

A CASE STUDY IN THE SYNTAX OF AGREEMENT:
HEBREW NOUN PHRASES AND BENONI VERB PHRASES

by

Elizabeth Ann Ritter

Bachelor of Commerce
Queen's University
1978

Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

October 1988

© Elizabeth Ann Ritter 1988

The author hereby grants to MIT permission to reproduce and to
distribute copies of this thesis document in whole or in part.

Signature of Author _____
Department of Linguistics and Philosophy
October 25, 1988

Certified by __ _____
Kenneth Hale
Thesis Supervisor

Accepted by _____
Wayne O'Neil
Chairman, Departmental Committee

HUM.
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

JAN 20 1989

LIBRARIES

A CASE STUDY IN THE SYNTAX OF AGREEMENT:
HEBREW NOUN PHRASES AND BENONI VERB PHRASES

by

Elizabeth Ann Ritter

Submitted to the Department of Linguistics and Philosophy on October 25, 1988
in partial fulfillment of the requirements for the Degree of Doctor of
Philosophy in Linguistics

ABSTRACT

This dissertation investigates the role of number and gender agreement in two Hebrew contexts; present tensed sentences and genitive noun phrases. As a point of departure I adopt a recent proposal by Pollock (1987) that agreement projects a distinct syntactic category from tense. Thus, the analysis of S as IP, the maximal projection of inflection (I), is replaced by an analysis of S as TP, the maximal projection of tense (T). The complement of T on this view is AGRP, the maximal projection of agreement (AGR). In the spirit of this proposal, I assume that noun phrases are maximal projections of a functional category, determiner (D), and that the complement of D is a second functional category, which I call #P. Although the position of #P within the noun phrase parallels that of AGRP in the sentence, # and AGR have distinct functions.

In chapter two I investigate the properties of present tense sentences in Hebrew. These sentences contain benoni verbs, which are distinguished from their past and future counterparts in that they are inflected for the number and gender, but not the person, of their subjects. The syntax of present tense sentences in Hebrew sheds light on the role of agreement in the assignment of nominative case and in the licensing of null subjects. I show that only an analysis which separates tense and agreement can account for the full range of constructions in the present tense.

In chapter three I study the range of noun phrases containing postnominal genitives. These structures provide crucial evidence for the separate projection of a functional category, which I call #, and D. The head # manifests grammatical number (and possibly gender) of its nominal complement. A striking feature of derived nominals in Hebrew is that the subject always appears between the head noun and the object. In order to account for the surface order of the constituents within these noun phrases, I posit functional projections which provide landing sites for movement of the head

noun, analogous to verb movement in sentences. A comparison of different genitive constructions motivates the two distinct functional categories postulated.

Thesis Supervisor: Kenneth Hale

Title: Ferrari P. Ward Professor in Linguistics

Acknowledgements

In some ways writing the acknowledgements to a thesis is the hardest part. It's hard to decide where to start and it's even harder to decide where to stop. So bearing in mind the advice of a very wise friend, I'll start in the middle and work both ways.

First, I would like to thank the members of my committee: Ken Hale, Noam Chomsky, Wayne O'Neil and Esther Torrego. I am grateful for their example, their guidance, their patience and their trust. In particular, I want to thank Ken Hale for keeping me thinking about the breadth of the problem, Noam Chomsky for his high standards and for challenging me to develop new approaches to old problems, Wayne O'Neil for listening, encouraging and for telling me to write it down, and Esther Torrego for asking the hardest questions.

I would also like to thank my shadow committee: Maggie Browning for helping me to clarify my ideas and for directing me to solutions to problems I thought were insurmountable, Jane Grimshaw for her insightful comments and practical advice, Elizabeth Cowper for providing me with new ways to look at old problems and finally Carol Tenny for asking the biggest questions.

I would also like to acknowledge the community of Hebrew linguists whose work provided the foundation of this thesis. In particular, I would like to thank Ruth Berman, Hagit Borer, Edit Doron, Tova Rapoport and Ur Shlonsky. I am also indebted to my informants, Outi Bat-el, Maya Radzinski, and Yossi Grodzinsky, both for their judgements and for their insights.

