COPULAR, NOMINAL, AND SMALL CLAUSES:

A STUDY OF ISRAELI HEBREW

by

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B.A. University of California, Los Angeles
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Submitted to the Department of Linguistics and Philosophy
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ABSTRACT

This dissertation is a study of structures of verbless predication in Israeli Hebrew and English. Predicative and equative nominal and copular constructions are closely examined, as are embedded subject-predicate constructions ('small' clauses).

Chapters 2 and 3 explore the thematic relations and corresponding syntactic properties of two major classes of nominal and copular constructions: predicative and equative. It is claimed that while in predicative sentences the predicate XP assigns a theta-role to the referential subject; in equatives, both NPs are referential, and neither assigns a theta-role. The identity relation of equative sentences is shown to require the mediation of a functional head (e.g. INFL), whereas the predication relation of predicative sentences does not. It is assumed that small clauses have no functional head; they therefore are never read as equative. The study of small clauses in Chapter 4 allows, in turn, a refinement in the principles constraining the predication relation.

In Hebrew, the present tense equivalents of copular constructions contain no verb. Such nominal sentences are discussed in Chapter 2 of this thesis, and their syntactic and semantic properties are studied. Under the assumptions about copular constructions argued for in this thesis, the Israeli Hebrew nominal sentences are seen to offer strong evidence in favour of a syntactic and thematic division of such verbless constructions into two classes: predicative and equative.

There are two nominal sentence types. One type is analysed as a matrix small clause, an analysis which, along with certain assumptions about small clause structures in general, correctly predicts its properties and behaviour. A second nominal sentence construction is analysed as a full (tenseless) clause, headed by the Case-assigning AGR in INFL. This analysis, together with a strict view of AGR as a bundle of features, accounts for the distribution and semantic properties of this nominal sentence type.

In Chapter 3, the properties of predicative and equative copular constructions in general, and in English in particular, are discussed. Arguments are given to support a thematic and syntactic distinction between predicatives and equatives. It is claimed further that the relevant characterization of this distinction is to be made solely in terms of the thematic relation involved in each construction type. This makes possible a simple classification of copular constructions.

In the theory of copular constructions outlined in this chapter, noun phrases of every type (e.g. definite, or proper NPs) can be used predicatively, under specific interpretations. The verb be is argued to have no semantic content, nor thematic role, in either predicative or equative constructions. Thus, it follows that noun phrases can be licensed even when they do not receive a theta-role projected from a predicator's argument structure.

Chapter 4 deals with the facts of embedded subject-predicate constructions in Israeli Hebrew. It is demonstrated that there is a limited class of argument small clauses in Hebrew, and it is argued that the small clause possibilities are limited due to the presence in Hebrew of a restriction on Case assignment: all verbal Case assignment must be theta-related. Small clauses are found in Hebrew only in those sentences whose matrix verb is causative. The fact that causative verbs and affixes require the incorporation of the second predicate is what allows the requirement on Hebrew Case assignment to be met. Embedded subject-predicate constructions which are not an argument of the verb, on the other hand, are comparatively free in Israeli Hebrew, since they do not constitute a violation of the Case-marking restriction.

As part of the account of small clauses, an analysis of their structure in terms of projection sets is presented. This analysis in turn allows the revision of the restriction on the domain of theta-marking in general, and on the predication relation in particular.

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Chapter 1

Introduction

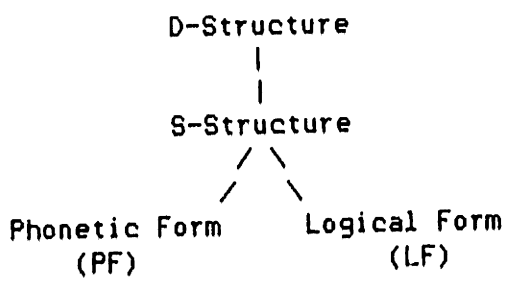
1.1 Theoretical Assumptions - GB Theory

This dissertation is written within the framework of the theory outlined in Chomsky's (1981) Lectures on Government and Binding, i.e. GB Theory. In this section I shall (very) briefly outline certain concepts and principles of GB theory which I shall be assuming in the following chapters.

1.1.1 Levels of Representation

There are three syntactic levels of representation in the grammatical model, as well as a level of Phonetic Form:

1.



1.1.2 D-Structure

The lexicon contains (among other things) the definitions of predicators and their argument structure (a listing of thematic relations). (For a detailed discussion of lexical representations see, for example, Hale & Laughren, 1983; Hale & Keyser, 1986; Rappaport & Levin, 1986.) The argument structure is projected into the syntax at the level of D-Structure. Structures are projected from the lexicon in accordance with X′-theory,[1] and thematic relations (roles) are assigned to syntactic positions in accordance with theta-theory. This theta-assignment reflects exactly the lexical argument structure. D-Structure is a pure syntactic representation of thematic relations. Every non-predicator in the structure must receive a thematic role, or theta-role, from the predicators involved in the structure. Elements which are not involved in any theta-relation, such as pleonastic subjects, are not present at the level of D-Structure (but may be inserted later in those languages in whose PF representation pleonastic elements must be overt).

This restricted view of D-Structure is important to the analysis of copular constructions proposed in this thesis.

---

1. X′-theory, among other restrictions, requires that every projection have a head bearing the same categorial features (e.g. [+/-V], [+/-N]). Thus, we do not find a VP whose head is a noun (N), for example.

1.1.3 The Projection Principle

The Projection Principle requires that 'lexical properties be represented by categorial structure in syntactic representations' (Chomsky, 1986b, p. 82). The lexical argument structure of a predicator must be replicated at D-Structure, as well as at the two other syntactic levels, S-Structure and LF. All lexically represented complements of a predicator must be present at each syntactic level. 'Representations at each syntactic level (i.e. LF, and D- and S-Structure) are projected from the lexicon, in that they observe the subcategorization properties [or: argument structure] of lexical items' (Chomsky, 1981, p.29). Accordingly, complements cannot disappear from the syntax; likewise no elements can be introduced as complements in the syntax.

It is the Projection Principle that ensures that the original place of a moved category is preserved. At D-Structure all constituents are in their original (theta-marked) position. At S-Structure, the original position of a moved theta-marked constituent must be marked by a trace.

1.1.4 S-Structure

S-Structure is derived from D-Structure by a general principle of Move-alpha (or Affect-alpha; see Lasnik & Saito, 1984). The results of this unrestricted movement are constrained by other systems of the grammar, such as bounding theory, government theory, binding theory, Case theory, etc. (See Chomsky (1981) (1986b) and references therein.)

The transformations subsumed under Move-alpha have the effect of moving elements from their original, theta-marked position. For example:

2. D-S: Sara will see who -->
S-S: Who will Sara see t

The original relation between the verb and its object is preserved by a trace (t). As we can see, S-Structure more closely approximates surface structure than does D-Structure.

S-Structure is the level at which structural Case is assigned.

1.1.5 The Case Filter

In GB theory, all phonetically realized noun phrases must receive (abstract) Case. Case is assigned by a governing category. Accusative (or objective) Case is assigned by a verb to its object; oblique Case is assigned by a preposition to its object; and nominative Case is assigned to the subject by AGR in INFL of a finite clause.

If an NP does not receive Case, the sentence in which it appears is ruled out by the Case Filter as ungrammatical.

1.1.6 PF

PF is the phonetic form, or phonological component, derived from S-Structure by phonological rules. The rules of PF do not affect the LF interpretation of a sentence. The output of PF is what is realized on the surface, i.e. the sentences we hear and speak.

1.1.7 LF

LF is a syntactic level which represents a certain logical form. LF is derived from S-Structure by certain rules, such as Quantifier Raising (an instance of Move-alpha). LF is a representation of certain features of semantic interpretation (such as scope). The rules of LF do not affect the form realized on the surface.

1.1.8 The Theta Criterion and Visibility

At the level of LF, the Theta Criterion must be met. The Theta Criterion (Chomsky, 1981) requires that every argument have (at least) one theta-role, i.e. every argument in the syntax must be associated with a position in a predicator's lexical argument structure (and no argument may be associated with more than one position in the LAS of the same predicator).

Assuming the Theta Criterion, Chomsky (1986b), following Aoun, gives a thematic motivation for the Case Filter. He suggests that that 'an element is <u>visible</u> for theta-marking only if it is assigned Case. According to this visibility condition, a noun phrase can receive a theta-role only if it is in a position to which Case is assigned or is linked to such a position....' (p. 94).

The Theta Criterion also restricts the assigning of theta-roles. For example, Chomsky (1986b), using the notion of Visibility, proposes a restriction that only one position in a chain may receive the

theta-role(s):

3. Each argument A appears in a chain containing a unique visible θ-position P, and each θ-position P is visible in a chain containing a unique argument A

A different restriction on theta-role assignment is the Theta Criterion of Williams (1983a):

4. The Restricted Theta Criterion (restricted to argument complexes)
In an argument complex, each phrase is assigned only one theta role.

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

This restriction is revised in Rapoport (1986) as follows:

5. Predicate-Based Theta Criterion:
If a predicate assigns to NP...t a theta-role, then it may not assign another theta-role to NP...t.

[NP...t is an NP chain: the head NP (and its trace(s))]

1.1.9 The Principle of Full Interpretation

All elements of a structure must be licensed. Non-maximal projections are licensed by X'-theory. The Principle of Full Interpretation applies to maximal projections at LF and all phonetic segments at PF. PFI states that every element must have some function in the sentence.

At LF, a maximal projection is licensed if it is an argument, i.e. if it receives a theta-role; if it is a predicate, i.e. if it assigns a theta-role; or if it is an operator, in which case it must bind a variable. Thus, an element with no semantic content, such as a pleonastic subject, must not be present at LF.

At the level of PF, each phonetic segment must receive a phonetic (physical) interpretation.

1.1.10 The Empty Category Principle and Configurational Notions

Among the principles of GB that I assume is the Empty Category Principle, which requires that all non-pronominal empty categories be properly governed.

In the framework of Chomsky (1981), proper government can be either by a lexical governor or by an antecedent governor. A definition of proper government (and of related configurational concepts) follows:

6. PROPER GOVERNMENT
A properly governs B if and only if
(i) A lexically governs B, or
(ii) A antecedent governs B

7. LEXICAL GOVERNMENT
A lexically governs B if
a. A is X° (and A $\neq$ AGR)
b. A governs B
(from Saito, 1984)

8. ANTECEDENT GOVERNMENT
A antecedent governs B if
a. A and B are coindexed
b. A c-commands B
c. There is no C (C an NP or S′) such that A c-commands C and C dominates B, unless B is the head of C
(from Lasnik & Saito, 1984)

9. GOVERNMENT
X governs Y iff $\forall Z$, Z a maximal projection, Z dominates X $\langle$--$\rangle$ Z dominates Y
(from Aoun & Sportiche, 1983)

10. a. C-COMMAND (Reinhart, 1976)
Node A c-commands node B if neither A nor B dominates the other and the first branching node dominating A dominates B

b. C-COMMAND (Aoun & Sportiche, 1983)
X c-commands Y iff X and Y are X", and X≠Y, and ∀Z,
Z a maximal projection, Z dominates X --> Z dominates Y

The c-command notion of 10b. is currently known as m-command (e.g. Chomsky, 1986a).

The notions of government and c-command are relevant for principles of the grammar besides the ECP. For example, in order to assign Case, the Case-assigner must govern the assignee. A restriction on predication that has been suggested is that the predicate and subject c-command each other (Rothstein, 1983).

Thus, in order to be licensed, an empty category must be either lexically governed, or antecedent governed (by the element of which it is the trace, for example).2

1.2 Predication and Williams' Theta Theory

In the discussion of predication throughout this thesis, I am assuming much of Williams, 1980, 1983, 1985, etc., but within GB theory as outlined above.

Predication is the assignment of the external theta-role (of the head c.' a projection) by a projection to a phrase outside it, its subject. Some

---

2. In recent work (e.g. Chomsky 1986a), it has been suggested that only antecedent government constitutes proper government.

examples of predicates and their subjects are bracketed below:

11. [Rebecca] [walked].
[Mattie] [broadcast her show].
[Ben] [is a phenomenon].

small clause structure: Bela considers [her relatives] [perfect].
The students proved [the arguments] [wrong].

'adjunct-predicate' structure: We ate [the cookies] [raw].
[We] sat through the game [miserable].

Unlike Williams (1980), I do not assume a distinct syntactic level of representation indicating the predication relation. Since, according to Williams (1985), predication is simply a form of theta-role assignment, I assume that the predication relation must be represented (by indexing, like other theta-relations) at D-Structure, the level at which all thematic relations are represented; and at LF, the level at which the Theta Criterion and the Principle of Full Interpretation must be met.

Predication, the assignment of the external theta-role, is like internal theta-role assignment (that of a head to its complement), except that the theta-role assigner is a maximal projection (VP, NP, or AP, as above). The external theta-role of a verb, for example, is assigned to a noun phrase in the following manner.

The VP 'vertically' binds the external argument of the verb (starred below):

12. VP_i
|
|
|
give (*agent$_i$, theme$_j$, goal$_k$)

The VP is coindexed with the noun phrase external to it:

13. $John_i$ $[gave\ it\ to\ him]_{VPi}$

$(*agent_i, ...)$

(Williams, p. 2)

Thus, the NP John is the subject of the VP gave it to him. (Note that this strictly thematic view of predication has nothing to say about the relation between a pleonastic subject and a predicate phrase.)

Internal and external theta-role assignment both take place under the strict structural condition of sisterhood. (As Williams notes, there is no such thing as exceptional theta-role assignment.) An internal theta-role is assigned within the VP, i.e. to a sister of V. As for external theta-role assignment, the theta-role must be vertically bound by an immediately containing phrase, e.g. VP, and must be assigned to a sister of that phrase.

These structural conditions are contained in a restriction proposed by Williams (which is revised in Chapter 4):

14. TRAC (Theta Role Assignment Restriction):

No phrase at all can intervene between an assigner and an assignee.

For example, the following is the thematic structure of a sentence whose predicate is not a verb:

15. John seems sad.

$John_i$ $[seems_0$ $AP_i]_{VPi}$

A_i

sad_i

$(*th_i)$ (Williams, p. 4)

Seems has no external theta role to assign, so the external theta-role of the adjective is vertically bound by the VP, which is coindexed with the NP John which receives the theta-role. Thus predication, and the mechanism of theta-role assignment, is part of a larger theory of theta-relations.

In current assumptions, Williams points out, there is a redundancy in theta-role assignment to the subject of a sentence like the following:

16. John [seems t to be here]

In this sentence, John gets a theta-role both by being the subject of the predicate seems t to be here; and by binding the trace which receives the theta-role assigned by the predicate to be here.[3] As Williams notes, we do not need two methods of theta-role assignment. Thus, chains are redundant with predication for the assignment of subject theta-roles. Furthermore, as Williams argues (in an argument against movement as the source of NP-trace), chains require a small clause to be a distinct syntantic constituent. Such a small clause view posits a clausal node over every instance of predication, and is therefore itself redundant with predication theory.

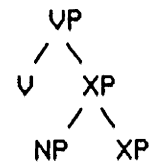
---

3. In Williams' theory, the trace receives the theta-role but cannot satisfy the theta-role, which must be reassigned.

1.2.1 Small Clauses

Stowell (1983) argues for a small clause constituent, a predicate-headed proposition selected by the matrix verb, which contains no INFL (tense). Under this view we assign to a small clause the following structure (following Manzini, 1983; Chomsky, 1986a; etc.):

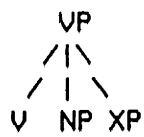
17.



Stowell's analysis of small clauses reflects his definition of the subject of a phrase XP as the argument of a predicate phrase which is directly dominated by X''.

Williams (1983a), on the other hand, defines the subject as that NP outside, i.e. excluded from, the maximal projection of the predicate XP theta-marking it. Williams analyses small clauses as follows:

18.



In Williams (1980, 1983a), and Schein (1982), small clauses are subject-predicate propositions which do not constitute a distinct syntactic constituent. In Rapoport (1986), assuming the same structure as 18, I argue that the predicate is the constituent selected by the verb, and the small clause subject NP is required by the presence of that (theta-assigning) predicate.

The notion 'small clause' is important in this thesis. In Chapter 2,

I argue for the existence of a matrix small clause in Israeli Hebrew; in Chapters 2 and 3, I account for the fact that a small clause cannot be an equative sentence in either Hebrew or English; and in Chapter 4, I examine embedded small clauses (such as those under discussion above), and offer a resolution of the small clause controversy.

1.3 Introduction To This Thesis

The primary concern of this dissertation is verbless predication structures, i.e. those structures in which the predicate is not a verb phrase, but rather a noun phrase or an adjective phrase; as well as sentences in which there is no theta-assigning predicate at all. To this end, I discuss predicative and equative copular constructions and small clause (subject-predicate) structures. Of particular interest are the present tense equivalents of copular constructions in Israeli Hebrew. In Hebrew, unlike English, such sentences contain no verb at any level of representation.

1.3.1 Chapter 2

Chapter 2 of this thesis contains an examination of nominal (verbless) sentences in Israeli Hebrew. In my analysis of these sentences, I argue that their properties constitute evidence for distinguishing two types of constructions: predicative, in which the predicate XP assigns a theta-role to the referential subject; and equative, in which both NPs are referential

(and neither assigns a theta-role).

On the surface, there are two types of nominal sentences in Hebrew. I argue that one is a (matrix) small clause, and the other is a tenseless full clause, headed by AGR in INFL. My analysis accounts for the fact that while either of the two types can be predicative, only the latter can be read as an equative sentence.

The small clause analysis together with the Empty Category Principle and my assumption that COMP introduces only a full (INFL-headed) clause, accounts for the distribution of the two nominal sentence types in both matrix and embedded contexts in Israeli Hebrew.

1.3.2 Chapter 3

In Chapter 3, I discuss the properties of predicative and equative copular constructions in English. I argue that predicative and equative sentences constitute two different syntactic types, given their different syntactic properties. I argue that this distinction is not to be made in terms of the copular verb <u>be</u>, which, I claim, has no semantic content and is not present at D-Structure. I argue too against distinguishing predicative and equative sentences in terms of the type of post-copular noun phrase (e.g. definite NP, proper NP), since almost all noun phrase types can be in post-copular position in either type of construction.

Rather, I claim that the appropriate characterization of the difference between the two constructions can be made solely in terms of the thematic relation involved in each of the construction types. As part of

this analysis, I argue that under certain conditions noun phrases are licensed as arguments even when they do not receive a theta-role projected from a predicator's lexical argument structure. By using this extended notion of syntactic argumenthood instead of the notion of referentiality, a simple classification of copular constructions is possible.

1.3.3 Chapter 4

In Chapter 4, I examine the facts of embedded subject-predicate constructions in Israeli Hebrew. I demonstrate that there is a limited class of argument small clauses in Hebrew, and argue that the small clause variation is limited due to a requirement in Hebrew that all verbal Case assignment be theta-related. (Adjunct-predicate constructions, on the other hand, are comparatively free in Israeli Hebrew, since they do not constitute a violation of the Case-marking restriction.)

I argue that the only sentences in which we find small clauses in Hebrew are those whose matrix verb is causative. Causative verbs and causative affixes require the incorporation of the lower predicate, a movement which allows the restriction on Hebrew Case assignment to be met.

As part of my analysis, I draw a distinction between Exceptional Case Marking structures, which contain a boundary between the Case assigner and assignee, and small clause structures. I claim that no boundary exists between the verb and subject noun phrase of the small clause (constituent), under an analysis of the two predicate projections of the adjunction structure as one projection set (see May, 1985).

1.3.4 Chapter 5: Appendix

The Appendix to this thesis contains observations as well as some speculative remarks on the role of functional elements (e.g. D, I) in copular constructions; and on the connection between the system of functional categories in a language and the possibility of nominal sentences in it.

For example, the determiner is relevant to both copular and nominal constructions. The indefinite article is absent in predicative copular constructions in many languages (e.g. Spanish and French), and is lacking entirely in those languages which do contain nominal sentences (such as Arabic, Hebrew and Russian). Tense (and so INFL), which is absent in nominal sentences, is required by many languages to be associated with all predicate XPs, verbal or not.

I suggest that an extended Visibility requirement constitutes the relevant difference between those languages with and those without nominal sentences. I propose that languages which disallow INFL-less sentences have a requirement of Visibility on theta-role assigners as well as on theta-role receivers: In these languages, a functional head is required to mediate the relation of theta-assignment by a lexical head.

Chapter 2

Nominal Sentences in Israeli Hebrew

2.1 Introduction

As in many languages, in Hebrew there is a class of structures called 'nominal sentences'. These sentences are so called because they contain no verbal form. In Hebrew, nominal sentences are always interpreted as in the present tense, and are equivalent in meaning to sentences in other languages which do contain the copula verb (e.g. be in English).

2.1.1 The Copula in Hebrew

In fact, there is no present tense conjugation of the verb lihyot (h-y-y) 'to be' in modern Hebrew. Thus, the nominal sentences are the only structures available for predication or equation in the present tense. The copula is found only in the past and future tenses (in which there are no nominal sentences). The declension, in colloquial Israeli Hebrew, of the copula h-y-y follows:

1.

	Past		Future	
	eheye			
1s	hayiti			
2s	hayit (f)	hayita (m)	tihiyi (f)	tihiye (m)
3s	hayta (f)	haya (m)	tihiye (f)	yihiye (m)
1pl	hayinu		nihiye	
2pl	hayiten (f)	hayitem (m)	tihiyu	
3pl	hayu		yihiyu	

H-y-y corresponds to most of the uses of <u>be</u> in English: It is the verb in (non-present tense) locative and existential sentences, and predicative and equative sentences. Like <u>be</u>, h-y-y also has some auxiliary uses. When followed by the present participle, h-y-y has the following (main) function:

2. (Past tense forms of h-y-y only)

Conditional: lu hu haya yodea, hu lo haya ozer
if he was knowing, he not was helping
'If he had known, he wouldn't have helped.'

Habitual past: hem hayu garim Sam beyaldutam
they were living there in-childhood-their
'They used to live there as children.'

(Berman & Grosu (1976), fn 2)

See Berman & Grosu (p. 282) for more details.

2.1.2 Predicative and Equative Nominal Sentences

In this chapter, I present the two variants of nominal sentences in Israeli Hebrew that are parallel to (present-tense) predicative and equative copular constructions in other languages. (whose properties are discussed in detail in Chapter 3.) In 3 are examples of English predicative copular constructions:

3. Tali is a genius.
Aviva is strong.
Lea is an actress.

In predicative sentences, a quality or property specified by the post-copular phrase is attributed to the NP subject. In 3 the qualities a genius, strong, an actress are attributed to, or predicated of, Tali, Aviva, and Lea, respectively.

In equative sentences, on the other hand, the post-copular phrase does not specify a property of the subject. Rather, like the pre-copular NP, the post-copular NP is referential; i.e. it denotes a specific entity in the universe of discourse. Equative sentences equate two noun phrases: the entity denoted by the first NP and that denoted by the second NP are identified as being one and the same. For example:

4. Tali is that woman over there.
The chair of the department is Aviva.
That woman over there is Tali.

In 4, that woman over there and Tali, for example, are asserted to have the same referent. In each sentence in 4, both NPs are (independently) referential. In 3, only the pre-copular NP is referential; the post-copular XP, the predicate, does not refer.

I argue in Chapter 3 that the sentences of 3 and those of 4 constitute two different construction types rather than one syntactic construction whose differences in syntactic behavior reflect the degree of referentiality of the post-copular NP. In this chapter we see that the facts of Israeli Hebrew nominal sentences, besides being interesting in and of themselves, argue strongly in favour of distinguishing two construction types.

There are two surface variants of nominal sentences in Hebrew. While

both forms can express the predication relation, only one can have an equative, or identity, reading. I analyse one nominal sentence form as a (matrix) 'small' clause; and the other type of nominal sentence as a tenseless clause headed by AGR in INFL. I show that both the small clause and the 'full' clause can be predicative, but an equative reading requires a full clause. These facts support the argument in Chapter 3 that the identity relation must always be mediated by a governing head, while the predication relation need not be.

As part of my account, I analyse embedded nominal sentences, and demonstrate that the syntactic properties of the nominal sentences, as well as the facts of their thematic relations, argue for two different structures to underlie the two surface forms. The analysis here accounts for the facts of embedded predicative and equative constructions and, together with the Empty Category Principle, accounts for the distribution of the two types of nominal sentences in Israeli Hebrew. Moreover this analysis makes certain predictions about restrictions on the distribution of small clauses in other languages.

I shall begin the discussion with predicative constructions, of which, as noted, there are two alternates in Hebrew. One type of predicative structure is in 5:

5. a. ha-yeled student
the-boy student
'The boy is a student.'

b. ha-yalda pikxit
the-girl smart-f
'The girl is smart.'

c. david ve-tali nexmadim
David and-Tali nice-pl
'David and Tali are nice.'

Synonymous with the examples in 5 are the following, in which a form identical to that of the third person nominative pronoun, a form agreeing with the subject in number and gender, is present:

6. a. ha-yeled hu student
the boy [3rd-sing-masc] student
'The boy is a student.'

b. ha-yelda hi pikx-it
the girl [3-s-f] smart
'The girl is smart.'

c. david ve-tali hem nexmad-im
David and-Tali [3-pl] nice-pl
'David and Tali are nice.'

In each 5-6 pair of sentences, the two members are identical in meaning. This point is made by Berman (1978), for example, who claims that native speakers find each sentence in 5 synonymous with its counterpart in 6. Berman claims that the presence of the pronominal element 'typically has no semantic purport in terms of such notions as type of assertion, focus, etc.' (p. 192).[3]

The pronoun-like element in 6, henceforth H, has no emphatic or topicalizing effect. Evidence for this point is in Berman & Grosu (1976), which argues, for example, that sentences like 6 do not have the pitch contour of topicalization sentences; nor is there a pause after the first

---

3. Berman (1978) does claim that the pronominal element does have a 'psycholinguistic kind of function as an aid in sentence-processing...(p. 200)'. See Berman for a detailed discussion of nominal sentences with various types of subjects and predicates.

NP, as is found in topicalization examples. (See below for their arguments against a left-dislocation analysis.)

The examples in 5 and 6 contrast with non-nominal sentences, i.e. those which do contain a verb:

7. a. ha-yeled holex
the boy walk(ing)
'The boy walks/is walking.'

b. *ha-yeled hu holex

When the predicate is the projection of a verb, H is disallowed.[4] This fact is further illustrated by the following contrast:

---

4. I am assuming that forms like holex 'walks' are indeed verbs, and not participles, which are identical in surface form. Like any verb, for example, these verbs (e.g., holex) cannot co-occur with the copula, just as in English, a verb and a copula cannot co-occur:

(i) a. *ha-yeled yihye holex/yelex
the-boy be-future-3,s,m walks/walk-fut,3sm
'*The boy will be walks/will walk.'

cf. ha-yeled yelex
the-boy walk-fut,3,s,m
'The boy will walk/be walking.'

b. *The boy is/will be walks.

These present tense verbs have the same distribution as Hebrew verbs in other tenses. Furthermore, there is no other way of expressing the present tense in Hebrew, unlike Arabic, for example, in which both the 'participle' and the b-imperfect can express the present tense.

The Hebrew participle, which is phonetically identical to the present tense verb, does co-occur with h-y-y:

(ii) ha-yeled haya holex
the boy was walking
'The boy used to/could walk.'

cf. ha-yeled halax
the boy walked
'The boy walked/was walking.'

(I have no explanation for the fact that this compound is not possible in the future tense.)

8. a. david hu sameax
David H happy
'David is happy.'

b. *david hu sameax likrata/ lir'ot ota
David H happy to greet her/ to see her
'David is happy to greet her/to see her.'

Languages differ in terms of the lexical categories which are distinguished in them, and in the uses of each lexical category. Some languages have only verbs and contain no adjectives, for example; verbs are used in contexts where another language might use adjectives. In Hebrew, while there do exist verbs, nouns, and adjectives, there are no clear-cut classes. The same form can act as an adjective, verb, or noun, depending on the context. The system is further complicated by the fact that verbs, nouns, and adjectives all share the same roots.

Consider the examples of 8. The form sameax is used as an adjective in 8a, in which case it is compatible with H. However, in 8b, the same form together with H leads to ungrammaticality. We can see why this is so by considering the following example in the past tense:

9. david samax lir'ot ota
David was-happy to see her
'David was happy to see her.'

In 9 the root s-m-x is used as a verb.5 This is the same use as in 9b. In that example, too, sameax is a verb, and so is incompatible with H.

The H nominal construction is one context which disinguishes among the lexical categories, as it excludes those forms that are analysed as verbs.

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5. I assume that only verbs can select infinitives in Hebrew.

Thus, the verbal use of sameax is disallowed in this construction, while the adjectival use is grammatical.

2.1.3 H

The nature of H, as well as its presence, has long posed a problem in analyses of copular structures of the type in 6.

On the one hand, H looks like a pronoun. In fact, the forms H takes, depending on the sentence subject with which it agrees, are identical to the third person nominative pronouns, which are in 10:

10. hi 'she' hu 'he'
hen 'they' (fem.) hem 'they' (masc.)

On the other hand, H in the present tense appears to play the same role as the verb h-y-y 'be' does in the past and future tenses. For example, the copula verb appears in the past and future just where H does in the present (as we see in a comparison of 11 to the examples of 6:

11. a. ha-yeled haya student
the-boy was-m student
'The boy was a student.'

b. ha-yalda hayta pikxit
the-girl was-f smart-f
'The girl was smart.'

c. david ve- tali hayu nexmad-im
David and-Tali were nice
'David and Tali were nice.'

Moreover, H is in complementary distribution with the copula (cf.

11):[6]

12. a. *ha-yeled hu haya student
the boy [3ms] was student

b. *ha-yalda hi hayta pikxit
the-girl [3fs] was smart

c. *david ve-tali hem hayu nexmad-im
david and-tali [3pl] were nice

When a well-formed sentence contains a pronominal element together with a copula, that pronominal cannot be H. A sentence like 13, for example, is good only under a topicalized interpretation, i.e., with a pause between the subject and the pronoun copy.

13. David, hu haya student
'(As for) David, he was a student.'

The pronominal element here is indeed the subject pronoun; it is not H. H cannot be present when the copula is.

There is another way in which the copula and H are similar. Verbs in the present tense are inflected for number and gender,[7] but not for person, as illustrated by the following:

---

6. The judgements here are of a non-left-dislocated structure, that is, a structure without the intonation and interpretation of topicalization.

7. The verbal agreement is that generated under the INFL node. This is not the same as the number and gender agreement that is found in adjectives. Adjectives agree with the head noun in any construction, whether or not that construction contains INFL, as the following NPs illustrate:

(i) ha-mora ha-tova
the teacher-f the good-f
'the good teacher'

ha-yeladim ha-smexim
the boys the happy-m-p
'the happy boys'

14. hu (ani, ata) holex
'He (I-m, you-m) walks/is walking.

hi (ani, at) holexet
'She (I-f, you-f) walks/is walking.'

hem (anaxnu, atem) holxim
'They-m (we-m, you-m-p) walk/are walking.'

hen (anaxnu, aten) holxot
'They-f (we-f, you-f-p) walk/are walking.'

Like verbs in the present tense, H agrees in number and gender, but not in person, with the subject of the sentence, as illustrated by the following (equative) sentence:

15. ani/ata hu ha-more
I /you 3-s-m the-teacher
'I am/you are the teacher.'

In sum, H looks like a pronoun, and functions as a verb. Due to its dual character, H has alternately been analysed as a pronominal copy of the subject NP, as the subject NP itself, and as the present tense form of the copula.

2.1.3.1 Against H as Subject

Berman & Grosu (1976) argue against the view that structures such as 6 are examples of left-dislocation, with H in the subject ([spec,IP]) position. They note that sentences like those in 6 differ semantically from the corresponding left-dislocated constructions, like 16:

16. David ve-Tali, hem nexmadim
'(As for) David and Tali, they are nice.' cf. 6c.

16 must be read as a topicalized sentence, with a pause after the

left-dislocated NP <u>david ve-tali</u>. The sentences in 6 do not have such a pause.

Another contrast that illustrates this point is the following. Consider first the equative in 17:

17. ani hu ha-more
'I am the teacher.'

17 cannot be read as a left-dislocated structure. In fact, the corresponding left-dislocated structure is completely ill-formed:

18. *ani, hu ha-more
'(As for) me, he is the teacher.'
≠ '(As for) me, I am the teacher.'

Berman & Grosu point out that subjects of copular constructions can be nonspecific indefinite NPs, but the same freedom is not afforded the left-dislocated NP:

19. a. kol exad she- lo gonev hu tipesh
all one that not steals [H] fool
'Anyone who doesn't steal is a fool.'

b. *kol exad she lo gonev, hu tipesh
'(Concerning) anyone who doesn't steal, he's a fool.'

(Berman & Grosu, p. 277)

Another argument against a left-dislocation analysis is added by Doron (1983): the pronoun in subject position in examples of left-dislocation must agree in number and gender with the dislocated NP. As shown in 17, H does not always agree with the NP to its left.

The strongest argument that H is not the subject is found in the facts of extraction from embedded clauses in Hebrew (facts which I discuss in

greater detail in section 3). Put in general terms, in Hebrew when the subject is extracted, a pronoun cannot appear in its place. Thus, for example, resumptive pronouns are never allowed in the (highest) subject position of relative clauses:

20. *ha-'iS Se hu pagaS et Rina
the man that he met acc. Rina
'the man who (he) met Rina'

(cf. ha-'iS Se _ pagaS et Rina)

as opposed to object position:

21. ha-'iS Se pagaS-ti oto
the man that met-1 him
'the man that I met (him)'

(cf. ha'iS Se pagaS-ti _)

(from Sells (1984), p. 64)

The same holds true when an embedded subject is questioned:

22. a. (i) mi 'amarta Se-halax
who said-2ms that-left
'Who did you say (that) left?'

(ii) *mi 'amarta Se-hu halax

b. (i) mi 'amarta Se-oxel et ha-tapuax
who said-2ms that-eats ACC the-apple
'Who did you say (that) is eating the apple?'

(ii) *mi 'amarta Se-hu oxel et ha-tapuax

(Neither third person nor the present tense are environments of subject pro-drop in Hebrew.)

If H were a subject, it would be excluded from occurring after the complementiser Se (=she/[še]) in both relative clauses and embedded sentences from which the subject has been questioned. Yet H in both of these environments is actually obligatory:

23. a. ha-baxura Se hi student-it
the-young woman that H student(f)
'the woman who is a student'

b. *ha-baxura Se-student-it

24. a. mi amar-ta Se-hi student-it
who said-2sm that-H student(f)
'Who did you say is a student?'

b. *mi amar-ta Se-student-it

From this, we may conclude that H is not a subject.

Furthermore, any claim that H is the subject, or a pronoun in place of the subject, cannot account for the fact that H together with an NP subject appear only if there is no verb in the sentence. We can conclude, then, that H is not the sentence subject.

2.1.3.2 Against H as Verb

Against the analysis of H as a (copula) verb, on the other hand, Berman & Grosu point out that while the copula verb in the past and future tenses can be stressed, H can not carry stress. Thus, the following:

25. a. moshe hayá xaxam
'Moshe was clever.'

b. *moshe hú xaxam
'Moshe is clever.'

(Berman & Grosu, p. 278)

Doron (1983) points out that present tense sentences can be negated by putting the 'particle' <u>eyn</u> at the beginning of the sentence:

26. eyn dani ohev bananot
NEG Dani likes bananas
'Dani doesn't like bananas.'

(Doron, p. 99)

Doron argues that if H were part of the predicate, predicates with H would be the only ones not cooccurring with eyn:

27. *eyn dani hu more
NEG Dani he teacher

Berman & Grosu as well as Doron note too that while all verbal sentences are negated by placing lo 'not/no' before the verb (including sentences with the copula h-y-y) lo comes after H:

28. a. david lo haya student
david NEG was student
'David was not a student.'

*david haya lo student

b. david lo yihye student
david NEG will-be student
'David will not be a student.'

*david yihye lo student

c. *david lo hu student
(except under reading:
not he but another)

david hu lo student
david 3sm NEG student
'David is not a student.'

d. cf. present tense verb:
david lo ohev studentim
David NEG love students
'David does not love students.'

*david ohev lo studentim

Moreover, H and adverbial modifiers are not in the same respective order as that of the past and future copula forms and adverbial modifiers:

29. a. moshe hu behexlet bepariz
'Moshe is definitely in Paris.'

?*moshe behexlet hu bepariz

b. moshe behexlet haya bepariz
'Moshe was definitely in Paris.'

?*moshe haya behexlet bepariz

(Berman & Grosu, p. 278)

Given these differences, H does not appear to be a verb.

H as AGR

To digress slightly, if we assume my analysis of H, the facts of the position of lo and adverbs are significant for analyses of INFL-to-verb movement (rule R) versus verb-to-INFL raising, particularly within a 'barriers' theory of movement (Chomsky, 1986). I argue below (following Doron, 1983) that H is the realization of the features of AGR in INFL. In a nominal sentence, which contains no verb to which the AGR features can cliticise, H surfaces.

