. The LF representation for , say, (61a) is given in (64).

(64)　[NP important message]ᵢ was written tᵢ in-the-paper

Let us assume that the participle 'written' does not share with yeS the property of taking a small clause complement. The PP 'in the paper' is, thus, an adjunct modifying the verb and not a restriction or delimitation of the NP 'important message'.

The (b) sentences exemplify preverbal subjects in unaccusative configurations: The subject is moved from it's VP-internal D-structure position to the [SPEC/IP] position.

Consider, now, the sentences in (61c)-(63c). The verbs assign accusative to the postverbal NP. Agreement, though, is third person singular. These sentences, which are clearly substandard, display the strategy taken by the possessive construction we have examined: These verbs are re-analyzed, in

Borer's terms, as assigners of accusative Case. Yet if the postverbal NP is assigned accusative Case, some other element must be chain-linked with the null expletive in order to avoid a Chain Condition violation. I conjecture that the nominative chain is constructed with 'in the paper' in (61c), 'in the leaflet' in (62c) and the dative PP in (63c) all of which are semantically compatible with the 'quasi-possessor' interpretation discussed above in 6.5. Although I have not been able to locate speakers with native judgments on these sub-stadndard sentences, my conjecture is that there is a significant degradation in acceptability in the (c) sentences, if the 'other element' is an inappropriate quasi-possessor or is missing altogether.[12]

(65) c'. *haya katuv   et ha-yedi'a   ha-zot
           *was written-m   acc the-message   the-this-f

(SilSom)
(the day before yesterday)

'This message was written (the day before yesterday)'

(66) c'. *meforat   'et ha-dvarim   ha-'ele (be-Ses ba-'erev)
           specified acc the things the-these (at six p.m.)
      'These things are specified (at six p.m)'

---

[12]   Shoshani gives several examples which I cannot account for under the hypothesis that the presence of an accusative object requires that some other element be associated with the nominative chain.

(i)   niSbar et ha-kise
       was broken acc the-chair

(ii)   kara et ze etmol
       occured acc this, yesterday

(67) c'.   *kara   kvar   'et ha-teuna   ha-zot
            happened-ms already   acc the-accident-f the-this-f

(kodem)
(before)

'this accident has already occured before'

6.15 The h.y.y Forms

In the preceding discussion, I concentrated on the behavior of the verb **yeS**. In this section, I would like to attend to the **h.y.y** forms in the possessive construction.[13]

Perhaps the most striking difference between these forms and **yeS** lies in the pattern of agreement. In 68), a possessive construction which we analyzed as 'have'-like in that accusative Case is assigned to the theme and the verb agrees with the theme rather than bearing impersonal, i.e., third person masculine singular agreement with the dative possessor.

(68) a.   hay-u   le-Dani sfarim
           were-3m.pl. DAT-Dani books
           'Dani had books'

     b.   hay-ta le-Dani mexonit yafa
           was-3fs DAT-Dani car-f pretty-f
           'Dani had a pretty car'

---

[13]   See Doron (1983), Hermon (1984) for alternative views. The latter work discusses these and other Hebrew facts in a broader, crosslinguistic context and attempts a unified explanation for possessive and experiencer constructions in a number of languages.

Impersonal agreement, that is, third person singular, is possible, but not quite as felicitous.

(69) a. hay-a le-Dani sfarim
   was-3ms DAT-Dani books
   'Dani had books'

  b. hay-a   le-Dani mexonit yafa
    was-3ms   DAT-Dani car-f pretty-f
    'Dani had a pretty car'

Note, moreover, that for many speakers agreement with the theme is possible even when it is definite and appears with et.

(70) a. hay-u   le-Dani et ha-sfarim   ha-elu
    were-3mpl DAT-Dani acc the-books the-these
    'Dani had these books'

  b. hay-ta le-Dani et ha-mexonit ha-zot
    was-3fs DAT-Dani acc the-car-f the-this-f
    'Dani had this car'

Whereas speakers will, without exception, accept (68), that is, permit agreement with an indefinite theme, the acceptability of the sentences in (70) is subject to dialectal variation. For those speakers who reject (70), the verb appears in its 'impersonal' form, as in (71).