I'll take this opportunity to thank all my professors here at MIT for teaching me to think like a linguist and for giving me the confidence to do so. I am also grateful to my teachers at the Queen's University School of Business for teaching me that money isn't everything and to my teachers at Tel Aviv where money isn't anything. In particular, I am indebted to Julia Horvath and David Gil for showing me the value of Universal Grammar.

Many people have influenced my work directly or indirectly. Anna Szabolcsi, Luigi Rizzi, Tarald Taraldsen, David Pesetsky and Morris Halle deserve special mention. Among the students and visiting scholars during my years at MIT, I would also like to thank most everybody: Andy Barss, Hagit Borer, Maggie Browning, Hyon Sook Choe, Lisa Cheng, Jennifer Cole, Viviane Deprez, Abdulkader Fassi Fehri, David Feldman, Alicija Gorecka, Yossi Grodzinsky, Ewa Higgins, Loredana Holmes, Kyle Johnson, Alana Johns, Myung-Yoon Kang, Kate Kearns, Jaklin Kornfilt, Itziar Laka, Mary Laughren, Harry Leder, Li Ya-fei

John Lumsden, Diane Massam, Kate McCreight, Janis Melvold, Malka Rappaport, Marc Ryser, Doug Saddy, Kelly Sloan, Ur Shlonsky, Brian Sietsema, Jane Simpson, Peggy Speas, Chris Tancredi, and Loren Trigo.

I thank my friends, support system and moral safety net: Carol Tenny, Maggie Browning, Janis Melvold, Ewa Higgins, Malka Rappaport, Kate Kearns, Loredana Holmes, Loren Trigo, Betsy Klipple, Beth Levin, Steve Abney, and Brenda, Jeff and Katie Abrams, and of course, Pete.

Finally, I thank my family, whose emotional, moral and financial support got me started and kept me going until the end.

This thesis is dedicated with love and deepest respect to my greatest teacher, my mother, Käthe Ritter.

Table of Contents

Chapter 1	Introduction	1
1.1	The evolution of functional categories	1
1.2	Characteristics of functional categories	5
1.3	AGR: A typical functional category	7
1.4	Organization of the thesis	9
Chapter 2	The Structure of Present Tense Sentences	
2.1	Introduction	11
2.2	The distribution of NSs in Hebrew	11
2.2.1	Two structures for IP in Hebrew	12
2.2.2	Outline	17
2.3	Tense and agreement in inflected finite verbs	18
2.3.1	Hebrew verbal morphology	19
2.3.1.1	Phonological distinctions	21
2.3.2	Tenseless intermediate verbs	23
2.3.2.1	Differences between intermediate verbs and past/future tensed verbs	24
2.3.3	Intermediate verbs in tensed sentences	32
2.3.4	Previous analyses	35
2.3.4.1	Doron's analysis	37
2.3.4.2	Rapoport's analysis	43
2.3.4.3	Summary	45
2.4	The structure of present tense sentences	46
2.4.1	TNS, AGR and the head of IP	47
2.4.2	The structure of present tense clauses	51
2.4.2.1	TNS in present tense sentences	53
2.4.2.2	<u>Eyn</u> as TNS	55
2.4.2.3	<u>Eyn</u> as a compound operator	59
2.4.2.4	<u>Eyn</u> as a Case-assigner	64
2.5	Inflected negative particles: Clitics or agreement	66
2.5.1	A note on clitics and agreement markers	72
2.5.2	Past participle agreement in Romance	83
2.5.3	Conclusion	85
2.6	Null subjects	86
2.6.1	Null subjects with specific reference	89
2.6.1.1	CL licenses referential NSs	90
2.6.1.2	<u>Eyn</u> does not license a referential NS	92
2.6.1.3	Abstract TNS does not license a	