If the analysis of H as AGR is correct, the underlying order of the elements discussed above is as follows:

30. AGR NEG/ADV VP

If there were verb-to-INFL raising in the syntax, we would expect the following order:

31. V+AGR NEG

which would yield the ungrammatical examples of 28a. and b. Given that the surface order is as in 32:

32. NEG V+AGR

we must conclude that the features in INFL move down to cliticise to the

verb at S-structure (although this does not preclude a raising of V+AGR to INFL at LF). While this is not a particularly desirable analysis given the view that movement is (usually) upwards (to allow the proper government of traces), the facts do not seem to lead in any other direction.

Indeed, if upward movement is the norm, the following facts must also be accounted for. In Hebrew, when there is a sentence-initial adverb, there is an option as to the order of constituents. Both the S-V-O order:

33. a. haSana david ohev studentim
this year David loves students
'This year David loves students.'

and the following V-S-O order:

b. haSana ohev david studentim
this year loves David students
'This year David loves students.'

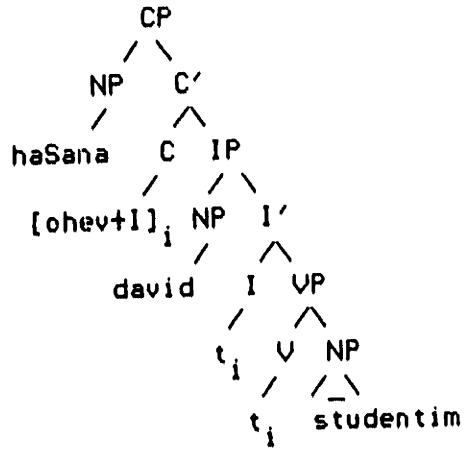
are acceptable. However, when an adverb precedes a nominal sentence, only the order of SUBJ-AGR-PRED is acceptable. *AGR-SUBJ-PRED is not:

34. a. haSana david hu student
this year David H student
'This year David is a student.'

b. *haSana hu david student

Let us assume that in the V-S-O cases, the adverb is in the specifier position of CP, and that a head-to-head movement of the verb to INFL and of the inflected verb to COMP result in the 'inversion' of the subject and verb:

35.



Since upward head-to-head movement is normal, it is not clear why the difference above should be manifested, i.e., why INFL alone cannot raise to COMP, when it is clear that the verb+INFL unit does. (Note that here we can assume that when the verb raises to COMP through INFL there is no lowering of INFL to the verb; INFL lowers to the verb only when there is no movement to the head of CP.)

Moreover, it is not necessarily the verb alone that raises:

36. a. haSana david lo ohev studentim
haSana <u>lo ohev</u> david studentim

b. haSana david hu lo student)

The negative particle <u>lo</u> raises together with the verb. It may be that <u>lo</u> is a clitic, and is analysed with the verb as a single unit. Adverbs, on the other hand, do not raise with the verb:

37. ha-Sana david lo <u>tamid</u> ohev studentim
this-year David NEG always love students

??haSana lo tamid ohev david studentim

Another possibile analysis of these facts is that <u>lo</u> originates in INFL (and is thus 'picked up' when the verb moves through INFL to COMP),

whereas adverbs are adjoined to the VP.) But it is not the case that the verb and any element in INFL together raise to the head of CP, assuming that the copula is in INFL (as I shall argue later):

38. ??ba-Sana hahi haya ro'e david et ha- studentim harbe
in the year that was seeing David ACC the students much

ba-Sana hahi haya david ro'e et ha-studentim harbe
in the year that was David seeing ACC the students much
'In that year David used to see the students a lot.'

The copula raises alone from INFL to COMP.[8]

We are faced with the situation that head to head movement is always possible unless that head is H. When H is alone in INFL, it cannot raise to COMP (thus yielding the ungrammatical 34b.). Since it is unlikely that such a simple movement would be disallowed (and it is not in 38, under the assumption that the copula originates in INFL), we must assume that it is the nature of H itself that prevents its movement.

Indeed, the fact that H cannot itself raise to COMP should come as no surprise under the proposed analysis of H as AGR. AGR is a dependent element, a complex of features that is generated in INFL. AGR is a clitic, and in many languages, is required to cliticise to a verb. In Hebrew, AGR can be present when there is no verb in the structure, as H makes clear, but it is still a clitic.

As a clitic, AGR/H is not expected to move freely. AGR can cliticise to a verb (and move with it), or it can remain in INFL where it is

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8. On the other hand, if the copula is in the VP, it is the head of VP and raises through INFL to COMP.

generated, and be realized as H. We do not expect AGR to act autonomously.[9]

Phonological evidence in Hebrew for the dependence of AGR is found in the fact that AGR/H cannot carry stress, as in 25. Further evidence of the clitic-like behaviour of H is to be found in sentences in which the predicate is questioned. Compare the well-formedness of 39a, with the past tense copula, with the ungrammaticality of 39b, which is in the present:

39. a. ma ata xoSev Se dan haya
what you think that Dan was
'What do you think that Dan was?'

b. *ma ata xoSev Se dan hu
what you think that Dan H

(Berman & Grosu, p. 278)

From the ill-formedness of 39b, it appears that even when AGR does not

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9. But note the following (from Doron, p. 104):

(i) ma ata xoSev Se haya dani
what you think that was Dani
'What do you think that Dani was?'

(ii) ma ata xoSev Se hu dani
what you think that [H] Dani
'What do you think that Dani is?'

If these judgements are correct, then the clitic H apparently can move to a head position that is already filled by an element to which it can cliticise. However, there is some disagreement with respect to the judgements. My informants judge (i) as somewhat less than perfect, and (ii) as even worse. In fact, my informants consider (iii) almost perfect:

(iii) ma ata xoSev Se-dani
'What do you think that Dani (is)?'

while the same example is judged by Berman & Grosu as almost totally unacceptable. I leave the matter open.

cliticise onto a verb, it is nevertheless required to cliticise to the next phonological element.[10] Thus, AGR, or H, cannot be the last phonologically non-null element in a clause. This view predicts that when H is followed by another phonologically non-null element, the sentence will be acceptable:

40. ma ata xoSev Se-dan hu lo
what you think that-Dan H NEG
'What do you think that Dan is not?'

When H is followed by a non-null element, it can cliticise onto that element, and so the result is acceptable. H, then, is not an independent element, in spite of superficial appearances to the contrary.[11]

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10. It is possible that this cliticisation takes place at the level of PF, rather than in the syntax.

11. In this way AGR looks somewhat similar to prepositions in Hebrew, which can never be stranded, and even more similar to the following cases in which the verb whose direct argument is moved must be followed by some non-null element. Note the following contrast (which occurs only in non-restrictive relatives):

(i) a. ?*Ilana, Se dan ohev, hi axot
'Ilana, who Dan loves, is a nurse.'

b. Ilana, Se dan pagaS bamesiba, lo sovelet oti
'Ilana, whom Dan met at the party, can't stand me.'

(Grosu (1975), p. 298)

This requirement seems simply phonological, which is somewhat odd. Perhaps Case assigners usually cannot be stranded in Hebrew. (See also the facts of accusative et in Chapter 4.) However, the contrast does not appear to extend to all cases of direct argument extraction, since either of the following is possible:

(ii) et ma david ra'a
ACC what David saw
'What did David see?'

et ma ra'a david

In sum, and to return to our main point, sentences containing H, a clitic, do not exhibit the same syntactic behaviour as sentences containing the copula verb.

There is yet another fact that is a problem for an analysis of H as verbal. If H is verbal, then it should be able to appear with any subject. While H can follow either an NP or a proper name subject, it cannot appear in predicative sentences when the subject is a personal pronoun (although in general, verbs with agreement can appear together with subject pronouns):

41. *ani (ata) hu student
I (you-ms) 3ms student
(cf. ha-yeled hu student
the boy H student)

*hi hi xola
she 3sf sick-f
(cf. ha-yalda hi xola
the girl H sick)

We may conclude then, that H cannot be analysed as a verb.

Note that the restriction against H being present when the subject is a personal pronoun does not hold of all constructions, as the equative in 42 illustrates:

42. ata hu ha-more
you H the-teacher
'You are the teacher.'

Any analysis of H should account for the fact that when there is a pronominal subject, H is allowed in equative constructions, but disallowed in predicative constructions. Nor is it a simple matter of H being obligatory in the former and disallowed in the latter construction type. Rather, H is only optionally present in equative constructions with

pronominal subjects. Thus, along with 42, there exists also 43:

43. ata ha-more
'You are the teacher.'

When the two noun phrases of this identity construction are reversed, though, only one of the two possibilities above is grammatical:

44. ha-more hu ata
'The teacher is you.'

*ha-more ata

These facts pose a problem for any analysis of H, its categorial status, and its function.

I have given arguments that H is to be analysed neither as a subject nor as a verb, and I have shown that analysing H as AGR allows a straightforward account of certain facts. In the following sections, I give arguments in favour of the analysis of H as the realization of the AGR features in INFL. I show that only under such an analysis can the varied facts of Hebrew nominal sentences be accounted for. The obligatoriness of H in certain constructions will be seen to follow from the analysis of H as AGR, an element whose presence is always necessary in certain sentence types due to the requirement of Case on all argument noun phrases. The impossibility of H in other constructions is also accounted for under my analysis.

In the next section, I present Doron's (1983) analysis of H as agreement clitic, and argue against both the derivations of H and of nominal sentences, and the conditions on the derivations proposed by Doron. In section 3, I propose an alternative approach. I discuss

properties of equative constructions and the role of AGR as evidence for my proposal; I argue for a small clause analysis of sentences of the type in 5 above. The small clause account and my analysis of H are further supported by an examination and analysis of embedded predicative and equative constructions in Hebrew. Finally, I discuss the facts of nominal sentences with pronoun subjects, arguing for an analysis in terms of subject (feature) incorporation into AGR. In sections 4 and 5, I discuss the issue of definite predicates and the facts of generic subjects in nominal sentences in Hebrew.

2.1.4 A Note on INFL Specification in Hebrew Tenses

Doron argues that classifying sentences as either tensed or untensed does not make a fine enough distinction for the classification of Hebrew sentences. She proposes a three-way classification of Hebrew sentences into <u>tensed</u>, <u>present</u>, and <u>infinitival</u>. Tensed and present sentences are finite, as opposed to infinitives. The INFL of finite sentences is specified for a feature bundle <u>AGR</u>, for which the INFL of infinitivals has no specification. Tensed and infinitival sentences have the feature [tense] in INFL, while the INFL of the present does not. Tensed sentences are further classified as being either [+past] (past) or [-past] (future).

Thus, the INFL node may be specified for [tense], [past], and/or AGR. A summary of Doron's system of the specification of INFL in Hebrew sentences is in 45:

45. present sentences AGR

infinitival sentences [tense]

tensed sentences AGR [tense] [past]

I agree with Doron that Hebrew sentences should be divided into three basic types, and I agree with her, for the most part, as to the specification of INFL for each type of sentence. The difference between present and past/future sentences in Hebrew, is that the latter have a specification for the feature [past]. Note that this is unlike English, in which every tense has a [past] feature, and in which this feature distinguishes between past and present, rather than between past and future, as in Hebrew. The English system of INFL specification is in 46:12

46. tensed (past, present) AGR [+/-past]

infinitives

future sentences AGR [-past] [unrealized]

However, I do not believe that the feature [tense] is necessary. Any sentence in Hebrew which has AGR features, is interpreted as tensed, just as in English. Thus, there is no need to specify a [tense] feature as well as AGR. When AGR is absent, the sentence will be understood as having no tensed interpretation, i.e. as an infinitive. If a sentence is tensed, it will have, along with agreement features, the tense features (ed in English, for example). These features, then, either appear as morphemes or

---

12. The division between future and the other two tenses, as opposed to present tense versus the other two is also what we find in Arabic.

they do not appear at all (unlike the feature [past]). Thus, there is not a feature [+/-tense];

Thus, in contrast with Doron's system of INFL specification, the system I shall assume is that in 47:

47. present sentences — AGR

infinitival sentences

tensed (past/future) sentences — AGR [+/-past]

I assume here that the unmarked tense is the present. Thus, if no tense feature is specified (when AGR is generated), the sentence is understood as in the present.

2.1.4.1 AGR

Just as there is no [+/-tense] feature, there is no +/-AGR. AGR is not a feature like [+/-past], but rather is composed of a bundle of features, such as person, number and gender. Any given AGR is a morpheme(s). For example:

48. $AGR = \begin{bmatrix} sing \\ masc \\ 3rd \end{bmatrix}$

AGR is a collection of ϕ-features, the same features that characterise pronouns, and is not merely a type feature. If AGR is defined as a bundle of grammatical features, then there is no such thing as an empty AGR, as in 49:

49. * AGR
|
e

ϕ-features do not constitute a null element requiring proper government, even when these features are not <u>phonetically</u> realized on the surface. When no ϕ-features are present in a given structure, there is no AGR. Nor is a trace left when the features that constitute AGR move to cliticise to a verb.

AGR is thus opposed to INFL, for example. INFL is the head of the sentence in both English and Hebrew, and exists independently of whether or not it has content. Thus, INFL can be null; and when there is movement from INFL to COMP, the resulting null INFL has a type feature (but no ϕ-features). An empty INFL is indeed an empty category that must be properly governed, as I discuss below.

While I do not recognize the existence of a null AGR, there are current analyses which do include this concept, and which assume that empty AGR can assign nominative Case. Therefore, throughout the following sections, along with my arguments which rely on the impossibility of a null AGR, I will be demonstrating that the presence of an empty AGR is not licensed.

<u>2.2 Doron's Analysis of Nominal Sentences</u>

Doron (1983) analyses the pronoun which shows up in present tense nominal sentences, (as in 6 or 50 below, for example) as the phonological realization of 'unattached' agreement features that have absorbed Case.

Thus, to sentences of the type in 50:

50. Dani hu more
Dani he teacher
'Dani is a teacher.'

Doron assigns the D-structure in 51:13,14

51. $[_{INFL}\ [_{AGR}$ [3rd][sing][masc]]] dani more

The S-structure is the same, but with the addition of Case assignment and the application of free indexing:

52. $*[_{INFL}\ [_{AGR}$ [3rd][sing][masc]]] $dani_i$[Nom] more

The position of more in (52) is an A-bar position, so is neither indexed nor Case-marked. (More is not an argument, but a theta-role-assigning predicate.)

Doron assumes that structures containing unrealized AGR features are always filtered out; thus, (52) is ruled out since INFL contains features that are never realized as part of a morpheme or affix.

The S-structure in (52) is saved from ungrammaticality if the AGR features are realized. According to Doron, this is possible only if AGR is assigned the [Nom] Case normally assigned to the subject:

53. $*[_{INFL}\ [_{AGR}$ [3rd][sing][masc]] [Nom]] $dani_i$ more

---

13. Under Doron's analysis of the underlying constituent order of Hebrew, INFL is in sentence-initial position.

14. I am not sure why Doron includes the feature [person] in AGR in these present-tense sentences, since she shares the common assumption that there is no [person] feature in the present tense agreement in Hebrew.

The AGR here has a phonological realization, namely Pron (Doron's term for the pronoun-like element which I've been calling H). Doron's Pron is a clitic in that it is not an independent node, but part of INFL. But 53 yields (54), which is ill-formed because Dani, the subject NP, is not assigned Case.

54. *hu Dani more

Doron argues that first, move-alpha applies, moving the subject to an A-bar position where the Case Filter doesn't apply to it; however, since the empty category left by topicalization, a variable, is not assigned Case, the structure would still be filtered out. So, Doron assumes that free indexing can apply to AGR too, which (applying after topicalization) yields the following:

55. $Dani_i$ $[[_{INFL}$ $[_{AGR}$[3rd][sing][masc]]$_i$ [Nom]] e_i more]

$\langle AGR_i, e_i \rangle$ form a chain which is Case-marked, similar to that of $\langle clitic_i, e_i \rangle$.

Thus, Pron is a clitic, the phonological realization of a feature bundle: [[person][number][gender][Case]].

2.2.1 Problems with Doron's Analysis

I find several problems with Doron's analysis. First, Doron's analysis depends on a conception of AGR in which its phonological realization depends on its receiving Case. When the AGR features are not realized, the structure is ruled out. However, under Doron's general analysis, the same features in another position (i.e. subject position),

while requiring Case in order to be phonologically realized, do not force a structure's unacceptability if they are not realized.

Another fundamental concept on which Doron's analysis depends is that movement to an A-bar position frees a noun phrase from the need for Case. Assuming a theory of Visibility, the NP must receive Case since it is assigned a theta-role. The variable left by the NP's movement will thus require Case in any event. It is possible that the 'real' subject is AGR, which receives both Case and a theta-role, and that the 'subject' NP is coindexed with AGR. But if that is the case, then the chain ⟨AGR, e⟩ contains two arguments (since the empty category left by A' movement is a variable), and is thus not only not identical to a clitic chain (as claimed by Doron), but should be ruled out.

Moreover, allowing free indexing to be the means by which a Case-less NP receives Case removes the need for 'movement-for-Case' in Passive and Raising structures, since the Case-less NP can always be coindexed with the empty NP in (matrix) subject position. Thus incorrect surface structures (such as e seems Mary to have left and e was eaten the pie) would not be ruled out.

Also, since indexing AGR with the empty subject position (by free indexing) allows a chain to be formed so that the empty category is in a Case-marked chain (as in 55), it is not clear why this indexing is unavailable when the noun phrase is still in subject position, as in 52 or 53. Thus, there would be a Case-marked chain $\langle AGR_i, Dani_i \rangle$, and the subject would have no need to move to the A-bar position (a move that must happen

somehow anyway, given Doron's INFL-initial analysis of the underlying structure). Doron claims that such a chain is unacceptable, because it contains two arguments, thus violating the Theta Criterion. I do not see how both AGR and the subject NP can be analysed as arguments in the same structure. However, if indeed AGR and the subject NP are both arguments, then AGR and the variable left by the NP's movement are both arguments, and such a chain is ill-formed, as noted above.

2.2.1.1 Sentences Without H

As for sentences of the type in 5, Doron derives them as follows: 52 can be saved from ungrammaticality if there are no AGR features requiring realization. Doron, therefore, concludes that sentences like 5, or 56 below, must have an S-structure in which INFL is not specified for AGR features. As the present tense INFL contains only [AGR] and has no specification for [past], when AGR is absent the INFL is empty. Doron thus assigns to 56:

56. Dani more
Dani (a) teacher
'Dani is a teacher.'

the structure in 57:

57. $[_{INFL}$ e] $dani_i$[Nom] more

Thus, by generating an empty INFL, Doron derives the second nominal sentence type. (I argue below that such an analysis is not possible, since the empty INFL is not identified (properly governed) in the structure of 57, and is therefore not licensed.)

However, if we assume the existence of the structure in 57, the fact of its unacceptability in certain cases (e.g. relative clauses; see below) cannot be explained. Moreover, the ungrammatical *lo dani more, with the negative particle lo in INFL, cannot be prevented. Since dani presumably has Case in such a structure, nothing forces the NP dani to move in order to yield the grammatical dani lo more. Another fact that requires explanation under an analysis in which 57 is the structure of predicative nominal sentences, is the reason such a structure cannot also underlie equative sentences (yielding *hamore dani), since Case assignment is obviously possible in the structure.

In conclusion, Doron's analysis of Pron/H as AGR accounts for many of the facts of nominal sentences which are discussed in section 1. Moreover, such an analysis explains why Pron never co-occurs with a verb. Once a verb is generated, the INFL features (including AGR) attach to it, and thus the realization of AGR as Pron will not take place. However, as noted above, the analysis of the derivation of nominal sentences runs into several problems. I disagree, too, with the basis of the analysis.

2.2.2 A Note on Hebrew Word Order

Doron's analysis of nominal sentences and Pron crucially rests on her analysis of the underlying constituent order and structure in Hebrew and the derivation of the surface order, an analysis which has several serious flaws. First, Doron assumes that INFL is sentence-initial. Also, although Doron assumes that the unmarked order on the surface is subject-verb-object, and that verb-subject order, when it appears, is the

result of verb fronting, she argues that an INFL-NP-VP D-structure is the necessary assumption in order to derive all the possible surface word orders in Hebrew (S-V-O, V-S-O, O-S-V, and O-V-S). For example,

58. SVO: rina hexzira le-dani et ha-sefer
Rina returned to Dani ACC the book
'Rina returned the book to Dani.'

VSO: ?hexzira rina le-dani et ha-sefer
'Rina returned the book to Dani.'

OSV: et ha-sefer rina hexzira le-dani
'Rina returned the book to Dani.'

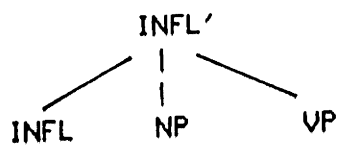
OVS: et ha-sefer hexzira rina le-dani
'Rina returned the book to Dani.'

VOS: *hexzira le-dani et ha-sefer rina

(Doron, p. 49, 51)

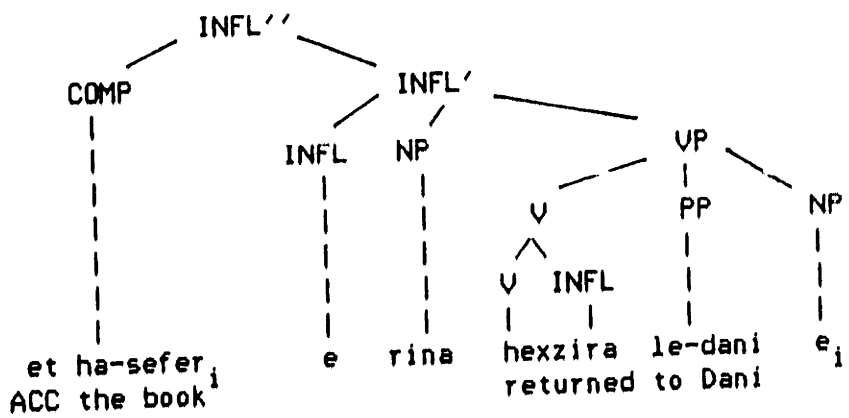
Doron proposes that the Hebrew sentence has the following structure:

59.



From this structure Doron derives the unmarked S-V-O order by adjoining INFL to V in S-Structure. This, together with object topicalization, results in the OSV order, for example, as follows:

60.

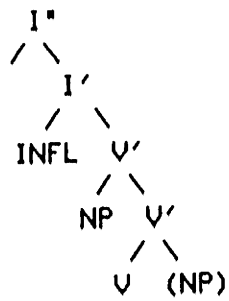


(Doron p. 52)

The downward movement of INFL to the verb does not appear to abide by any constraint; nor does Doron assume that the traces of V and INFL (from various movements) must be governed.

Doron's INFL-initial order, in which INFL, NP, and VP are all at the same level, is not the same as recent proposals of INFL-initial D-structure orders, e.g., that of Koopman & Sportiche (1985); and Fukui & Speas (1986), for example:

61.



Under such an analysis for Hebrew, either 'subject raising' takes place in <u>every</u> sentence for the subject to receive Case (leftwards) from INFL; or INFL can assign Case rightwards. Doron's analysis of the subject's movement (in nominal sentences) because of AGR's absorption of nominative Case would appear to favour the latter approach. Thus, Doron's analysis of nominal sentences could be worked out (with some adjustments) assuming the structure in 61, but the same objections I have raised above would still hold.

I am not arguing that an analysis of underlying INFL-initial word-order is not possible for Hebrew. Rather, we can assume the structure in 61, and assume too that, like English, the subject must raise to the

[specifier,IP] position in order to receive Case. This movement would be required in all sentences, whether nominal or verbal. The derivation of nominal sentences, then, would be a straightforward matter, as I proceed to show in the next section. The point is that it is not relevant to my argument whether or not the subject moves to [specifier,IP] position to get Case under an INFL-initial analysis, or whether the subject is generated in that position in a subject-initial analysis.[15] What I object to are Doron's assumptions of underlying constituent order and of the assignment of Case by INFL rightwards. These assumptions result in the derivation of surface word orders by unconstrained movements, as well as in the derivation of nominal sentences by the movement of the subject to A' position to avoid the need for Case (resulting in the problems that I have discussed above). According to Doron, 'This explains why Pron is never sentence initial... in spite of the fact that INFL is sentence initial and that Pron is located in INFL' (p. 108).

Doron's assumption of the INFL-initial word order as underlying the nominal structures requires much movement of various constituents so that the correct order eventually surfaces. Under Doron's analysis, the movements are necessary because of Case considerations. Note that the noun phrases move, not to get Case, but in order to avoid the need for it.

Doron's analysis of nominal sentences rests on her assumptions of the underlying constituent order and derivations of surface order in Hebrew.

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15. Although the difference is relevant to Williams' theory of predication, which requires the subject to be external to the maximal projection of the predicate.

Since there appears to be no reason to assume her proposed D- and S-structure constituent orders, there does not appear to be a reason to assume her analysis of nominal sentences.

In the next section, I argue for an alternative analysis. Under my analysis, a basic NP-INFL-XP order for Hebrew in general is assumed (whether generated thus, or due to the NP's movement for Case). Thus the underlying order and surface derivation for nominal sentences is the same as that for verbal sentences. The underlying constituent order in Hebrew, then, is the same as in English.[16] The differences that appear on the surface have to do with the composition of INFL and whether or not INFL is generated.

2.3 H As INFL and Case Assigner

While I disagree with Doron in her analysis of the derivation of Pron/H, there are certain elements of her treatment of H which I shall adopt. As noted above, I too assume that H is the realization of the features of AGR, although Case is not a condition of such realization under my approach. Doron assumes that Pron is disallowed in verbal constructions (7 above, for example) because the morphology of verbs requires the addition of number and gender features at the syntactic level; if these features remain in INFL to form a clitic, the verb is ill-formed. Like

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16. But see the proposal in Shlonsky, forthcoming.

Doron, I assume that a verb requires AGR, or inflection, to be well-formed. Thus, when a verb is present in a sentence, the AGR features cliticise to it, and the formation of H is thus prevented.

I turn now to the question of the identity and function of H.[17]

2.3.1 H as AGR

It has been shown that H in the present tense seems to be the equivalent of the copula in the past and future tenses. First, as noted above, H in the present tense is in contrastive distribution with the copula h-y-y in other tenses. Also, H, like verbs in the present tense, agrees only in number and gender with the subject. However, I argued above that H cannot be analysed as a verb. I account for these facts as follows:

The features of AGR, which are generated under INFL, attach to the nearest verbal element and then surface attached to the verb. Thus, when the copula is present (in the past and future tenses), the AGR features will attach to it, and so will not be realized as H.

In the present tense, the only element in INFL is AGR. Since this is the only tense with no tense feature, this is the only tense which does not require a verb. When there is no verb (or no copula), the AGR features surface as they are, that is, they are realized as H. Thus, the complementary distribution in tenses of H and the copula is accounted for.

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17. This analysis is not that presented in Rapoport (1985), which I now believe to be wrong, for reasons discussed in Chapter 3, among others.

It is clear too why H has number and gender features only, i.e. the features of present tense agreement: H is AGR of the present tense.

As I will argue in Chapter 3, the copula is not present at D-structure, the level at which thematic relations are represented. Moreover, since there is no argument for inserting it at an earlier stage, let us assume that in Hebrew, the copula is inserted at PF. AGR assigns nominative Case to the sentence subject, i.e. the NP in [spec,IP] position. AGR is the Case assigner in the past and future tenses as well as the present tense, but is not visible (as H) in the other tenses because it attaches to the copula h-y-y (as does the feature [+/-past]) when h-y-y is inserted. AGR must attach to h-y-y because the verb requires AGR (if not le 'to') to be well-formed. H-y-y is required because a tense feature is in INFL, and tense features must cliticise to a verb. If, in the past tense, AGR were to be realized as H, yielding David hu h-y-y+past student for example, the final form of the copula would be ill-formed, as it would not have AGR features.[18] Once the copula is there for the AGR features to attach to, H will not surface.

Thus, the structure underlying the examples of 2, nominal sentences with H, repeated here in 62:

62. a. ha-yeled hu student
the boy [3sm] student
'The boy is a student.'

---

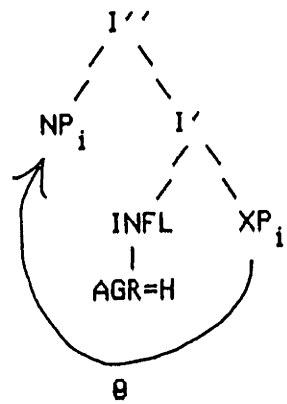
18. There may also very well be a restriction that AGR and tense features do not act independently of one another when both are generated.

b. ha-yalda hi pikxit
the girl [3sf] smart
'The girl is smart.'

c. david ve-tali hem nexmadim
David and-Tali [3pl] nice
'David and Tali are nice.'

is that in 63:

63.



Below I present facts of Hebrew which are accounted for only under an analysis of H as AGR, thus providing evidence in favour of such an analysis. I draw on the facts of equative constructions and embedded clauses in Hebrew to support my analysis.

2.3.2 Equative Constructions

In 62 above, the NPs ha-yeled, ha-yalda, and david ve-tali are the subjects respectively of an NP, an AP, and an AP predicate. In cases of predication, the predicate's external theta-role is assigned to the subject NP. The predicate does not receive a theta-role; therefore, it does not require Case.

As I will argue in Chapter 3, no copula verb is semantically required in predicative sentences. In fact, in certain environments in English

predicative sentences, be (and INFL) need not be present at all, as illustrated in the b. examples below:

64. a. I proved the author to be a genius.
I proved the author a genius.

b. I found the lecture to be a bore.
I found the lecture a bore.

On the other hand, be must be present in all syntactic environments for an equative reading to be possible:

65. a. I proved the King to be that man over there.
*I proved the King that man over there.

b. I find David to be the King.
*I find David the King.

I will argue that this is because a small clause is a predicate-headed construction, and the second NP in the identity relation is an argument, not a predicate, and therefore cannot head a small clause.

Like be in English, H in Hebrew is obligatory in equative sentences:

66. ha-melex hu david — *ha-melex David
the king [3sm] David
'The king is David.'

David hu ha-more — *David ha-more[19]
David [3sm] the teacher
'David is the teacher.'

Tali hi ha-iSa ha-zot — *Tali ha-iSa ha-zot
Tali [3fs] the woman this-f
'Tali is this woman.'

An equative nominal sentence with no H is ill-formed.

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19. Doron accepts examples of this type, i.e., those in which the second NP is definite, as grammatical. See section 4 for discussion.

I assume that there must be a governing head to mediate the identity relation between the two noun phrases in equatives, both of which are arguments and therefore require Case. (See Chapter 3 for details.) Under an analysis of H as AGR, the connections between these requirements and the fact that H must always be present in Hebrew equative constructions is obvious.

H, as AGR, is the head of the construction and governs the two noun phrases. H assigns nominative Case to both NPs it governs. Thus the requirements on the identity reading are met only if H, AGR, is present. When AGR is absent, there is no head through which to assign the identity relation. And when AGR is absent, no Case is assigned to the post-copular NP. Furthermore, since the post-copular NP is not a predicate, there is no way for the pre-copular NP to receive Case either. (I suggest below that Case is transmitted as part of the predication and agreement relation. There is no predication relation in equatives. Nor is there necessarily agreement between the two noun phrases, as the following illustrates:

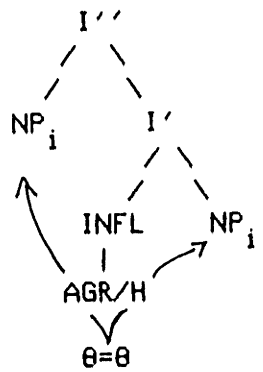
67. golda me'ir hi roS-ha-memSala
Golda Me'ir-(f) 3sf head(m)-the-government
'Golda Me'ir is the Prime Minister.

Thus, in the ill-formed equatives above, we must assume that there is no head present either to mediate the identity relation, or to assign Case to the two argument NPs. The sentences without H are then ruled out both for the functional requirement on the thematic relation of identity, and for reasons of Visibility.

In the examples that do contain H, these requirements are met. H/AGR

mediates the identity relation and assigns nominative Case to both NPs of the construction; the structure is thus grammatical. Present tense equatives have the structure in 68. (Note that AGR governs both noun phrases.)

68.



The equative structure is similar to that underlying the English equative equivalent. In English, the fact of the necessity of INFL for equative constructions is somewhat obscured by the presence of the copula <u>be</u>. Irish, on the other hand, appears similar to Hebrew in that a pronominal element is necessary in equatives.[20] Consider the following Irish sentences:

69. a. Is <u>é</u> an múinteoir an sagart
COP him the teacher the priest
'The teacher is the priest./The priest is the teacher.'

cf. Is sagart Niall
COP priest Niall
'Niall is a priest.'

*Is (é) Niall sagart

---

20. I am grateful to Ken Hale for pointing out the facts of Irish (and explaining them) to me.

b. Is í Sinéad an bhanaltra
COP her Jane the nurse
'Jane is the nurse.'

(Stenson (1981) pps. 103, 110)

Similar also are the facts of Russian, in which a demonstrative pronoun (which does not agree; i.e. the unmarked neuter form) must be present in equatives, but is not present in predicatives:[21]

70. a. Ivan eto Petr
Ivan this-n Peter
'Ivan is Peter.'

*Ivan Peter

b. Ivan eto tot samyj čelovek
Ivan this-n this-m very man
'Ivan is that very man.'

*Ivan tot samyj čelovek[22]

cf. Ivan student
'Ivan is a student.'

In Hebrew equative structures, as in predicatives, we find complementary distribution of the copula with H:

71. a. ha-melex (*hu) haya/yihye david
the king was/will be David
'The king was David.'

b. david (*hu) haya/yihye ha-melex
David was/will be the king
'David was the king.'

AGR assigns nominative case to both NPs in the past and future tenses

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21. Thanks to Boris Katz for these data.

22. This sentence is acceptable if a long pause is inserted between the two noun phrases.

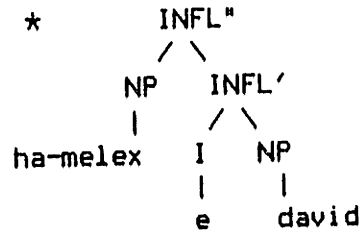
as well as in the present. In the non-present tenses, those with a tense feature in INFL, the copula is inserted at PF to support the [past] feature, and AGR (and [past]) features cliticise to it.

2.3.3 Matrix Small Clauses

The actual structure of the examples without H must still be described. Is it that in both structures in 5 and 6 AGR is present and its phonetic realization as H is optional, or is it that there is no AGR at all in structures in which H is absent? If the former is correct, then we do not expect to find a construction in which the optional phonetic realization of AGR (the presence or absence of H) is significant. We can test this with a construction in which we know that AGR is necessary, that is, the equative construction. In the ill-formed examples of 66, if there were a (phonetically unrealized) AGR, this element would be able to assign Case, there would be a mediating functional head for the identity relation, and the starred examples above would be well-formed. However, as these examples are ungrammatical, we must assume that there is no element present to act as governing head and Case assigner when none is visible. In other words, when H does not surface, no AGR is present.

Nor can an equative have the following structure:

72. *



For one thing, since there is no AGR in 72, there is no element to assign Case to the two NPs, both of which must be visible for the Theta Criterion. Thus 72 is ruled out.

However, the structure in 72 is ruled out regardless of Case considerations due to the presence of the null INFL, which is not licensed.

I assume a requirement that all null elements be identified. Travis (1984) argues that proper government (required for the ECP) is essentially the requirement that every gap be identified (and that the content of every gap be recoverable) (p. 172). The presence of a gap may be identified in two ways: (i) by being required through complementation (if a lexical item requires an argument and no argument appears, there must be an empty category); and (ii) by the presence of a local antecedent (if there is an operator then, since vacuous quantification is disallowed, there must be a variable in its domain). The content of a gap is recoverable when the gap is coindexed with an element with the proper features.

Now in 72 there is a null INFL which cannot be identified. There is no element in the structure to identify the presence of INFL: there is no element which can only be in INFL; nor is there a complementiser which selects INFL. For this reason, the empty INFL is not licensed, and the structure in 72 is ruled out. I assume, then, that empty INFL (i.e. one containing no features at all) is always unlicensed in a root clause (with

no complementiser).[23]

Even if there were a null AGR generated in the INFL of 72 (a possibility which I do not believe to exist, since AGR is a collection of features, as discussed in section 1), an equative sentence would still be impossible. even though a null AGR can assign Case (in a certain view). Just as nothing can identify the null INFL in 72, there is no complementiser to select AGR in INFL. Since nothing identifies AGR, there is no way to recognize AGR's Case-assigning properties. Since the Case-assigning properties of AGR are not visible, the two noun phrases cannot receive Case. Thus, not only does the structure in 72 violate Travis' requirement of the identification of null elements, but it also violates the Case Filter (or Visibility) as well. The structure in 72 cannot underlie a well-formed sentence.