(71) a. hay-a le-Dani   et ha-sfarim
    was-3ms DAT-Dani acc the-books the-these

  b. hay-a le-Dani et ha-mexonit ha-zu
    was-3ms DAT-Dani acc the-car-f the-this-f

Let us begin by calling the dialect illustrated in (68) and (71), Dialect A and that of (68) and (70) Dialect B.

Now, as if to complicate matters, speakers of both dialects do not accept sentences in which the theme is in the canonical subject position, that is, they reject (72).

(72)　*sfarim hay-u le-Dani

　　　　*et ha-sfarim hay-u le-Dani

　　　　*et ha-sfarim hay-a le-Dani

W.r.t the **yeS** forms, to recall, we claimed that the possesive **yeS** is unambiguously **have**-like in that it assigns accusative Case and two θ-roles, whereas two distinct representations , i.e. one like **be**, the other like **have**, are associated the existential **yeS**. If we were to pursue the idea that the availability of two distinct representations was carrried over in the **h.y.y** forms into the possessive construction we could not explain why the theme cannot move into the subject position, in contrast to the theme of the existential **yeS**.

In the discussion that follows, I will make the premiss that verbal agreement is always with a subject and propose an analysis in the spirit of Kayne's recent research into past participle agreement in Romance.

Let us hypothesize, on the basis of the unacceptability of (72), that the dative possessor is always the clausal subject and that the null expletive is associated with it and never with the theme.[14] That is to say, we reject an analysis of these cases along the lines which we pursued for the existential/locative sentences for which we claimed that yeS can be either like 'have' or like 'be', allowing either the theme or the possessor to assume the role of the subject.

The examples in (69) as well as those of (71) require no modification of our analysis: **h.y.y**, like **yeS** assigns accusative Case and does not agree with the theme but rather, bears impersonal agreement with the dative possessor.

Since agreement in (68) as well as in (70) is superficially with an object yet is restricted, by hypothesis, to the subject, it must be the case that the theme is a subject in some sense. Suppose, then, that these **h.y.y** sentences are bi-clausal, in the sense that they have two subjects. Consider (73), as a first approximation.
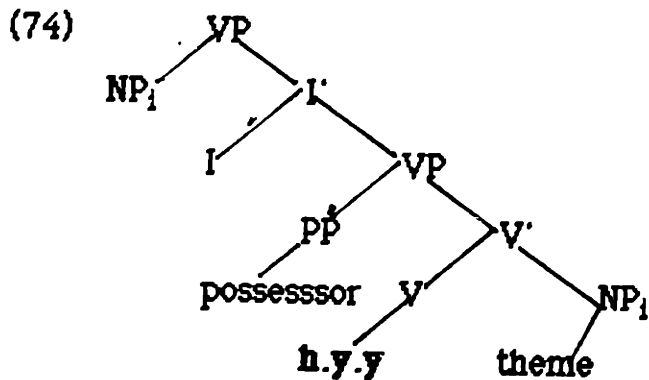
(73)

---
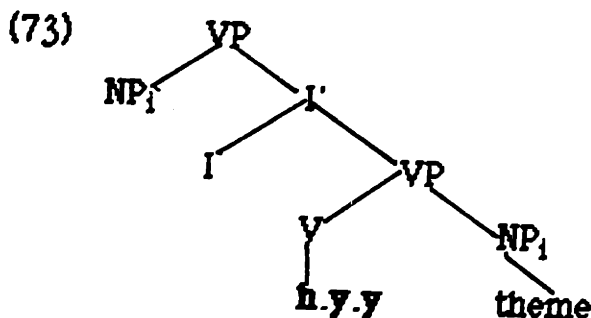
[14]   An alternative would be to allow the theme to be the subject, and reduce the impossibility of (72) to the impossibility of passivization of the object of **have**, as in (i).
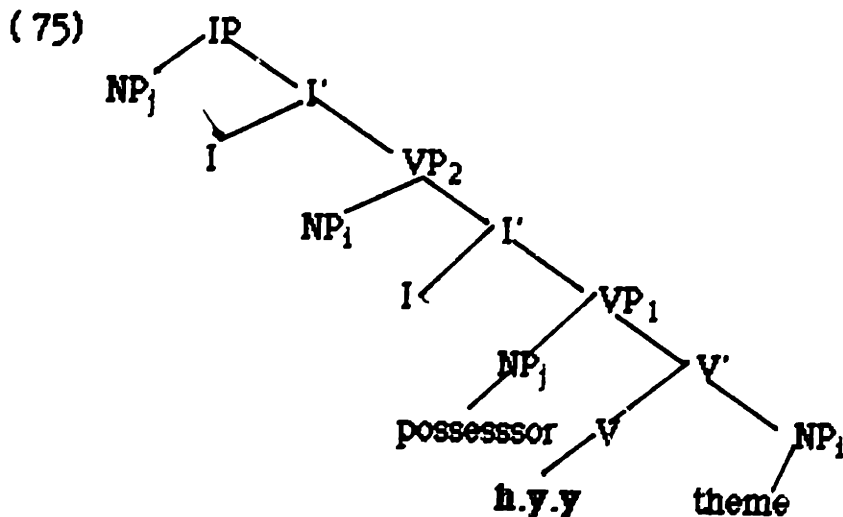(i)   *these books were had by John