referential NS	94
2.6.2 Null subjects with arbitrary reference	95
2.6.2.1 CL does not license NSs with arbitrary reference	97
2.6.2.2 Uninflected negative particles	98
2.6.2.3 Arbitrary NSs and abstract TNS	99
2.6.3 Expletive null subjects	100
2.6.3.1 CL does not license expletive NSs	101
2.6.3.2 <u>Eyn</u> does not license expletive NSs	102
2.6.3.3 Expletive NSs and Abstract TNS	104
2.6.4 Summary	105
2.7 APPENDIX: Autonomous AGR	107
2.7.1 Autonomous AGR	108
2.7.2 Autonomous AGR is adjoined to TNS	110
2.7.3 Conclusion	118
 Chapter 3 The Structure of Noun Phrases	
3.1 Introduction	119
3.2 Three genitive constructions in Hebrew	120
3.3 The structure of non-construct noun phrases	124
3.3.1 On the structural realization of (in)definiteness	125
3.3.1.1 Indefinite noun phrases are not DPs	126
3.3.1.2 The interpretation of possessors	131
3.3.2 Derived nominals	134
3.3.2.1 Hazout (1988)	140
3.3.2.2 Process nominals are nouns	144
3.4 Simple construct state constructions	148
3.4.1 Definiteness in CSs	148
3.4.2 Construct states headed by argument-taking derived nominals	154
3.5 Clitic doubled construct states	157
3.5.1 Doubled construct states headed by argument-taking derived nominals	160
 References	164

Chapter 1

Introduction

Grammatical formatives such as complementizers, auxiliaries, case-markers, and articles, which Aristotle describes as words without meaning, play a crucial role in syntactic structure; they bond nouns to verbs and adjectives in order to express relations of predication and modification. An understanding of their function is central to any theory of syntactic structure. In the current government and binding framework many of the traditional grammatical formatives are analysed as syntactic heads. They are called functional categories as distinct from lexical categories (adjectives, nouns and verbs). The analysis of these elements as syntactic heads developed following the establishment of X-bar theory, as outlined below.

1.1 The Evolution of Functional Categories

The X-bar theory of phrase structure in (1) was originally developed to capture cross-categorial generalizations among the major lexical classes of syntactic categories, i.e. among nouns, verbs, adjectives and prepositions without recourse to transformational rules (cf. Chomsky 1970).

(1)

$X'' \rightarrow \text{SPEC}_x - X'$

$X' \rightarrow X - \text{Comp}$

The projection of a lexical category X'' could dominate other maximal projections Y'' and grammatical formatives only in its non-head positions, SPEC and Comp, but must be headed by an element of category X. But the category S, on the other hand, was not subject to the constraint of endocentricity, being generated as in (2).

(2)

$S \rightarrow \text{NF} \text{ VP}$

The existence of such a category was anomalous because X-bar theory explicitly stated that all syntactic categories are projected from heads according to the rules in (1). Many writers attempted to resolve this problem by analysing S as a projection of V. (See, for example, Jackendoff (1977, chapter 3).)

At that stage, little attention was focussed on grammatical formatives such as complementizers, auxiliaries and articles. They were merely one class of specifiers, attached to some projection of a clause or phrase. For example, it was assumed that complementizers occupied the same position as wh-phrases in S', and determiners occupied the same position as genitives in NP.

With the articulation of the government based subtheories of Chomsky (1981), and in particular Case theory, INFL became a prominent constituent of S, and (2) was replaced by (3).

(3)

S --> NP INFL VP

In particular the distribution of subjects in tensed and infinitival sentences was held to follow from the presence or absence of a tensed INFL as a Case-assigning governor. This implicitly assimilated INFL to the class of syntactic heads, and thus INFL must be the head of its projection, S.

Subsequently S' was reanalysed as CP, the maximal projection of COMP. COMP was demonstrated to have the following head-like properties: COMP is the locus of the features of a subcategorized sentential argument. For example, for heads a non-finite clause but that is the head of a finite clause. For governs and Case-marks the subject of the sentence. The presence of an overt complementizer, which is not itself a proper governor, prevents government of an empty category in subject position by an antecedent external to C', thus the long-standing problem of the that-trace phenomenon is reduced to a violation of the Empty Category Principle (ECP). (See Stowell (1981), Fassi-Fehri (1982) Chomsky (1986a) for discussion.)

The proposal that S should be analysed as IP, the maximal projection of INFL, and that S' should be analysed as CP, the maximal projection of COMP, eliminates the former exceptions to X-bar theory. In addition, they imply that all syntactic categories, regardless of whether they are lexical or functional, may project in the syntax. Under these revisions a node which is not filled by the head of a category can only be filled by a (distinct) maximal projection at D-

structure. Thus the only elements that can fill the ellipsis in the following rule are maximal projections.