I have concluded that if AGR is not present, an equative sentence is impossible. We know too that H must always be present in an equative sentence. Since an equative without H does not contain AGR, and is therefore ill-formed; and since the structure in 72 is ungrammatical, the starred equative sentences of 66 must contain, then, only the two noun phrases. To conclude, the only possibility for an equative (present tense) sentence in Hebrew is a full clause, which contains H, the realized AGR.

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23. Such identification is restricted to types: identification of an X^0 must be by an X^0; and identification of an XP must be by an XP. This then rules out the possibility of a null INFL being identified by the subject. However, such a possibility could only exist in an analysis which does not include the possibility of a matrix small clause. Once we assume the existence of such a constituent, we cannot assume the possibility that a subject always identifies INFL.

I turn now to the question of the structure of the predicative sentences which contain no H, those of 5 in section 1, repeated here in 73:

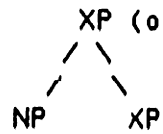
73. a. ha-yeled student
the-boy student
'The boy is a student.'

b. ha-yalda pikx-it
the-girl smart-f
'The girl is smart.'

c. david ve-tali nexmad-im
David and-Tali nice-pl
'David and Tali are nice.'

I have argued that whenever AGR is generated in non-verbal sentences, H appears on the surface; when AGR is absent, so is H; and also, as evidenced by equative sentences, when H is absent, the case-assigning AGR is absent too. Let us proceed on these assumptions, along with the fact that a predicative sentence cannot have the structure of 72. Regardless of the fact that AGR is not necessary for Case assignment in predicative nominal sentences (since there is another way for the subject to get Case in predicatives), the Identification requirement is always violated by such a structure, due to the presence of the null INFL. Thus, the sentences of 73 must have a structure which contains only the two phrases and does not contain a null INFL (or AGR) requiring identification. I propose, therefore, that these sentences are small clauses, having the structure in 74:

74.



In Hebrew, unlike English, INFL need not be generated in a matrix

structure.[24] Moreover, since Hebrew has no tense feature (i.e. [+/-past]) in the present tense, INFL can be generated containing only AGR. This is what underlies sentences of the type illustrated in 6 or 62, as shown in 63. As we see above, AGR need not be generated either. One reason for this is that there is no tense ([+/-past]) feature, which usually implies the existence of AGR. When a tense feature is in INFL, a verb must be generated, and to be well-formed must also have AGR features. But when there is no tense feature, nothing forces AGR to be generated either. Thus AGR need be generated in Hebrew. In Hebrew, then, there must be an alternative way of performing those functions that AGR performs in other languages.

2.3.3.1 Case in Matrix Small Clauses

One reason that AGR has been argued to be necessary (in certain constructions in certain languages) is Case. In English, for example, AGR is required so that the subject noun phrase, i.e. the phrase in [spec,IP] position, may receive nominative Case. (For our purposes, we can assume that AGR actually assigns nominative Case to the sentence subject.) All argument noun phrases must receive Case. In English, if AGR is not generated in a finite sentence, the resulting structure is ruled out for Case (or Visibility) reasons.

But I have argued, on the other hand, that AGR is not present in Hebrew small clause nominal sentences. Given that the subject NP must

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24. For an account of this difference, see Chapter 5.

still receive Case, we must assume that in Hebrew there is a way of accomplishing this that is not available in English.

In a matrix small clause, in which there is no governing verb or preposition to assign Case, there must be a way other than government by a Case-assigning head for the subject NP to get Case.

Mouchaweh (1986), arguing that the presence of an empty inflection in a nominal sentence is not necessary for Case assignment, suggests the following rule of nominative Case assignment in Arabic, a language in which, like Hebrew, nominative is the unmarked Case:

75. Le cas nominatif est inséré au NP si et seulement si :
i. NP est le sujet d'une prédication et ne se trouve pas au niveau de la RP dans le domaine du gouvernment d'un marqueur casuel *N *V.

ii. NP ne peut hériter un cas.

(Mouchaweh, p. 168)

Mouchaweh suggests that the subject NP in a matrix small clause receives Case along the lines of 75i. and thus needn't be governed by inflection.

I shall assume some version of 75, i.e. that the subject of the predication relation is assigned nominative Case when it is not governed. However, a rule like 75 in languages that allow matrix small clauses is not entirely arbitrary. We find 75 (assuming the lack of morphological Case) only in languages with morphological agreement.

I propose that just as AGR in a sentence assigns nominative case in English, agreement on a predicate can assign nominative case in Hebrew. In

Hebrew, feature (here, gender and number) agreement is part of the predication relation (as it is part of the adjective-noun relation).[25] This is illustrated in the following:

76. david (hu) xole
'David is sick.'

tali (hi) xola
'Tali is sick.'

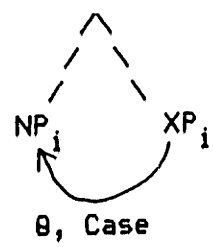
tali ve-david (hem) xolim
'Tali and David are sick.'

tali ve-xeli (hen) xolot
'Tali and Xeli are sick.'

As we can see from the gloss in these examples, the English equivalents do not involve agreement.

When agreement is part of predication, Case is also part. Thus, along with the theta-role, Case is assigned by the predicate.

77.



It certainly is feasible that Case be transmitted along with the theta-role transmission of predication. Under the hypothesis of Visibility (e.g. Chomsky (1984) following Aoun), an element is visible for theta-marking (can receive a theta-role) only if it is in a Case-marked position (or is linked to a Case-marked position). If an argument does not

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25. Of course we also find number and gender agreement in equatives, but not necessarily, as noted above.

receive Case, then it can not be theta-marked, it is therefore not licensed, and the resulting structure is ruled out. Thus it is not surprising to find both Case and a theta-role transmitted by the same relation.

There are several conditions on Case assignment by an XP predicate.

I assume that such Case assignment is possible only where the predicate XP governs the NP to which it assigns Case. I take government by a phrasal category to be as suggested in Travis (1984). Travis argues that a VP may theta-mark (and properly govern) its subject complement, if the VP and NP subject are adjacent, as well as in the appropriate structural relation for government. Extending the idea of phrasal government to projections of categories other than verbs, we can see that in 77, the XP (predicate) is in the appropriate configurational position to govern the NP subject, and the XP and its subject NP are adjacent; thus the predicate governs the NP.

Furthermore, such Case assignment is possible only when nothing governs either of the participants in the predication relation. (Note that the formulation of 75 allows nominative Case to be incorrectly assigned to the subject of an infinitive, since no Case-marker governs that subject. I therefore assume the stronger restriction that nothing can govern the subject.) Since no other governor can be present for Case assignment by the predicate to take place, the possibility of such Case assignment will never arise in a verbal sentence, for example, since the verb will be generated only if INFL (with the Case-marking AGR) is. In verbal

sentences, as in sentences with H, nominative Case is assigned to the subject by AGR.

I am restricting Case assignment by an XP to cases in which the XP has agreement, and agrees with the subject to which it assigns a theta-role. In 77, the predicate governs the NP to which it assigns a theta-role, it agrees with that NP, and there is no other governor: the predicate can then assign the NP Case.

This is not to say that every language with morphological agreement allows matrix small clauses. Italian, for example, has such agreement yet does not have matrix small clauses. But in Italian, INFL is always generated, so the question of how Case is to be assigned in a matrix small clause never arises. Morphological agreement is only necessary for Case assignment in a language that has the option of not generating INFL in every sentence. Thus, we expect to find small clause nominal sentences only in a language with morphological agreement.[26]

There is evidence that the Case assignment by a predicate depends on that predicate having agreement. Consider the following:

78. a. ??sara pil
Sara(f) elephant(m)
'Sara is an elephant.'

cf. david pil

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26. This restriction does not necessarily hold in a language with morphological Case.

b. ??miryam xamor
Miryam(f) donkey(m)
'Miryam is a donkey.'

cf. yehoSua xamor

Note that it is not the case that the predication relation is disallowed whenever there is no agreement. Rather, in order for the predicate to assign Case to its subject, the predication relation must also involve agreement. Thus when there is no need for the predicate to assign Case, the predication relation, in which the two participants do not agree, is allowed:

79. a. sara hi pil
Sara H elephant
'Sara is an elephant.'

b. miryam hi xamor
'Miryam is a donkey.'

Thus, it would appear that agreement on a predicate in a matrix small clause enables that predicate to assign Case to its subject.

However, this analysis is called into question by the existence in Hebrew of sentences like the following:

80. a. Sabtai ve-dana ba-mo'adon
Sabtai and-Dana in the-club
'Sabtai and Dana are in the club.'

b. yoram al ha-traktor
Yoram on the-tractor
'Yoram is on the tractor.'

c. avivit im ha-xolim
Avivit with the-sick
'Avivit is with the sick.'

Such sentences have a counterpart with H:

81. a. Sabtai ve-dana hem ba-mo'adon
Sabtai and-Dana [3plm] in the-club
'Sabtai and Dana are in the club.'

b. yoram hu al ha-traktor
Yoram [3sm] on the-tractor
'Yoram is on the tractor.'

c. avivit hi im ha-xolim
Avivit [3sf] with the-sick
'Avivit is with the sick.'

80 and 81 appear parallel to the examples of 5 and 6. If we then analyse the structures in 80 and 81 as we have analysed their counterparts with NP and AP predicates, then the examples of 80 are small clauses. However, in such structures, Case cannot be assigned by agreement as part of the predication relation, since the prepositional phrases do not contain agreement. Thus, we must assume that Case is assigned by something other than the predicate. So for now, I will assume the rule in 75, while noting that the facts of 78 and 79 remain unexplained under such an analysis.[27]

To conclude, Hebrew has a way to assign Case to the subject of the small clause nominal sentence. AGR is not required for the purpose of Case assignment, and is needed neither for tense purposes nor to complete a verb, since no tense feature or verb has been generated. Thus the structure in 77, a matrix small clause, is well-formed in Hebrew, and underlies sentences which are grammatical.

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27. However, only locative PPs are possible in H-less nominal sentences like 80. It may well be the case that locative PPs are not predicates at all, i.e. that the P and the location do not form an XP predicate. It is possible that the subject NP and the location are related through the preposition by virtue of the fact that it directly theta-marks both phrases.

Hebrew has the choice of full or small clauses for matrix clauses. In Hebrew, too, when INFL has no [past] tense feature, no verb need be generated. Hebrew also has the option of realizing AGR features (i.e. H) when no tense feature (and no verb) is generated. When a tense feature is generated in the Hebrew INFL, a verb must also be present. In English, on the other hand, there must be an INFL node in every (matrix) sentence (which always contains a tense feature (in finite sentences)). English, then, never allows small clauses as root clauses.

As for embedded clauses, in English there is a choice between full and small clause non-finite complements, often for the same verb. For example, the verb <u>prove</u>:

82. I proved [David innocent]
I proved [David to be innocent].
(I proved [that David is innocent].)

Interestingly, Hebrew which, as discussed, has no restriction on the form of matrix clauses, does not have the choice English does with respect to embedded clauses. There is a very restricted set of embedded small clauses in Hebrew, as discussed in Chapter 4. Moreover, there are no exceptional Case-marking structures (i.e., Case-marking of an element that is not an argument of the verb, over the projection of an IP), as illustrated in 83:

83. *hoxax-ti [(et) David lihyot xaf mi-peSa]
proved-1-s (ACC) David to be innocent
'I proved David to be innocent.'

Rather, almost all verbs in Hebrew subcategorize only for CP with the complementiser <u>Se</u>:

84. hoxax-ti Se-David hu xaf mi-peSa
proved-I that David [3ms] innocent
'I proved that David is innocent.'

I have argued for a small clause analysis of one class of Hebrew nominal sentences. I have based my argument for such an analysis on the analysis of H as AGR, together with the facts of equatives. Equative sentences in Hebrew must always contain H, i.e. AGR. If there were an unrealized AGR in a nominal sentence, an equative reading should be possible, since the requirements for equatives (Case, for one) would be met. However, since equative sentences are ungrammatical without H, I have had to conclude that when H does not appear on the surface, AGR is not present underlyingly (in any form).

2.3.4 A Brief Survey of Nominal Sentences in Russian and Arabic

I have argued for a small clause analysis of certain matrix nominal sentences in Hebrew. It is worth noting that Hebrew is not the only language whose nominal sentences can be analysed thus. Two other languages which contain matrix small clauses are Russian and Arabic.

In Russian, according to Kayne (1984), the present tense copula sentence, as in 85, is a small clause.[28]

85. a. etot mal'čik bol'noj
this boy sick
'This boy is sick.'

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28. Current work by Kayne would allow the following nominal sentences to be analysed as AGR (as opposed to INFL) phrases.

b. etot mal'čik student
this boy student
'This boy is a student.'

That no (null) verb is present in such structures is shown by the ill-formedness of such examples with instrumental Case on the predicate. The predicate can have instrumental Case only when a verb is present.

86. a. Ivan student
Ivan-NOM student-NOM
'Ivan is a student.'

b. *Ivan studentom
Ivan-NOM student-INST

cf. Ivan byl student(om)
Ivan-NOM was student-NOM/INST
'Ivan was a student.'

It appears too that there is no null INFL or null AGR in nominal sentences in Russian. There is neither a definite article nor an indefinite article in Russian. However, the following sentence is not ambiguous:[29]

87. Ivan vrač
Ivan doctor
'Ivan is a doctor.'
*'Ivan is the doctor.'

and the following are not well-formed equatives:[30]

88. *tot samyj čelovek Ivan
this very man Ivan
'This very man is Ivan.'

*Ivan Petrov

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29. I thank Kate McCreight for this information.

30. Data due to Boris Katz.

The obvious conclusion to draw from the fact that only a predicative sentence is possible, and that an equative sentence is impossible, is that there is nothing in the structure besides the two noun phrases.

Another language which contains matrix small clauses is Arabic, as analysed by Mouchaweh (1986). Mouchaweh demonstrates that matrix and embedded small clauses in Arabic share many properties; and argues that neither contains a null INFL. Some examples of nominal sentences in modern Standard Arabic are:

89. a. Zaydun mari:ḍun
Zayd-NOM sick-NOM
'Zayd is sick.'

b. Zaydun ṣadi:q-i:
Zayd-NOM friend-my
'Zayd is my friend.'

c. Zaydun fi dda:ri
Zayd-NOM in the house-GEN
'Zayd is in the house.'

(Mouchaweh p. 137)

Returning to Hebrew, I now move on to a discussion of embedded sentences which must contain H. The small clause account of sentences without H, together with the analysis of H as AGR, account for H's apparently arbitrary presence in embedded structures.

2.3.5 Relative Clauses and Long-Distance Questions

In both relative clause and long-Wh-moved nominal constructions, whether equative or predicative, H is obligatory. Consider the following

relatives:[31]

90. a. david, Se- hu student, gar be-yeruSalayim
David, that-H student, lives in-Jerusalem
'David, who is a student, lives in Jerusalem.'

b. *David, Se-student, gar be-yeruSalayim.

91. a. david, Se-hu ha-melex, gar be-yeruSalayim
David, that-H the-king, lives in-Jerusalem
'David, who is the king, lives in Jerusalem.'

b. *david, Se-ha-melex, gar be-yeruSalayim.

92. a. ha-baxur Se 'amar-ta Se hu student
the young man that said-2sm that H student
'the guy who you said is a student'

b. *ha-baxur Se 'amarta Se-student

93. a. ha-'iSa Se 'amar-t Se hi ha-menahel-et
the-woman that said-2sf that H the-director(f)
'the woman who you said is the director'

b. *ha-iSa Se-'amart Se-ha-menahelet

94. zot ha-yalda Se david amar Se *(hi) me'uSer-et
this-f the girl that David said that H happy-f
'This is the girl who David said is happy.'

In the equative examples (91 and 93), H is obligatory in an embedded clause, as it is in the main clause counterpart. However, in the predicative examples (90, 92 and 94), H is also obligatory, even though in main clauses of predication H is optional.

In these relative clause examples, H cannot be analyzed as a resumptive pronoun. It has been argued (Borer, 1984; Sells, 1984) that resumptive pronouns cannot appear in the topmost subject position in

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31. The sentences with non-restrictive relative clauses are somewhat marginal in the first place. The contrastive judgements, though, are clear.

Hebrew. This point is illustrated by the following examples:

95. ha-'iS Se pagaS-ti oto
the man that met-1s him
'the man who I met'

(cf. ha'is Se pagaS-ti _)

96. *ha-'iS Se hu pagaS et Rina
the man that he met ACC Rina
'the man who met Rina'

(cf. ha-'iS Se _ pagaS et Rina)

(from Sells, 1984)

In the following examples as well, in which the subject of the embedded clause has been extracted, H is required in both predicative and equative clauses:

97. a. mi amar-ta Se-hu student
who said-2s that-H student
'Who did you say is a student?'

b. *mi amar-ta Se-student

98. a. mi amar-ta Se-hu ha-melex
who said-2sm that-H the king
'Who did you say is the king?'

b. *mi amar-ta Se-ha-melex

Again, in spite of the distinction in root clauses as to the requirement of H, H is obligatory in both the predicative and the equative embedded sentences above.

We have seen that H cannot be analysed as a resumptive pronoun in the relative clauses. Nor can H be analyzed as a subject pronoun in 97 and 98. In structures of this type, no subject is required, nor even permitted. To illustrate this point, consider the following example, in which the lower

clause contains a verb:

99. a. mi amar-ta Se-holex ba-regel
who said-2sm that walks on foot
'Who did you say walks/is walking on foot?'

b. *mi amar-ta Se-hu holex ba-regel

Resumptive subject pronouns are disallowed even in environments which do not allow pro-drop, i.e. when the subject is in the third person or when the sentence is in the present tense.

Yet H in sentences with long Wh-movement is obligatory.

For Doron, the absence of H in the examples of subject extraction indicates that the embedded nominal sentences lack AGR in INFL. Because of this fact, the empty subjects are not properly governed in the sentences without H. Doron suggests that this could be due to the fact that the index of the intermediate trace in COMP, necessary for proper government of the embedded subject, cannot be assumed by Se without AGR. Thus, the ill-formed b. examples are ruled out by the ECP. (Doron does not explain why the presence or absence of AGR affects the possibility of the assumption of an index by Se.)

While I agree with Doron that relative clauses and long Wh-movement structures are ruled out by the ECP when H is not present, I propose that the ECP is invoked for entirely different reasons than those she assumes.

As I now demonstrate, the facts of embedded nominal sentences above follow from the analysis I've proposed; in particular, that H is AGR and that the structures without H are small clauses.

In each of these embedded constructions, there is a clause introduced by the COMP, Se 'that'. Items in COMP obligatorily subcategorize for I'' (that is, S), of which INFL is the head. Thus, whenever there is COMP, there is INFL.[32]

Whenever INFL, together with its AGR and/or tense features, is present, these features must be realized. INFL must always be visible, somehow. If there is a tense specification, a verb is required to realize the features of INFL. As noted previously, this is why be is required in English predication structures, although it is (originally) without semantic content. Since AGR is the only feature in INFL in the Hebrew present tense, and it must be realized, AGR surfaces as H. So when INFL is present and AGR is generated, H appears in the present tense.

Given these two points, it is clear why H is obligatory in the embedded structures above. Small clauses have no INFL; thus, small clauses cannot be introduced by COMP; or, as stated, a clause introduced by COMP must contain INFL, since it is the head of the complement selected. As noted, most Hebrew verbs, x-S-v 'think' for example, subcategorise only for C'' (S') complements; once COMP, the head of C'', is selected (and thus, is always present in Hebrew), there is no way of having an embedded small clause.

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32. Note, furthermore, the special feature relationship that exists between COMP and INFL. In English, for example, that selects a finite INFL, i.e. an INFL with a [past] feature; for in COMP selects an INFL with no tense feature. In general, then, a tensed COMP selects a tensed INFL, which also contains the [AGR] features of that tense. COMP and INFL, then, go hand in hand.

The clause subcategorised for is headed by COMP, and so must contain INFL. Since INFL contains AGR features, H is the result. Thus H is always obligatory in relative clauses and long-Wh questions. Given my claim that H-less nominal sentences are small clauses, the fact that they are impossible is explained, since INFL is required by the COMP.

The obligatoriness of H in these embedded constructions is explained only under an analysis of H as AGR in INFL. An analysis of H as the subject cannot account for its being obligatory in clauses in which a subject pronoun is excluded; nor can such an analysis account for the fact that H is obligatory in the embedded parallels of matrix sentences in which it is optional.

2.3.5.1 COMP and Small Clauses

My analysis predicts that a language which has only the option of a small clause in a particular situation, (with no other option, like that of H in Hebrew), will not allow clauses of that type embedded under a complementiser. In Russian, as mentioned, present-tense predicative structures are small clauses. My analysis predicts that these exact structures cannot be in COMP-initial complements. Indeed, relative clauses which are present-tense nominal structures are impossible:

100. a. *ja vštretila čeloveka kotoryj vrač
nom. acc. nom. nom.
I met man who doctor
'I met a man who is a doctor.'

b. *ja ljublju devušku kotoraja krasivaja
nom. acc. nom. nom.
I love girl who pretty
'I love the girl who is pretty.'

(McCreight, 1984)

A full clause as a relative is, of course, possible. Thus, the ill-formed sentences above are grammatical when put in the past tense, in which INFL (and the copula verb) is present:

101. a. ja vštretila čeloveka kotoryj byl vračom
nom. acc. nom. instr.
I met man who was doctor
'I met a man who was a doctor.'

b. ja ljubil devušku kotoraja byla krasyvoj
nom. acc. nom. instr.
I loved girl who was pretty
'I loved the girl who was pretty.'

(McCreight, 1984)

In Arabic, too, we find this same restriction, i.e. that complementisers cannot introduce small clauses. Consider the following:

102. a. Zaydun mari:ḍun
Zayd-NOM sick-NOM
'Zayd is sick.'

b. ?inna Zaydan mari:ḍun
que Zayd-ACC sick-NOM
'Zayd is sick.'

c. ?aḍunnu Zaydan mari:ḍan
I believe Zayd-ACC sick-ACC
'I consider Zayd sick.'

d. ?aḍunnu ?anna Zaydan mari:ḍun
I believe that Zayd-ACC sick-NOM
'I believe that Zayd is sick.'

(Mouchaweh, p. 179)

The predicates are in nominative Case in 102b, and 102d, but in 102c, the predicate has accusative Case. Mouchaweh points out that this is particularly interesting in view of the fact that the complementiser ?anna, and its morphological variant ?inna, assigns Case like the verb, and thus should be able to assign accusative Case to the embedded predicate as well as to the subject. Mouchaweh attributes this difference to the fact that the internal structure of the sequence (NP Pred) is not the same in 102b, d. as in 102a, c.[33]

We can see that the verb in 102c. governs both the subject of the small clause and the predicate, by the fact that it assigns to them both accusative Case. The complementiser ?inna/?anna in 102b, d. governs the following subject, which receives accusative Case.[34] The embedded predicate, however, does not receive accusative Case, which means that it is not governed by COMP. If we assume that a small clause cannot follow COMP, and that only a clause headed by INFL can be selected by COMP, we can account for the facts here. The subject and predicate following COMP must be part of a clause containing INFL. Thus, while the subject is topicalized (according to Mouchaweh) and thus receives accusative Case, the predicate is governed by INFL, and so receives nominative Case (or alternatively, is ungoverned, and so gets the default, nominative, Case).

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33. Mouchaweh proposes a different structure than that which I am assuming here; see below.

34. I assume that the subject in these cases precedes the predicate as a result of topicalization, a movement which adjoins the subject to the IP from which it is moved.

Mouchaweh, too, claims that a small clause cannot follow a prepositional complementiser, though for a reason different than that suggested here. Noting the ungrammaticality of the English *I want for John happy, she proposes the following principle:

103. Si une SC prédicative est gouvernée par un marqueur casuel elle functionne comme un argument.

Thus, when a small clause follows a (Case-assigning) prepositional complementiser, although it must function as an argument, it cannot receive a theta-role from the COMP. Thus, a small clause following a COMP violates the Theta Criterion. Mouchaweh proposes the following structure for such cases:

104. $[_{S'}$[?inna / ?anna] $[_{S}$.$[_{TOP}\ N_i\ ]\ [_{SC}\ e_i$ Pred]]]

(Mouchaweh, p. 180)

In this structure the small clause is not in the minimal domain of the complementiser, from which it is separated by the topicalized NP.

Mouchaweh, then, does not assume that INFL must necessarily be the head of the constituent following the COMP. Mouchaweh's analysis of these facts differs from the one I am proposing here. However, it is worth emphasizing that both accounts require the [NP Pred] construction to have a different structure when embedded directly under a COMP than the small clause strucure it has in isolation.

One apparent counter-example to Mouchaweh's account, noted by her, is the following Hebrew sentence (from Doron):

105. hu xoSev Se dani more
he thinks that Dani teacher

However, Mouchaweh notes that the NP adjacent to the complementiser Se is not marked accusative (i.e. by et). Thus, since Se is not a Case assigner, it is not in the class of complementisers containing ?anna and for, and nothing prevents a small clause from following it. In the next section, I offer an alternative account for sentences like 105, which the analysis that I have proposed in this section would appear to exclude.

In conclusion, I have suggested that COMP always selects an INFL-headed clause.[35] The facts of Arabic and Russian seem to support this. However, one language in which a complementiser introduces a small clause is Irish, as analysed in Chung & McCloskey (1985):[36]

106. Ba mhaith liom gan Eoghan mé a fheiceáil
I-would-like COMP(NEG) Owen me see(-FIN)
'I would like for Owen not to see me.'

Cén fáth gan í a bheith deacair
what readon COMP(NEG) it be(-FIN) hard
'Why wouldn't it be hard?'

(C & M pps. 16, 17)

---

35. Jane Simpson has pointed out to me the existence in English of small clauses introduced by the preposition with:

(i) With Sara sick, we didn't bother going out.
With Sara away, we partied all day.
With only Sara left to notice, we got careless.

Note, however, that not all of the small clauses in (i) are possible as argument small clauses. Predicates such as away and left to notice are not possible predicates under verbs like consider, find, or prove.

36. Due to this fact, Chung & McCloskey suggest that small clauses in Irish belong to the category S.

(Note that all these small clauses are verbal, as opposed to the nominal sentences under discussion above. NPs cannot be predicates in Irish.)

The properties of gan, the negative complementiser, as noted by Chung & McCloskey (p. 18), suggest that it is a prepositional complementiser (like English for, for example). Thus, it would appear that Mouchaweh's explanation for the impossibility of small clauses after prepositional complementisers does not hold, at least not universally.

I return now to the facts of embedded [NP Pred] clauses in Hebrew.

2.3.6 Declaratives

2.3.6.1 Predicatives

As noted, my analysis seems to predict that 107a., with no H, is impossible, although both 107a. and 107b. are grammatical:

107. a. 'amarti Se-David tembel
said-I that David dunce
'I said that David is a dunce.'

b. 'amarti Se-David hu tembel
'I said that David is a dunce.'

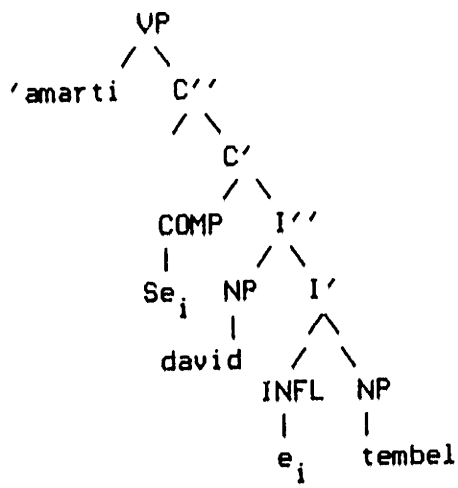
Given my claim above that a small clause introduced by COMP is not a possible option, we must assume that INFL is indeed present in 107a., as well as in 107b. in which it is visible. However, if INFL is present in 107a., why isn't it realized as H?

I propose that the absence of H in 107a. is the result of the generation of an empty INFL. There are several consequences of having an

empty INFL, one of which is that there are no AGR features to be realized. In such a case then, what appears to be a small clause is present.

However, the empty INFL, like all (non-pronominal) empty categories, must be identified in order to be licensed. Thus, the empty INFL must be properly governed. What licenses a null INFL in the embedded clause in 107a. is the presence of Se in the embedded COMP. Se (antecedent) governs the empty INFL, thus identifying the empty INFL as such. (Alternatively, since COMP obligatorily selects INFL as its complement, the fact of COMP's presence also 'identifies' the presence of the empty INFL.) Thus we have the following structure:

108.



In 108, the Se in COMP properly-governs the empty element in INFL, with which it is coindexed. (COMP is coindexed with the INFL it selects.) Thus, the null INFL is licensed and 108 is well-formed.

2.3.6.2 Equatives

As for embedded equative sentences, the option of generating an empty INFL should not be available. If INFL is empty, there is no AGR in it, and

thus there is nothing to assign Case to the two noun phrases in the construction. We can thus predict that an equative reading, as opposed to a predicative reading, is impossible in an embedded structure without H:

109. a. *'amarti se-ha-melex david

b. 'amarti se-ha-melex hu david
said-1 that the king [3-m-s] David
'I said that the king (is) David.'

And in fact, as 109b. shows, this prediction is correct. (Even if there were a possibility of a null AGR in INFL, this element, unlike INFL, would not be identified by COMP; its Case-assigning property would therefore not be visible, as discussed in the last section; and the sentence would be ruled out.) An equative sentence without H is always ruled out because the two NPs of the construction do not receive Case.

2.3.6.3 Long Wh-Movement Revisited

However, a question now comes up with respect to the examples of extraction discussed above. Given the possibility of the generation of an empty INFL, why can't the Wh-moved predicative examples be generated thus, and so result in a grammatical sentence in which H doesn't surface?

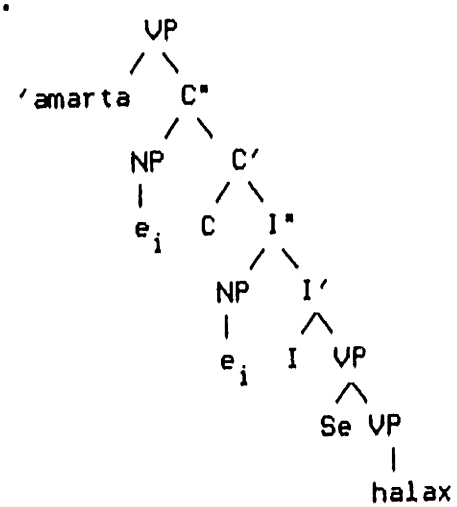
The answer lies in the strategy which Hebrew uses to avoid a that-trace (ECP) violation. The following Hebrew sentence is good, unlike its English counterpart:

110. mi amar-ta Se-halax
who said-2sm that-left
'Who did you say (that) left?'

Shlonsky (1985) offers an elegant account of the well-formedness of such sentences in Hebrew. Shlonsky argues that Se (which is a phonological clitic) is also syntactically a clitic, base-generated as head of COMP. At S-structure, Se cliticizes to adjoin to the nearest lexical element to its right. The movement of Se leaves the head position of COMP empty (with no trace).

Wh-movement of the subject is into (or through) the specifier position of CP. In order for the resulting structure to be well-formed, the Wh-word or Wh-trace in [spec,CP] position must govern the trace in [spec,IP] position. This is not possible when the head position is filled with a complementiser. But when Se cliticises, the head position no longer acts as a barrier to government. The trace of the moved subject, in the specifier position of CP, can then antecedent-govern the Wh-trace in the specifier position of IP (subject position). The structure resulting from both the Wh-movement and the cliticisation of Se is as follows:

111. mi_i...

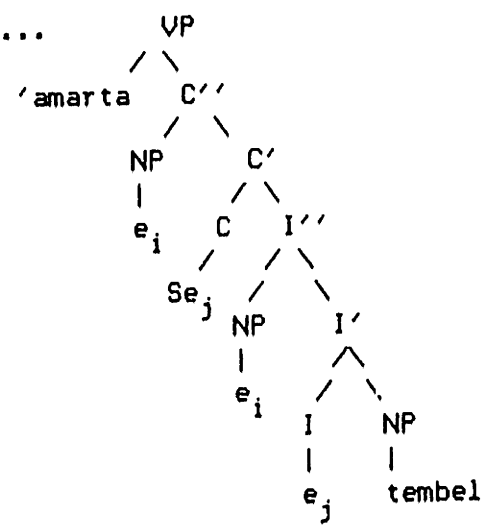


mi amarta Se-halax?
'Who did you say (that) left?'

In adopting Shlonsky's account, I will assume that the movement involved in Se's cliticisation, like any syntactic movement, is, in principle, optional. In the well-formed examples of subject extraction above, then, Se has cliticised down to allow proper government of the subject trace, as illustrated in 111. However, this movement is not enough to save the sentences in which H is absent. Such long-distance questions, in which INFL is generated empty, are still ill-formed. The reason for this is as follows.

Recall that Se in COMP is what governs the null INFL, thereby licensing it. But it is Se which cliticises, thereby allowing the trace in CP's specifier position to govern the empty subject. Thus, there is a conflict between the two functions that Se must perform. If, on the one hand, Se remains in the head position of COMP so as to govern the null INFL, the trace in COMP's SPEC position cannot govern the empty subject, which is therefore not licit:

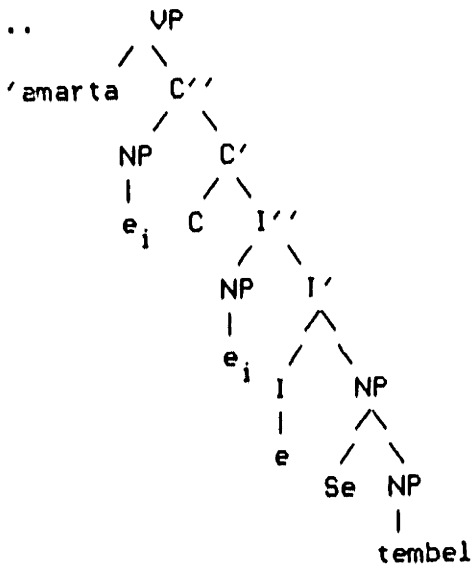
112. *mi_i ...



On the other hand, if Se cliticises to allow the trace in [spec,CP] to govern the empty subject, then the null INFL is no longer properly

governed, and is thus not licensed:

113. *mi$_i$ ...

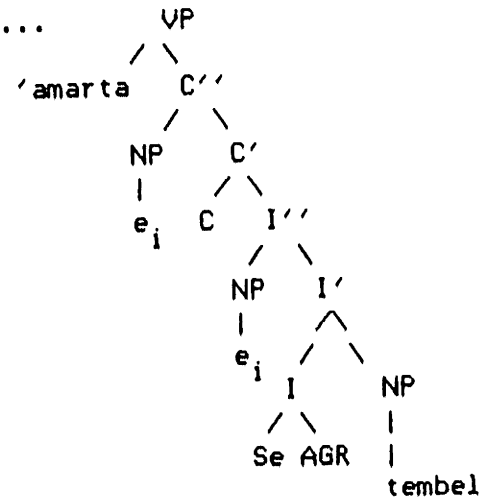


*mi amarta Se-tembel?
'Who did you say (that) is a dunce?'

Thus, whether or not Se cliticises, there is always one empty element that is not licensed. Therefore, such structures, i.e. embedded clauses with a null INFL from which the subject has been extracted, are always ill-formed.

However, when the subject is extracted from an embedded clause in which INFL is not generated empty, i.e. it contains AGR features, INFL no longer constitutes a null element requiring identification. Se is not then required for the purpose of identifying INFL and is free to cliticise to H, to allow the trace in [spec,CP] position to antecedent-govern the variable in subject position. The AGR features in INFL are then realized as H:

114. mi_i ...



mi amarta Se-hu tembel?
'Who did you say (that) is a dunce?'

This is why H is always present in examples of long Wh-movement.

As for relative clauses, the analysis carries over. If Se remains in the head of COMP to license the null INFL, it does not allow the operator in [spec,CP] to properly govern the empty subject position. If, on the other hand, Se cliticizes to allow the operator in [spec,CP] position to govern the empty subject, an empty INFL is not licensed. (Alternatively, if Se is coindexed with the empty INFL, it cannot be coindexed with the empty subject, and vice-versa.) Thus, INFL cannot be generated empty for a well-formed relative clause to result. And so H is always present in nominal relative clauses.

The option of generating a null INFL is not available in a matrix clause (as discussed above), since there is no content in COMP to properly-govern and identify INFL in order to license its being empty:[37]

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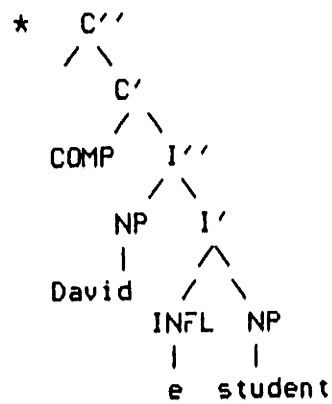
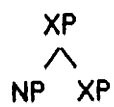
37. Alternatively, there is no COMP at all in matrix clauses in Hebrew.

115.



In matrix clauses, when INFL is generated, it cannot be null. When H is not present in a matrix clause, then, the only possible structural analysis is, as argued, a small clause:

116.