I will not pursue this alternative in this work.

h.y.y raises into I in (73) and agreement is, indeed, with the theme which is coindexed with a 'subject' daughter of VP. Now we must ask where the place of the possessor is in this structure. Let us maintain our original assumption that the possessor is generated as sister to V'. Thus, consider (74).

(74)

```
        VP
     /      \
  NP_i       I'
          /      \
        I          VP
                /      \
              PP        V'
           /         /     \
    possesssor      V        NP_i
                    |          |
                  h.y.y      theme
```

The structure in (74) must be augmented, however, since it is only a VP. The clausal subject in (75) below contains an expletive coindexed with the possessor, as required.

(75)

```
        IP
     /      \
  NP_j       I'
          /      \
        I          VP_2
                /       \
             NP_i        I'
                      /      \
                    I          VP_1
                            /       \
                         NP_j         V'
                       /          /      \
               possesssor        V        NP_i
                                 |          |
                               h.y.y      theme
```

Let us consider whether the various chains in (75) are well-formed. **h.y.y** raises, first into the lower I, where agreement with the lower theme subject is established. Then, suppose, it moves up into the higher I. The verb chain is well formed in that it is a subcase of head-to-head movement. The VP's that it crosses become L-marked by the verb's amalgamation with I, in both cases. The difference between the lower I and the higher one is that the higher one is empty and contains no features of agreement, it may be conceived of as a null auxiliary or like an empty COMP in verb-fronting languages.

The possessor must be able to move into the clausal subject position. Let us follow its trail: Since it may not adjoin to any category, it must move directly up into the NP/S position. It first crosses VP_1 which is not a barrier since it is L-marked by V+I, (i.e., when **h.y.y** moves into it.) It then crosses I' which is not a barrier, since it is a single bar projection. The dominating VP, VP_2, is L-marked by the higher V+I. The only potential problem for possessor raising is if the minimality condition were to restrict it's movement out of the lower VP, i.e., VP_1.

But note that the possessor is generated as sister to V' and not as a sister to V. We must, then, concur with Chomsky (1986b) that a minimality barrier is the category immediately dominating a lexical head and not its maximal projection. Thus NP_j lies outside the minimality domain of V. The defectiveness of the I projection inhibits its capacity to invoke a minimality violation.

In different terms, the trace of the raised possessor may be antecedent-governed directly from the subject position since there are no barriers separating them. In fact, there is no reason why the verb needs to move into the higher I at all, since it is not needed for a 'complex chain' to be established.

One consequence to this analysis is that it provides an alternative explanation for why the possessive **yeS** is not inflected. In 6.6, we argued that this was so since the impersonal PP subject does not need to agree with it, but we maintained the position that **yeS** moves into I in order for a complex chain to be formed, licensing the empty category left by raising the possessor into the subject postion. But if the discussion in this section is on the right track, we may dispose of that extra step altogether.

At the beginning of this section, I characterized two dialects. But, on closer view, such a characterization is problematic since the two dialects are not internally consistent. Speakers of Dialect A, use the bi-clausal strategy when the theme is indefinite and the **have** form when the theme is definite. Moroever, I have not been able to locate speakers who speak a 'pure' dialect, accepting only (68), (71) but not (69) or (70).