(4)
 $X^n \rightarrow \dots X^{n-1} \dots$

The rise in prominence of functional categories, and the emphasis on the restrictions of X-bar theory allowed a synthesis of many former proposals in which head properties were ascribed to functional categories. Moreover, the proposals for noun phrases relevant here gave real content to the old insight that noun phrases and sentences show many parallelisms. Several linguists have independently suggested that noun phrases are more perspicuously analysed as maximal projections of a functional head. For example, Brame (1981, 1982), Szabolcsi (1981, 1983-4, 1987), Hellan (1985), Abney (1986, 1987), Horrocks and Stavrou (1987) all propose that a noun phrase is a maximal projection of the determiner, i.e. DP. Kornfilt (1984) and Szabolcsi (op.cit.) also argue that in Turkish and Hungarian respectively, the noun phrase contains an agreement node, parallel to the agreement element of INFL in IP.

The inventory of functional categories was augmented by Pollock's (1987) promotion of the tense (TNS) and agreement (AGR) elements of INFL to the status of independent syntactic heads. Notice that this proposal resolves an outstanding problem in that the head of IP dominated two distinct syntactically active components, which violates the lexical integrity of an X-bar theoretic head. The status of AGR as an independent head (in noun phrases) was, as noted above, already established by Kornfilt and Szabolcsi.

1.2 Characteristics of Functional Categories

In this section I address the question of whether the distinction between lexical and functional categories is merely terminological. Pretheoretically, it has been observed that functional categories tend to be closed classes, whereas lexical categories form open classes. That is new words entering the language fall into open classes, but closed classes are rarely augmented.

As is the case for many syntactic elements, a rigorous definition for functional heads has not been formulated. The following observations within the GB framework have been noted by Abney (1987, p.63-64).

1. Functional elements constitute closed lexical classes.
2. Functional elements are generally phonologically and morphologically dependent. They are generally stressless, often clitics or affixes and sometimes even phonologically null.
3. Functional elements permit only one complement which is in general not an argument. The arguments are CP, PP, and [the claims] DP. Functional elements select IP, VP and NP.
4. Functional elements are usually inseparable from their complement.
5. Functional elements lack "descriptive content". Their semantic contribution is second-order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features, rather than picking out a class of objects.

Abney also notes that children acquire functional elements later than thematic elements and that in certain aphasias, the ability to process

functional elements is lost, while the ability to use and understand thematic elements survives.

Fukui and Speas (1986, p.133) offer the following additional distinctions:

1. Functional heads have one and only one specifier, while specifiers of lexical heads may be iterable.
2. Specifiers of functional heads are often moved from within their complement.
3. All functional heads have specifier positions; it is not clear that all lexical heads have specifier positions.
4. Languages which lack functional heads also lack specifier positions.

As is evident from their points (3) and (4), Fukui and Speas also claim an X-bar theoretic distinction between functional and lexical categories, based on a comparative study of English and Japanese. However, this claim is not widely accepted for both empirical and conceptual reasons. In particular, their claims are challenged by evidence from Hebrew (Ritter (1986)) and Irish (Guilfoyle (1981)). As pointed out by Chomsky (1986a), it is conceptually undesirable that X-bar theory should be sensitive to different classes of heads in general, and the lexical-functional distinction in particular. On this view the contrasts that Fukui and Speas classify as X-bar theoretic are induced by independent modules of the grammar such as Case theory and Theta theory.

Two further theory-internal distinctions commonly assumed are that in general functional categories are not proper governors, and that functional categories lack thematic argument structure.

Finally, it is not clear how functional categories should be defined in terms of features. The original features [+N] and [+V] proposed by Chomsky (1970) define four categories, accepted as in (5):

(5)

	[N]	[V]
noun	+	-
verb	-	+
adjective	+	+
preposition	-	-

Given that the feature system is exhausted by the lexical categories, if functional categories have feature specifications, the relevant features must be either additional to those in (6) above, or drawn from a different system. Alternatively, functional categories are not defined in terms of syntactic features. Although there have been a number of attempts to assign feature specifications to functional categories, no consensus has been reached on this point.