Further support for the small clause analysis rests in the fact that, in root clauses, unlike embedded clauses, the subject can be questioned from a sentence which does not contain H:

117. mi student
who student
'who is a student?'

Obviously, there is no violation of the Identification requirement here. But if there were an empty INFL, governed, let's say, by a null operator in COMP, then 117 would be disallowed for the same reason as its embedded counterpart: the CP could not be governed out of by both mi 'who' and the empty operator in order to license both the WH-trace and the empty INFL, respectively. Thus, if 117 had the structure of 115, it would be disallowed. The fact that 117 is grammatical constitutes another argument that this matrix sentence has the underlying structure in 116, a small

clause.

The behaviour of H in embedded sentences is thus accounted for. Assuming that H is AGR; a small clause analysis of matrix sentences in which H is absent; and that COMP obligatorily selects a projection of INFL: the fact that H is obligatory in embedded structures of long Wh-movement and relative clauses whereas it is optional in embedded declaratives and in matrix clauses is explained.

2.3.7 Pronouns in Nominal Sentences

Subject pronouns present a unique problem in an analysis of nominal sentences. Recall the data presented in section 1. As noted there, while there are two types of predicative nominal sentences, only one of the constructions, the small clause, is allowed when the subject is a pronoun:

118. a. ani student
I student
'I am a student.'

b. at student-it
'You(f) are a student.'

c. hu student
'He is a student.'

cf. david student
tali studentit
david ve-tali studentim

When the subject is a pronoun, whether in first, second, or third person, the full clause with H is apparently disallowed:

119. a. *ani <u>hu</u> student
I H student

b. *at hi student-it
you(f) H student

c. *hu hu student
he H student

cf. david hu student
tali hi studentit
david ve-Tali hem studentim

Predicative clauses with pronominal subjects are ill-formed with H.

No account of the ungrammaticality of the examples of 119 can be made in terms of the impossibility of two adjacent pronominal elements, given the well-formedness of the following equative sentences:

120. a. ani hu ha-more
I H the-teacher
'I am the teacher.

b. at hi ha-mora
'You are the teacher.'

c. hu hu ha-more
'He is the teacher.'

cf. david hu ha-more
tali hi ha-mora
david ve-tali hem ha-morim

In equatives, H is possible regardless of subject type.

Whereas the predicatives with pronoun subjects can use only one of the two constructions possible for other noun phrases, the reverse is true of equatives with pronoun subjects. Such sentences are well-formed, apparently without H, as opposed to equatives with non-pronominal subjects:

121. ani ha-more
I the-teacher
'I am the teacher.

at ha-mora
'You are the teacher.'

hu ha-more
'He is the teacher.'

cf. ..david ha-more
*tali ha-mora
*david ve-tali ha-morim

Both constructions, that with and that without H, are possible for equative sentences if the subject is a pronoun.

Note that when the second NP is a pronoun, and H is absent, an equative sentence is ungrammatical. Thus compare the following:

122. at ha- mora
you the-teacher
'You are the teacher.'

123. a. ha - mora hi at
the teacher[fem] she you-f
'The teacher is you.'

b. *ha - mora at

(Doron, p. 115)

Thus we are faced with the following situation. On the one hand, what is allowed for lexical NPs in predicative sentences is disallowed for pronouns. On the other hand, what is impossible for lexical NPs in equatives appears to be acceptable for pronouns. Moreover, an account of these facts must also explain the facts of embedded clauses: that INFL seems to be obligatorily null in embedded predicative clauses with pronominal subjects (H is impossible):

124. a. hu 'amar Se-ani student
he said that-I student
'He said that I am a student.'

b. *hu 'amar Se-ani <u>hu</u> student

and that a null INFL is apparently acceptable in embedded equatives with a pronoun in subject position, although in general an equative sentence is impossible in a structure with a null INFL:

125. a. hu 'amar Se-ani ha-more
he said that-I the teacher
'He said that I am the teacher.'

b. hu 'amar Se-ani hu ha-more

I turn first to Doron's account of nominal sentences containing pronouns.

2.3.7.1 Doron on Pronouns

Doron argues that subject personal pronouns are clitics in INFL. (She accounts for the facts of pro-drop in Hebrew in this way.) Doron analyses H as a clitic in INFL. Thus, a subject pronoun is actually H, or Pron in Doron's terms. In this way, from the following structure:

126. $[_{INFL}\ [_{AGR}[2nd][sing][masc]]_i[Nom]]\ \ e_i\ \ more$

127a. is derived; as 127b. shows, no 'extra' pronoun is generated in the cases when the subject is a pronoun:

127. a. ata more
you-sm teacher-m
'You are a teacher.'

b. *ata hu more

(Doron, p. 95)

One problem for this analysis is the fact that the second person feature (of the surface pronoun in 127a.) appears in AGR in INFL position. Recall that agreement in present tense does not have a person feature. Given this fact, its sudden appearance in examples such as 126 requires some explanation.

Moreover, it is not clear what status the chain formed by (at, e) has. Since the clitic in INFL appears to be the argument, it is not clear what the empty category in subject position is.

As for equatives, Doron argues that in 122, too, the subject pronoun, i.e. Pron, is present, with the underlying structure of 128:

128. $[_{INFL}\ at_i]\ e_i$ ha-mora

and that Pron assigns Case and a theta-role to ha-mora.

Under Doron's analysis, both NPs must be assigned theta-roles by Pron in equative constructions. Doron writes that 'The function of the copula as a theta-role assigner and a Case assigner is assumed in Hebrew by the Aux h.y.y. in tensed sentences, and by Pron in nontensed (present) sentences' (p. 112). In Chapter 3 I argue against an analysis in which the copula is a theta-role assigner in equative constructions. In the case here, it is not explained how it is possible for Pron, a clitic, to be capable of assigning a theta-role. The fact that AGR can assume this role seems rather odd. Moreover, Doron assumes that only the second NP in equative constructions is assigned a theta-role; it is not clear how the first NP, the subject (chain), meets the Theta Criterion.

Recall that there are equatives in which two pronominal elements do show up, as in 129:

129. at hi ha -mora
you-f H the teacher
'You are the teacher.'

Doron accounts for the presence of two Prons by assigning to 129 the D-structure of 130, in which the NP ha-mora originates in subject position and the pronoun in predicate position:

130. $[_{INFL}$ AGR] ha-mora [2nd.fem.sing.]

If, on the one hand, AGR absorbs the nominative case that would be assigned to the subject ha-mora, the subject must move to topic position. The result is the sentence in 122a, repeated here:

131. hamora hi at

If, on the other hand, Pron absorbs the Case feature it assigns to at, then at moves to A-bar position and the result is the sentence in 129, whose structure is in 132:

132. $[at_j\ [_{INFL}[_{AGR}hi]_j]]$ ha-mora$_i$ e_j]

Doron does present several arguments (p. 119) that in underlying structure at is the predicate, as in 130, but given the problems above, I will not assume her analysis of the equative structures.

Moreover, Doron does not explain why this analysis cannot be used for the derivation of predicative examples, such as:

133. *at hi mora

for which her analysis allows the following derivation:

134.

		AGR mora at -->	
with Nom Case absorbed by AGR:		hi mora at--)	
<u>at</u> moves to A′ position:		*at hi mora.	

If this analysis is applied to predicative cases, ungrammaticality results. However, there appears to be no way to restrict such an analysis to equative cases.

In addition, the subject's movement to A′ position in predicative sentences is necessitated by AGR's absorption of nominative Case. But in equative sentences, AGR absorbs one nominative Case, while assigning a second. If two Case assignments are possible in equative constructions, why could the same not be true of predicatives? Thus, when AGR absorbs one nominative Case, AGR would nevertheless be able to assign the second Case to the subject, which would then not have to move to A′ position. Since Doron's analysis appears to allow this possibility, there is no way of ruling out the ungrammatical <u>*hu david student</u>, for example.

2.3.7.2 H as Subject

In accounting for the ungrammaticality of both H and a pronoun in predicative examples, I draw on the fact that pronouns are essentially bundles of ϕ-features.[38,39] Thus, 126a. has the underlying structure of 135:

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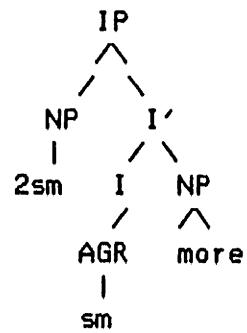
38. I am grateful to Mary Laughren for helpful discussion of the material in this section.

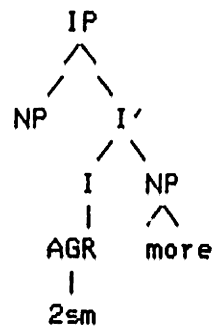
39. Recall that the set of ϕ-features includes person, number, gender, and (as we shall see below) [Wh-].

135.



I propose that AGR can incorporate the pronominal features of an adjacent subject with which it is associated, thus absorbing those features:[40]

136.



The features of present-tense AGR do not include person (as discussed), and when realized in most cases, will be assigned the unmarked value of third person. However, in cases of incorporation, person features can be realized. The pronoun in [spec,IP] position has a person feature. Only this position (or the post-AGR NP) can have a person feature specification. AGR of present tense never has one. Thus, given the presence of the second person feature on the surface, we know that the sentences in 127a. and 118 must have in their underlying structure the

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40. Ken Hale informs me that obligatory (pronominal) subject incorporation, when agreement is present, is often found in verb-initial languages.

subject pronoun, as well as AGR. Due to feature absorption, the distinction between the two morphemes no longer exists at the surface.

I assume there is some constraint on such feature incorporation and absorption. For example, the subject pronominal features can be absorbed only if they do not conflict with AGR features. Thus, [person], for which there is no specification, can be incorporated into AGR, thus adding to the specifications of AGR, as can the number and gender features, which agree. This then is the only way person features can be found in present-tense AGR. Never are person features generated there.

Incorporation is possible only when the [spec,IP] position contains pronominal features. When any other NP is present, it contains information that cannot be absorbed into AGR, i.e. features besides those of person, number, and gender. Thus, we never find absorption in those cases which involve a non-pronominal subject. The direction of the incorporation is also clear: if it were the AGR features that were incorporated into the features in [spec,IP] position, we would expect absorption to take place regardless of the subject type. Since incorporation must take place whenever possible, it would always take place, and we would never have sentences such as <u>david</u> <u>hu</u> <u>student</u> (i.e. with an unabsorbed H), which is obviously not the case. Also, ungrammatical equatives, such as *<u>david</u> <u>ha-more</u>, as the result of feature incorporation, would result. Moreover, we find incorporation only from the [spec,IP] position, as can be seen in the ill-formedness of 122b, repeated below:

137. *ha-mora at
the-teacher you

I assume that the ungrammatical 137 is derived by the incorporation and absorption of the features of the second NP. Such incorporation is therefore impossible. It is not surprising that only incorporation of the subject's features is allowed, given the special relationship that exists between AGR and the NP subject.

Now, once the features of the subject pronoun are incorporated, there is no longer any NP in subject position to which AGR must assign Case. In such instances, where AGR is not needed for Case-assigning purposes, it itself is interpreted as the subject of the predicate. (AGR now contains a [person] feature, so this is not surprising.) As the subject of the predicate, it can receive nominative Case, since the predicate is adjacent (as discussed in the last section). In this way, well-formed (apparent small) clauses result from underlying full clauses. Of course, nothing prevents the generation of a small clause in the first place. Such a structure could directly underlie 127a. as well. But whether a full clause or a small clause is generated, feature incorporation results in the derivation of two identical sentences.

In embedded sentences, incorporation also takes place:

138. *hu 'amar Se-ani hu more

cf. hu 'amar Se-david hu more

hu 'amar Se-ani more
'He said that I am a teacher.'

In this way, we can account for the apparent obligatoriness of a null INFL in the selected clause, which would seem an odd requirement. INFL is not generated null; rather, incorporation of the embedded subject features into

the embedded AGR takes place, as it must whenever Case requirements permit.

As for the equatives, I have argued that both noun phrases in these constructions must receive Case, and that H, i.e. AGR, is required in order to assign Case to the noun phrases. Clauses without H are ungrammatical because Case has not been assigned. The grammatical examples in 121, though, would appear to contradict the claim that both NPs need Case for an equative reading, since, apparently, nothing is present besides the two NPs to assign Case; and yet the sentence is grammatical. However, we must assume that Case is indeed ass.gned if an equative is grammatical and that AGR is indeed present to assign Case. How then are the sentences of 121 derived?

In equative structures incorporation of the subject pronoun's features is impossible. If the subject features are incorporated into AGR, AGR is interpreted as the subject and no longer can be a Case assigner. The new pronoun would not be able to receive Case from the predicate, since there is no predicate in equatives; nor would the second NP be able to get Case. Ill-formed structures would always result, since both noun phrases in equatives require Case. Thus, incorporation in equatives is impossible, at least in the syntax. However, nothing prevents the absorption of features after Case has been assigned, that is, at the level of PF. PF absorption is optional, and thus we have the two variants of equatives with pronominal subjects. In both structures H is present, as necessary in equative structures; in one structure, H is simply no longer phonetically distinguishable.

Despite appearances, a small clause structure is always ill-formed for an equative sentence. Rather, because of the possibility of feature absorption, equative sentences with pronominal subjects appear to lack AGR. They are nevertheless always full clauses.

Two surface variants of equative sentences are allowed in embedded clauses as well:

139. a. hu 'amar Se-ani ha-more
he said that-I the-teacher
'He said that I am the teacher.'

cf. *hu 'amar Se-david ha-more

b. hu 'amar Se-ani hu ha-more

Under an analysis of absorption, the odd fact that a null INFL is apparently allowed in embedded clauses is accounted for. In equatives, where it appears that there is a null INFL, there is simply a subject which has been emptied of features by absorption at PF. INFL cannot be null (or absent) in equative structures.

2.3.7.3 Wh in Nominal Sentences

In section 3.5, we have seen that in long Wh-movement, H is required. Exactly the opposite seems to be true of short Wh-movement.

140. a. mi student
who student
'Who is a student?'

b. *mi hu student
who H student
'Who is a student?'

In these cases, H is disallowed. The pattern in the predicative clauses of

140 appears identical to that of predicative clauses with subject pronouns. In both, H is disallowed.

In equatives, on the other hand, when the subject is a Wh-word, H is optional:

141. a. mi hu ha-more
who H the teacher
'Who is the teacher?'

b. mi ha-more

Again, the pattern is identical to that of equatives with pronominal subjects. For these reasons, Doron suggests that interrogative pronouns are clitics in INFL, just like other pronouns.

If we assume that incorporation of the subject interrogative pronoun into AGR takes place, we can account for the facts here. As in the predicative sentences in the last section, incorporation and absorption always take place in predicative clauses when the two pronoun feature sets are adjacent, thus yielding 140a. However, when the two feature sets are not adjacent, we predict that incorporation will not take place, and H will surface. This is indeed the case:

142. a. mi kan hu student
who here H student
'Who here is a student?'

b. *mi hu student kan

Thus, 140a. can be derived in one of two ways. Either a full clause is generated and incorporation takes place; or a small clause is

generated.[41]

As for the examples of equatives in 141, we can assume the same analysis as that of equatives with pronominal subjects: incorporation is impossible at S-structure because of the requirement of Case on the two noun phrases. The feature absorption at PF is optional, thus yielding the two sentences of 141.

The facts here would seem to accord with Reinhart's (1986) claim that Wh-words are pronouns, while <u>which N</u> Wh-phrases are lexical NPs. This view predicts that when the subject of a predicative sentence is a Wh-phrase, H will be optional, just as it is in cases with lexical NP subjects:

143. a. eyzo yedida Selxa (hi) mora
what(f) friend-f of-you (H) teacher-f
'Which friend of yours is a teacher?'

(Doron, p. 97)

b. eize iS (hu) student
which man (H) student
'Which man is a student?'

cf. david (hu) student

And indeed, when a Wh-phrase is involved, H is 'optional' as is the case in all sentences with non-pronominal NPs.

We do not expect to find incorporation in the sentences with full Wh-phrases. When a full clause is generated, H always appears on the surface, as does the subject, since all the information contained in the

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41. Recall that in embedded clauses in which the subject has been questioned, H is always required; subject incorporation is obviously impossible in embedded cases. I have no explanation for this difference.

subject NP cannot be absorbed into AGR. When a small clause is generated, no H appears on the surface, since no AGR is generated. Thus, the apparent optionality of H in 143 above.

We find the same contrast between Wh-word and Wh-phrase when the predicate is questioned:

144. *ma hu david
what H david
'What is david?'

145. eize min tipus hu david
what kind of type H david
'What kind of person is David?'

From this it appears that incorporation and absorption take place after Wh-movement (and after H moves to avoid being stranded).[42]

Since Wh-phrases are the same as lexical NPs, we expect that just as H is obligatory in equatives with lexical subjects, so H is obligatory in equatives with a <u>which</u> <u>N</u> subject. Such is indeed the case:

146. eize iS hu ha-more
which man H the-teacher
'Which man is the teacher?'

*eize iS ha-more

Equative sentences, too, show the parallel between lexical NPs and Wh-phrases; and between pronominal NPs and Wh-words.

In sum, if we analyse Wh-words as pronouns, we can account for the

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42. If incorporation takes place between adjacent elements only after Wh-movement, we can account for the fact that absorption never takes place in cases of long Wh-movement, since the questioned NP and H are never adjacent once the NP has been extracted.

facts of H in Hebrew. Wh-words, like pronouns, are obligatorily incorporated into the adjacent AGR in predicative sentences, and optionally in equati es. Wh-phrases, on the other hand, like lexical NPs, can be the subjects of small or full clause predicative sentences and full equative clauses. Such NPs do not incorporate into AGR.

2.4 Definite Predicates

In the discussion so far, I have been drawing a clear distinction between two types of structures: predicative and equative. It appears that in Hebrew, predicative NPs are always indefinite, whereas definite NPs, like proper names, can only be used referentially, i.e. in equative constructions. I am claiming, then, that the definite/indefinite distinction is not relevant in and of itself; rather, in Hebrew definite NPs simply cannot be used predicationally. However, this is not strictly true for all speakers of Hebrew. For some speakers, definite NPs are accepted as predicates in certain environments, as I discuss below.

However, I must first point out that whereas I have marked as ungrammatical sentences with definite predicates such as 147:

147. *dani ha-more
Dani the teacher

and Hayon (1973) also stars such sentences (p. 74), Doron (1983) accepts them as grammatical, under the predicative reading. She argues that 147 cannot be an equative, as follows: NPs that do not refer can not be

associated with a non-restrictive relative clause, as 148 shows:

148. *dani more, Se ani makira oto Sanim
Dani teacher, that I know him years

That 147 is predicative can be seen in the fact that the second NP cannot be associated with a non-restrictive relative clause:

149. *dani ha-more, Se ani makira oto Sanim
Dani the teacher that I know him years
'Dani is the teacher, who I have known for years.'

(Doron, p. 113)

Thus, 147, according to Doron, can only be predicative.

My informants do not accept examples like 147. Some do not accept definite NPs as predicates under any circumstances. However, Hagit Borer has pointed out to me the existence of a dialect in which, while 147 is not totally acceptable, definite NP predicates are acceptable under the following conditions: when the predicate is a superlative, or when the sentence is negated:

150. a. ben ha-talmidim, dan ha-more haxi populari
among the-pupils, Dan the-teacher the most popular
'Among the pupils, Dan is the most popular teacher.'

b. dan ha-more haxi muclax po
Dan the-teacher the most successful here
'Dan is the most successful teacher here.'

151. david lo ha-more
David NEG the-teacher
'David is not the teacher.'

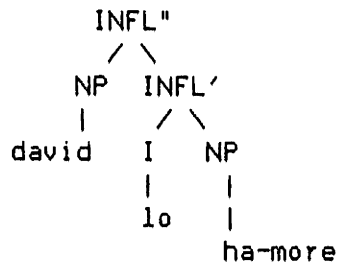
Superlatives are usually interpreted as (indefinite and) predicative (as discussed in chapter 3). For purposes of comparison (i.e. it is not simply the presence of a longer NP), the following is still judged unacceptable by all my informants:

152. *dan ha-more mi-yeruSalayim
(cf. dan hu ha-more mi-yeruSalayim)

'Dan is the teacher from Jerusalem.'

A note about the structure of 151: When the negative lo, an INFL element, is present, the clause containing it is a full clause. Lo must be in INFL, and so its presence in a structure identifies the presence of INFL in that structure:[43]

153.



INFL is identified and the structure is well-formed. (When INFL is not otherwise empty, i.e. when AGR is present, the resulting sentence is david hu lo ha-more.) Lo identifies INFL, but does not identify AGR, as can be seen in the following which, unlike 151, cannot be predicative:

154. *ha-more lo david (cf. 151)

AGR is not identified, its Case-assigning property is therefore not visible, and so an equative with lo but still without H is not possible.

Since the negative lo identifies INFL, we expect that affirmative sentences that have been ruled out because a null INFL is not licensed will have grammatical negative counterparts. Consider the following contrast:

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43. I am grateful to Ken Hale for the suggestion that certain elements necessarily identify the presence of certain categories.

155. a. *mi 'amarta Se-student
who said-2sm that-student
'Who did you say is a student?'

b. mi 'amarta Se-lo student

When INFL is identified by lo, Se is not required for identification and so does not have to govern the (otherwise) empty INFL. Se is thus free to cliticise to the next non-null element, in this case lo, thereby allowing the trace of mi 'who' in [spec,CP] to govern the trace in [spec,IP] position (recall the discussion in section 3.6). Thus, long Wh-movement from a negative sentence with a null INFL can result in a grammatical structure. However, while INFL is identified by lo, AGR is not (as above), and so an embedded equative with a null INFL, despite the presence of lo, is still disallowed:

156. a. *mi 'amarta Se-lo ha-melex/ david
who said-2sm that-NEG the-King/ David
'Who did you say is not the King/ David.'

b. *'amarti Se-ha-melex lo david
said-I that-the-king NEG David
'I said that the king is not David.'

In conclusion, for most Hebrew speakers, definite NPs as predicates are excluded almost always. Moreover, definite NPs can never be predicates in small clauses, even for those who accept definite NPs as predicates; thus when a definite NP is allowed as a predicate in a clause without H, that clause must be a full clause, containing a null INFL which must somehow be identified, e.g. by lo.[44]

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44. For a suggestion as to why lo allows definite NPs to be predicates when otherwise they can not be, see Chapter 5.

2.5 A Note on Generic Subjects

When the subject is generic, we get odd agreement facts in H. Hayon (1973), dealing only with indefinite generics, gives the following examples:

157. maxSevim hem hamila ha'axrona bamada
computers(pl,m) H the word(s,f) the last in the science
'Computers are the last word in the sciences.'

158. znut hi mikcoa atik
prostitution(f) H profession(m)old
'Prostitution is an old profession.'

159. *'ecim (hem) yerukim
'Trees are green.'

(Hayon, p. 75,6)

In 157 and 158 H agrees with the subject, as in most cases in which the two noun phrases do not themselves agree. Agreement with the subject is to be expected if H is indeed the realization of AGR features. In equatives, too, H must agree with the NP in [spec,IP] position when the two NPs have different features. An example of such an equative is the following:

160. golda me'ir hi roS ha-memSala
Golda Me'ir 3sf head(m) the-government
'Golda Me'ir is the prime minister.'

*golda me'ir hu roS ha-memSala

H must agree with the pre-copular NP where the two NPs disagree.

However, my informants do not give for the examples of 158, 159 the

same judgements. 158 is judged questionable (and worse). Rather, my informants preferred 161:

161. a. znut hu mikcoa atik
prostitution(f) 3sm profession(m) old
'Prostitution is an old profession.'

b. znut hu ha-mikcoa haxi atik
prostitution 3sm the-profession most old
'Prostitution is the oldest profession.'

c. Sira hu mekor ha-haSra'a
poetry(f) 3sm source(m) the-inspiration
'Poetry is the source of inspiration.'

Note that unlike the previous examples, in 161 H agrees not with the subject, which is feminine, but with the masculine predicate.

However, 161 contrasts with sentences in which the generic subject is definite:

162. a. ha-znut hi(f)/*hu(m) mikcoa 'atik

b. ha-znut hi/*hu ha-mikcoa haxi atik
the-prostitution 3sf the-profession most old
'Prostitution is the oldest profession.'

c. ha-Sira hi/*hu mekor ha-haSra'a
the-poetry(f) 3sf/*m source(m) the inspiration
'Poetry is the source of inspiration.'

With definite generic subjects, H agrees with the subject of the sentence, as is usual.[45]

Contrasting 161 with 162, we see that the fact that the former contains a generic subject is not what causes H's odd agreement. Rather,

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45. Half my informants allow either hu or hi in 161; none, though, allow hu in 162.

only when the subject is generic and indefinite, is the agreement of H in the 'wrong' direction.

The only conclusion I am able to draw from these facts is that in 161, the two noun phrases are reversed, i.e. the NP originally in subject position, with which H agrees, is now in post-H position. Thus, when the two noun phrases are in their original position (that is, reversed from the order in 161, H still agrees with the subject, now the NP in subject position:

163. ha-mikcoa(m) haxi atik hu(m)/*hi znut
'The oldest profession is prostitution.'

mekor(m) ha-haSra'a hu(m)/*hi Sira
'The source of inspiration is poetry.'

With respect to the examples without H: 161a. is a typical predicative construction, which alternates with the H-less version (according to my informants, although 164 is judged by Hayon as ungrammatical):

164. znut mikco'a atik

As for 159, my informants disagree with Hayon, giving 165 as the (only) grammatical way to say 'Trees are green':

165. 'ecim hem yerukim
trees H green
'Trees are green.'

However, 166 is not a grammatical translation:

166. *'ecim yerukim
'Trees are green.'

It seems that in this case, as opposed to 164, H is required solely in order to distinguish 165 from 166, which is grammatical as an NP, meaning

'green trees'. (164 cannot be interpreted as an NP, so H is not necessary.)

In sum, the facts of generic NPs are quite confusin : speakers do not agree with other speakers, and are themselves uncertain. Perhaps the data will sort themselves out in another generation of Hebrew speakers.

2.6 Conclusion

In this chapter, I have demonstrated that the facts of nominal sentences in Israeli Hebrew argue in favour of a division of predicatives and equatives into two distinct construction types. Predicative nominal sentences and equative nominal sentences display different syntactic behaviour. Moreover, while either of the two surface nominal sentence types can be predicative, only one type can be equative. I have accounted for the facts of the Hebrew nominal sentences by assuming independently-motivated restrictions on the relations of predication and identity (argued for in Chapter 3).

As part of my analysis of Hebrew nominal sentences, I have argued that an empty INFL is not licensed in a root context, and that a complementiser cannot introduce a small clause. These assumptions and my analysis of one type of nominal sentence as a small clause, together with the Empty Category Principle, account for the facts of equative constructions and embedded nominal sentences in Hebrew, as well as for certain facts of other languages.

My proposal of the existence of a matrix small clause constituent has interesting consequences in that it constitutes a strong argument in favour of the existence of a small clause constituent in UG, Universal Grammar. Furthermore, it allows us to avoid the stipulation that small clauses be restricted to embedded contexts.

Chapter 3

Copular Constructions

3.1 Introduction

In this chapter I examine predicative and equative copular constructions. I argue that predicatives and equatives constitute two different syntactic construction types. The facts of Israeli Hebrew nominal sentences presented in Chapter 2 are evidence that such a distinction is well-motivated. In this chapter I argue that a distinction between the two construction types is necessary in general. I base my argument both on the syntactic behaviour, and on the thematic relations of each construction type.

As part of my analysis of the thematic relations of these constructions, I argue that under certain conditions noun phrases can be licensed even when they do not receive a theta-role projected from a predicator's argument structure. In this discussion, I extend the term 'Argument' to include certain elements which are not arguments of a lexical head.

I argue that the appropriate characterization of the difference

between the two types of copular constructions is not to be made in terms of the verb be, nor in terms of the post-copular noun (phrase) type, but solely in terms of syntactic argumenthood, a notion derived from the direction of thematic role assignment: in predicatives, the post-copular XP assigns a theta-role; in equatives, it receives one.

I argue against a classification of copular constructions in terms of referentiality, and propose that the notion 'Argument' allows a simplified classification of copular constructions, one which covers the range of possible copular constructions.

3.1.1 Predicative and Equative Constructions

Much work has been done on these two sentence types. (See for example, Akmajian (1970), Fodor (1970), and Higgins (1973).)

My work in classifying copular constructions builds on Akmajian (1970) which divides copular constructions into two classes: predicational and specificational. These two classes correspond roughly to the predicative and equative classes I define in this chapter.

Akmajian defines predicational sentences as those in which 'given qualities are predicated of some individual'. I shall assume much the same definiton for the class I term 'predicative'. In other words, a quality of property specified by the post-copular phrase is attributed to the subject noun phrase. For example:

1. Xeli is a nut.
   Xeli was fun to be with.
   Xeli will be powerful.

In 1 the qualities of nuttiness, powerfulness, and of being fun to be with are attributed to the subject Xeli. A predicative sentence gives information about its subject, presenting one of the properties possessed by the subject.

Akmajian defines a specificational sentence as one which 'identifies, or specifies, some entity' (p.162). The class of what I term 'equative' is slightly narrower. In equatives, the referent of the post-copular noun phrase is not a property of the subject. Rather, equative clauses equate two noun phrases, that is, the entity denoted by the pre-copular NP and that denoted by the post-copular NP are identified as being one and the same. Consider:

2. Tali is that woman over there.
The chair of the department is Anat Ben-Salom.
Riki is our professor.

Akmajian notes that predicative and equative sentences differ with respect to the referentiality of the post-copular noun phrase. Akmajian uses the term 'referential' to describe a noun phrase which has a specific referent in the universe of discourse. The post-copular NP of a predicative clause is non-referential; the post-copular NP of an equative is referential. (While this is true, I will characterize the basic difference between the two sentence types somewhat differently.) In 2, for example, Tali and that woman over there are asserted to have the same referent. In an equative sentence, unlike a predicative sentence, both noun phrases are referential; both denote, each independently of the other.

In the following sections, I discuss aspects of various studies of copular constructions, examining the different properties of predicative and equative sentences,[1] and analysing these constructions in terms of Theta Theory. In the next section, I will briefly defend the view that there are indeed two different types of constructions.

3.2 Against an 'Inversion' Analysis

It is possible to propose an analysis of copular constructions in which both predicatives and equatives are derived from one underlying construction. For example, Longobardi (1984 and p.c.) assumes that basically there is only one construction type, arguing that only one referential NP is possible in a copular construction. This view holds that in certain constructions that I have termed equative, the NP in subject position is the predicate and the subject is in post-copular position, thus resulting in the differences in syntactic behaviour. Under such a view there is no real distinction between predicative and equative constructions.

However, it is not the case that at most one referential noun phrase is possible in a copular construction. (I use the term 'referential' in the following way: a noun phrase is referential if it is used to denote an individual in the world.) We can see that two referential noun phrases are

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1. I will not be dealing with other types of copular constructions, e.g. existential or locative constructions.

possible in a copular construction in examples like the following:

3. a. Mr. Smith is Mary.

b. I've just found out that Mr. Smith, who I work with, is Mary, who I've been dating.

Non-restrictive relatives are possible only with referential noun phrases. In 3, the non-restrictive relatives referring back to Mr. Smith and Mary are grammatical. Thus both NPs Mr. Smith and Mary are referential, denoting (each independently of the other) a certain individual in the world.

However, in support of his view, Longobardi offers the following evidence. In Romance, agreement is always with the referential NP (usually the NP in subject, [spec,IP], position. In the following sentence, the verb agrees with the noun phrase following, and not preceding, it:

4. Il colpevole sono io
The culprit am I
'The culprit is me.'

*Il colpevole è me

Thus it appears that the sentence subject is the post-copular NP. When io is in subject position, the verb agrees with it, as expected:

5. Io sono il colpevole

I am unable to account for the facts of 4. However, in the following sentence, which I assume contains two NPs indisputably referential, the verb agrees with the NP in subject position. (The NP with nominative Case is the one with which the verb agrees).

6. Se tu fossi me
if you(nom.) were me(acc)
'if you were me'

In this case, if the copula agrees with the second NP, the sentence is ill-formed:

7. *se te fossi io
if you(acc) were I

Longobardi argues too that only non-referential NPs can be pronominalized by lo, and the post-copular NP in Italian 'equatives' can always be pronominalized. However, I am told by other Italian speakers that this is not always the case. For example, in the following sentence, lo pronominalization is not possible under an equative reading:

8. La stella mattutina è la stella della sera.
'The morning star is the evening star.'

*La stella mattutina lo è.

This shows that both noun phrases are referential, and neither is used predicatively.[2]

In Ruwet (1982), there are further arguments against an analysis of inversion, i.e. one which claims that an equative is simply the result of inverting the two noun phrases of a predicative (whether base generated with the NP in subject position marked [+pred], or whether derived by movement). Ruwet discusses the analysis of pairs like the following:

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2. I am told too, although I do not have examples to illustrate the point, that a sentence in which both NPs are followed by non-restrictive relatives is acceptable. Such a sentence would be the Italian equavalent of 3b.

9. a. Horatio est le meilleur ami d'Hamlet.
b. Le meilleur ami d'Hamlet est Horatio.

Such pairs do exhibit different properties syntactically. Ruwet argues effectively that an inversion analysis has many empirical problems, and fails precisely because it does not take into account the different semantic and referential properties of the sentences.

I believe that one cause of confusion is that a sentence like 9a. is ambiguous between a predicative reading and an equative reading; i.e. the phrase le meilleur ami d'Hamlet can be either referential (which it is under one reading of 9b) or not.3 As I argue below, definite NPs can be used either as arguments or as predicates, as opposed to proper names which are (almost) always used referentially. The properties ascribed to the sentence in 9a. are those of a predicative sentence. For example, predicates can be replaced by the clitic le:

10. a. Christine est tres seduisante.
b. Christine l'est, tres seduisante.

The post-copular NP of 9a. can be replaced be Le, while that of 9b., a proper name used referentially, cannot be:

11. a. Horatio l'est, le meilleur ami d'Hamlet.
b. *Le meilleur ami d'Hamlet l'est, Horatio.

In addition, Ruwet points out that if both NPs are definite, for example:

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3. Throughout this thesis I shall describe a sentence as having a predicative or equative reading, although the more accurate wording would be to describe a surface string as having a predicative or equative sentence underlying it.

12. a. Le mari de Donna Elvire est l'amant de Donna Anna.
b. L'amant de Donna Anna est le mari de Donna Elvire.

instead of:

13. a. Don Juan est le mari de Donna Elvire.
b. Le mari de Donna Elvire est Don Juan.

the syntactic tests distinguishing between the pairs of sentences become inoperative (since both behave like 9a., read predicatively). For example, only phrases that are used predicatively can be clefted, as 14 shows:

14. a. C'est verts, et non bleus, que sont les yeux de Christine.
C'est le meilleur ami d'Hamlet (et non de Claudius) qu'est Horatio.

b. *C'est Horatio (et non Laertes) qu'est le meilleur ami d'Hamlet.

In both sentences in 12, the post-copular NP can be clefted:

15. a. C'est le mari de Donna Elvire qui est l'amant de Donna Anna.
b. C'est l'amant de Donna Anna qui est le mari de Donna Elvire.

Thus, both NPs can be used predicatively.

If, on the other hand, both noun phrases are referential, then we would find the properties associated with 9b, an equative. This assumption is supported by the following:

16. a. ??L'etoile du Soir l'est, l'Etoile du Matin.
b. ??L'etoile du Matin l'est, l'Etoile du Soir. (cf. 11b.)

Recall that only predicates can be clefted. When the post-copular noun phrase in either of the examples of 16 is clefted, the result is not grammatical. Thus, neither of the phrases can be used predicatively. These sentences are comparable then to 9b, an equative.

I assume that Ruwet's arguments against an inversion analysis of

equatives hold, and that more than a purely structural account is needed. I conclude that both sentence types cannot be assimilated to the predicative construction, and that there are indeed two different construction types. The distinction between the two construction types has been taken to be well-motivated in the literature (see the references above), and numerous differences between them have been identified. Many of these differences are illustrated in the following section.

3.3 Syntactic Distinctions Between Predicatives and Equatives

The differences in syntactic behaviour that will be described in this section show that a distinction between predicatives and equatives is well-motivated. The two sentence types show different behaviour with respect to various phenomena. (These phenomena can then be used as diagnostics for whether or not a sentence can be one type or the other.)

One difference between the two construction types can be seen in the addition of an albeit phrase:

17. Mixal is a fool, albeit cunning.
*The chair of the department is Anat Ben-Salom, albeit on leave.

Albeit, which is relevant to properties or qualities, can be related only to a noun phrase used predicatively. When added to an equative structure, in which the post-copular NP is used not predicatively but referentially, the result is ungrammatical.

Another difference, pointed out to me by Ken Hale, is though-

preposing, which is possible with predicates, but not the post-copular NP in an equative:

18. a. A fool though Mixal is, she is cunning.
A nut though Xeli is, she is kind.

b. *Anat Ben-Salom though the chair is, she is stupid.
*That woman over there though Tali is, I don't recognize her.