In the prescriptive grammar of Hebrew, accusative Case with either **yeS** or **h.y.y** is disallowed. In the spoken idiom, **yeS** is an accusative-assigning verb whereas the **h.y.y** forms still retain some of their prescriptive behavior. This leads me to agree with Ziv (1976) that Hebrew is undergoing syntactic changes which are still incomplete. The facts should then be treated as a 'mixed-bag' rather than as two distinct dialects.

On the synchronic plane, I have tried to sketch the various syntactic devices utilized in these constructions. The data discussed in this section favor the view that syntactic change may be gradual, in the sense that new grammatical possibilities are introduced before old ones become outdated.

Adams, Marianne, From Old French to the Theory of *pro*-Drop' NLLT 5 1-32

Akmajian, Adrian, (1977) The Complement Structure of Perception Verbs in an Autonomous Syntax Framework' in Culicover, Wasow and Akmajian, (eds.)

Antinucci, Francesco & Guglielmo Cinque, (1977) 'Sull'Ordine Delle Parole in Italiano: l'Emarginazione' *Studi di Grammatica Italiana* vol.5

Aoun, Joseph, (1979), 'On Government, Case Marking and Clitic Placement' unpublished manuscript, MIT

Aoun, Joseph, (1985), *Generalized Binding* Foris, Dordrecht

Ayoub, Georgine 'Structure de la Phrase Verbale en Arabe Standard' Unpublished Thèse de Doctorat de Troisième Cycle, Université de Paris, VII

Baker, Mark (1985) 'Incorporation: A Theory of Grammatical Function Changing', Unpublished Ph.D dissertation, MIT

Baltin, Mark (1978) 'Toward a Theory of Movement Rules', Unpublished Ph.D dissertation, MIT

Belletti, Adriana, (1987) The Case of Unaccusatives' LI, to appear

Belletti, Adrianna & Luigi Rizzi (1981), The Syntax of NE: Some Theoretical Implications' *The Linguisitc Review* 1 117-154

Belletti, Adrianna & Luigi Rizzi (1986), 'Psych-Verbs and θ-Theory', *Lexicon Project Working Papers, #13* Center for Cognitve Science, MIT

Belletti, Adriana, L. Brandi and L. Rizzi, (eds.) (1982) *Theory of Markedness in Generative Grammar* Proceedings of the 1979 GLOW Conference, Scuola Normale Superiore, Pisa

Bennis, Hans (1987) *Gaps and Dummies*, Foris, Dordrecht

Benveniste, Emile (1966) *Problems in General Linguistics*

Berman, Ruth, (1978) *Modern Hebrew Structure* University Publishing Projects, Tel-Aviv

Berman, Ruth, (1979) 'Form and Function: Passives, Middles and Impersonals in Modern Hebrew' *Proceedings of the Fifth Annual Meeting of the Berkeley Linguistics Society*

Berman, Ruth, (1981) 'Dative Marking of the Affected in Modern Hebrew' in Aoun Youssef & H. Borer, (eds.) *MIT Working Papers in Linguistics,* vol. 3

Berman, Ruth and Alexander Grosu, (1976) 'Aspects of the Copula in Modern Hebrew' in Cole, (ed.)

den-Besten, Hans (198?) 'Some Remarks on the Ergative Hypothesis' in Toman, J, (ed.)

Borer, Hagit, (1981) 'On the Definition of Variables' Journal of Linguistic Research 1.3 16-40

Borer, Hagit (1983), *Parametric Syntax* Foris, Dordrecht

Borer, Hagit (1984), 'Restrictive Relatives in Modern Hebrew' *NLLT*2, 219-260

Borer, Hagit, (1986a), 'I-Subjects' LI 17.3 375-416

Borer, Hagit, (1986b) 'Parallel Morphology' Talk given at Lexicon Seminar, MIT

Borer, Hagit, (1987), 'Anaphoric AGR' Unpublished Manuscript, University of Califronia, Irvine

Borer, Hagit & Yosef Grodzinsky, (1986) 'Syntactic Cliticization and lexical Cliticization' in Borer (ed.) (1986) *Syntax and Semantics: The Syntax of Pronominal Clitics,* Academic Press, Orlando, FA pp.175-218

Borer, Hagit & Kenneth Wexler, (1986),'The Maturation of Syntax', *Studies in Cognitive Sciences,* 39, University of Califronia, Irvine

Borer (ed.) (1986) *Syntax and Semantics: The Syntax of Pronominal Clitics,* Academic Press, Orlando, FA

Brandi, Luciana and Patrizia Cordin, to appear in Jaeggli & Safir (eds.) Reidel

Bresnan, Joan (1976) 'On the Form and Function of Transfomrations'LI 7, 3-40

Bresnan, Joan (1977) 'Variables in the theory of Transformations', in Culicover, et. al. (eds.) op. cit.