1.3 AGR: A typical functional category

As I said in the introduction to this chapter, functional categories are particularly important to linguistic theory because they are the fundamental building blocks of syntactic structure. AGR is a canonical functional category, as it appears to have the least independent semantic content and is almost invariably morphologically dependent. While the roles of COMP, TNS and D are reasonably well

understood, the nature of AGR remains somewhat obscure. We have little insight into the following questions: Some languages, such as Japanese and Chinese lack overt AGR. Is it the case that these languages lack AGR altogether, or is it an abstract category in these languages, comparable to English abstract Case? Kuroda (1986), for example, argues that a number of contrasts between English and Japanese follow from the presence and absence, respectively of AGR. Even in languages which have overt AGR in tensed clauses only, is it desirable to posit null AGR in nonfinite clauses also. Assuming the affirmative, Borer (to appear) argues that the presence of abstract AGR allows a reduction in the inventory of empty categories, by eliminating PRO. The earliest discussion of AGR as a matrix of person, number and gender features is consistent with its classification as a nominal of some kind. However, unlike pronouns and clitics which are characterized by the same features, AGR is not considered to function as an argument. The question remains, what are the essential similarities and differences among AGR, pronouns and clitics? One clear difference is that AGR is the only nominal element which is held to assign or transmit structural Case.

In most well-studied languages, AGR shows the features of the subject, and I suggest that this reflects the role of AGR in establishing the special status of the subject position as evidenced by subject-oriented anaphora, the possibility of expletive subjects and raised arguments, and the fact that in some languages it is the only obligatory A-position. I also suggest that AGR mediates predication to

the subject position, including the purely syntactic predication on pleonastic subjects proposed by Rothstein (1983)¹.

This thesis investigates the role of AGR in Hebrew noun phrases and present tensed sentences. The assumption of functional categories of the nominal paradigm allows a principled account of idiosyncratic properties of present tensed sentences, the distribution of different classes of null subjects, and the word order in derived nominals.

1.4 Organization of the thesis

In chapter two I investigate the properties of present tense sentences in Hebrew. These sentences contain benoni verbs, which are distinguished from their past and future counterparts in that they are inflected for the number and gender, but not the person, of their subjects. The syntax of present tense sentences in Hebrew sheds light on the role of agreement in the assignment of nominative case and in the licensing of null subjects. I show that only an analysis which separates tense and agreement can account for the full range of constructions in the present tense. In particular it is shown that TNS may be realized as an autonomous word in sentences which also contain a verb only inflected for agreement. In the appendix to this chapter I

-
1. The presence of object agreement appears to challenge this view. However, subject agreement is primary since I know of no language which admits object agreement but not subject agreement. Perhaps object AGR mediates predication within the verb phrase in similar fashion. In any case subject AGR is always more peripherally attached to the verb stem, suggesting the hierarchical domination of object AGR by subject AGR.

demonstrate that sentences with nonverbal predicates contain overt AGR which adjoins to null tense at S-structure, indicating that neither element is dependent upon the presence of a verb.

In chapter three I study the range of noun phrases containing postnominal genitives. These structures provide crucial evidence for the separate projection of a functional category, which I call #, and D. The head # manifests grammatical number (and possibly gender) of its nominal complement. A striking feature of derived nominals in Hebrew is that the subject always appears between the head noun and the object. In order to account for the surface order of the constituents within these noun phrases, I posit functional projections which provide landing sites for movement of the head noun, analogous to verb movement in sentences. A comparison of different genitive constructions motivates the two distinct functional categories postulated.

Chapter 2

The Structure of Present Tense Sentences

2.1 Introduction

Since Taraldsen (1978), it has been assumed that richness of agreement (AGR) plays a role in determining whether a language allows phonetically null pronominal subjects (NSs). The content of a referential NS can be recovered from AGR which is rich enough to distinguish between first, second and third person and between singular and plural number. However, this notion of richness is not sufficient to fully explain the distribution of NSs because in some languages AGR distinguishes between all persons and numbers and yet NSs are not licensed while in other languages NSs are licensed despite syncretisms in the paradigm.

Hebrew provides an intriguing testing ground for theories about the nature of licensing mechanisms for NSs because, although it permits some NSs in all finite clauses, there are restrictions which reflect a

complex interaction between tense and agreement features. I shall begin by summarizing the facts to be accounted for¹.

2.2 The Distribution of NSs in Hebrew

In past and future tense sentences, AGR may mark person, number and gender. In these tenses both referential and non-referential NSs are possible, as illustrated in (1).