We can see that it is indeed a predicate that is fronted in such constructions by the well-formedness of the following example, which contains an AP predicate:

19. Proud though Yona is, she is not above accepting criticism.

Two works which contain a detailed description of the properties of equative and predicative constructions are Akmajian (1970) and Higgins (1973). The following contrast (from Akmajian, p.162) again illustrates the difference between the two construction types:

20. a. The first candidate for the trip to Mars is Spiro Agnew.
b. The first candidate for the trip to Mars is short and fat.

20a. is an equative sentence, and tells <u>who</u> the candidate is; 20b. is predicative, and tells <u>what</u> the candidate is, or what the candidate is like. In equatives, in which the two NPs are identified, the two noun phrases can be reversed; in predicatives, they cannot:

21. a. The first candidate for the trip to Mars is Spiro Agnew.
Spiro Agnew is the first candidate for the trip to Mars.

b. Tali is that woman over there.
That woman over there is Tali.

22. a. The first candidate for the trip to Mars is short and fat.
*Short and fat is the first candidate for the trip to Mars.

b. Tali is a fool.
*A fool is Tali.

22a. is obviously ungrammatical, because an AP is in subject position. However, no predicate is good in the subject argument position, which shows that there is a difference between an NP argument and an NP predicate. (For discussion of the reason a predicate is impossible in subject position, and of the fact that the ungrammatical sentence of 22b. cannot be an equative, see section 4.)

Akmajian points out the following contrast: non-referential NPs are pronominalized by which, even when they are human. Referential NPs, on the other hand, cannot be pronominalized by which. Thus, which can refer back to the post-copular NP in predicatives, but not in equatives:

23. a. Mixal is a decent sort, which more people should be.
Rebecca is a good eater, which she has been for a while.

b. *The chair of the department is Anat Ben-Salom, which more people should be.
*Tali is that woman over there, which she has been for a while.

On the other hand, referential NPs can be followed by a non-restrictive relative with who, and non-referential NPs cannot:[4]

24. a. The chair of the department is Anat Ben-Salom, who is much respected.
Tali is that woman over there, who has been there for quite a while.

b. *Mixal is a decent sort, who is much respected.
*Rebecca is a good eater, who has been there for quite a while.

Thus, the post-copular NP of an equative can precede this type of

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4. The b. sentences are good only if who is understood as referring back to the subject NP. The sentences are ungrammatical when who is interpreted as referring to the post-copular NP, a predicate.

relative; the post-copular NP of a predicative can not.

The conclusion Akmajian draws from facts of this kind is that the difference between possible syntactic pro-forms is related to the referential/non-referential distinction. I turn to the question of reference in section 9.

Akmajian notes another basic difference between predicatives and equatives. 'Predication is a semantic relation which admits comparison and modification of degree, while specification is a semantic relation which in some sense implies uniqueness, and there can be no modification of degree' (p.164). For example, the predicative examples in 25 are grammatical:

25. a. Mixal is naive.

Mixal is more naive than foolish.
Mixal is a bit naive.

b. Rebecca is a good eater.

Rebecca is more a good eater than she is a discerning one.
Rebecca is a very good eater.

On the other hand, the equative examples in 26 are not acceptable:

26. a. Jones is the man who robbed the bank.

*Jones is somewhat the man who robbed the bank.
*Jones is more the man who robbed the bank than he is the man who lives on the corner.

(-from Akmajian)

b. The chair of the department is Dvora Tal.

*The chair of the department is more Dvora Tal than Mary Smith.
*The chair of the department is a bit (of) Dvora Tal.

Only noun phrases used predicatively can be degree-modified; thus the post-copular NP in equatives cannot be so-modified.

3.4 The Thematic Relations in Copular Constructions

In this section I analyse the thematic relations in predicative and equative constructions. Predicative sentences are those in which the predicate XP, like a verbal predicate, assigns a theta-role to the subject NP. Equative sentences are those in which both noun phrases receive a theta-role; both NPs are arguments. I claim that the difference between predicative and equative constructions is to be characterized in terms of these thematic relations, and not in terms of the verb be, or the type of post-copular NP.

3.4.1 Predication

As discussed in Chapter 1, I am assuming Williams' (e.g. 1983, 1985) theory of predication. Predication is the assignment of a theta-role to an NP by a maximal projection (through coindexing). Recall that the assignment of the external theta-role (predication), like internal theta-role assignment, takes place under the strict condition of TRAC, essentially sisterhood.5 An NP or AP can be a predicate (i.e. assign the external theta-role of its head) just as a VP is. Just as an intransitive verb is the head of a one-place predicate, so is a common noun (in most cases).

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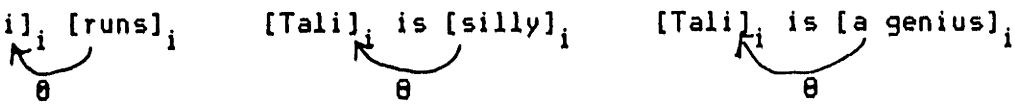
5. No phrase may intervene between an assigner and an assignee.

Thus, Tali runs, Tali is silly, and Tali is a genius have the following thematic structures:

27. 

the only difference being that in English only verbs are inflected. The external theta-roles of run, happy, and genius are assigned to the subject Tali. The verb be plays no role in the thematic relations of the second two sentences.

We can see that be is not necessary for verbless predication relations by examining embedded small clauses. A small clause structure is a subject-predicate proposition with no functional head, such as INFL, tense, or AGR (see Stowell (1982), Williams (1983), for example; and the discussion in Chapter 4).

Predicative small clauses do not contain the verb be:6

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6. I find it hard to come up with grammatical examples of small clauses containing a PP. It seems that in the good examples, the PPs are idioms:

(i) I proved her out of her mind.
I consider Irit off her rocker.

(ii) *I proved her out of the country.
*I consider Irit off the campus.

I believe this is due to the fact that locative PPs are not predicates (or at least, cannot function like other predicates), as noted in the previous chapter, and so we do not find them in a predicate-headed small clause.

(Note that the sentences in (iii) do not involve the same thematic relations as the small clauses above. The PPs here are simply adverbs and do not form a small clause with the object NP:

(iii) I found the quotation in my Bartlett's.

28. We find Tali silly.
I consider Tali a genius.

The sentences in 28 are well-formed, both semantically and syntactically. The small clauses involve the same predication relation, with identical subjects and predicates, as the (verbless) predicative sentences in 27. I conclude that be plays no role in the predication relation.

3.4.2 Against Two Verbs Be

Not only does be play no role in predicatives; it is also irrelevant to the thematic relation of identity in equatives. While the difference between the two construction types is to be characterized in terms of theta relations, that difference is not due to the role of be. Although the verb be is used in both constructions, its presence is not fundamental to either sentence type. In this section, I argue that the difference between the two constructions should not be described in terms of two roles of the verb be, nor should the difference be ascribed to the existence of two distinct verbs be.

Halliday (1967) characterizes the difference among copular constructions in terms of the copula be. Halliday states that there are three lexical verbs be. The class be_0 means 'can be characterized as, has the attribute of being'. Halliday calls sentences which use this be

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I proved my point outside the class.

In the examples of (i) and 28, there is no thematic relation between the verb and the NP 'object'; in the examples of (iii) there is.)

'intensive' and contrasts them with 'extensive effective' sentences, which use the verb $\underline{be}_2$, meaning 'identifies or is identifiable as, can be equated with' (p. 66). (Halliday's class $\underline{be}_1$ means 'exists, happens, is found or located'.)

Unlike Halliday, I assume that only one verb <u>be</u> is appearing in the two sentence types above. Moreover, this verb has no semantic content, and contributes nothing to the meaning of the sentence.

Other works have ascribed the difference between equatives and predicatives to a difference in the function of <u>be</u>. For example, Doron (1983) and Rapoport (1985) analyse both NPs in an equative as arguments of the verb <u>be</u>, both NPs receiving theta-roles from it. Thus equatives contrast with predicatives, in which the second NP is a predicate, and does not require a theta-role.

I believe this view to be wrong for several reasons. If <u>be</u> is required for thematic reasons, then given that semantics is universal, the copula verb should be required in all languages in equative sentences. However, this is not the case, as the following examples from Russian and Warlpiri[7] illustrate:

29. Russian: Ivan eto tot samyj čelovek
Ivan this-n this-m very man
'Ivan is this very man.'

30. Warlpiri: paddy yamingi
'Paddy is Yamingi.'

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7. Examples courtesy of Boris Katz and Ken Hale, respectively.

Whether or rot to posit a phonetically null copular verb in such sentences in these languages is an empirical question. Certainly such a move is unmotivated a priori, particularly in view of certain characteristics of these languages. For example, in Russian, the copula can assign instrumental Case, and yet instrumental Case is impossible on the NPs of 29. Positing a null copula in such a construction is therefore undesirable. I shall assume that such a step is unavailable.

Another problem with respect to the analysis of a theta-role assigning be arises with respect to the content of these theta-roles. It is not clear exactly which theta-roles the copula would assign, and how the identity relation would be derived from that assignment. If be assigns two theta-roles 'theme', how is it possible to arrive at the interpretation that the two NPs receiving these theta-roles refer to the same entity? Put a different way, I do not see how be can equate the two NPs through theta-role assignment.

Another argument against the claim that be assigns two theta-roles, arises with respect to the question of how to prevent be from assigning a theta-role to the two noun phrases in cases of predication, i.e. how to avoid violations of the Theta Criterion. If be assigns a theta-role to the first NP, it will receive two primary theta-roles; if be assigns a theta-role to the second NP, that NP will be an argument, not a predicate. The only way to prevent Theta Criterion violations is to assume that the theta-role assignment of be is optional.

However, this is rather an odd view of the optionality of theta-role

assignment. What is required is that either both theta-roles are assigned, or neither. Neither theta-role is independently optionally assigned. For these reasons, I assume that be does not assign a theta-role to each of the NPs in an equative.

However, there is an alternative. A possible response to this last argument is to posit the existence of two verbs be. However, this approach is hardly more attractive.

Assuming the existence of two verbs be, rather than two (or more) uses of the one verb, leaves unaccounted for the fact that the two verbs are phonetically identical. While this could well be an accident in English, most of the languages I have examined have only one verb for the two uses. If there were indeed two verbs, the fact that in (almost) every language the two verbs are phonetically identical would be an extremely odd, and inexplicably universal, coincidence.[8]

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8. The reason I write 'almost' every language, is the facts of Thai, as described by Kuno & Wongkhomthong (1980). (I am grateful to Bill Poser for pointing this out to me.) Thai has two copulative verbs, pen and khɨ:. While the two verbs can sometimes be used interchangeably, there are cases in which only one of the two forms can be used:

(i) cɔ:n pen/*khɨ: khru:
John is teacher
'John is a teacher.'

(ii) khon thî: dìchán rág *pen/khɨ: khun cɔ:n
person that I love is Mr. John
'The person that I love is John.'

(Kuno & Wongkhomthong, pps. 2,3)

As the above illustrates, and as pointed out by Kuno & Wongkhomthong, pen is used in predicative sentences like (i), and khɨ: is used in equative sentences like (ii). Kuno & Wongkhomthong go on to argue that even in

I therefore assume that there is one verb be, and for the reasons outlined above, I assume that this verb plays no role in either the predication or equation relation. The equation relation, and how it is assigned, has yet to be described, however. I turn to this matter in the next section.

3.4.3 Equation

In predicatives, a theta-role is assigned by the post-copular XP to the subject NP. In equatives, on the other hand, no theta-role is assigned by one noun phrase to another. Rather, both noun phrases receive theta-roles. I have argued, though, that the theta-roles are not assigned by be. How then are the two NPs in an equative licensed?

I have used the term 'theta-role' fairly specifically until now. I have used 'theta-role' to refer to a term in a thematic relation which is projected into the syntax from the argument structure of a lexical head. Such theta-roles are part of the lexical representation of an item. However, there are other thematic relations through which theta-roles are assigned which are not relations of predicator-argument. One of these is,

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sentences in which the two verbs appear to be interchangeable, there are discourse contexts which uniquely determine which verb will be used. So Thai has one copular verb for equative sentences and one for predicative sentences. Thus, not all languages use the same verb in both construction types.

Ken Hale has informed me that in Navajo too, there are two different verbs, one for relation, as in 'He bears the relation of brother' (níli) and one for identity, as in 'He is my brother' ('at'e). The two classes these verbs define do not correspond exactly to the distinctions drawn here.

for example, the relation of possession; another is the relation of identity.

I believe that information on the syntactic realization of such universal semantic relations is listed in the lexicon. Thus, information as to which syntactic device is associated with each relation, as well as conditions on their syntactic realization is present in the lexicon.[9] This would entail that besides the listings of lexical heads and their arguments, the lexicon contains a list of other thematic relations. The theta-roles of these non-predicator:argument relations can then be viewed as projected from the lexicon into the syntax, although such a view is not necessary in my analysis of the identity relation. The identity relation can alternatively be considered as assigned in the syntax to a certain structure.

I propose that the thematic relation of equation or identity is assigned in a structure which consists of two sister noun phrases. The relation must be assigned at the level D-structure, at which all thematic relations are represented. One condition on the assignment of this relation is that both noun phrases be governed by a functional head.[10] A thematic relation which is not that of predicate-argument, must be assigned through a governing functional head. Thus, the two noun phrases of an equative are not arguments of a head, but must be governed by one.

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9. I am grateful to Beth Levin for an informative discussion of this view.

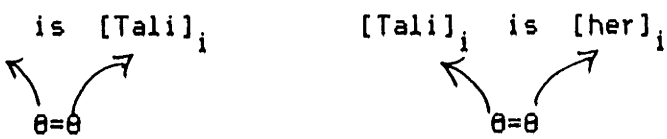
10. A functional head is a head that is non-lexical, such as C(omp), I(nfl) and D(eterminer).

The thematic relation in an equative, like the predication relation, is independent of the copular verb be. Be has no meaning of its own, and therefore, no theta-roles are listed in its lexical definition to be assigned to any complements. Rather, the relation of equation (or identity) is listed and projected onto (or, alternatively, is assigned in the syntax to) a construction. I assume that both noun phrases are themes of the identity relation. Both NPs thus receive theta roles.

The assignment of the theta-roles of the identity relation is accomplished, as I assume all theta-role assignment is, by means of coindexation. These theta-indices are the same as those used in the theta-role assignment of predication and complementation, and thus are visible to the Theta Criterion and to semantic interpretation.[11] Thus, equative sentences like 31:

31. That woman is Tali.
Tali is her.

have the following thematic structure:

32. 

This proposal extends the notion of what constitutes a theta-role to include those which are part of relations which are not projected from the argument structure of a lexical head.

Chomsky (1981) defines the assignment of 'theta-roles' as the

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11. The thematic indices are to be distinguished from the other syntactic indices, those of binding, for example.

assignment of 'the status of terms in a thematic relation (p. 35)'. Expressions that are assigned such roles are syntactic Arguments. Thus, my analysis extends the notion of syntactic Arguments. Syntactic Arguments are not only those elements that are arguments of a lexical head, but elements that are arguments of any (lexical) thematic relation.

A phrase becomes an Argument only when a thematic role is assigned to it. Although I agree with the spirit of Chomsky's (1980, 1986) discussion of arguments and theta-roles, certain clarifications are necessary for the analysis here. Chomsky (1986, for example) defines an argument as a noun phrase that requires a theta-role (p.93). Chomsky uses the examples of John and the man as NPs that require theta-roles. Chomsky thus distinguishes such 'arguments' from idiom chunks and pleonastics, which are not assigned a theta-role. However, as we can see from the existence of (nominal) predicative sentences, noun phrases do not necessarily require a theta-role, since most NPs that can be Arguments can be used as predicates.

Noun phrases are not automatically Arguments. Most nouns can head an Argument NP or a predicate NP, depending on the thematic relation involved. For example, most definite NPs (which, obviously, can be arguments and the subjects of predication) can also be predicates (see section 7). Thus these NPs do not require a theta-role, but assign one. Certainly it is possible to find too an indefinite NP, the typical predicate, in argument position.

To conclude, until an NP is assigned a theta-role, it is neither an

Argument nor a predicate. Once an NP assigns a theta-role, it is a predicate, and does not require a theta-role. Once an NP receives a theta-role, it is an Argument.

The assignment of theta-roles, whether by complementation or predication, is accomplished in the syntax through coindexation. These thematic indices are visible to the Theta Criterion and to semantic interpretation. The Theta Criterion states that every argument must receive at least one theta-role. For our purposes here I will take this to mean that every NP must be part of a theta-relation in order to be licensed. If an NP (or an NP-chain) is not licensed by assigning a theta-role, then it must be licensed by receiving one. The two NPs in an equative each receive a theta-role, and so meet the Theta Criterion.

The thematic indices are necessary also for the eventual interpretation of a sentence. This interpretation includes reference (in the universe of discourse). In equatives, every thematic index must be assigned a referential interpretation when the sentence is interpreted.

An equative relation assigned to 33

33. Tali is a genius.

is ruled out for similar reasons. Both theta-role receivers of an equative relation must (independently) refer, i.e. denote some individual in the universe of discourse. The NP <u>a genius</u> cannot be interpreted referentially, and so the thematic index assigned to it cannot be interpreted.

An equative interpretation of 34

34. *A genius is Tali.

is ruled out for the same reason: the indefinite NP a genius cannot refer.

However, I am unable to account for the fact that in neither position in an equative can an indefinite NP refer. Moreover, in general, an indefinite NP cannot be the (referential) subject of a predicative.[12] Consider 35:

35. a. A genius is smart.
b. A student is a hard worker.

The only grammatical reading of these sentences takes their subjects to be generic, or the sentence to be non-eventive. The same sentences in the past-tense are ill-formed, unless a phrase such as in those days is added to make the sentence non-eventive. (Note too that 35b. cannot be read as an equative (with both NPs read referentially) either.)

It is not the case that indefinite NPs can never refer. Consider the following:

36. A genius just walked in.
I just met a genius.

Rather, it seems that there are extremely strong conditions on the referential use of indefinite NPs in copular constructions. These

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12. Edwin Williams has pointed out to me the well-formedness of the predicative A friend of mine is a genius, in which a friend of mine is referential. However, this sentence cannot be read as an equative, with both NPs used referentially; nor can the phrase a friend of mine be read referentially in John is a friend of mine, thus giving the sentence an equative reading.

conditions rule out an equative reading in sentences like 34, but allow the following:

37. A genius that I know is Tali.
A friend of mine who you've all heard of is that man over there.

The sentences of 37 are well-formed equatives.[13]

We can see that a relative clause can allow the referential use of an indefinite NP in a copular construction. However, I must leave to future research an explanation of the fact that an indefinite NP cannot always be used referentially in copular clauses.

As to why sentences of the type in 34 are not well-formed as predicatives: Williams (1983b) accounts for this with the fact that the condition that a subject c-command its predicate is not met.

A predicative reading is ruled out in 39:[14]

39. Tali is her.

because the post-copular pronoun has no external theta-role to assign. In the following, a predicative reading is impossible for the same reason (except under a special reading discussed in section 7):

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13. These same conditions also seem to hold of the following pair of sentences, ruling out (i) in the context given, while allowing the referentiality of the subject NP of (ii):

(i) *A fool spoke English.
(ii) A fool that I know spoke English.

14. When I write of two different readings, it would be more accurate to refer to two different sentences which have the same surface string.

40. That woman is Tali.

I assume that a proper name cannot in general be a predicate. However, Jim Higginbotham (p.c.) argues that proper names do have external theta-roles to assign, and notes the existence of predicative sentences like the following:

41. I am a Smith.
We are the Smiths.
(All the Smiths stand on this side.)

Note the presence in these examples of the indefinite and definite articles. Certainly the examples of 41 are not well-formed <u>as predicatives</u> without the articles:

42. I am Smith.
We are Smiths.

While proper names and pronouns do have different properties with respect to reference, for the purposes of this discussion, I will assume that proper names cannot be used predicatively (except for the exceptions noted below in section 7).

In conclusion, we have seen that NPs can be divided into three classes: referential argument, non-referential argument, and (non-referential) predicate. An NP can be either a predicate or an Argument. Not all Arguments are referential, so a syntactic Argument is not necessarily a 'referential' NP. However, in order to refer, an NP must be an Argument, and bear a thematic index.

I have argued that the thematic relation in equatives is not projected from the argument structure of a lexical head, but rather is assigned in a

construction that meets the conditions of its assignment.

As noted, the identity relation must be mediated by a governing functional head, which is INFL, in English.[15] One reason that a mediating head is necessary in equatives is the requirement of Visibility. The Visibility Hypothesis states that for an argument's theta-role to be visible for the Theta Criterion, that argument must be assigned Case. If we assume that the Theta Criterion and Visibility apply also to those Arguments that are not the arguments of a lexical head, then the two noun phrases in equatives require Case in order to meet the Theta Criterion.[16]

In this section, I have analysed predicative and equative constructions in terms of their thematic relations. I have argued that the difference between the two types of copular constructions should be characterized in terms of these thematic relations, and not in terms of the verb be. I have argued that be has no semantic content and plays no thematic role in either equative or predicative constructions.

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15. This restriction disallows the assignment of the identity relation in a clause of the form NP NP, for example, in which there is no head to mediate that relation.

16. I have no argument that predicate NPs require Case. Certainly, predicates are Case-marked in many languages, as the following Russian example illustrates:

Ivan byl studentom
Ivan-nom was student-inst
'Ivan was a student.

3.4.4 Embedded Small Clauses and Equatives

Recall that be is not needed in small clause structures of predication:

43. I consider Xeli a nut.
I found Xeli fun to be with.
I will prove Xeli powerful.

However, unlike clauses of predication, two noun phrases in the relation of identity cannot be embedded under a predicate which takes a small clause:

44. *I consider Tali that woman over there.
*I find the chair of the department Anat Ben-Salom.
*I proved our professor Riki.

A full clause is required for an equative sentence in all environments. We can see that when we change the small clauses of 44 to full clauses, the resulting structures are well-formed equative sentences:

45. I consider Tali to be that woman over there.
I find the chair of the department to be Anat Ben-Salom.
I proved Riki to be our professor.

There are different views on why equatives are impossible as small clauses. In Rapoport (1985), under the assumption that be assigns two theta-roles in an equative (an assumption which I now believe to be wrong; see discussion above), it is claimed that since be is not present, no theta role is assigned to the second NP of the small clause. This NP neither receives nor assigns a theta-role. Thus, the sentence is ruled out by the Theta Criterion.

Pollock (1983) suggests that equative small clauses, such as those in 46, are ill-formed for Case reasons.

46. *I thought John Peter
*Je pensais Jean Pierre

Pollock proposes that in predicative constructions, the head of the post-copular NP is reanalysed as an adjective (in English). Thus, its projection does not require Case. (Pollock assumes that all NPs, be they Arguments or predicates, require Case.) In the small clauses above, the predicate is reanalysed, and so the fact that Case is not assigned to it is irrelevant.

On the other hand, the second NP of the equatives in 46 , which is a proper name, cannot be reanalysed as an adjective, and thus requires Case. Case assignment to that NP, though, is impossible. In equative sentences, the post-copular NP requires Case, and so <u>be</u> must be present, as we can see in the well-formedness of 45. Pollock assumes that NPs governed by <u>be</u> are assigned nominative Case. However, nominative Case assignment is not possible in equative small clauses, since the second NP is not governed by <u>be</u>. Nor can the second NP inherit Case from the first NP (to which Case is assigned by the matrix verb). Thus, equative small clauses are ruled out by the Case Filter, which requires all NPs to have Case.

One thing that this analysis does not explain is why the matrix verb does not govern and Case-mark both constituents of the small clause, as it does in Arabic, for example. Thus, both the NPs of the small clause in 46 would be Case-marked by <u>think</u>. Another question that arises is why, even if the verb is limited to Case-marking only one argument, a null Case

assigner cannot be present. Thus, why a small clause differs from a double object construction (under the relevant analysis) is unexplained. It does not seem likely, then, that 46 is ruled out for reasons of Case.

The correct explanation for the ill-formedness of an equative reading in a small clause is given by the nature of the small clause constituent. According to Stowell (1982), a small clause is a predicate-headed proposition. According to Rapoport (1986), a small clause is a proposition, only the predicate of which is selected by the matrix verb. (The subject is selected by the predicate). Either analysis allows us to analyse a small clause as a proposition consisting solely of a predicate and its subject.[17]

Given this, equative small clauses are impossible because both NPs in an equative are Arguments; neither NP is a predicate, and so neither can project to the small clause node as such. Thus, such a clause is ruled out because the selectional restrictions on the subcategorized constituent are not met. (An equative is possible in a matrix clause, because that clause is headed by INFL, or tense, and so does not require a predicate.)

An equative small clause could also be ruled out for reasons of X′ Theory. Since the proposition is not headed by anything, neither INFL nor a predicate, X′ Theory is violated.

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17. Evidence that there is no INFL in small clauses is in Stowell (1982). Another point to this effect is made in Williams (1984), which points out that VP (XP) Deletion is geared to INFL, and is inoperable in small clauses.

Thus, in a small clause, the predicative reading of a noun phrase is forced. If no predicative reading is possible, i.e. if the second NP has no external theta-role to assign, the small clause is ungrammatical.

Thus, any language which contains (predicate-headed) small clauses will disallow them as equatives.

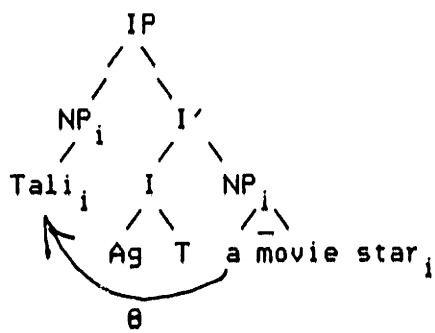
The small clause is one syntactic structure that distinguishes between predicative and equative sentences. As such, this structure can be used as a diagnostic for what can be a predicate, and what cannot.

3.5 Be-Support

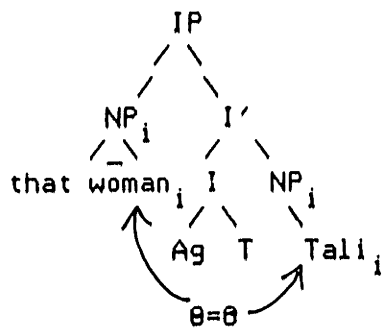
I have said that <u>be</u> plays no semantic role in copular constructions. Thus, it is not included D-structure representation, since at that level, only elements which are part of a thematic relation are represented.

47. Predicative: Tali is a movie star.

D-S:



Equative: That woman is Tali.



(Ag and T stand for the AGR and [past] features of INFL)

Since the predicate is not a verb, the absence of a VP is not surprising. Be is not inserted until after D-structure.[18,19] In this I follow Bach (1967) who suggests that be be inserted transformationally in English, thus, among other things, unifying the deep structures of languages which have the copula in predicative sentences and languages which don't (e.g. Hebrew).

Even though be has no thematic function, it is still required in copular constructions in English. This is apparent in the fact that both predicative and equative sentences are ill-formed without be:[20]

48. *Xeli a nut.
*Xeli fun to be with.
*Xeli (will) powerful.

49. *Tali that woman over there.
*The chair of the department Anat Ben-Salom.
*Riki our professor.

In both examples, when be is absent, the structure is ill-formed. We know from the well-formed predicative small clauses of 43 that be is not required for the predication relation to hold. Thus, be must be needed for reasons other than semantic.

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18. I am grateful to Joe Emonds and to Mike Rochemont for helpful and interesting discussion of the issues in this section. I alone am responsible for the claims made here.

19. I will not be discussing semi-copular verbs, such as become and remain, although for thematic purposes they are much the same as be in predicative sentences, albeit with the addition of certain features, such as inchoative, for example.

20. My discussion does not cover sentences of the following type, which are not typical examples of English matrix sentences:

What, me crazy?

Be is necessary for 'grammatical' purposes. Every sentence must contain a verb for the realization of tense features. Be is inserted to support the features of INFL, in the case above the features of tense ([-past]) and agreement.

I assume that be is inserted under INFL. In this I follow Williams (1984). Williams argues that the copula be is an auxiliary in INFL.

In support of this argument, Williams notes that the following sentences are all parallel in structure:

50.	a.	John - will - leave	NP Aux VP
	b.	John - is - sick	NP Aux AP
	c.	John - is - a fool	NP Aux NP
	d.	John - is - leaving	NP Aux NP

(Williams, p. 136)

VP Deletion (or rather XP Deletion), applying to the post-Aux constituent, treats all of the constituents in 50 as parallel:

51. a. John will leave and Bill will ___ too.
b. John is sick and Bill is ___ too.
c. John is a fool and Bill is ___ too.
d. John is leaving and Bill is ___ too.

(Williams, p. 137)

I disagree with Williams' point that 'be is the only Aux that subcategorizes for any category other than VP', since I hold that be does not subcategorize for anything, but is itself inserted only after D-structure. 21

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21. The analysis I propose here also holds if we assume instead that be is inserted into an empty verb position in the VP. However, I will continue to assume that be is inserted under INFL.

Be is inserted to support the tense (and agreement) features of INFL. When no other verb is present in a sentence, be is also inserted to 'support' modals, including the tenseless modal to:

52. Tali might -be- a genius.
Tali wants to -be- happy.
That woman could -be- Tali.

Thus, just as INFL features need a verb to be realized, so do the modals of INFL, which can support tense, themselves require a verb.

Be is also inserted to support the -en features of aspectual have when no verb is generated in the sentence. Lobeck (1986) argues that perfective have is generated in INFL, so there is no need for be to support tense and AGR features. Lobeck argues too, based on examples like the following, that been raises to INFL.

53. She has been eagerly awaiting the opportunity.
She has eagerly awaited the opportunity.
(She eagerly awaited the opportunity.)

Since been precedes adverbs (which precede verbs and follow auxiliaries), Lobeck suggests that it raises to INFL in these cases. I will assume that when no verb is generated, -en must remain in INFL, and be is inserted to support it. Thus from 54a. we derive 54b.

54. a. I must have -en crazy -->
b. I must have been crazy.

Thus, be realizes INFL's features in this case too.[22]

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22. This is true even if been is argued to be in the VP. The point is that have is in INFL.

3.5.1 Be vs. Do

I have proposed an analysis of be-support. In English, which has a separate non-verbal modal category, the modal do is also used to support tense and agreement features. Thus we have the following (where affix-hopping is not applicable):

55. I INFL not watch the seventh game -->
I did not watch the seventh game.

INFL we follow the World Series -->
Did we follow the World Series?

Do is inserted into INFL, as we can see, since it precedes negation. I have argued that be is also inserted into INFL. What distinguishes the two 'supports'? Certainly, one cannot be substituted for the other:

56. a. *Tali does a genius
*Tali wants to do happy
*I must have done crazy

b. *I am not watch the seventh game
*Are we follow the World Series

Be, and not do is the support that is inserted in copular constructions; and do and not (be) is inserted in 55 above.

We can not make an argument that the two support operations are ordered with respect to one another. For example, Lobeck (1986) points out that do-insertion is ordered after affix-hopping, in order to prevent ungrammatical sentences like 57:

57. *John did leave (non-emphatic)

We can not argue that be/do-support is resolved by ordering be-insertion

before affix-hopping, since such a move would derive 58:

58. *John is leave

The fact is that be and do are in complementary distribution. Be is inserted in every context (as Williams' examples of 50 above illustrate), but before a VP. Do is inserted only before VP. This difference between the two functions is due to the fact that be is a 'full' verb and do is not. Note that do, unlike be, is not sufficient as the only verb in a sentence (in a non-ellipsis context):

59. *I did not yesterday
*Did Yoni willingly

Thus, be is inserted everywhere but where the sentence already contains a verb; do when a verb is present. Do is possible in verbal sentences because it is only a modal, and so its insertion does not lead to the sentence's having two (full) verbs, an ungrammatical result in English.

Be is used to support where a verb would. Because there is a separate modal category in English, do is used for support where a modal would be, i.e. when a verb is already present.[23]

3.5.2 Main Verb Be

Williams (1984) argues for the existence of main verb be, in addition

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23. This entire discussion is unnecessary under the assumption that be is inserted into an empty V in VP, since there is only an empty V when no other verb is generated.

to the auxiliary be. Main verb be is the second be in 60 (Williams' #39):

60. John [is]$_{Aux}$ [being obnoxious]$_{VP}$

Williams assigns to the category headed by being above the label VP. However, since main verb be is like any main verb, I will assume that being, like any verb with the -ing suffix, heads an NP category (as leaving does in 50). That being does not head a VP can be seen by the fact that 61 is ill-formed, due to the lack of a verb to realize INFL's features:

61. *John being obnoxious.

Just as be is necessarily inserted before leaving in 50, it must be inserted in 61.

Williams notes that main verb be entails intentionality on the part of the sentence subject. Thus, he points out, 62 is ungrammatical:

62. *John is being dead

Since there are two bes, the second one must be main verb be. The sentence is ungrammatical because dead is not a predicate controllable by the subject John, in contrast with the predicate obnoxious which (presumably) is.

Like other verbs, main verb be is possible in contexts in which auxiliary be is impossible, such as the perception verb small clauses of 63:

63. I saw John being obnoxious.
*I saw John being dead
*I saw John be dead

(Williams, p. 141)

Perception verb complements do not contain INFL, and so auxiliary be is impossible. Thus, the predicate dead, which is possible only with auxiliary be, is disallowed, whereas the predicate obnoxious, which main verb be can precede, is allowed.

Since main verb be entails intentionality, it is a theta-role assigner of sorts, as opposed to the auxiliary be of copular constructions.

In conclusion, auxiliary be is inserted in copular constructions to support the features of INFL. Be is also needed for the purposes of Case in a matrix predicative sentence, albeit indirectly. AGR assigns nominative Case to the subject NP, and a verb must be present for AGR to be realized. Thus, without be, the subject NP cannot get Case.

I assume that there is only one auxiliary verb be, and that this verb never plays a thematic role in a sentence. Thus, be in every case is inserted after D-structure.

3.6 Case in Equatives

Recall the possibility that Visibility applies to the NPs of equatives; if so, both NPs must be Case-marked.

On the one hand, we can assume that Case is assigned by be. Be is a verb, and so it is not suprising that it has the property of assigning Case. When introduced into the structure, be assigns Case to the NP that follows it. This, then, constitutes a case of 'exceptional Case marking',

because, like believe in I believe Yona to be a fool, be assigns Case to a phrase which it does not theta-mark (although in this case, there is no constituent boundary between the verb and the Case-marked NP).

Thus, we can assume that Be assigns Case to the post-copular NP. (In matrix sentences in English the pre-copular NP gets nominative Case, as in any sentence, from AGR.) It seems likely that the Case it assigns is accusative, given the facts of many languages (e.g. Dutch), in which be assigns accusative Case. Thus, we have sentences like the following, in which the post-copular NP is a pronoun with objective Case:

64. I am her.
Tali and Xeli are them.
The boss is me.

While be assigns accusative Case and does not assign any theta-role, this is not a violation of Burzio's Generalization, which states that if a verb assigns Case to its object, it must assign a theta-role to its subject. Burzio's generalization applies only to verbs with complements. Be does not take any object; the post-copular NP which receives Case from it is not its complement. Thus, be is exempt from Burzio's Generalization and is free to assign accusative Case to that NP.

On the other hand, AGR could be the Case-assigner. The NP in subject position receives nominative Case by virtue of its being coindexed with and governed by AGR. The second NP in the equative construction is also governed by AGR, and coindexed with it as well. Thus it, too, could receive nominative Case. AGR, then, is unlike lexical Case assigners which may be limited to only one Case-assignment. Also, AGR can assign

nominative Case to the second NP only when there is no verb present to block government (as well as assign a Case of its own).

Williams (1984) suggests that only verbs in VP are Case assigners, and so only verbs in INFL are exempt from Case assignment (and thus from Burzio's Generalization).[24] Williams notes the possibility that the post-copular NP (in predicative sentences; he assumes all NPs need Case) gets Case directly from Tense (a suggestion similar to the one I am making here).

However, in the sentences of 64 the post-copular NP is the object, accusative pronoun, and not the subject, nominative pronoun. Yet AGR assigns nominative Case. Moreover, the following sentences, in which the post-copular pronoun is nominative, are ill-formed (except in dialects which allow them as hypercorrections):

65. *I am <u>she</u>.
*Tali and Xeli are <u>they</u>.
*The boss is <u>I</u>.

However, in English (that of America, at any rate), the distinction between nominative and accusative pronouns is being lost in many contexts. Thus, we have the following:

66. a. Me and Becca went to the baseball game.
Becca and me went to the game.
(Becca and I went to the game.)

b. Me and her weren't the only ones who cried at the sixth game.
(She and I were not the only ones who cried at the sixth game.)

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24. Williams suggests that the token theta-role assignment of main verb <u>be</u> is a consequence of its status as a main verb, via Burzio's generalization.

Becca, you, and us all still love the Red Sox.

and from Klima (1964):

c. Us two left.
Him and me left.
Who's the ugliest guy in jail? ... Me.
Who's to take care of him if not me?