Bresnan, Joan & Jane Grimshaw, (1978), 'The Syntax of Free Relatives in English' LI 9, 331-391

Bouchard, Denis (1984), *On the Content of Empty Categories* Foris. Dordrecht

Brody, Michael (1984), 'On Contextual Definitions and the Role of Chains', LI 15.3 355-380

Burzio, Luigi, (1986) *Italian Syntax* Reidel, Dordrecht

Calabrese, Andrea,(1985) 'Focus and logical Structures in Italian', unpublished manusript, MIT

Chomsky, Noam, (1971) 'Deep Structure, Surface Structure and Semantic Interpretation'. in Steinberg, D. & L.A. Jakobovitz, *Semantics*, Cambridge University Press

Chomsky, Noam, (1977), 'On WH-Movement' in Culicover, et. al. (eds.)

Chomsky, Noam, (1981) *Lectures on Government and Binding* Foris, Dordrecht

Chomsky, Noam, (1982) *Some Concepts and Consequences of the Theory of Government and Binding* MIT Press, Cambridge, MA

Chomsky, Noam, (1986a) *Knowledge of Language* Praeger, New-York

Chomsky, Noam, (1986b), *Barriers* MIT Press, Cambridge, MA

Chomsky, Noam and Howard Lasnik, (1977), 'Filters and Control' *LI* 8 425-504

Chung, Sandra, (1983), 'The ECP and Government in Chamorro' NLLT 1 207-244

Cole, Peter, (ed.) (1976) *Studies In Modern Hebrew Syntax and Semantics* North Holland , Amsterdam

Cullicover, Peter, Tom Wasow and Adrian Akmajian, (eds.) *Formal Syntax*, Academic Press, NY

Davis, Lori, (1984) 'Arguments and Expletives: Thematic and Non-Thematic Noun Phrases', unpublished Ph.D Dissertation, U. Connecticut

Davis, Lori, (1986) 'Remarks on the θ-Criterion and Case', LI 17.3, pp.564-567

Doron, Edit, (1982) The Syntax and Semantics of Resumptive Pronouns', *Texas Linguistics Forum*, 19.

Doron, Edit, (1983) 'Verbless Predicates in Hebrew', Unpublished Ph.D Dissertation, U. of Texas, Austin

Emonds, Joseph (1976) *A Transformrational Approach to English Syntax*, Academic Press

Emonds, Joseph (1978) 'The Verbal Complex V'-V in French' LI 9.2, 151-175

Emonds, Joseph (1980) 'Word Order in Generative Grammar' *Journal of Linguistic Research*, 1, 33-54

Fukui, Naoki (1986) 'A Theory of Category Projection and Its Application', Unpublished Ph.D dissertation, MIT

Fukui, Naoki and Margaret Speas, 'Specifiers and Projection', in Fukui, N., T. Rappoport and E. Sagey, (eds.)

Fukui, N., T. Rappoport and E. Sagey, (eds.) (1987) *MIT Working papers in Linguistics #8* MIT, Cambridge

Givón, Talmy (1976) 'On the VS word order in Israeli Hebrew: Pragmatics and Typological Change' in Cole, op.cit

Gross, A. and H. van Riemsdijk, (1979), 'Matching Effects in Free Relatives', in Belletti, et. al., (eds.)