(1)

- a. axal-ti tapuxim
ate-1s apples
'I ate apples'
- b. hirurgiz oti Se dan lo ba
bothered me that Dan not came
'it bothered me that Dan didn't come'
- c. 'amr-u Se dan gar be-kibbutz
said-pl that Dan lives on-kibbutz
'they(arb) said that Dan lives on a kibbutz'

NSs with arbitrary reference are always possible, if the verb bears third person plural agreement. However, there are a number of restrictions on the distribution of NSs with specific reference. First of all, a third person NS with specific reference is never licensed in a root clause. Specific reference is possible in an embedded clause if the NS is co-indexed with a c-commanding argument. The following examples were originally adduced by Borer (to appear) to show that a third person referential NS cannot have a split antecedent.

1. These facts have been discussed extensively in the literature on Hebrew. In particular, see Doron (1983), Borer (1983, 1986, to appear), and Shlonsky (1987). Relevant aspects of their proposals are discussed in detail below.

(2)

- a. Talila 'amra le-Itamar Se hicliax
Talila said to-Itamar that succeeded:m,sg
'Talila told Itamar that he(=Itamar) succeeded'
- b. Talila 'amra le-Itamar Se hiclix-a
Talila said to-Itamar that succeeded-f,sg
'Talila told Itamar that she(=Talila) succeeded'
- c. Talila 'amra le-Itamar Se hiclixu
Talila said to-Itamar that succeeded:pl
'Talila told Itamar that they (≠Talila and Itamar) succeeded'

Borer interprets this fact as evidence that the third person feature is anaphoric. However, in embedded past tense clauses such "controlled NSs" are only possible if the verb is singular. If the embedded past tense verb bears third person plural agreement, a NS must be interpreted as arbitrary in reference. Compare (3) with (2).

(3)

ha- yeladim amru Se lo racu lavo
the-children said that not want:past-3pl to-come
'The children said that they (≠the children) didn't want
to come'

In order to account for this contrast I shall argue that arbitrary pronouns, which have number and gender features only, should be distinguished from personal pronouns which are specified for a person feature in addition to number and gender. More specifically I shall show that arbitrary pronouns are subject to the same binding condition as \notin noun phrases projected from common nouns, i.e. they must be A-free²

2. In embedded future tense clauses it is possible to bind a third person plural subjects, but only if the antecedent of the NS is overt and the matrix clause has non-future (i.e. past or present) tense, as illustrated in (i)-(iii):

(i) ha- yeladim amru Se lo yavou la -misiba

I shall account for this fact in chapter 3, where I discuss the licensing conditions for NSs in past and future tensed clauses.}).

Otherwise finite verbs, which are marked for number and gender only, allow NSs with expletive or arbitrary reference only. (4a) shows that NSs with specific reference are impossible; (4b) shows that an expletive is possible if the verb has no overt inflection (which is interpreted as masculine singular by default); and (4c) shows that NSs with arbitrary reference are possible if the verb manifests plural agreement.

(4)

- a. ani/ata/hu/*0 oxel tapuxim
I /you/he eat apples
'I/you/he eat apples'
- b. ze/0 margiz oti Se dan lo ba
it bother me that Dan not came
'it bothers me that Dan didn't come'
- c. oxlim falafel be-sin
eat:pl falafel in China
'they eat falafel in China'

The sentences in (4) are interpreted as non-past and non-future, i.e. as present, although the verbal affixes are not marked for tense. I shall

the-children said that not want:fut-3pl to-the-party
'The children said that they will not come to the party'

(ii) ha-yeladim omrim Se lo yavou la-misiba
the-children say that not want:fut-3pl to-the-party
'The children say that they will not come to the party'

(iii) ha-yeladim yagidu Se lo yavou la- misiba
the-children tell:fut-3pl that not want:fut-3pl to-the-party
'The children will say that they (#the children) will
not come to the party'

refer to sentences such as (4) as present tense sentences, because they receive a non-past, non-future, temporal interpretation. However, I shall use the term intermediate, (a translation of the traditional Hebrew term benoni), to describe this verb form because it is not overtly inflected for tense.

Present tense sentences may be negated by a particle eyn 'not'^a. If eyn is sentence initial, NSs with arbitrary reference are possible as illustrated in (5c), but expletive NSs and NSs with specific reference are ungrammatical as illustrated in (5a,b)^a.