It is only in immediate pre-INFL position that the 'nominative' form of the pronouns is obligatory:

67. I/*Me went to the game.
She/*her wasn't the only one.
We/*us still love the Red Sox.

Thus, the post-copular pronouns of 64, which are not pre-INFL, could be argued to be nominative, which Case could be assigned by AGR.[25]

If it is AGR that assigns Case, then the verb <u>be</u> need not be inserted to support the INFL features until the level of PF. Such a move would eliminate the necessity of deleting <u>be</u> at LF in order to meet the Principle of Full Interpretation. PFI requires every element to have an

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25. If AGR (and not <u>be</u>) assigns Case to the post-copular NP, then the well-formedness of the following embedded equative must be accounted for:

(i) I proved the King to be John.

The INFL of an infinitive does not contain the Case-assigning AGR. If we assume that the verb <u>prove</u> Case-marks the NP <u>the King</u>, then the only way the well-formedness of (i) can be accounted for is if the NP <u>John</u> inherits Case from <u>the King</u>. However, I do not think that Case can be inherited by one member of an identity relation from the other. This is in contrast with the predication relation, where the possibility of Case inheritance exists.

What could be taking place in (i) is that <u>prove</u> assigns Case to the head of its complement, the lower INFL. The lower INFL can then transmit Case to the two NPs that it governs. Thus INFL acts like AGR in a matrix clause, once it itself is assigned Case.

interpretation (at the level of LF). Since be has no interpretation (and tense can be interpreted without it), it must be deleted before PFI is checked.

Regardless of which element assigns Case, and which Case is actually assigned, if we assume that Visibility applies to the theta-roles of equatives, the two noun phrases must receive Case.

I have argued that the distinction between copular constructions cannot be made in terms of the verb be nor in terms of the type of post-copular NP, since many NPs can be either Arguments or predicates. All common nouns have an external theta-role to assign, and yet many can be used referentially, as well. This can be clearly seen in the next section, which examines definite predicates.

3.7 Definite NPs as Predicates

In English, definite noun phrases can be used predicatively as well as referentially. Thus, copular sentences in which the second noun phrase is definite are often ambiguous between a predicative and an equative reading. For example,

68. Urit is the professor.

can be read either as 'Urit has the property of being the professor; one of Urit's characteristics is that she is the professor' or 'Urit and the professor are the same person; Urit is the one who is the professor'.

Another example is 69:

69. John is the King.

69 is also ambiguous between the two readings. This can be seen by the well-formedness of 70a., in a construction allowed only in predicatives, and by 70b., which contains a construction allowed only with equatives:

70. a. John is the king that I met yesterday.
(or: John is sometimes the King.)

b. John is the King, who we must all pray for.

A restrictive relative with that can be added only to a predicative NP, so the king in 70a. can be used predicatively.[26] A non-restrictive relative can be added only to a referential NP, so 70b. is evidence that the same phrase, the king, can be used referentially.

Another way in which the predicative use of definite NPs can be seen is in the use of the small clause as a diagnostic (as discussed in the last section):

71. I consider Tali the one to talk to about such issues.
We made Aviva the professor.
We consider Davies the best Canadian writer.

The fact that the small clauses of 71 are well-formed argues that definite NPs can be predicates, since only predicates can be the second element in a small clause.[27]

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26. The entire phrase the King that I met yesterday is used here as the second term in an equative.

27. I would like to point out that superlatives are a special class. Superlatives (with the definite article) can always be interpreted as predicates, even in a language that, in general, does not allow definite

Another construction in which the predicative use of definite NPs is clear is offered in a comment in Halliday (1967). Halliday notes that coordination is not possible across types: predicative and non-predicative expressions cannot be mixed. Thus, the examples in 72 are disallowed:

72. *The teacher is both John and highly competent.
*John is the tall one and also fat.

(Halliday, p. 71)

*My best friend is neither a dunce nor Ilana.
*My best friend is Ilana but a dunce.

When the two NPs are of the same type, coordination is grammatical:

73. My best friend is neither a dunce nor silly.
Ilana is my best friend but a dunce.
My best friend is neither Ilana nor Gal.

74 shows that definite NPs can be predicates, since the result of coordinating a definite NP with a predicative indefinite NP is grammatical:

74. Aviva is the professor and a friend of mine.
Ronit is neither a top student nor the class dunce.

We can use coordinate structures as a diagnostic both for the possible predicative use of an NP, and for the referentiality of an NP. Thus, if a coordinate structure is well-formed, we can assume that both noun phrases can be used predicatively or that both noun phrases can be used referentially. If a coordinate structure is ungrammatical, we must assume that one of the noun phrases is referential, and cannot be used

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NPs as predicates (such as Hebrew). It seems likely that superlatives are in some grammatical sense 'indefinite', as is evidenced also by their use in <u>there</u>-constructions. (If this is so, then obviously such NPs are not appropriate for the point I wish to make here.)

predicatively.

We can account for this fact of coordination in terms of the theta-relations discussed in section 4. A different theta-relation is involved in each type of construction, and so the post-copular noun phrase in a predicative plays a different thematic role from the post-copular NP in an equative. Apparently, the thematic functions of phrases are relevant o their conjunction, which is thus evidence for an extension of the Across-the-Board effect of coordination argued for in Williams (1978). Not only is coodination sensitive to constituent structure, but also to thematic structure. We therefore expect the result of conjunction to be ungrammatical when we are conjoining a theta-receiving phrase with a theta-assigning phrase.

The examples in 71, in which definite noun phrases act as small clause predicates, and in 74, in which they can be conjoined with other predicates, are grammatical. From this we can conclude that definite noun phrases, as opposed to pronouns, can act as predicates in English.

3.7.1 Definite NPs as Roles or Offices

Fodor (1970) discusses the use of definite noun phrases as describing roles or offices. She notes that when the NP is used predicatively it is synonymous with the corresponding NP with no article. Thus:

75. a. Charles de Gaulle is the king of France.
Charles de Gaulle is king of France.

b. Tom is the captain of the cricket team.
Tom is captain of the cricket team.

but (when not describing a role/office):

76. a. Tom is the man who murdered Smith.
*Tom is man who murdered Smith.

b. Mary is the first person I spoke to this morning.
*Mary is first person I spoke to this morning.

(p. 208)

Thus, the man who murdered Smith and the first person I spoke to this morning cannot be used predicatively. As for the phrase the king of France, we have seen above (in 70) that such a phrase can be used both predicatively and referentially.

Fodor notes the contrast of 77, in which 77b. is appropriate only if describing a certain position, i.e., if there was a competition.

77. a. Bill is the ugliest man on campus.
b. Bill is ugliest man on campus.

Note that 77a., which can be read as an equative sentence, can be reversed, with the post-copular NP in a position that can be referential; 77b. and the equivalent examples of 75, which can only be predicative, cannot:

78. a. The ugliest man on campus is Bill.
b. *Ugliest man on campus is Bill.
*King of France is Charles de Gaulle.
*Captain of the cricket team is Tom.

The post copular NP in 77a. can also be used predicatively, as can be seen in the small clause example below:

79. I consider Bill the ugliest man on campus.

Articleless NPs can only be predicates. As such, they are ungrammatical in subject position (as in 78), which can be filled only by

an NP that can be an Argument. Articleless NPs are therefore also impossible in object (Argument) position:

80. *We saw president
*We found ugliest man on campus
*They met King of France

Note that in the case of 'office' NPs, the articleless version is preferred in a small clause:

81. a. ?They once elected Charles de Gaulle the king of France.
They once elected Charles de Gaulle king of France.

b. ?We nominated Orit the president.
We nominated Orit president.

The verbs elect and nominate select a predicate-headed small clause. The second NP must be a predicate for this requirement to be met. Apparently, the role/office reading is more salient in an articleless NP. Perhaps too, if there is any doubt about the predicate-hood of the second NP, the sentence wavers as to its acceptability. It would appear that the article must be left off to ensure a predicative reading of the noun phrase (since, with the article, both an equative reading and a predicative reading are possible); this results in a grammatical structure.

We have seen that definite NPs can be read either way, that is, either as predicates or as terms in the identity relation. Thus, many sentences with (post-copular) definite NPs are ambiguous between a predicative and an equative reading.

3.7.2 Proper Names as Roles

There is one case in which proper names can be argued to be acting as predicates: when a proper name describes a role. For example:

82. Meryl Streep is Karen Blixen.
Ingrid Bergman is Joan of Arc.
Barbra Streisand is Fanny Brice.

In these sentences, no assertion is being made to the effect that Meryl Streep and Isak Dinesen, for example, are the same person. Rather, Meryl Streep is characterized as acting as, or pretending to be (temporarily) Isak Dinesen. The sentences in 82 are then to be analysed as predicative.

Moreover, like predicates, the [+human] post-copular NP in 82 can be pronominalized with <u>which</u>:

83. Meryl Streep is Karen Blixen, which is a typical role for her.
Ingrid Bergman is Joan of Arc, which she's good at.
Barbra Streisand is Fanny Brice, which Ingrid Bergman never could be.

When a proper name is used to denote a role or as a stereotype, then like a predicate, it can be degree-modified.[28] Consider:

84. Gere is more Burton than Olivier.
Those two are more Laurel and Hardy than Athos and d'Artagnan.

Proper names are acceptable in such contexts when they have role interpretations because as roles they are predicates and not arguments.

The <u>though</u>-preposing diagnostic, however, does not lead to perfect results:

85. ?Karen Blixen though Streep is, much of herself comes through.
?Joan of Arc though Bergman is, you can still tell she's no prophet.
?Fanny Brice though Streisand is, she is very much Streisand.

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28. I thank Ken Hale for pointing this out to me.

85 does not argue for the predicative character of proper nouns used as roles.

Moreover, the small clause diagnostic for predicates seems to fail:

86. *I consider Bergman Joan of Arc.

However, contrast 86 with 87, in which the small clause is grammatical:

87. We made Bergman Joan of Arc.

The ill-formedness of 86 may be due to the fact that consider selects a predicate that is a property (which is ascribed to its subject), and a role is not a property. The subject of a role predicate does not have the property of that role. Note then when an article is added to the predicate NP in 86, the result is acceptable:

88. I consider Bergman a Joan of Arc [type].
I consider Bergman the Joan of Arc we've been looking for.

When the article is added, it makes clear the 'property' property of the predicate.

When an adjective is added to the NP predicate, the resulting sentence is even better:

89. I consider Bergman a good Joan of Arc.

A possible explanation for the well-formedness of 89 is that the addition of an adjective forms a new predicate (adding an open position,

i.e. an unassigned external theta-role).[29] The sentence in 89 can be paraphrased as follows:

90. I consider Bergman good as Joan of Arc.

In sum, proper names, when used to denote a role or stereotype, are predicates, and not arguments. Proper names can thus be found in post-copular position in predicative sentences.

3.7.3 A Note on Relative Clauses

Higgins points out that when a relative clause is added to a predicative noun phrase, it allows that NP to be used in identity, even if the NP is indefinite. Thus if one asks:

91. Who is Tikva?

a possible answer is an indefinite NP qualified by a relative clause:

92. Tikva is a teacher who taught us geography.
Tikva is a person who we wanted for the job.

These post-copular noun phrases, unlike predicative NPs, cannot be pronominalized by <u>which</u>:

93. *Tikva is a teacher who taught us geography, which is what Osnat wanted to be.
*Tikva is a person who we wanted for the job, which is something Aliza wasn't.

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29. The contrast between 86 and 89 parallels the following contrast:

(i) *I find/proved this table two metres.
I find/proved this table two metres long.

<u>Two metres</u> does not itself constitute a predicate; the adjective <u>long</u> is required to make the entire phrase a predicate.

Moreover, non-restrictive relatives, which can only refer to referential phrases, can be added to the post-copular NPs of 92:

94. Tikva is a teacher who taught us geography, who we loved.
Tikva is a person who we wanted for the job, who refused it.

And thus we can conclude that relative clauses may force the referential reading of an NP.

However, this is not always the case. A referential reading is not forced when the relative gives the NP a 'generic' reading (as noted in Berman, 1973). In such cases, the entire NP is read as a predicate, and which can be used to refer to it:

95. Aviva is a woman who always does the right thing, which I'm not.
Raxel is a person who everyone likes, which not many people are.

To sum up, then, definite noun phrases can be used in either predicative or equative structures; indefinite noun phrases are only used predicatively (unless containing a relative clause); when the second NP is a pronoun, only an equative reading is possible; and a proper name is not used predicatively, except when it describes a role or office.

From the facts of this section, we can see that the same NP can be used both predicatively and in identity. Thus a distinction between predicative and equative constructions cannot be drawn according to NP type. Nor can the distinction in copular constructions be explained by the assignment of a feature [+pred] to a noun in the lexicon, as I proceed to argue in the next section.

3.8 Against A Feature [Predicative]

Given that many noun phrases are ambiguous between a predicative reading and a referential reading, it cannot be argued that a noun enters the syntax already marked as 'predicative'. Only after one of the thematic relations, identity or predication, has been assigned, can the post-copular NP be interpreted as predicative or not. In this section, I argue against an analysis which requires the assignment of a feature like [predicative] in the lexicon, as this would either preclude ambiguous readings, or require that all nouns have two entries in the lexicon, one of which is marked [+predicative].

I have discussed above the fact that two predicate phrases can be conjoined. An interesting property of coordinate sentences is noted in Goodall (1984). Goodall argues that the conjuncts must be syntactically parallel (i.e. of the same category). Thus, he claims, the example in 96a. is ill-formed, as compared to 96b:

96. a. *The bouncer was muscular and a guitarist.

b. The bouncer was muscular and was a guitarist. (p. 52)

In 96b. two VPs are conjoined; in 96a., an AP is conjoined with an NP.[30]

Goodall notes a paper by Sag, Gazdar, Wasow and Weisler (1983), which

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30. I have found speakers who consider both the examples in 96 well-formed, as do I.

contains grammatical examples which go counter to Goodall's restriction of coordinated elements to like categories:

97. Pat is either stupid or a liar.
Pat is a Republican and proud of it. (Goodall, p. 65)

In 97 an AP is conjoined with an NP. Goodall notes that both conjuncts in these examples are predicative, which does, in a sense, make them examples of coordination of likes. He points out that when the two conjuncts do not share the predicative property, coordination is not possible:[31]

98. *That stupid and a liar man is my brother.
*A Republican and proud of it lives next door.

In order to reconcile the facts in 97 with the syntactic parallelism restriction, Goodall suggests that the conjuncts in 97 share the syntactic feature Predicative, and thus the restriction is met.

Goodall takes the feature Predicative to include at least APs and non-permanent predicate nominals. He suggests that non-permanent nominals are those which can be modified by very much. NPs that cannot be so modified do not count as Predicative.[32]

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31. But note that even without the coordination, the following are ungrammatical:

(i) *That a liar man is my brother.
(ii) *A proud (of it) lives next door.

(i) is ungrammatical because an NP cannot be used as a modifier in pre-nominal position. (ii) is ungrammatical because an AP is used where only an NP is possible. Thus, the argument made by 98 does not hold.

32. But note 'very much a man' in which (surely) a permanent noun is involved.

99. a. John is very much a liar
?a Republican
*a guitarist
*an attorney

Thus, Goodall concludes that the feature Predicative is necessary for more than coordination. According to Goodall, the NPs that cannot be modified by very much cannot be in coordinate structures either:

b. John is both crazy and a liar
rich ?a Republican
muscular *a guitarist
*an attorney[33]

(Goodall p. 67)

I have claimed above that lexical items are not marked as predicative or as argumental but, given the ambiguity of many sentences, can be either. In order to follow Goodall's argument, the feature Predicative would have to be assigned to a phrase after that phrase assigns a theta role. However, that would mean that all the NPs above, including guitarist, would be Predicative, and thus all such examples should be well-formed (which, according to some speakers, they are). But in order to mark (the heads of) phrases as Predicative before they play a predicative role in syntax, we would have to assume that phrases (and their heads) are either predicative or not, which is not the case.

Furthermore, there are other such 'non-permanency' tests which give different results as to the division of such noun phrases into classes.

For example, Higgins claims that 'known Predicational items can appear

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33. But note: John is an attorney and crazy.

as the predicate complement of become and known Referential items cannot (p.225).' He does qualify the validity of such a test: 'At best one can say that if a noun phrase can appear as [the] predicate complement then it is Predicational.' The results of this test are nevertheless interesting.

100. Mary has become a good liar
Republican
guitarist
attorney

According to the become criterion, all the noun phrases above are predicative. Yet, according to Goodall, only the first should be definitely marked as Predicative. I do not, then, consider the very much test a good one for the predicative use of NPs, nor even a good test for permanency. I am unable then to account for the difference in coordination possibilities of the various noun phrases (if Goodall's judgements are right).

(I would like to add a note to Higgins' become diagnostic. I do not think that it distinguishes between predicative and non-predicative NPs, given the following:

101. Who's our man in Paris, now that Pierre is gone?
Oh, Maurice became him.

Surely the pronoun is not predicative.)

Moreover, almost any noun, however permanent, can head a predicate phrase, and head the phrase following become, under an appropriate reading. Consider, for example:

102. a. You've added so many parts to that motorcycle
that it's become a car.

b. That machine finally became a car once we added all the new parts.

In 102a, not only is the sentence well-formed, but given that the motorcycle has not really become a car, what is actually going on in the sentence is that the property of carhood is being predicated of the motorcycle. In the same way, one could say:

103. Wow. That machine is very much a car.

and yet, car is very much a permanent noun. Car-hood properties are not. Goodall's restriction on very much does not seem to hold.

While there may well be a feature [permanent] for nouns, this feature is irrelevant to the predicative use of NPs. Many permanent nouns can head predicative NPs. Given the facts above, I conclude that there is no argument for a lexical feature 'predicative', and therefore, no accurate test to distinguish nouns on such a basis.

3.9 Against a Classification of Copular Constructions by Referentiality

In this section, I argue against the notion 'referential' as relevant for the classification of copular constructions, although such a notion is relevant to their interpretation (and is necessary for other reasons, as discussed below). I argue that copular constructions are classified using the notion 'Argument'. When a phrase is assigned a theta-role, it is an Argument, and as such can be interpreted as referential. When a phrase is not assigned any theta-role, then it can not be interpreted as referential;

when a phrase itself assigns a theta-role, it is a predicate.

3.9.1 Akmajian and Reference

In Akmajian (1970), the notion of referentiality is taken to be central to distinguishing between predicatives and equatives. Akmajian discusses reference as I have in section 1. The post-copular NP in a specificational (equative) sentence is referential; the speaker denotes an individual in the world by using the phrase Tali Porat, for example. In a predicational sentence, the post-copular NP is non-referential, i.e. it has no specific referent in the universe of discourse; a nut in She is a nut, for example, is not a referential phrase.

Akmajian attributes to the referential/non-referential distinction the ambiguity of 104:

104. a. What he threw away was a valuable piece of equipment.

which is equivalent to:

b. He threw away a valuable piece of equipment.

The ambiguity here is 'a function of the referentiality of the NP a valuable piece of equipment: when the NP is taken as being referential, the sentence is understood to have a specificational sense, and when the NP is taken to be non-referential, the sentence is understood as having a predicational sense' (p.178). In one sense, then, the NP a valuable piece of equipment has a specific referent; we know exactly what was thrown away. On the other reading, we don't know what was thrown away, only that

whatever it was, it was valuable.[34]

However, the fact of a noun phrase's referentiality is not necessarily of relevance in the syntax. As I have stated, all that is relevant in the syntax is whether or not an element receives a theta-role. When an NP receives a theta-role, it is an Argument. In 104b, the object NP a valuable piece of equipment receives a theta-role and so is a syntactic Argument, whether or not it refers. The semantic ambiguity is irrelevant in the syntax. Thus, Akmajian's division of sentences into a specificational or predicational class depending on referentiality, is not necessarily correct.

However, the notion referentiality is (indirectly) syntactically relevant to the ambiguity of 104a, a copular construction, in which the post-copular NP a valuable piece of equipment can assign, or be assigned a theta-role. If an element is an Argument, it can later be interpreted as referential (i.e. as denoting an element in the world). Only Arguments can be interpreted as referential. (But not all Arguments are referential.)

The notion of Referentiality is also required to describe certain phenomena. For example, recall Akmajian's point that which can pronominalize only a non-referential human NP. With respect to the data of copular constructions, this translates into pronominalization being

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34. Note that in the 'specificational' sense of 104 the 'referential' NP is indefinite, which is not necessarily what one might expect a referential NP to be. This contrasts with the post-copular NP in most of the above examples of what I have termed 'equative' constructions, which is definite (i.e. a definite NP or a proper name/pronoun).

possible only with predicative NPs, i.e. with theta-role assigners, and not theta-role receivers. However, this generalization does not extend to all argument positions. Consider the following:[35]

105. a. *A lawyer, which I'm not, just arrived.
b. A lawyer, which I'm not, could solve this problem.

106. a. *Sara met an Italian, which I'm not.
b. Sara wants to meet an Italian, which I'm not.

The sentences of 105a. and 106a. are as expected. The NPs a lawyer and an Italian are theta-role receivers, and so which-pronominalization is not possible. However, the NPs a lawyer and an Italian in the b. examples, which are also theta-role receivers, allow which-pronominalization. The only difference between the two sets of noun phrases is that the former is referential, and the latter is not. Thus, the notion of referentiality certainly cannot be dispensed with entirely.

However, referentiality is not the notion to be used in a classification of copular construction, as I now proceed to illustrate.

3.9.2 Higgins' Classification by Referentiality

In this section, I argue that Higgins' four-way classification of copular constructions can be simplified by using the notion Argument instead of 'referentiality' to classify the different sentence types.

Higgins (1973) suggests that what is important in copular constructions is 'more often a distinction between what is known and is

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35. These examples courtesy of Jim Higginbotham.

familiar and what is not known or is unfamiliar' (p.192). He proposes a typology of copular sentences in terms of their various functions.

Sentences containing two independently referring NPs, e.g., The evening star is the morning star are termed by Higgins 'Identity' sentences.

The following sentences are 'Specificational'[36], as opposed to 'Identity'. According to Higgins, neither is of the form referential NP-be-referential NP, i.e., the form required for the expression of identity.

107. The number of planets is nine.
His height is two metres.

Under the heading 'Specificational', Higgins includes sentences like the pseudo-cleft of 108:

108. What I don't like about John is his tie.

'The Specificational reading', writes Higgins, 'merely says what one is talking about: the Subject in some way delimits a domain and the Specificatonal Predicate identifies a particular member of that domain.' 'A Specificational sentence is neither about the Subject nor about the Predicate, and therefore neither Subject nor predicate complement is Referential' (p. 198).

Higgins states that the predicate complement his tie is not

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36. This term, as used by Higgins, covers only a subset of sentence types subsumed under the same label by Akmajian.

referential for, 'although the phrase does denote or mention an object, it is not used in this sentence in such a way that anything is said about that object.'[37]

Because Higgins uses referentiality as the criterion according to which copular constructions are classified, he must assume the existence in the syntax of two distinct classes: Identity and Specificational. Higgins does say that 'all noun phrases that can be Referential can also be used Specificationally'(p. 203). I do not believe that defining two distinct classes is necessary here. Examining the syntactic properties of these sentences, we will see that a division between Specificational and Identity sentences is not relevant in the syntax; and that, using syntactic Argumenthood as the criterion, the two sentence types are classified as one.

3.9.2.1 Specificational Sentences

Let's take two of the Specificational sentences, repeated in 109:[38]

109. The number of planets is nine.
His height is two metres.

At first glance, these sentences may appear to be predicative, i.e., that the number of planets has the property of being nine (in number), and

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37. Given Higgins' comments, we can also take 108 to mean 'What I don't like about John is the fact that he is wearing a tie.' The noun phrase <u>his tie</u> is then definitely not referential, and so the sentence is Specificational.

38. Higgins' discussion of the referentiality of the phrase <u>The number of planets</u> is irrelevant here.

that his height has the property of being two metres. However, these sentences can be seen to fall into the equative class.

First, the two noun phrases of this construction, like equatives, can be reversed:

110. ?Nine is the number of planets.
?Two metres is his height.

It is true that the reversal may sound somewhat odd, but certainly is not as unacceptable as the reversal of a predicative sentence:

111. *A fool is Nurit.

The fact that these sentences are equative can be made clear by using some of the properties described above as diagnostics:[39] Recall that <u>though</u>-preposing is possible only with predicates:

112. *Nine though the number of planets is, I find the number unlucky.
*Two metres though his height is, I am not afraid of him.

As 112 shows, <u>though</u>-preposing is not possible, which means that the sentences of 109 should not be classed as predicative.

The same conclusion is reached by the application of the small clause diagnostic:

113. *I find the number of planets nine.
*I proved his height two metres.

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39. Note that <u>which</u>-pronominalisation is OK, but is not relevant as a test since the noun phrases are not human (or even animate):

(i) The number of planets is nine, which is rather a small number.
His height is two metres, which is a good height.

and the failure of degree-modification:

114. *The number of planets is more nine than the number of moons.
*His height is a bit of two metres.

Like equative sentences, Specificational sentences fail the small clause test, and are not degree modifiable. Only predicates can appear in small clauses and only predicates can be degree-modified.

Pseudo-clefts like 108, repeated below, are also of the equative type:

115. What I don't like about John is his tie.
(His tie is what I don't like about John.)

I conclude from the above that, as far as the syntax is concerned, Specificational sentences, like Identity sentences, can be subsumed under the class of Equative sentences. Thus, both phrases of the construction receive theta-roles.

3.9.2.2 Identificational Sentences

Higgins' Specificational reading is not the expression of some kind of identity. Nor is the reading he terms 'Identificational'. Identity sentences are of the form referential NP-be-referential NP. Such sentences are to be distinguished from 'Identificational' sentences, which are 'typically used for teaching the names of people or of 'things' (p.220). Higgins gives the following examples:[40]

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40. Partee & Williams (in prep.) analyses sentences with the bare demonstrative as inverted structures, with the demonstrative as predicate. Such an analysis entails that That is NP and That N is NP, for example, are two different sentence types.

116. a. That is Joe Smith.
b. This is the house that I mentioned.
c. That place is Boston.
d. That animal is a tiger.

To illustrate the difference between the two construction types, Higgins contrasts the reversibility of Identity sentences with the fact that the first two sentences of 116, with simple this and that subjects, cannot be inverted:

117. a. *Joe Smith is that.
b. *The house that I mentioned is this.

(Higgins fails to mention that neither can 116d. be inverted, even though its subject is not a plain demonstrative:

118. *A tiger is that animal.)

116c., which according to Higgins is the same type of sentence, can be inverted:

119. Boston is that place.

Apparently, the two noun phrases in almost every case of both Identity and Identificational constructions can be reversed, but there is something peculiar to simple demonstratives like that which makes post-copular position impossible.41

Actually, reversibility of the two noun phrases is not necessarily the best test of an equative sentence. Even a predicative sentence can be 'reversed' if both its NPs are definite, since definite NPs are possible in

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41. This is in contrast with sentences like What is that? in which that is the underlying subject.

subject position. In fact, as I show below, Higgins' Identificational sentences are often ambiguous between a predicative and an equative reading; and a division into two distinct classes is necessary only under a classification according to referentiality.

Higgins writes that a sentence like 120:

120. That man over there is Joe Bloggs.

'is normally used to teach someone a name, and it does not seem to me that the name is used Referentially in such sentences-- nothing is said about Joe Bloggs' (p. 245). Thus, an Identificational sentence. I now argue that, under this reading, Higgins' Identificational class is to be subsumed under the class of predicative sentences. Actually, depending on the thematic relation assigned, 120 can be either equative or predicative.

If 120 is used to answer the question

121. Who is Joe Bloggs?

then the sentence is one of identity (or equation): That man over there and Joe Bloggs are identified as being the same. We can test the classification of 120 as equative, by the addition of a non-restrictive relative:

122. That man is Joe Bloggs, who speaks of you highly.

Since 122 is well-formed, we know that 120 can be an equative.

However, 120 can also be used to answer a different question, in which case it has another reading. This is the one which Higgins puts into the class Identificational, but which can be seen to belong in the predicative

sentence class.

If 120 is used to answer the question

123. Who is that man over there?

it can be read predicatively, that is, as stating a property of that man over there, i.e., that he has a certain name. 120 could then be paraphrased as 124:

124. That man over there is called Joe Bloggs.

which is obviously a predicative sentence. We can test the predicative use of 120 by pronominalizing the post-copular NP with which:

125. That man over there is Joe Bloggs, which is a great name.

Since 125 is well-formed, it shows that 120 can be a predicative. This is in contrast with the reading of 120 as equative, that is, as in answer to 121, in which case which-pronominalization is ungrammatical.

One more example of an Identificational sentence remains to be examined. Consider 116c, repeated in 126:

126. That place is Boston.

When used to answer the question:

127. Which place is Boston?

(for example), this sentence is equative. When used to answer 128:

128. What's that place? or What do you call that place?

126 can be a predicative sentence, attributing the property of being (called) Boston to that place.

This is also true of 116d, That animal is a tiger. On the one hand, the sentence is equivalent to the predicative

129. Pnina is a student.

On the other hand, the same sentence could be used to answer the question

130. Which animal is a tiger?

when used in the generic sense, equivalent to the tiger. Note the following:

131. That animal is a tiger, who is a noble beast.

Thus, an equative.

So Identificational sentences can be classifed as either predicative or equative, depending on the thematic relation assigned.

To conclude, I have argued that there is no separate category of Identificational sentences in the syntax, just as there is no distinct class of Specificational sentences; rather there is simply a two-way classification depending on syntactic Argumenthood: sentences are either predicative or equative.

3.9.3 The Classification of Copular Constructions

I have claimed that the notion of referentiality leads to an unnecessarily complex classification of copular constructions and is actually irrelevant.

The syntactic notion of Argument, on the other hand, allows a

simplified typology of copular constructions. An 'Argument' is a phrase to which a theta-role has been assigned. The two noun phrases in equatives both receive theta-roles; thus, both are Arguments. In predicative sentences, only the pre-copular NP is an argument; it is assigned a theta-role by the post-copular NP. The post-copular NP does not receive a theta-role and so is not an Argument.

We can now revise the typology of copular sentences and the description of their composition given in Higgins. Higgins' table is in 132:

132. Higgins: Subject-Predicate Structure of Copular Sentences

Type	Subject	Predicate
Identificational	Referential	Identificational
Identity	Referential	Referential
Predicational	Referential	Predicational
Specificational	Superscriptional[42]	Specificational

Given my arguments above, we can simplify the table as follows:

133.

Type	Pre-copular NP	Post-copular NP
Equative	Argument	Argument
Predicative	Argument	Predicate

Both notions 'Argument' and 'Predicate' in 133 are dependent on the assignment of thematic roles.

Not only is the table in 133 considerably simplified, but it allows sentences like those in 134 to be classified, whereas the table in 132 does not.

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42. This is Higgins' term for the 'heading of a list'.

134. A VCR is an interesting invention.
Man is a dangerous creation.

The two subjects in 134, a VCR and man are not used referentially, i.e. they do not denote a specific individual in the world. Thus, given the table in 132, they cannot be classified. The NPs are neither referential nor superscriptional. Yet the sentences in 134 are well-formed copular constructions.

Under the classification given by the simplified table in 133, on the other hand, the sentences of 134 are classed as predicative, since the pre-copular NPs receive theta-roles from the post-copular NPs. Once classified thus, we expect the syntactic behaviour of the sentences in 134 to be like all predicative sentences. Thus, these sentences allow though-preposing, and which-pronominalization, for example.

In this section, I have proposed a simplified typology of copular constructions, based solely on the notions 'Argument', a theta-role receiver, and 'Predicate', a theta-role assigner.

3.10 Conclusion

In this chapter I have argued that there are two different copular construction types- equative and predicative. The difference between the two is accounted for in terms of theta-relations: in a predicative sentence, the subject phrase receives a theta-role from the predicative phrase; in an equative sentence, both phrases receive theta-roles, by

virtue of the identity relation having been assigned in the structure. (Thus NPs can be licensed as theta-role receiving arguments even where no lexical head has assigned to them theta-roles.) Not until either the predication or the identity thematic relation is assigned can a construction be classified.

My arguments lead to a distinction of noun phrases as either referential Arguments, non-referential Arguments, or predicates (which are non-referential).

I have argued that the notions Argument, i.e. theta-role receiver, and Predicate, i.e. theta-role assigner, are all that are needed for the classification of copular constructions.

A classification of the different types of copular constructions cannot be made by an appeal to the different functions of <u>be</u>. I have argued that the copula <u>be</u> is not a theta-role assigner in equative sentences, nor has <u>be</u> any semantic function at all in either predicatives or equatives. Because of this, <u>be</u> is not present either at D-structure or at LF. Rather, <u>Be</u> is inserted at PF (or perhaps at S-structure) to support INFL's features (and perhaps to assign Case).

Nor can a classification of copular constructions be made according to NP type (e.g. definite), since all NP types (but indefinite NPs with no modifier) can be used in all construction types.

Moreover, an attempt to classify copular constructions in terms of the phrases' referential use yields a complicated system in which some

well-formed sentences cannot be classified. Using the notion of syntactic Argument, on the other hand, gives the correct distinction, and allows a simplified classification.

Chapter 4

Embedded Small Clauses in Israeli Hebrew

4.1 Introduction

In Chapter 2, I claim that there are matrix small clauses in Israeli Hebrew; that is, main clauses which have no INFL. In this chapter, I examine the facts of embedded small clause constructions in Hebrew. I demonstrate that there is a limited class of embedded small clauses in Hebrew, and argue that the small clause possibilities are limited by the necessity of meeting a requirement in Hebrew that all verbal Case assignment be theta-related. I argue that only causative morphemes can take small clauses in Hebrew because causative morphemes incorporate the second predicate, thus meeting the Case-marking restriction.

As part of my account, I reject a possible analysis of the Hebrew facts which explains the ill-formedness of small clauses in terms of the impossibility of Case-marking over a boundary. I thus draw a distinction between Exceptional Case Marking structures, which contain a boundary between the Case marker and the NP Case-marked, and small clause structures which, I claim, have no such boundary. My analysis of the structure of small clauses allows, in turn, a necessary refinement in the principles

constraining the predication relation.

As in previous chapters, I am defining a small clause as an instance of predication, i.e. a subject-predicate relation, which is not mediated by tense or an inflectional element (INFL).[1] Here I use the term 'small clause' to cover only those embedded subject-predicate constructions whose predicate is selected by the matrix verb.

4.2 Exceptional Case-Marking

Exceptional Case Marking (ECM) structures are those in which the verb assigns accusative Case to a non-complement NP over the boundary of the IP argument selected. In general, Hebrew allows no ECM structures. For example:

1. a. *Saba maxSiv/xoSev et rivka lihyot pikxit
Grandfather considers/thinks ACC Rivka to be intelligent
'Grandfather considers/thinks Rebecca to be intelligent.'

b. *hoxaxti oto lihyot xaf mi-peSa
proved-I him to be innocent
'I proved him to be innocent.'

c. *david maca ota lihyot moSex-et
David found her to be attractive
'David found her to be attractive.'

As noted in Chapter 2, verbs in Hebrew that select a proposition subcategorise for a CP:

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1. I will not be discussing those analyses which assign to an argument small clause an INFL, or AGR head (such as recent work by Kayne).

2. a. Saba xoSev Se-rivka pikxit
Grandfather thinks that Rivka intelligent
'Grandfather thinks that Rivka is intelligent.'

b. hoxaxti Se-hu xaf mi-peSa
proved-I that he innocent
'I proved that he is innocent.'

c. david maca Se-hi hayta moSexet
David found that she was attractive
'David found that she was attractive.'

I assume that the structures in 1 are ungrammatical because the complement subject NP does not receive Case. (To be visible for the Theta Criterion, every argument must have Case.) That the subject NP does not receive Case is not due to the fact that the verbs involved are not Case-assigners. Rather, these verbs do assign accusative Case, as we can see in the following:

3. a. Saba xoSev harbe maxSavot
'Grandfather thinks many thoughts.'

b. hu hoxiax et aSmatam
'He proved their guilt.'

c. hi mac'a kova
'She found a hat.'

One might conclude, then, that although these verbs assign Case, they cannot do so over the boundary of the complement IP. Thus, ECM structures are ungrammatical in Hebrew. A similar restriction could be argued to hold with respect to small clauses:

4. a. *Saba maxSiv/xoSev et rivka pikxit
Grandfather considers/thinks ACC Rebecca intelligent.
'Grandfather considers/thinks Rebecca intelligent.'

b. *hoxaxti oto xaf mi-peSa
proved-I him innocent
'I proved him innocent.'

c. *David maca ota moSex-et
David found her attractive-f
'David found her attractive.'

d. *ha-Sofet hixriz oto xayav
the-judge declared him guilty
'The judge declared him guilty.'

e. *Lea roca et ha-student mi-xuc la-kita
Lea wants ACC the student outside the class
'Lea wants the student out of the class.'

The sentences of 4, too, are ungrammatical because the small clause subject does not receive Case. Let us assume for now that the reason Case cannot be assigned to the small clause subject is the presence of the small clause boundary between the Case-marking verb and the small clause subject NP requiring Case.