Guéron, Jacqueline (1980), 'On the Syntax and Semantics of PP Extraposition', *LI*, 11.4 pp. 637-678

Guéron, Jacqueline (1987), 'Le Verbe Avoir' *Recherche Linguistiques de Vincennes, 14/15*

Hazout, Ilan, (1986) 'The Pronoun ZE in Hebrew' Unpublished manuscript, University of Massachusetts, Amherst

Guerssel, Mohammed (1986), Subject Clitic Doubling in Berber, Unpublished manuscript, MIT

Haïk, Isabelle, (1984) 'Indirect Binding' LI 15.2 185-224

Hermon, Gabriella, (1984) *Syntactic Modularity*, Foris, Dordrecht

Higginbotham, James, (1980), 'Pronouns and Bound Variables', LI 11 pp.679-708

Hornstein, Norbert, and Lightfoot, D., (1981), *Explanation in Linguistics*, Longmans, New York

Horvath, Julia (1986) *FOCUS in the Theory of Grammar and the Syntax of Hungarian*, Foris Dordrecht

Jackendoff, Ray (1972) *Semantic Interpretation in Generative Grammar*, MIT Press, Cambridge, MA

Jackendoff, Ray (1977), *X'-Syntax* MIT Press, Cambridge, MA

Jaeggli, Osvaldo, A., (1982) *On Some Phonologically Null Elements in Syntax* Foris, Dordrecht

Jaeggli, Osvaldo, A., (1986a) 'Arbitrary Plural Pronominals', *NLLT 4.1* 43-76

Jaeggli, Osvaldo, A., (1986b) 'Three Issues in the Theory of Clitics: Case, Doubled NP's and Extraction' in Borer, H. (ed.), op. cit.

Jenkins, Lyle, (1972) 'Modality in English Syntax' Unpublished Ph.D Dissertation, MIT

Kayne, Richard (1975) *French Syntax* MIT Press, Cambridge, MA

Kayne, Richard (1984) *Connectedness and Binary Branching* Foris, Dordrecht

Kayne, Richard (1987) 'Binary Branching as a Source of Adjacency Effects', Talk given at GLOW

Kenstowicz, Michael, (1984) 'The Null Subject Parameter in Modern Arabic Dialects', in Proceedings of NELS 1984

Koopman, Hilda, (1984), *The Syntax of Verbs*, Foris, Dordrecht

Koopman, Hilda & Dominique Sportiche, (1983) 'Variables and the Bijection Principle' *Linguistic Review*, 2, 139-160

Larson, Richard, (1987) 'On The Double Object Construction' Unpublished manuscript, MIT

Lasnik, Howard, (1981) 'Restricting the Theory of Transformations: A Case Study', in Hornstein & Lightfoot, (eds.)

Lasnik, Howard, (1987) 'Case and Expletives', unpublished masnuscript, U. of Connecticut, Storrs

Lasnik, Howard and Mamoru Saito, (1984) 'On the Nature of Proper Government' LI 15.2 235-290

Manzini, M.R (1983) 'Restructuring and Reanalysis' Unpublihsed Ph.D dissertation, MIT

Manzini, M.R (1987) 'Phrase Structure Theory, Binding, Reanalysis' Talk given at GLOW

Marantz, Alec (1984) *On the Nature of Grammatical Relations*, MIT Press, Cambridge, Ma

May, Robert, (1985) *Logical Form: Its Structure and Derivation*, MIT Press, Cambridge, MA

Mouchaweh, Loubana,(1986) 'De la Syntaxe des Petites Propositions', Thèse de Doctorat de Troisième Cycle, Université de paris, VIII

McCloskey, James (1979) *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish* Reidel, Dordrecht

Perlmutter, David (1971) *Deep and Surface Structure Constraints in Syntax*, Holt, Reinhart and Winston, New-York

Perlmutter, David (1978) 'Impersonal Passives and the Unaccusative Hypothesis', Proceedings of *Berkeley Linguistics Society* 4, 157-189

Pesetsky, David (1982), 'Paths and Categories', unpublished MIT Ph.D dissertation

Platzack, Christer, (1985), 'The Scandinavian Languages and the Null Subject Parameter', *Working Papers in Scandinavian Syntax* # 20, University of Trondheim

Pollock, J-Y, (1981) 'On Case and Impersonal Constructions' in May, Robert & Jan Koster, (eds.) *Levels of Syntactic Representation*, Foris Dordrecht, 219-252

Pollock, J-Y, (1983) 'Accord, Chaines Impersonelles et Variables' *Lingvisticæ Investigationes* 7.1 131-181

Pollock, J-Y, (1986) 'Sur la Syntaxe de EN et le Paramètre de Sujet Nul' in Couquaux, Daniel & Mitsou Ronat, (eds.) *La Grammaire Modulaire* Les Editions de Minuit, Paris

Rappoport, Tova (1987) 'Copular, Nominal and Small Clauses: A Study of Israeli Hebrew', unpublished Ph.D dissertation, MIT

Reinhart, Tanya, (1982) 'A Second COMP Position' in Belletti, Adriana, et. al. op.cit.