(5)

- a. eyn ani oxel tapuxim
 NEG I eat apples
 *eyn [e] oxel tapuxim
 'I don't eat apples'
- b. eyn ze margiz oti Se dan lo ba
 NEG that bother me that Dan not came
 *eyn [e] margiz oti Se dan lo ba
 'It doesn't bother me that Dan didn't come'
- c. eyn [e] oxlim falafel be-sin
 NEG eat:pl falafel in-China
 'They don't eat falafel in China'

3. Use of the negative particle eyn for clausal or predicate negation is generally restricted to formal registers. eyn is never used in past or future tense sentences. In these contexts, as well as in informal present tense sentences, lo is used as in (4b).

4. It should be pointed out that an arbitrary interpretation is impossible with an overt pronoun. Compare (i) with (5c) in the text.

- (i) eyn hem oxlim falafel be-sin
 NEG they eat:pl falafel in-China
 'They (specific) don't eat falafel in China'

The overt pronoun hem 'they' can only be interpreted with specific reference. Thus, a third person overt pronoun is not required for the sentence to be grammatical. However, if there is no overt pronoun, the subject will be interpreted as arbitrary in reference.

The negative particle may alternatively appear between the subject and the predicate, if it bears a clitic which agrees with the subject in person, number and gender. When eyn bears this marker, an NS with specific reference is possible, but a NS with arbitrary reference is not. In addition, both null and overt expletives are impossible. Compare (6) with (4) and (5) above.

(6)

- a. (ani) eyn-eni oxel tapuxim.
'I don't eat apples'
- b. *ze/O eyn-o margiz cti Sə dan lo ba
- c. *eyn-am oxlim falafel ba-uin

These facts demonstrate that the clitic on eyn may only be co-indexed with a subject with specific reference.

In short, there are significant differences between the role played by INFL and that played by clitics in licensing NSs in Hebrew. In particular, clitics can only license arguments with specific reference; otherwise both Tense and AGR play a role in determining the distribution of NSs with specific reference in this language. The facts are summarized in the following table.

(7)

	specific reference	arbitrary reference	expletive
clitic (p,n,g)	EYN	*	*
AGR (p,n,g)	past/fut.	past/fut.	past/fut.
AGR (n,g)	*	intermediate	intermediate

Why should it be the case that intermediate verbs lack both person features and TNS? Why are NSs with arbitrary reference possible in

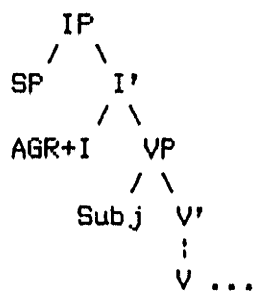
sentences containing an AGR which is not rich when NSs with specific reference are not? Finally, how are the licensing properties of a clitic to be distinguished from the licensing properties of rich AGR? The analysis to be presented in the following sections addresses these questions.

2.2.1 Two Structures for IP in Hebrew

I shall assume that all arguments are base-generated inside VP (cf. Kitagawa 1986), Kuroda (1986), Fukui and Speas (1986) and Koopman and Sportiche (1986)). Consequently, arguments which appear in [SPEC,IP] at S-structure will have been moved from the VP. I shall argue that AGR is adjoined to the head of IP at D-structure in past and future tense sentences, but that otherwise AGR heads a separate projection. If a sentence contains AGRP, then subjects raise to [SPEC,IP] through [SPEC,AGRP]. However, if AGR is in INFL at D-structure, the subject moves directly from [SPEC,VP] to [SPEC,IP]. This difference in structure will be shown to account for differences in richness of AGR, and in the availability of NSs in Hebrew. The D-structures I posit are depicted in (8) and (9) below:

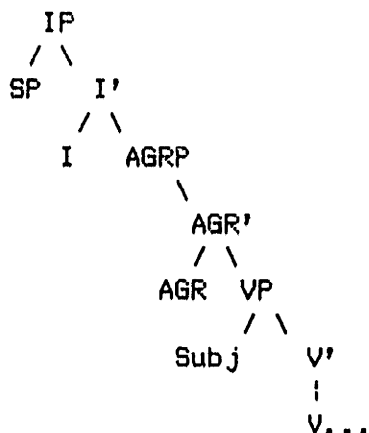
(8)