Thus, it appears that Hebrew allows no Case marking over a boundary of any type (IP or small clause node) and for this reason, both ECM and small clause structures are ungrammatical in Hebrew.

4.2.1 An Apparent Counter-Example

One apparent exception to this statement is the following, in which the subject of the lower predicate is assigned Case by the matrix verb:[2]

5. a. Saba xoSev et rivka le-pikxit
Grandfather thinks ACC Rebecca to-intelligent
'Grandfather thinks (regards) Rebecca (as) intelligent.'

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2. Predicates which can be analysed as verbal cannot appear as the lower predicate in this construction (as is the case with English regard):

(i) *Saba xoSev et rivka le-holexet maher
Grandfather thinks ACC Rebecca to-walks fast

b. Saba xoSev et rivka le-nexmada
Grandfather thinks ACC Rebecca to-nice
'Grandfather thinks (regards) Rebecca (as) nice.'

Le 'to' is both the infinitive marker and the dative preposition in Hebrew (as in English).

The examples of 5 are grammatical, although they appear similar to the ungrammatical examples of 4 above. However, an analysis of the sentences of 5 as involving Case-marking over a boundary is not tenable. Rather, the lower NP should be analysed as the theta-marked object of the matrix verb. This analysis is feasible, given the fact that putting an expletive in the object position (i.e. after et) yields an ungrammatical result:[3]

6. *ani xoSev et ze le-efSari Se-nacliax ba-bxina
I think ACC it to-possible that-we will succeed in the-test
'I think (regard) it (as) possible that we will succeed in the test.'

(cf. ze efSari Se-nacliax ba-bxina
'It is possible that we will succeed in the test.')

The impossibility of expletive ze is consistent with an analysis in which the verb xoSev 'thinks' theta-marks the lower NP.

A possible analysis of a sentence of 5, then, is to treat le as an INFL element heading an embedded clause whose subject is controlled by the object of the matrix clause:

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3. In contrast, when ze 'it' is thematic, the sentence is grammatical:

(i) ani xoSev et ze le-efSari
'I regard it as possible.'

7. Saba xoSev et rivka [PRO le-pikxit]

In 7, rivka, the controller of the PRO subject of the embedded clause, is the theta-marked object of the matrix verb xoSev, and thus there is no boundary between the NP and the verb which Case-marks it.

Thus, the sentences of 5 do not constitute counter-examples to the statement that Case-marking over a boundary is not possible in Hebrew.

Recall that the form le in Hebrew is also a preposition, and therefore a Case marker. Given this fact, an alternative analysis of the sentences of 5 would appear possible. However, an analysis in which le is the preposition preceding the indirect object of a construction like that of the verb give, fails to account for the word order facts of this construction. In dative constructions the le-NP (dative) is usually the first post-verbal NP,[4] as the following illustrates, and not the second as in 5:

8. natati le-dana et ha-glida
gave-I to Dana ACC the ice-cream
'I gave the ice-cream to Dana.'

The et NP is usually the second NP, as shown in 8, and not the first, as it is in 5.

Furthermore, although we may assume that le is inserted in 8 so that the object will be Case-marked, there is no reason to assume that le is inserted in 5 so that the predicate will be Case-marked, since there is no evidence that predicates require Case, or are even Case-marked, in

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4. This point thanks to Ur Shlonsky.

in Hebrew.[5]

We can thus analyse le in 5 as the INFL of a complement clause, and the NP subject of the second predicate as the theta-marked object of the matrix verb. In sum, I assume that the sentences in 5 do not involve the Case-marking of a non-theta-marked element over a boundary.

Whichever analysis we assign to them, the sentences of 5 are unusual. Certainly, it is not the case that all the ungrammatical examples of 4 can be made grammatical by the insertion of le before the predicate:

9. *hoxaxti oto le-xaf mi-peSa
proved-I him to-innocent

*david maca ota le-moSexet
David found her to-attractive

*ha-Sofet hixriz oto le-xayav
the-judge declared him to-guilty

The addition of the INFL marker le does not affect the ungrammaticality of the original small clause examples (of 4). Like those, the sentences of 9 contain an NP subject of a lower predicate which is not theta-marked by the matrix verb; rather, it is inside the boundary of the complement clause. Thus, this NP cannot receive Case from the matrix verb, and the sentence is ungrammatical.

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5. As opposed to languages like Russian, for example. In Russian, although there is no evidence that predicates require Case in every environment, certainly predicates are marked for Case. For example:

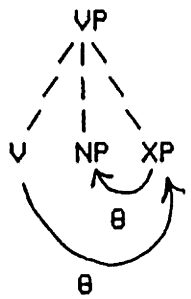
(i) ja sčitaju Ivan-a idiot-om
I consider Ivan-ACC idiot-INST
'I consider Ivan an idiot.'

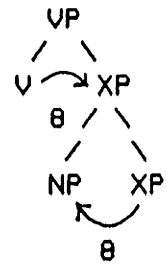
It appears that Hebrew excludes both ECM structures and small clauses for the same reason: Case-marking is not possible over a boundary. However, in the next section, I argue for a certain analysis of the structure of small clauses. This analysis does not permit the exclusion in Hebrew of these structures to be accounted for in terms of the presence of a small clause boundary.

4.3 The Structure of Small Clauses

I have suggested the possibility that small clauses are excluded in Hebrew because Case-marking is impossible over a boundary. However, there is a question as to whether such a boundary really exists. Under certain analyses of the structure of a small clause, no boundary exists between the verb and lower noun phrase to block Case assignment by the matrix verb. In this section I propose such an analysis.

Two structures have been proposed for small clauses that are consistent with the view that small clauses are subject-predicate structures with no INFL. One is that of Williams (1980, 1983) or of Emonds (1985), shown in 10a. with the theta-structure argued for in Rapoport (1986); and the other is based on Stowell (1983), as illustrated in 10b. (following Manzini (1983) and Chomsky (1986), etc.):

10. a. 

b. 

Williams (1983) argues that subject-predicate constructions do not necessarily form a single syntactic constituent. In 10a, the NP subject is outside the maximal projection of the predicate XP theta-marking it, thus meeting Williams' condition on predication (see Chapter 1), as well as his definition of subject. Williams argues against Stowell (1983), in which the subject of a phrase XP is defined as the argument of a predicate phrase which is directly dominated by X". The structure in 10b. reflects Stowell's analysis of sentences containing a small clause, which is that the matrix verb theta-marks a proposition whose head is a predicate. The two structures of 10 have engendered some controversy in the literature (e.g. Schein, 1982; Williams, 1983). However, if we assume the theory in May (1985), these structures are more similar than they appear.

In discussing adjunction structures, May proposes that a projection be defined as 'a set of occurrences of nodes that are featurally non-distinct (that is, identical with respect to syntactic features, bar level, index, etc.)' (p. 56). If we extend this definition of projection sets formed by adjunction to include structures of base-generated adjunction, then the two occurrences of XP in 10b. (henceforth structure B) constitute only one projection of X. Thus, the verb that selects a small clause theta-marks the XP, that is the entire XP, consisting of two tokens. Given this, the

theta-relations in the clausal structure B are the same as in the non-clausal structure of 10a. (henceforth structure A), a structure which has been argued to represent the (direct) theta-marking of the XP predicate by the verb.[6]

Furthermore, the structural relations among the constituents, as well as the theta-relations, are the same in the clausal structure B as in the non-clausal structure A, if we assume May's definition of domination:

11. X dominates Y iff all members of the projection set of X dominate Y.

This is more accurately stated in Speas (1986) (p. 116), which gives the following definition in order to distinguish the two notions of domination:

12. A category X **category-dominates** Y iff all members of the projection set of X dominate Y

In B, the adjoined NP is not category-dominated by the XP, since one 'segment' of the XP category (the lower XP) does not dominate it. XP is not category-dominated by NP; VP does category-dominate both NP and XP, neither of which dominate it.

The same domination relations are true of A. VP category-dominates both NP and XP; neither NP nor XP category-dominates the other.

We can define government in terms of the notion of category-domination of 12, as follows:

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6. See, for example, Rapoport, 1986.

13. X (MC-) governs Y iff every maximal projection category-dominating X category-dominates Y.

This definition of government is similar to the definition of government in Aoun & Sportiche (1983):

14. X governs Y iff ∀Z, Z a maximal projection, Z dominates X ⟨--⟩ Z dominates Y

If we change the term 'dominate' in the Aoun-Sportiche definition of government to 'category-dominate' to cover the cases of adjunction, we have the definition of government in 13.

All the constituents in A are category-dominated by VP, so V, NP and XP all MC-govern each other. In B, since XP does not category-dominate NP, the first projection category-dominating NP is VP; and the first projection to category-dominate V and XP is also VP. In other words, in B too, V, NP and XP all MC-govern each other.

Thus, the government relations are the same in both A and B, the two small clause structures in 10. Given this fact, I will not distinguish at this time between the two structures for small clauses. Either can be assumed in the discussion of Hebrew small clauses.

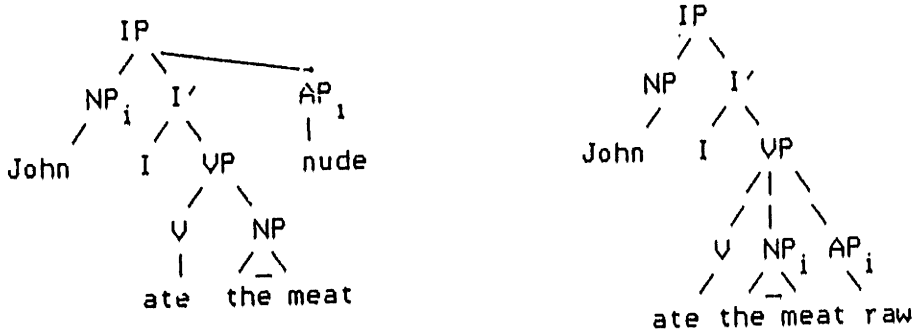
4.3.1 Structural Restrictions on Theta-Marking

The definition in 13 allows a necessary revision in the formulation of the structural constraint on the theta-role assignment of predication. I propose to use the definition of MC-government in 13 to revise the restriction on the domain of theta-role assignment of Williams (1985). As I will show, this revision in the definition of permissible theta-relations

is necessary in order to solve a problem posed in Andrews (1982) for Williams' theory of predication.

In Williams (1980) the relation between an NP subject and a predicate AP is governed by the following restriction: the NP must c-command and be c-subjacent to the AP (i.e., the AP is dominated by at most one branching node which does not dominate the NP).7 Thus, a non-argument predicate adjective such as nude in John ate the meat nude must be a daughter of S (IP) and not of VP, as opposed to the predicate raw in John ate the meat raw, which is a daughter of VP:

15.



However, Andrews (1982) points out that the tests of VP-Preposing, though-preposing, and wh-clefting of VP show that not only phrases predicated of the verb's object but also those predicated of the sentence's subject belong in the VP:

16. John said he would eat the meat nude, and eat the meat nude he did. Eat the meat nude though John did, nobody thought he was crazy. What John did was eat the meat nude.

(Andrews, p. 313)

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7. In a footnote, Williams suggests a possible strengthening of this condition to mutual c-command.

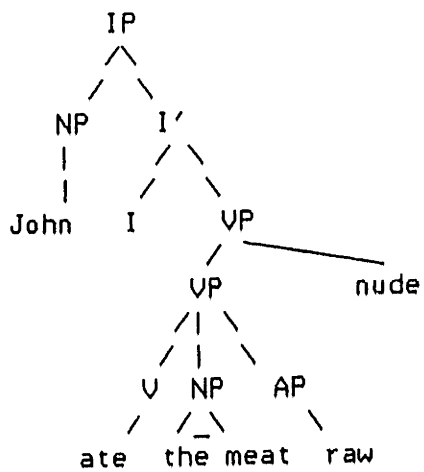
Andrews also shows that there is some constituent that contains the matrix verb and the predicate (of the subject), which does not contain the aspectual auxiliary:

17. John said that he would be playing checkers nude, and
...playing checkers nude he will be!
*...be playing checkers nude he will!

(Andrews, p. 314)

So we can assume that the AP predicated of the subject does not hang off S, nor off INFL'. It must be the case that the AP predicate is in some VP. I assume, then, that both the subject's and the object's predicates are under the VP, although at different levels, as illustrated in 18:

18.



However, even if we adopt such a recursive VP analysis, as suggested by Andrews, both Williams' (1980) strict condition on predication and Williams' Theta Role Assignment Condition (in 19) are violated.

19. TRAC: no phrase at all can intervene between an assigner and an assignee.

(Williams, 1985)

In 18, the subject John and predicate nude are not c-subjacent to each

other, since two branching nodes, VP and I', dominate the predicate and do not dominate the subject; thus the condition on predication is violated. Williams' restriction on theta-role assignment in general, TRAC, is also violated since the VP phrase intervenes between the theta-role assigner nude and the assignee John.

However, if we use the definition of MC-government above, we can see that the structure in 18 is indeed compatible with Williams' theory. Let us assume that the structural restriction on the predication relation is that the subject and predicate must MC-govern each other (as suggested in Rapoport, 1984). Thus, in 18, the subject John and the predicate nude MC-govern each other, since the predicate nude is not category-dominated by the VP; the first projection category-dominating the predicate is IP, which also category-dominates the subject. On the other hand, raw does not MC-govern John and so can be predicated only of the NP the meat.

As for the more general TRAC, let us take 'phrase' to mean the entire projection set. In this way, the structure in 18 does not constitute a problem for theta-role assignment, since no entire projection set intervenes between the adjoined predicate and its subject John. Alternatively, we can define TRAC in terms of MC-government:

20. Theta-Role Assignment Constraint:
A theta-role assigner and assignee must MC-govern each other.

To conclude, the definition of MC-government discussed above allows a revision of the Theta-Role Assignment Constraint. This revision avoids the problems raised by the original TRAC.

4.3.2 Issues Raised by Small Clause Structures

So far, then, either structure in 10 can be assumed to underlie a small clause, since, as I've argued, the government and theta-relations are the same. However, both structures are problematic with respect to the Projection Principle and regarding certain facts of scope and extraction.

4.3.2.1 The Projection Principle

Consider first the formal definition of Chomsky's (1981) Projection Principle which, informally, states that 'representations at each of the three syntactic levels are projections of lexical properties' (p.39). The formal definition of the Projection Principle, of which it is case (1) that is relevant here, follows:

21. (i) $[_G \ldots A \ldots B \ldots]$

(ii) $[_G \ldots B \ldots A \ldots]$

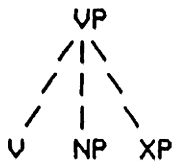
22. (1) if B is an immediate constituent of G in (21) at L_i, and G = A', then A theta-marks B in G

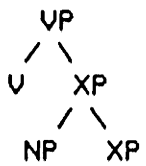
(2) if A selects B in G as a lexical property, then A selects B in G at L_i

(3) if A selects B in G at L_i, then A selects B in G at L_j

(The variables L_i, L_j range over the syntactic levels LF, D-S, S-S.)

The structures of 10, most obviously the ternary-branching A structure, violate the formal definition of case (1) above. Recall the two structures under discussion, repeated in 23:

23. A: 

B: 

Informally, 22(1) merely stipulates 'that subcategorization in the purely formal sense entails theta-marking' (Chomsky, 1981, p. 38). Assuming that subcategorisation is stated in the lexicon, then the small clause NP is never subcategorised for to begin with (although it appears adjacent to the verb in the syntax), which is what we expect, given that it has no thematic relation to the verb. However, the formal statement in 22(1) stipulates that a constituent which is immediately dominated by a projection must be theta-marked by the head of that projection. More specifically, if an NP is an immediate constituent of the projection of the verb, the verb must theta-mark that NP.

The A structure violates case (1), since the NP is not theta-marked by the verb, but rather is theta-marked, through predication, by the XP. The question with respect to the B structure is whether or not the NP is an immediate constituent of the VP. If we assume that the use of the term 'immediate' precludes even a segment of a projection from intervening between an element and its immediate constituent, then structure B does not violate case (1) of the Projection Principle. However, if we define immediate constituency as including any case in which no complete projection set intervenes between two elements, then the B structure, as well as the A structure, fails to meet the condition of case (1).

Thus, case (1) appears too strong, as it excludes small clauses. However, given TRAC together with the Theta Criterion (e.g. Chomsky 1981), which states that every argument must receive at least one theta-role, case (1) of the Projection Principle is not only too strong, but is unnecessary besides. Along with the overly-strong condition that it must always be the head of a projection which assigns theta-roles within that projection, Case (1) redundantly states that an NP must receive a theta-role, and under a structural condition of 'sisterhood'. The Theta Criterion already requires that an NP receive a theta-role; and TRAC imposes a sisterhood condition on theta-role assignment. I therefore follow Schein (1982) in eliminating case (1) from the Projection Principle. Thus, it is possible for there to be an NP that is sister to a head which does not theta-mark it, as long as the NP receives a theta-role from some element, under the restriction of TRAC.

We have therefore resolved the problem for small clauses presented by the Projection Principle. Another issue is raised by the A and B small clause structures.

4.3.2.2 Asymmetry of Domains

There is an asymmetry between the subject and predicate phrases of small clauses with respect to domains. This asymmetry is similar to that found between the two noun phrases of double object constructions, as discussed in Barss & Lasnik (1986). Barss & Lasnik point out certain phenomena which demonstrate the asymmetry in double object constructions. The same facts can be used to show the asymmetry of domains in small

clauses.

First, Barss and Lasnik suggest that a plausible condition on each other is that the minimal NP in which each appears must have the other in its domain. Now, consider the small clause facts of 24:

24. I consider each brother the other's keeper.
*I consider the other's keeper each brother.

Given these facts, it appears that the subject of the small clause has in its domain the predicate of the small clause; and that the predicate does not have the subject in its domain.

Barss & Lasnik also test this property of the double object construction with the Superiority Condition, which they define, roughly, as 'given any two wh-phrases, the structurally higher ("superior") one must move, if either does' (p. 349). In small clauses, each phrase can separately be extracted:

25. Who do you consider innocent?
Which kind of criminal do you consider John?

However, when both NPs are wh-phrases, the asymmetry again emerges:

26. ?Who do you consider which kind of criminal?
*Which kind of criminal do you consider who?

When both phrases are wh-phrases, the subject phrase must be the phrase that moves. Thus, the first phrase in a small clause is 'superior' to the second.

One more test suggested in Barss and Lasnik involves the distribution of any. Any must be in the scope of certain elements such as, for example, negation. An examination of the distribution of any can therefore provide

evidence for asymmetry relations between phrases. As expected, in a small clause, only the second phrase can be any:

27. ?I consider nobody any good.
*I consider anybody no good.

This test demonstrates yet again that the small clause predicate is in the subject's scope. The subject is not in the scope of the predicate.

The two phrases c-command each other in either of the structures A and B, and yet they do not have reciprocal domains. In order to distinguish between the two domains, I will follow the suggestion in Barss & Lasnik.

Because of similar facts of domain asymmetry in double object constructions, and assuming the same A and B structures for this construction, Barss & Lasnik argue that the domain of the first NP in such a construction must be distinguished from that of the second in terms of linear precedence. They therefore give the following definition:

28. DOMAIN OF = Y is in the domain of X iff
X c-commands Y and X precedes Y

and suggest that the above conditions, i.e. those on each other, superiority, and any, be defined in terms of 'domain'. This definition of domain is required for either of the structures A and B above.

As we have seen, the arguments in Barss & Lasnik for the asymmetry in double object constructions extend to small clauses. Given either the A or B small clause structure, then, we can account for the small clause facts above by assuming the definition of domain of 28.

4.3.2.3 Extraction

One more point remains to be discussed. The A and B structures do differ with respect to the predictions they lead to about the following facts:

29. a. ?Who do you find friends of foolish?
b. ?Who do you consider stories about funny?

30. a. *Who do you find friends of to be foolish?
b. *Who do you consider stories about to be funny?

Not all English speakers agree that there is a distinction in acceptability between the two sets of sentences. However, if the judgements here are correct, then extraction from the subject of an embedded small clause yields a more acceptable sentence (29) than the ungrammatical result of extraction from the subject of an embedded infinitive (30).

Regarding the examples in 29 of extraction from the subject of a small clause: If we analyse small clauses as having the A structure, then the examples in 29 involve at most one barrier (as in the theory of Chomsky (1986a), for example) for the government of the trace in the original position: the NP immediately dominated by the VP (and sister to AP), circled below:8

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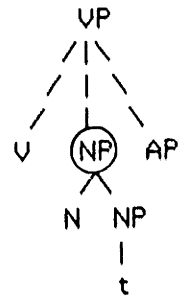
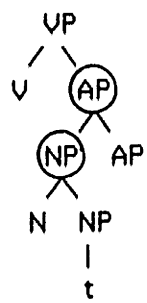
8. Moreover, it is not entirely clear how this node should be treated with respect to barrierhood, since it is a sister to the V, but not theta-marked by it.

31.



Given the B structure, on the other hand, we would predict that extraction from its small clause subject would lead to the same level of ungrammaticality as extraction from the subject of the infinitive in 30. In B, barrierhood is inherited from the subject NP by the upper AP segment. The barriers to government of the trace of extraction from the subject of a small clause under the analysis of the B structure are circled below:

32.



There are therefore two barriers to antecedent government, as there are for the examples of 31 (the NP and IP nodes). We therefore expect extraction from the subject of a small clause to yield as bad a result as extraction from the subject of an infinitive, contrary to fact. Since the sentences of 29 are relatively acceptable, it appears that the B structure is not the correct analysis of small clauses.

However, since the judgements are not clear, I will assume that this

argument is not conclusive. Either small clause structure, then, can be assumed in the discussion below. Recall that under the definition of MC-government, the small clause constituent structure B is seen to involve the same government relations and the same theta-relations as the ternary-branching structure A.

In neither structure, then, is there a boundary to the government of the embedded subject by the matrix verb. Thus, the Case-marking of the subject of a small clause by the verb does not constitute Case-marking over a boundary. This fact is relevant both to the discussion of Hebrew small clauses, and to the facts of French ECM and small clause structures which are discussed in the next section.

4.3.3 A Structural Restriction on Case Marking

Given the arguments concerning projection sets above, in neither small clause structure is there a boundary to Case assignment, since in both structures the verb governs the following NP. In an ECM structure, on the other hand, there is a boundary to government of the lower subject NP by the verb. Thus, we expect to find languages which distinguish between the possibility of Case-marking the subject of a small clause and the possibility of Case-marking the subject of the embedded infinitive of an ECM structure. Such a language is French, which contains small clauses, but does not allow ECM structures. (Note that this is in contrast with Hebrew which, in general, does not allow either structure.)

Small clauses are grammatical in French:

33. Je crois/juge Jean intelligent
'I believe/judge Jean intelligent.'

But French does not allow ECM structures:

34. *Je crois/reconnais/constate Jean être le plus intelligent de tous.
I believe/acknowledge/have determined John to be the most intelligent of all.

(Kayne (1983), p. 111)

We can conclude from 33 and 34 that Case-marking is restricted in French as follows: Case cannot be assigned over a boundary.

Assuming the analysis of small clauses that I have proposed above, the fact that small clauses are grammatical in French whereas ECM structures are not, should come as no surprise, since only ECM structures contain a boundary.[9]

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9. There is no CP boundary present when Case is assigned by the verb, over the IP, to the lower NP subject in ECM structures in English. I have claimed that it is this IP boundary which prevents Case-marking of the complement subject by the matrix verb in French. Kayne (1983) suggests rather that 'believe'-type verbs take a null prepositional complementiser in both English and French, which in French can govern and assign Case only inherently. This complementiser, then, does not govern the subject position of a complement clause in French; thus that NP does not receive Case and the sentence is ruled out. Kayne's analysis allows us to preserve the claim that French allows no Case-marking over a boundary, a claim seemingly challenged by (i), which is well-formed, unlike its declarative counterpart:

(i) Quel garçon crois-tu être le plus intelligent de tous?
'Which boy do you believe (to) be the most intelligent of all?'
(Kayne, p. 111)

Kayne argues (p. 112) that sentences like (i) involve Case-marking by the matrix verb over the S' boundary into COMP. We can assume, rather, that it is the null prepositional complementiser, and not the matrix verb, that assigns Case to quel garçon when it is in the lower COMP, and so no boundary is crossed. (We can then assume, like Kayne, that this Case is

Thus, French has a structural restriction on Case-marking which permits small clauses and disallows ECM structures.

4.4 A Thematic Restriction on Case Marking

In contrast with French there is Hebrew, which disallows both small clause and ECM structures. Since small clause structures, unlike ECM structures, have no boundary between the Case-marking verb and the NP, the ill-formedness in Hebrew of small clause structures cannot then be attributed to the impossibility of Case-marking over a boundary as I suggested earlier. The structural analysis of small clauses that I have now proposed suggests that small clauses must be excluded in Hebrew for reasons different than those behind the exclusion of ECM structures.

However, there is one trait the two structure types do share. Both small clauses and ECM structures require the Case-marking of a non-argument, i.e. Case-marking of an NP by a verb which does not theta-mark it. I suggest that it is this state of affairs that is impossible in Hebrew. In Hebrew, all Case-marking by verbs must be theta-related. This restriction, then, is different from that of French, which involves the notion of structural boundaries and not of thematic

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carried along, as well as left on the trace in COMP.)

Assuming part of Kayne's analysis, then, together with my proposal for the structure of small clauses, we can preserve the generalisation that French does not allow Case-marking over a boundary.

relations.

I therefore propose the following condition on Hebrew Case-marking:

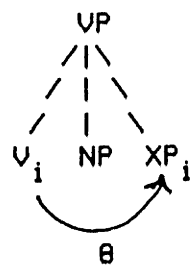
35. Case-Marking Restriction (tentative):
X, a lexical Case assigner, cannot Case-mark Y
unless X is theta-indexed with Y

I assume that such a restriction is checked at LF.

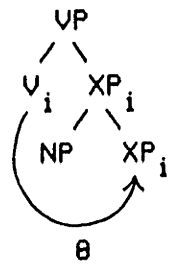
35 is related to the following fact of Hebrew. In Hebrew there exists an accusative Case-marker (or realizer): et. Et is always present adjacent to definite object noun phrases. Like (prepositional) realizers of inherent Case, et cannot be inserted before a non-theta-indexed element. It is not surprising to find this accusative element in a language with 35, which prevents purely structural Case-marking by verbs.

Small clauses are therefore excluded by 35. Consider either structure in 36:

36. A.



B.



The verb is theta-indexed with the XP predicate and not the NP subject;[10] it therefore cannot assign Case to the NP. The NP subject does not receive Case and the small clause is ruled out by the Case Filter (or

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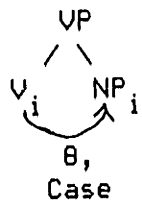
10. This analysis requires the assumption that the theta-index of the predication relation between the NP and XP is different from the theta-index of the verb and its complement XP.

Visibiity).[11]

In contrast, 35 allows verb-object constructions, for example. In such constructions, the verb assigns a theta-role to its object argument, is therefore theta-indexed with the object, and so can assign Case to it:

37.



(The restriction in 35 could possibly be extended to a non-lexical Case-marker, i.e. to instances of nominative Case assignment. AGR in INFL assigns Case to the subject NP, but it is the predicate VP which assigns to the subject its theta-role. Extending 35, it would seem that AGR would be prevented from Case-marking the subject, since AGR (or INFL) is not theta-indexed with it. However, since the verb (the theta-role assigner) and INFL (the Case assigner) merge, when 35 is checked, the verb-INFL complex is theta-indexed with the subject:[12]

38. $[\ NP_i\ \ [_I,\ [V_i\text{-}I]_i\ \ [_{VPi}\ t_i\ ]\ ]\ ]$

And so 35 is met.[13])

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11. The predicate in an embedded small clause cannot assign nominative Case to its subject, as it does in matrix small clauses in Hebrew, because the small clause elements are governed by the matrix verb.

12. Recall the discussion of theta-role transmission and predication in Chapter 1.

13. Extending 35 to cover nominative Case requires the H element discussed in Chapter 2 to form a unit with the predicate XP at LF, as well as at the level of PF.

4.4.1 Adjunct Predicate Constructions

The argument small clauses discussed above contrast with what I shall term 'adjunct-predicate' constructions.14 Adjunct predicates and their subjects are also instances of the predication relation, but there is no thematic relation between the verb and the predicate; rather the subject of the adjunct predicate is the direct argument of the matrix verb and the predicate is simply predicated of that NP.

Whereas small clauses are excluded by 35, not all embedded subject-predicate structures are excluded in Hebrew. In adjunct-predicate constructions, the predicate is predicated of an NP which is both theta-marked and Case-marked by the matrix verb. So nothing rules out the construction. The following Hebrew adjunct-predicate constructions are grammatical:

39. a. kobi kana et ha-sapa meSumeS-et
Kobi bought ACC the sofa(f) used-f
'Kobi bought the sofa used.'

b. Beni axal et ha-ugiot afuyot
Beni ate ACC the-cookies(f,pl) baked-f,pl
'Beni ate the cookies baked.'

c. ruti ohevet et ha-kafe Sela Saxor
Ruti likes ACC the-coffee her black
'Ruti likes her coffee black.'

d. riki sonet et ha-xeder xaSux
Riki hates ACC the-room dark
'Riki hates the room dark.'

---

14. No claim as to the structure of adjunct-predicate clauses is intended by the use of this term. An adjunct is simply an addition to the basic verb-argument structure.

The matrix verb assigns Case and a theta-role to its object. The predicate is therefore free: its theta-role is not required for the purposes of the Theta Criterion; nor is it required (or able) to assign Case to its subject. In this way, 35 is not violated; adjunct-predicate structures, unlike small clauses, are grammatical in Hebrew.

To conclude, in Hebrew there is a constraint which restricts verbal Case-marking to complements. Small clauses and ECM structures require a violation of this condition, and so, in general, they are disallowed in Hebrew.

4.5 Embedded Small Clauses in Hebrew

However, it is not the case that there are no embedded small clauses at all in Hebrew. In this section, I show that there are small clauses in Hebrew, but they are limited to a particular class. I argue that the small clauses found in Hebrew are all selected by causative morphemes, and that causative verbs alone can meet 35.

One verb that some speakers (only) allow to select a small clause is m-c-' 'find'.15 For example:

40. a. bet ha-din moce otxa aSem
house the-law finds you(m) guilty
'The court finds you guilty.'

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15. I thank Hagit Borer for pointing out this fact to me, and for providing the following examples.

b. ani mocet et ha-hitnahagut Selxa bilti nisbelet
I find-f ACC the-behaviour(f) your NEG tolerable(f)
'I find your behaviour intolerable.'

c. lo macati et ha-nituax Selo meSaxnea beyoter
NEG found-I ACC the-analysis his persuasive the most
'I did not find his analysis very persuasive.'

The sentences above all involve the verb m-c-' being interpreted as 'deeming', or making a judgement. When the verb m-c-' is interpreted as 'find', in the sense of consider, the resulting small clause is ungrammatical, even for those speakers who allow 40. For example:

41. *david maca ota moSex-et
David found her attractive-f
'David found her attractive.' (=4c.)

Moreover, when the sense of the (higher) subject's being judgemental is lessened, the examples in 40 are worse:16

42. a. ?macati et ha-nituax meSaxnea
'I found the analysis persuasive.'

b. ??ani moce oto miSaxnea
'I find him persuasive.'

That the embedded structure is indeed a small clause, as opposed to a direct object and control structure, is argued by the following. An

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16. Another restriction on these constructions is that the second predicate must be an adjective phrase; a noun phrase or a prepositional phrase as predicate is ungrammatical:

(i) *ani mocet et ha-ta'anot Selo tipSut muxlat
I find ACC the-claims his stupidity absolute
'I find his claims absolute stupidity.'

(ii) *ani mocet et ha-avoda Selo beli haSra'a
I find ACC the-work his without inspiration
'I find his work without inspiration.'

expletive in 'object' position of m-c-' 'find' does not result in a completely unacceptable structure.[17]

43. ?ani mocet et ze bilti nisbal Se-hu tamid meaxer
I find ACC it intolerable that-he always late
'I find it intolerable that he is always late.'

(cf. ze bilti nisbal Se-hu tamid meaxer
it intolerable that-he always late
'It is intolerable that he is always late.')

The questionable acceptability of 43 is in clear contrast with the use of the expletive after a verb like S-x-n-9 'persuade', as 44 illustrates:

44. *Sixnati et ze lihyot efSari Se-nacliax
persuaded-I ACC it to be possible that-we will succeed
'I persuaded it to be possible that we will succeed'

Since 43 is relatively well-formed, we can assume that the NP following the verb m-c-' 'find' is not the verb's theta-marked object, and that m-c-' takes a small clause. Thus, we have at this point one verb that takes a small clause in Hebrew, but only under a certain interpretation.[18]

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17. A null expletive in the same position is not acceptable:

(i) *ani mocet bilti nisbal Se-hu tamid meaxer
I find intolerable that-he always late
'I find it intolerable that he is always late.'

(cf. *bilti nisbal Se-hu tamid meaxer

18. Hagit Borer has pointed out to me the existence of a dialect which also allows the verb r-c-h 'want' to take small clauses. For example:

(i) ani roce otxem mixuc la- ohalim be-Sa'a SeS
I want you(pl) outside to the-tents in-hour six
'I want you outside your tents at six o'clock.'

However, my informants do not find small clauses introduced by r-c-h 'want' acceptable (see 4e, for example).

There are causatives in Hebrew which introduce structures that can be analysed as small clauses. One such causative is the verb g-r-m 'cause':

45. a. garamti le-david laruc
caused-I to-David to run
'I caused David to run.'

b. garamti le-david lihyot acuv
caused-I to David to be sad
'I caused David to be sad.'

That the NP following the verb g-r-m is not theta-marked by it is shown by the fact that when that NP is an expletive, the sentence is not ungrammatical:

46. ?garam-ti le-ze lihyot efSari Se-david yacliax
caused-I to-it to be possible that-David will succeed
'I caused it to be possible for David to succeed.'

46 is in marked contrast to 47, for example:

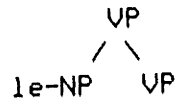
47. *hixraxti et ze lihyot efSari Se-david yacliax
forced-I ACC it to be possible that-David will succeed
'I forced it to be possible for David to succeed.'

Thus, the embedded subject-predicate constructions of 45 are analysable as small clauses. Under such an analysis, Case can be assigned in one of two ways. Either the verb g-r-m 'cause' assigns Case to its complement, which then filters down to the two constituents of the small clause so that both are Case-marked by <u>le</u>:

48. g-r-m le-VP
/ \
NP VP

or g-r-m assigns dative Case to the subject, and the verb form is simply that of the infinitive, which is marked in Hebrew by <u>le</u> (realized above as [la] and [li]):

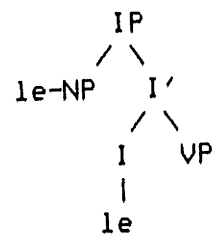
49. g-r-m



In this case, if the small clause analysis is correct, the infinitive form is equivalent to the bare infinitive in English. (There is no actual 'bare' infinitive in Hebrew.)

The embedded structures of 45 can also be analysed as IPs, in which case 45 is one example of an ECM structure in Hebrew (but note that the Case-marker is le and not et):

50. g-r-m



Under either analysis, the case of the verb g-r-m 'cause' constitutes a counter-example to the claim that there is no Case marking of a non-complement in Hebrew.

Besides the verb g-r-m, there are morphological causatives in Hebrew as well. In Hebrew binyanim 'patterns' causativise the root adjective or verb, as illustrated in 51:

51. a. simax-ti oto
caus.happy-I him
'I made him happy.'

(cf. hu sameax
'He is happy.')

b. iyaf-ti et david
caus.tired-I ACC David
'I tired David.'

(cf. david ayef
'David is tired.')

and from Cole (1976: p. 99):

52. a. hiSmati lo et hataklit
(I) caused-to-hear dat. + him acc. the record
'I played him the record.'

[cf. hu Sama et ha-taklit
he heard ACC the-record
'He heard the record.']

b. hirkadeti et hatalmidim et harikud haxadaS
(I) caused-to-dance acc. the students acc. the dance the new
'I made the students dance the new dance.'

[cf. ha-talmid-im rakdu et ha-rikud ha-xadaS
the-student-s danced ACC the-dance the-new
'The students danced the new dance.']

These causatives are arguably formed by incorporation, as suggested for morphological causatives of other languages by Baker (1985).