Reinhart, Tanya, (1983) *Anaphora and Semantic Interpretation* University of Chicago Press, Chicago

Reinhart, Tanya, (1986) 'Specifier and Operator Binding' in Reuland & ter Meulen, (eds.)

Reuland, Eric, (1983) 'The Extended Projection Principle and the Definiteness Effect', *Proceedings of WCCFL 2*

Reuland, Eric & A.G.B. ter Meulen, (eds.) (1987), *The Representation of (In)definites* MIT Press, Cambridge

Ritter (1985) 'What EYN't There: An Analysis of the Hebrew Negative Particle' Unpublished manuscript, MIT

Ritter (1986) 'NSO Noun Phrases in a VSO Language' *Proceedings of NELS 17*

Rizzi, Luigi, (1982) *Issues in Italian Syntax* Foris, Dordrecht

Rizzi, Luigi, (1986) 'Null Objects in Italian and Theory of *pro* LI 17.3 501-558

Rochemont, Michael (1978) 'A Theory of Stylistic Rules in English', unpublished Ph.D Dissertation, U. of Massachusetts, Amherst

Rothstein, Susan. (1983) 'The Syntactic Forms of Predication', Ph.D Dissertation, MIT

Rouveret, Alain and J-R Vergnaud (1980) 'Specifiying Reference to the Subject', LI 11.1, 97-202

Safir, Ken, (1984) 'Multiple Variable Binding' *LI* 15

Safir, Ken,(1985) *Syntactic Chains* Cambridge University Press, Cambridge

Sells, Peter (1984) 'Syntax and Semantics of Resumptive Pronouns' unpublished Ph.D Dissertation, U. of Massachusetts, Amherst

Shlonsky, Ur, (1987) 'Donkey Parasites' in *Proceedings of NELS 17*

Shlonsky, Ur (forthcoming) 'Complementizer-Adjunction in Hebrew and the ECP' NLLT

Shoshani, R. (1980), 'The Object Marker in Hewbrew in Intransitive Constructions' Unpublished manuscript, Tel-Aviv University

Sportiche, Dominique, (1983) 'Structural Invariance and Symmetry in Syntax' unpublished Ph.D Dissertation, MIT

Sproat, Richard, (1985), 'Welsh Syntax and VSO Structure' NLLT 3, 172-216

Stowell, Timothy, (1981) 'Origins of Phrase Structure', unpublished MIT Ph.D dissertation

Tobin, I. (1982) 'Asserting One's Existence in Modern Hebrew' *Lingua* 58 298-325

Travis, Lisa (1984) 'Parameters and Effects or Word Order Variation' unpublished Ph.D Dissertation, MIT

Torrego, Ester, (1984) 'On Inversion in Spanish and Some of its Effects' *LI* 15 103-129

Torrego, Ester, (1986) 'On Empty Categories in Nominals' Unpublished manuscript, University of Massachusetts, Boston

Vergnaud J-R, (1974), 'French Relative Clauses' Unpublihsed Ph.D dissertation, MIT

Wahba, Wafaa (1984) 'WH-Constructions in Egyptian Arabic', Unpublished Ph.D Dissertation, University of Illinois at Urbana-Champaign

Williams, Edwin, (1980) 'Predication' LI 11.1

Williams, Edwin, (1984) 'THERE-Insertion' LI 15.1 131-154

Zagona (1982) 'Government and Proper Government of Verbal Projections', unpublished Ph.D dissertation, U. of Washington, Seattle

Zaenen, Annie, Joan Maling and H. Thràinsson, (1985) 'Case and Grammatical Functions: The Icelandic Passive', *NLLT* 3.4 441-483

Ziv, Yael (1976) 'On the Reanalysis of Grammatical Terms in Hebrew Possessive Constructions' in Cole, (ed.), op.cit.

Ziv, Yael (1982a) 'Another Look at Definites in Existentials', *Linguistics* 18 73-88

Ziv, Yael (1982b) 'On So-Called 'Existentials': A Typological problem', *Lingua* 56 261-281