4.5.1 Causative Incorporation

I propose an analysis almost identical to that of Baker (1985) for the causatives here. Under this incorporation analysis, the sentence embedded under the causative affix is a small clause; the head of the small clause predicate, the verb, is incorporated into the governing causative,[19] as illustrated in 53:

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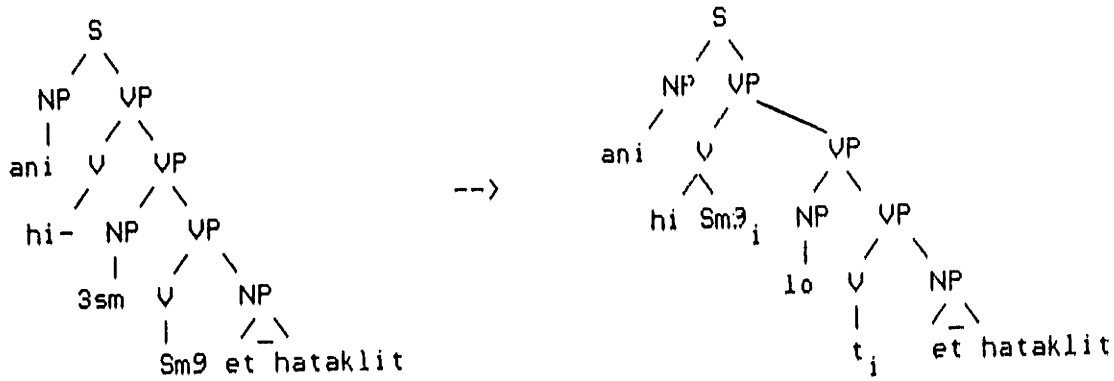
19. The complement object receives accusative Case at D-structure.

53.



Given this analysis, morphological causative structures constitute examples of grammatical small clauses in Hebrew. These small clauses, as well as those following the causative verb g-r-m, require the Case-marking of a non-complement NP, and should therefore be ungrammatical according to the general claim made at the beginning of this discussion. However, as I will now demonstrate, the causative small clauses do meet the restricted Case-marking of Hebrew verbs.

4.5.1.1 A Revised Case-Marking Restriction

I propose that causative small clauses are allowed in Hebrew precisely because the matrix verb is a causative. Causative verbs, and only causative verbs, allow incorporation in Hebrew. When the head of the complement predicate incorporates into the higher verb, the two form a complex verb. This complex verb contains within it the lower predicate which assigns at D-structure a theta-role to the lower subject, and it is this complex verb which assigns Case to that subject NP.

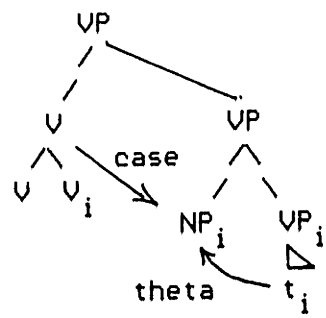
In a sense, then, such incorporated causative structures meet the Case-Marking Restriction of 35, but not precisely as 35 is stated.

Nevertheless the fact that the moved verb (through its trace) is theta-indexed with the lower subject is what enables the complex verb of which it is a part to assign Case to the lower subject. I therefore propose the following revision of 35:[20]

54. Case-Marking Restriction
X, a lexical Case assigner, cannot Case-mark Y
unless X contains a theta-index with Y

The restriction of 54 is met by the causative small clauses discussed above. We can see this in 55, which is the thematic structure of the morphological causatives (irrelevant details omitted):

55.



The lower verb assigns a theta-role to the lower NP (through predication), and when it moves, it is still theta-indexed with that NP. The complex verb then contains an element theta-indexed with the lower NP, so its Case-marking of that NP is allowed by 54.

Only causatives allow (force) incorporation, which in turn allows the Case-marking of the lower subject. The causative affix hi- forces incorporation because it is ill-formed (and meaningless) unless the lower

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20. I am grateful to Mark Baker for discussion of this section and for the suggestion of the formal statement.

verb incorporates into it. (All causative verbs are, in a sense, semantically empty, and so obligatory incorporation would follow.) The causative verb g-r-m can also be analysed as an affix, requiring the incorporation of the lower verb. Such an analysis follows the work of Williams (1979), Rouveret & Vergnaud (1980), and Zubizarreta (1985), who analyse French causatives, such as those in 56, as involving reanalysis of the two predicates into one thematic verbal complex.

56. a. On a fait sortir Marie du bureau
'They had Marie leave the office.'

b. Marie a fait aller Jean à Rome.
'Marie had Jean go to Rome.'

(Rouveret & Vergnaud, p. 129)

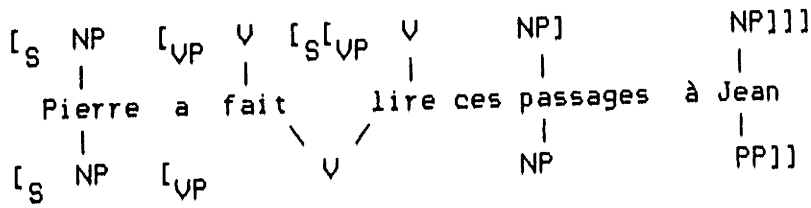
c. Pierre a fait lire ces passages à Jean
'Pierre made Jean read those passages.'

(Zubizarreta, p. 283)

To represent the reanalysis, Rouveret & Vergnaud propose a rule of thematic rewriting. Williams replaces this with the notion 'coanalysis', arguing that 'faire' is ambiguously the first member of a compound verb, and a main verb taking a complement.

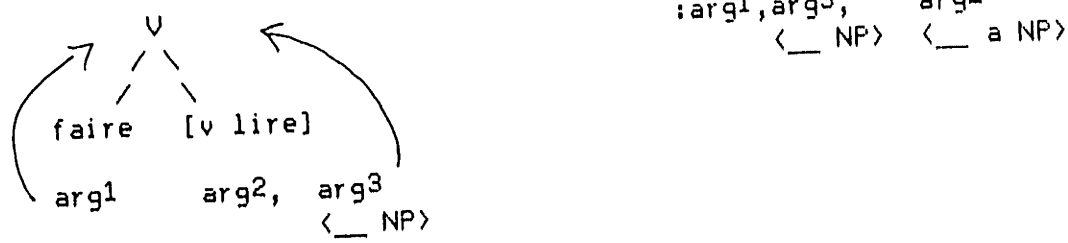
Zubizarreta also assigns to such sentences, 56c. for example, both a monoclausal and a biclausal structure, as in 57:

57.

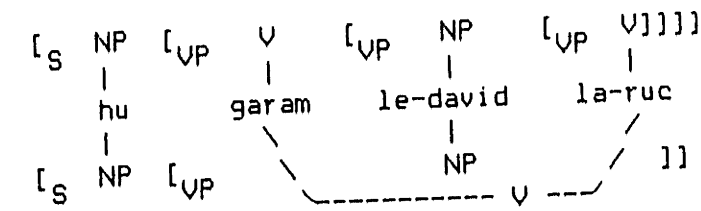


In the reduced structure, faire is an affix, and the head of the complex verb. Zubizarreta assigns to faire lire the lexical structure in

58:

58. 

Just as Zubizarreta analyses faire as an affix, so can we analyse g-r-m:

59. 

Thus the complex garam + la-ruc is formed. This verbal complex contains a theta-index with the complement subject david (through the predication of david by la-ruc 'run'). An alternative analysis is offered in Baker (1985), which suggests that such causative reanalysis is actually LF incorporation. As above, incorporation, like reanalysis, yields the result that the verbal complex contains the theta-index with the lower NP.

However, under the assumption that Case is assigned before the level of LF, it is not this complex that assigns Case to the lower NP, but rather the verb g-r-m alone. 59 does not then meet 54, and requires a further revision of 54 as follows:

60. Case-Marking Restriction
X, a lexical Case assigner, cannot Case-mark Y unless
X contains a theta-index with Y, or
X is part of a complex containing a theta-index with Y

When 60 is checked at the level of LF, the Case-marker g-r-m is in a complex containing the theta-indexed la-ruc, and the Case-marking Restriction is met.

The important point in either the incorporation analysis or the complex verb analysis is that at the level of LF, g-r-m and the complement verb form one constituent. In this way, g-r-m is similar to the affix hi-, although the latter incorporates at S-structure. (Another similarity between the two constructions is that in both g-r-m and hi- sentences, the lower subject is marked by le 'to'.[21])

The only other verb in Hebrew that allows small clauses, and only for some speakers, is m-c-' 'find'. Recall that small clauses are allowed with this verb only when it means 'judge'. Under this interpretation, m-c-' has a causative component to it.[22] The relation in the lower clause is, in a sense, caused by the higher subject. The fact that the verb m-c-' 'find' (under the relevant interpretation) is somehow causative means that m-c-'

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21. I have no explanation for the fact that there is a second set of hi- causatives, the complement subjects of which are marked by the accusative et. Cole (1976) argues that the verbs whose complement subject is marked by le are nonagentive, while those whose complement subject is marked by et are agentive. Cole points out that in many cases the subjects of the former are experiencers in relationship to the verb. If this is the case, it may well be that the complement subject does not originate in the [spec,VP] position, but rather originates under the VP sister to that position, as suggested in Belletti & Rizzi (1986) in an analysis of psych-verbs. Perhaps it is this fact that is relevant for the Case-marking with le on the surface. (Another approach is offered in Borer (1985), which suggests that the le structures are formed in the lexicon, and the et structures in the syntax.)

22. I am grateful to Richie Kayne for pointing out this possibility.

in the causative cases above. The Case-marking of the lower subject is therefore possible without a violation of the Case-Marking Restriction, and such sentences are well-formed.

It is not surprising that only causatives allow incorporation, given the facts of the causatives in Romance, as well as the languages analysed in Baker (1985). Apparently, causatives have this property cross-linguistically.

In conclusion, small clauses are excluded in Hebrew for Case reasons, because verbal Case-marking is possible only when theta-related. Causative verbs and affixes allow (or require) incorporation of the head of the complement predicate, which allows the Case marking of the complement subject, since the new complex verb is, in one way or another, theta-indexed with the Case-marked NP.

4.6 Conclusion

To conclude, embedded small clauses are disallowed in general in Hebrew for the same reason that ECM structures are: Case may only be assigned by a theta-related element. Causative small clauses are allowed in Hebrew because causative morphemes incorporate the small clause predicate, thus merging the Case and theta-role assigners.

I wish to stress the fact that there are various dialects in Hebrew, whose differences are made apparent by the facts of small clause

constructions. I have described a conservative dialect, which accepts no small clauses at all (besides those mentioned above), either in the active or passive voice. There is a dialect which is much freer, allowing the small clauses mentioned above, as well as those which the majority of Hebrew speakers whom I consulted rejected, and all passive small clauses. There is also a dialect which falls somewhere in the middle, which has only the restricted set of small clauses mentioned above, but which allows passive small clauses, including the passive parallels of ill-formed active small clauses, as well.

I believe that since Hebrew is changing quite rapidly, and given the influence of English, French, and other foreign languages, Hebrew will (fairly soon) shift from restricting Case-marking along thematic lines, to restricting Case-marking along structural lines, as French does. In particular, a wider range of small clauses will be acceptable, as will their passive counterparts.

4.6.1 Embedded Small Clauses in Arabic

For the purposes of comparison, it is interesting to consider Arabic, a language which is closely related to Hebrew, but which does not have the same thematic restriction on Case-assignment, as illustrated by the following well-formed small clauses:

61. Modern Standard Arabic

a. ʔanantu Zaydan ṣadi:qa Hindin
I believed Zayd-ACC friend-ACC Hind-GEN
'I believed (considered) Zayd the friend of Hind.' (p. 138)

b. ʔara/ʔaᶜtabiru l masʔalata maḥlu:latan
I see/consider the problem-ACC resolved-ACC
'I find/consider the situation resolved.' (p. 177)

c. žaᶜaltu Zaydan ʔaxan l-i:
I made Zayd-ACC brother-ACC to-me
'I made Zayd like my brother.' (p. 176)

d. taraktu Zaydan saᶜi:dan
I let Zayd-ACC happy-ACC
'I let Zayd be happy.' (p. 176)

(Mouchaweh, 1986)

These examples are in Modern Standard Arabic, which has morhological Case. In the dialects of Arabic, on the other hand, such as Palestinian and Syrian, there is no morphological Case. In these dialects, too, small clause constructions are found. For example, in Damascus Arabic (from Mouchaweh):

62. dannei:t Ahmad ᶜaduww ha:l-o
I believed Ahmad enemy himself
'I believed Ahmad his own enemy.'

The characteristic of Hebrew of semi-inherent Case marking is also reflected in the fact that Hebrew has the accusative Case-realizer et. It is interesting that there is no equivalent to et in the Arabic dialects. In Arabic, unlike Hebrew, there is structural Case.

Thus Arabic, which is similar to Hebrew in so many ways (especially the dialects of Palestine, with respect to word order, for instance), apparently places only structural restrictions on Case-marking, thus allowing the range of small clause constructions disallowed in Hebrew.

Chapter 5

Appendix: Matrix Small Clauses and Functional Categories

5.1 Introduction

This appendix contains some preliminary remarks and observations on facts of nominal and copular sentences cross-linguistically, as well as some speculative comments on the relation between nominal sentences and determiners.

I shall be concerned with the form a nominal predicate takes in various languages, both in those which contain nominal sentences and in those which do not. In some languages, for example, predicate nominals may not have a determiner. In some languages, predicates must always be associated with tense. I shall therefore discuss the importance of the indefinite article and of inflection with respect to copular predicative sentences.

I account for the difference between languages with nominal sentences and languages without in terms of an added requirement of Visibility on the latter. I argue that the possibility of nominal sentences in a language reflects a parametric requirement of Visibility on theta-role assigners.

This extended Visibility requirement is made in terms of the notion 'functional head', that is, a head (of a projection) which is non-lexical, e.g. D(eterminer) and I(nfl). I claim that in some languages, a functional head is required to mediate the relation of theta-role assignment by a lexical head.

5.2 Articles

5.2.1 The Indefinite Article

Determiners, specifically the indefinite article, play an obvious role, albeit negative, in nominal predicative sentences cross-linguistically. In this section, I discuss the importance of the indefinite article.

Papago is one language which disallows any article on a predicate nominal, although Papago, unlike Hebrew, for instance, does contain such an article.[23] In Papago, the minimal article g is required on all argument NPs, as illustrated in 1:

1. a. Huan 'o neid g wakial
   John aux saw a cowboy
   'John saw a cowboy.'

   b. *Huan 'o neid wakial

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23. I am grateful to Ken Hale for bringing the facts of Papago to my attention.

In predicative nominals, on the other hand, even the minimal article of 1 is disallowed:

2. Huan ʼo wud wakial
John aux COP cowboy
'John is a cowboy.'

*Huan ʼo wud g wakial

In Romance languages, too, while an article is (almost) always found on argument NPs, its absence is preferred in predicative nominals. For example:

3. a. French: Jean est medecin
'John is a doctor.'

b. Italian: Gianni è medico
'John is a doctor.'

The realization of the article appears to be optional in French and Italian (as opposed to Spanish): copular sentences both with and without an article are acceptable.[24]

In Spanish, though, the situation is different. While Italian and French allow the indefinite article in predicate nominals to be realized, although this is clearly not preferred, Spanish disallows it entirely, except in special instances. For example:[25]

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24. It could be argued that even when the article is not visible in nominal predicates, it is underlyingly present. This suggestion can be supported by arguments in Longobardi (1984). According to Longobardi, predicative NPs in Italian are governed. We can therefore assume that the null determiners in predicate nominals are governed, and thus meet the conditions of the ECP, just as null determiners do in object position in French.

25. I thank Esther Torrego both for the data and for interesting discussion of the facts of articles in Spanish.

4. Juan es profesor
'John is a professor.'

*Juan es un profesor

I have no explanation for this fact in view of the following contrast:

5. a. Maria es mujer
'Maria is a woman.'

*Maria es una mujer

b. El presidente es mujer
'The president is a woman.'

El presidente es una mujer.

The indefinite article is relevant to the description of predicate nominals in copular constructions in many languages. In addition, there is another correlation which the indefinite article is involved in. The languages that I have discussed which contain nominal sentences, Hebrew, Arabic and Russian, do not contain an indefinite article. Put differently: the languages in which matrix sentences do not necessarily contain INFL also do not have the full determiner system which we find in languages which do require INFL in every matrix clause. It would appear, then, that languages differ in the role that they assign to functional, i.e. non-lexical, categories.

5.2.2 Hebrew DP Predicates

In Hebrew, there are main clauses with no INFL, as I have argued in Chapter 2. For example:

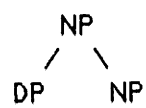
6. ha-yeled student
the-boy student
'The boy is a student.'

Hebrew also lacks the indefinite article. This is illustrated by the absence of such an article on the (singular) object noun phrase in 7:

7. axal-ti ugiya
ate-I cookie
'I ate a cookie.'

I assume, then, that the indefinite noun phrase predicate in 6 and the indefinite noun phrase object in 7 are simply NPs.

However, not all noun phrases in Hebrew are NPs. In the spirit of recent work (e.g. Abney, 1986; Fukui, 1986; Speas, 1986), I assume that noun phrases with a determiner can be headed by that determiner; they are projections of D. I propose that in a language like Hebrew, which contains no indefinite article, an article always heads a DP phrase.[26] Thus, the structure of 6 is 8:

8.


But when the noun phrase in predicate position of a nominal sentence is definite, a small clause like that of 6 is not well-formed:

9. *david ha-more
David the teacher

I propose that this ungrammaticality is due to the fact that the definite noun phrase predicate is a DP, and when a predicate nominal is a DP, it is, in a sense, 'closed' by the determiner for purposes of

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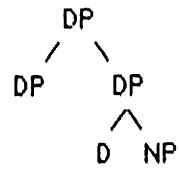
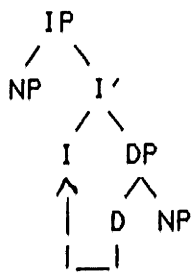
26. This is not to say that all determiners in English, a language which has the indefinite article, head DPs.

assignment of its external theta-role to the subject. The following structure, then, does not occur:

10. * 

I demonstrated in Chapter 2 that when the predicate in Hebrew is a definite noun phrase, INFL is always present. Thus, whenever the predicate is a DP, it must follow INFL. While it is not clear why this is so, I would like to suggest that the presence of a higher category such as INFL allows the D to move (a case of head-to-head movement at LF), as shown below:

11. 

After this movement, the predicate is no longer closed by the determiner, and it is free to assign its theta-role.

I have claimed that a language which allows nominal sentences (matrix small clauses), rules out such structures when the predicate contains a determiner. When the predicate has a determiner, the sentence must be a full clause, so that there is an INFL present for the determiner to move to. When INFL is present, a definite predicate is possible. Therefore, although the Hebrew sentence of 9 is ill-formed, when a similar sentence

contains an element which can identify INFL,[27] a definite NP as predicate is possible. One element that identifies INFL is the negative lo. Thus, when lo is present, 9 becomes grammatical:

12. david lo ha-more
'David is not the teacher.'

5.2.2.1 Hebrew Superlative Noun Phrases

There is, however, one case in Hebrew in which it appears that a definite NP is acceptable (to some speakers) as a predicate in a small clause construction. That is when the predicate is a superlative. Thus we have sentences like 13:

13. dan ha-more ha-populari beyoter
Dan the-teacher the-popular most
'Dan is the most popular teacher.'

There does not appear to be anything to identify INFL in 11, so we must assume that the sentence is a small clause. However, the predicate contains the definite article, and should not be a possible small clause predicate. Yet the sentence is good. I believe that this is due to the fact that superlatives are grammatically indefinite.

Superlatives act like indefinites. For one thing, it is difficult to read a superlative NP as referential, unlike most definite NPs. The following sentences are not equative, but predicative:[28]

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27. See discussion in Chapter 2.

28. The arguments here do not apply to possessive superlatives like my best friend or my favourite sister.

14. Aviva is the best pupil in the class.
Sara is the best consultant.

We can see that these sentences are indeed predicative, with a non-referential post-copular NP, in the fact that the addition of a non-restrictive relative with who, which can only refer back to a referential noun phrase, yields an ungrammatical result:

15. *Mary is the best pupil in the class, who we all respect.
*Sara is the best consultant, who we always rely on.

Also, a relative introduced by which, which can be construed with a human NP only if it is non-referential, is fine:

16. Mary is the best pupil in the class, which is a high honour.
Sara is the best consultant, which is a good thing to be known as.

Moreover, superlatives are found in there constructions, which are restricted to indefinites:[29]

17. There is the most beautiful man in the world in your office.
(cf. *There is the man in your office.
There is a man in your office.)

I assume that what is happening in the Hebrew case of 13 is that the determiner ha 'the' is associated with (or 'binds') the modifier, rather than the NP predicate. Thus, the theta-role of the NP predicate is free to be assigned to the subject. For this reason, a matrix small clause with a superlative ('definite') predicate is possible.

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29. Thanks to Richie Kayne for pointing this out.

5.2.3 Haitian Matrix Small Clauses

Similar to the fact in Hebrew of the requirement of an INFL with a definite predicate are the facts of Haitian Creole.[30] First, there is no agreement in Haitian, neither verbal nor adjectival. Thus, we can assume that the adjectival predicative clauses in 18 are small clauses, and not headed by AGR, for example.

18. ža̰ ža̰ti
'Jean is nice.'

ža̰ ak mari ža̰ti
'Jean and Marie are nice.'

Moreover, the present tense has no tense morpheme, and since there is no agreement in the language, I conclude that the verbal present tense is a small clause as well. (This is as opposed to Hebrew, which also has no tense morpheme in the present, but which does have agreement, and so does not have verbal matrix small clauses.)

However, we do not find in Haitian matrix small clauses in which the predicate is nominal:

19. ža̰ se ũ etidyã̰
'Jean is a student.'

*ža̰ (ũ) etidyã̰

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30. I am grateful to Marie-Therese Vinet for providing information on Haitian, as well as the data here.

I will assume here that se is an INFL element.[31] Thus, it appears that when an article is present, INFL too must be. Unlike Hebrew, Haitian Creole does have an indefinite article, and here it is the indefinite article that closes off the predicate, thus requiring the presence of the INFL se. When no article is present, se is not required:

20. a. mwe kone ũ mun ki dokte
I know a man who doctor
'I know a man who is a doctor.'

b. ki mun u di ki etidyã
who man you say who student
'Who did you say (that) is a student?

Another issue in matrix small clauses is Case-assignment. In verbal and adjectival matrix small clauses the predicate assigns Case to its subject. I have argued in Chapter 2 that the subject of a nominal matrix small clause can receive Case when it is the subject of a predicate with agreement. Thus, a language which does not have morphological Case must have morphological agreement for matrix small clauses to be well-formed. Since Haitian has no morphological agreement, the predicate NP cannot assign Case to its subject, and so nominal matrix small clauses are ruled out. In 19, on the other hand, it is the INFL se which assigns Case to the subject.

Haitian Creole has matrix small clauses, but not when the predicate is nominal. I assume that only a language with morphological Case or

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31. I base this assumption on the following facts: se is not a tense marker and it is not a verb; se precedes the past tense marker and may co-occur with a real INFL. (I am grateful to Ken Hale for providing these facts.)

morphological agreement can get the full range of matrix small clauses.

5.2.4 Modifiers in Spanish Predicative Noun Phrases

Facts similar to those of superlative predicates in Hebrew are found in Spanish. Recall that Spanish does not allow the indefinite article in a predicative noun phrase:

21. *Juan es un profesor.

However, when the predicative noun phrase is modified, the indefinite article is permitted:

22. Juan es un profesor muy famoso.
'Juan is a very famous professor.'

While I cannot offer any satisfactory explanation for this fact, I assume that here, too, the article does not interfere with the predication relation because of the presence of the modifying phrase. On the one hand, this could be because the article is associated with the modifying phrase, and so does not block the theta-role assignment of predication by the NP. On the other hand, it could be that the AP muy famoso is now the main predicate of the sentence (which could be paraphrased (in English) as 'Juan is very famous as a professor') and so, while the theta-role of the noun is prevented from being assigned, the theta-role of the adjective is free to be assigned to the subject Juan.

Not only does a modifier permit the presence of the indefinite article; it requires it. Consider French, for example. We know that French allows predicate NPs with no visible article:

23. Jean est professeur
'John is a teacher.'

Yet when the predicative noun phrase contains a relative clause, the article must be present:

24. Jean est un professeur que j'ai vu
'John is a teacher who I saw.'

*Jean est professeur que j'ai vu

5.3 Irish Predicates and Tense

I have discussed languages such as Hebrew and Arabic, which contain nominal sentences and do not have the indefinite article. In contrast with these languages, there are those which lack the indefinite article but do not have nominal sentences. One such language is Irish. In Irish, all predicates, whether verbal or not, must be associated with tense:

25. Is ean smolach
COP bird thrush
'A thrush is a bird.'

Is lia Sean
COP surgeon John
'John is a surgeon.'

Ba lia é
COP surgeon he
'He was a surgeon.'

(from Stenson, 1981)

Stenson (1981) points out that the copula in Irish is impoverished in inflection, compared to verbs. Unlike verbs, the copula is never inflected for person, and has only two forms in matrix clauses: is for present and

future, and ba for past and conditional. I assume, then, that the copula is a tense morpheme, necessary in all verbless predicative constructions. In Irish, then, a tense inflection is necessary in every main clause.

Irish is not the only language requiring inflection in every main clause. English and Italian, for example, also have this requirement. As I have noted above, it appears that functional heads, such as D and I, are necessary to a greater degree in these languages than in Hebrew, Arabic, and Russian. English and Italian disallow INFL-less main clauses, and do have a complete determiner system.

I propose that functional heads in languages like English and Italian are required for the Visibility of theta-roles. These languages require lexical heads to be associated with functional heads in order to make visible the theta-roles of the former. This requirement, an extended Visibility requirement, is imposed on theta-role assigners in certain languages, but not in others. In other words, in some languages, the assigner as well as the receiver of theta-roles must be visible for successful theta-role assignment. One of the properties associated with this requirement is the absence of matrix small clauses.

5.4 Extended Visibility

English is one language in which Extended Visibility holds.[32] Just as the Visibility requirement of Chomsky (1986), for example, requires an element to be Case-marked (or to be in a Case-marked chain) in order to receive a theta-role, so does this extended Visibility condition require that elements that assign a theta-role be Visible. Across languages, noun phrases must receive Case in order to be considered Visible for the Theta Criterion (which requires that every argument have a theta-role); in some languages, theta-role assigners must merge with a functional head to be Visible. In the case of matrix predicative constructions, the functional head is INFL.

Thus, VPs in English must have inflection in order for their theta-roles to be Visible for assignment. Extended Visibility requires that the head of VP, V, merge with INFL by the level of LF, at which point the Theta Criterion must be met. In infinitives, too, this merger takes place (with the infinitive marker, to in English, in INFL). Thus, there is more than simply a morphological reason for the fact that verbs in English are not well-formed unless they have inflection.[33]

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32. I am grateful to Luigi Rizzi for a helpful discussion of this section and for showing me the lines along which my original suggestion could be extended.

33. This proposal is similar in spirit to that in Fabb (1984), which requires verbs, as well as noun phrases, to be assigned Case.

All verbless predicates as well must be associated with INFL at the level of LF in English. (Recall that be is inserted only to realize INFL's features. It is not be, but INFL that is required by Extended Visibility in English.[34]) At LF, the head of the predicate phrase raises to INFL, just as the verb does (whether at S-structure or at LF is irrelevant here).

In Hebrew, Arabic, and Russian, on the other hand, there is no Extended Visibility. Thus, while arguments need Case in order for their theta-roles to be visible for the Theta Criterion, there is no requirement (for purposes of the Theta Criterion) on the predicators that assign those theta-roles.

Thus, whether or not a language has matrix small clauses is a matter of parametric variation. Either a language requires the mediation of a functional head for Visibility of its predicators, or it does not.

The result of an extended Visibility condition on English verbs means that by the level of LF, all predicators in matrix and embedded full clauses must have merged with INFL.

5.4.1 Embedded Small Clauses

In languages which require the mediation of a functional head for the theta-role assignment relation, all verbs must merge with INFL. However,

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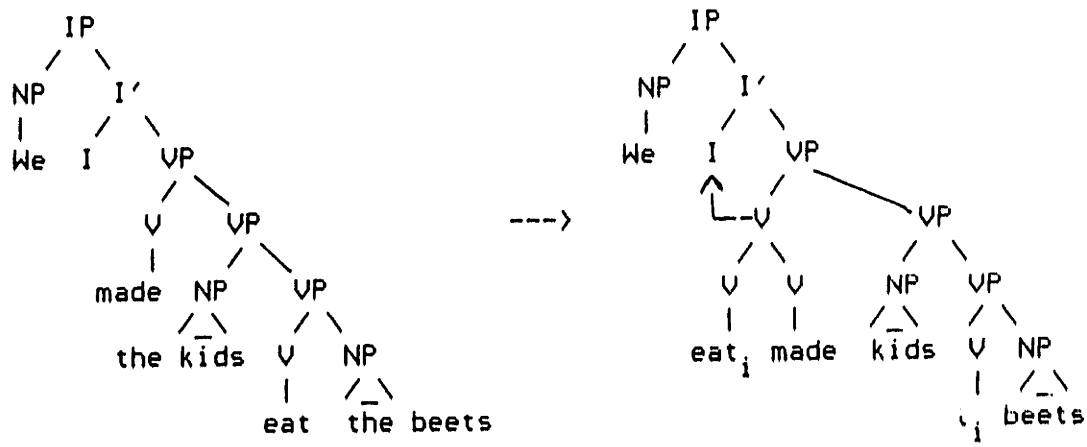
34. As noted Chapter 3, I assume that be is not present at the level of LF, at which the Principle of Full Interpretation applies.

in English we find verbal small clauses embedded under causative and perception verbs (e.g. make, see). Such clauses contain a verb, but no inflection; yet they are well-formed.

Given the Extended Visibility requirement, we must assume that the lower verbs also merge with INFL, which must be the INFL of the matrix clause. The way the embedded verbs do this is to combine at LF with the higher (causative or perception) verb, which itself combines with the INFL of its clause. This merger is illustrated below:

26.



In this way, the visibility requirement of merger with a functional head forces the formation of a complex verb, in order to make the bare infinitive Visible as a theta-role assigner (due to the eventual merger with INFL).

The LF complex-predicate formation of 26 is similar to the syntactic causative incorporation argued for in Baker (1985), and which we find in many languages. Here, both this 'incorporation' and the verb-INFL merger of matrix clauses are motivated by Visibility considerations.

There are small clauses whose predicate is not a verb, such as the

small clauses embedded under nonfactive verbs like consider and find. The Extended Visibility requirement applies to all theta-role assigners, and we therefore find complex predicate formation at the level of LF in these cases as well:

27. We consider Sara intelligent --> We intelligent-consider Sara
We proved Sara worthy --> We worthy-proved Sara

Such LF complex predicate formation seems less implausible in light of the fact that it is parallel to actual syntactic incorporation that we find in other languages in small clause constructions. Consider, for example, the following Yup'ik Eskimo sentences:

28. a. mikel-k-a-a
small-find-3-3
'He finds it small.'

b. yug-nik-a-a
person-consider pleasant-3-3
'He considers her a pleasant person.'

c. aling-hak-a-a
fear-consider-3-3
'He considers it frightening (tends to cause to fear).'

(Jacobson, 1984)

Extended Visibility forces complex predicate formation in English in small clause constructions. Thus in English we find that the incorporation that has been argued to be associated with causative constructions cross-linguistically (e.g. Rouveret & Vergnaud, 1980; Baker, 1985) is extended to all small clause constructions.

5.4.2 Adjunct Predicates

Extended Visibility requires that theta-role assigners merge with inflection so that the theta-roles they assign will be Visible for the Theta Criterion, which requires that every argument have at least one theta-role. The predicate of small clause constructions is required to assign its theta-role to its subject NP, since the matrix verb does not assign a theta-role to it, and that NP must meet the Theta Criterion. Thus, the predicate of small clause constructions must eventually merge with INFL. However, secondary predicates which are adjuncts, i.e. not in a verb's argument structure, are not subject to this requirement, since the theta-roles they assign are not required for the purposes of the Theta Criterion; the NPs to which the adjunct predicates assign theta-roles already have a theta-role from the verb selecting them. Thus, there is no need for the secondary predicates to merge with INFL, and we do not find complex predicate formation in structures like the following:

29.	Becca hates the room dark	--X->	*dark-hates
	Ben ate the meat raw	--X->	*raw-ate
	We cut the bread hot	--X->	*hot-cut

Although the theta-role assigned by an adjunct predicate is not required for the purposes of the Theta Criterion, it must still be assigned. I assume that it is the principle of Full Interpretation (Chomsky, 1986) that requires this assignment. PFI requires that every element at LF and PF have an interpretation. In order for an adjunct predicate to be interpreted, its theta-role must be assigned.

Thus, reanalysis, or incorporation, is restricted to predicates which are selected by the verb, i.e. those predicates which are the only predicates in their clause.

5.4.3 Extended Visibility and Arguments

An extension of Extended Visibility to arguments as well as predicators makes sense if we view functional heads as relevant (and necessary) for reference in those languages in which Extended Visibility applies.

In Hebrew, a predicate need not be associated with inflection to be interpreted in time. Matrix small clauses are always interpreted as in the present. Nor must an argument in Hebrew be associated with a functional head, a determiner, in order to refer. In English, on the other hand, verbs cannot refer to a particular time, nor nouns to a particular entity, unless they are associated with a functional head.

So we can extend the requirement of merger with a functional head to arguments, i.e. the theta-role <u>receivers</u> in the languages in which Extended Visibility applies. Thus, in order for an argument noun phrase to be visible for the Theta Criterion, it must be associated with a functional head, as well as Case. Extended Visibility, then, requires that all argument noun phrases in English be DPs.[35] Thus, while Hebrew allows arguments with no determiner:

30. kara-ti sefer
read-I book
'I read a book.'

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35. I am not addressing the question of whether or not bare plurals contain a null determiner.

English does not:

31. *I read book.

(cf. I read a book.)

The requirement of articles in English is therefore thematic, and we can state the Visibility condition on arguments as follows:

32. For a noun phrase to be Visible for theta-role assignment, it must be associated with (i) Case, and
(ii) a determiner

(In Hebrew, Russian, and Arabic, arguments must meet only the requirement in 32(i).)

Although argument noun phrases in languages like English must be DPs, there is no such requirement on predicate noun phrases, whose heads can raise to INFL in the languages in which they are required to be associated with a functional head. Thus we find languages in which argument noun phrases generally have determiners, but predicate noun phrases generally do not, such as Papago and Spanish.

5.5 Russian Predicates and Instrumental Case

In English and Spanish, predicates require INFL. In Hebrew, a functional head is not always required. But the requirement of functional heads for Visibility is only a very general one. Certainly, it is not the case that a language which does not have Extended Visibility has no other requirements on its predicates.

Russian, for example, is a language which does not have the requirement of a functional head for theta-relations. However, in Russian, predicates must have instrumental Case in environments without INFL (except for nominal sentences themselves). I assume that instrumental case is what allows (or causes) a phrase to be a predicate in those cases. For example, in embedded small clauses, the predicate is always in the instrumental Case:[36]

33. ja sčitaju Ivan-a idiot-om
I consider Ivan-acc idiot-inst
'I consider Ivan an idiot.'

ja sčitaju ego za umnym čelovek-om
I consider him as intelligent person-inst
'I consider him an intelligent person.'

5.6 Papago and Secondary Predicates

Papago is a language which requires a tense inflection in predicative clauses, and which must have a determiner on argument NPs.[37] Thus, Papago is a language with Extended Visibility.

However, unlike English, Papago has no small clauses. It seems that Papago does not have the option of forming a complex predicate from the matrix and small clause predicates in order for the embedded predicate to eventually be associated with INFL. I will assume that such complex

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36. I thank Boris Katz for the Russian data.

37. I am grateful to Ken Hale for providing the information on Papago.

predicate formation in non-causatives is a marked option.

Moreover, Papago has no embedded adjunct-predicate structures. I assume that Papago has the requirement that every predicate must be immediately associated wtih INFL. This requirement is stronger than Extended Visibility, and whether it constitutes the marked or the unmarked case, I do not know.

5.7 Conclusion

Nominal sentences, i.e. matrix sentences without INFL, are found only in languages which lack the indefinite article. I have argued that in such languages, functional heads are not required for the same purpose for which they are required in languages which do not allow nominal sentences. The latter set of languages requires functional heads in order to meet the requirement of Extended Visibility: theta-role assigners must be associated with a functional head so that their theta-roles will be Visible for the Theta Criterion.

The distribution of matrix small clauses is also restricted by the requirement of Case on argument NPs. We thus expect the existence of a language which does not have the requirement of Extended Visibility, i.e. INFL is not required in every matrix sentence, but which nevertheless does not allow nominal sentences due to the requirement of Case.

I have argued too that in a language containing no indefinite article,

every determiner heads a DP. In all languages, when the predicate is a DP, matrix small clauses are impossible; INFL is required.

For the time being, I assume that the requirement of functional heads in a language is the unmarked case. Thus, a language learner learns whether or not her language has Extended Visibility by assuming that functional heads are always necessary, i.e. that D and I are always required; when she hears a singular direct object with no determiner, or a nominal sentence, the language learner will know that her language does not have the requirement of Extended Visibility. Still, the facts of children's 'telegraphic speech', which can be analysed as small clauses, could do with a re-examination in light of the proposal here. A study of the acquisition of predicative constructions in Hebrew and English, for example, should yield some insight as to whether or not the requirement of functional heads is the unmarked case.

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