Past and Future tense IP (AGR adjoined to I at D-structure)



(9)

Present tense IP (AGR heads a separate projection)



2.2.2 Outline

This chapter is organized as follows:

2.3 Tense and Agreement in Inflected Finite Verbs

In this section I investigate the relationship between tense and agreement inflection in Hebrew. I claim that TNS and AGR are constituents of a single functional head in past and future tense sentences, but that AGR is independent of TNS otherwise. It will be

argued that this distinction accounts for the fact that intermediate verbs are only optionally inflected for tense. Intermediate verbs which bear agreement (number and gender markings), but not tense, may function as participles, gerunds and derived nominals. I shall begin by describing the morphology of Hebrew finite verbs.

2.3.1 Hebrew Verbal Morphology

The morphological structure of the Hebrew verb is composed of three variable elements. The basic lexical core of the verb is a consonantal root, such as ktb 'write'. The second element of verbal structure is a template consisting of a consonant-vowel skeleton to which the consonants of the root are associated. In addition, this CV-skeleton may have associated with it specified segments. The CV-skeletal form of the template contributes lexical information to the verb. (The meaning of a verb is not transparently associated with a particular template.) The non-skeletal, non-root segments of the template change according to tense. For example, (10) illustrates past, present and future tense verbs derived by inserting the root ktb in three different templates.

(10)

ROOT		TEMPLATE		STEM	
ktv	+	CaCaC	>	katav	'wrote'
ktv	+	CoCeC	>	kotev	'write'
ktv	+	CCoC	>	ktov	'write (fut.)'
ktv	+	hiCCiC	>	hiktiv	'dictated'
ktv	+	maCCiC	>	maktiv	'dictate'
ktv	+	haCCiC	>	haktiv	'dictate (fut.)'

ktv + hitCaCeC > hitkatev 'corresponded'
 ktv + mitCaCeC > mitkatev 'correspond'
 ktv + hitCaCeC > hitkatev 'correspond' (fut.)*

*When the initial consonant slot is filled by a non-root consonant, this consonant is deleted after prefixation of an agreement marker.

Notice, for example, that the meaning of the verb katav depends on the CV-skeletal structure of the template whereas the fact that it is the past is indicated by the vocalic segments associated with the template. The combination of the root and the template constitutes the verb stem. To this stem are added prefixes and/or suffixes which specify (subject) agreement. Each tense has associated with it a particular set of agreement markers.

As noted in the last section, past and future tense verbs differ from intermediate verbs with respect to the richness of AGR. Past and future tense verbs are inflected for person, number and gender, but their intermediate counterparts are inflected for number and gender only. The past, intermediate and future paradigms for the verb katav 'write' are illustrated below:

(11) katav 'write'

PAST	singular		plural	
	masc.	fem.	masc.	fem.
1st	katavti		katavnu	
2nd	katavta	katavt	katavtem	katavten
3rd	katav	katOva	katOvu	
INTERMEDIATE	singular		plural	
	masc.	fem.	masc.	fem.
	kotev	kotevet	kotvim	kotvot

FUTURE	singular		plural	
	masc.	fem.	masc.	fem.
1st	ektov		niktov	
2nd	tiktov	tikt(o)vi	tikt(o)vtu	
3rd	yiktov	tiktov	yikt(o)vu	

- (V) indicates reduction of stem after affixation
 0 indicates deletion of stem vowel after affixation

Past and future tense verb stems are synthetic forms in which tense information is encoded in the agreement affixes and to some extent in the CV-skeleton. On the other hand, the agreement affixes that attach to intermediate synthetic forms are devoid of tense information.

The agreement suffixes which attach to intermediate verbs are also used to mark number and gender on nouns and adjectives. Moreover, the intermediate form, unlike its past and future counterparts, may function as the lexical head of a nominal constituent. For example, the noun ozet 'aide, assistant' is derived from the masculine singular form of the verb ozet 'assist, help' and the feminine ozeret 'cleaning lady' is derived from the feminine singular form of the verb. Nominals are never derived in a similar fashion from past and future tensed verbs. These facts support the claim that the synthetic intermediate stem is optionally tenseless.

2.3.1.1 Phonological Distinctions

There is also phonological evidence that the inflection on the intermediate is treated differently from the inflection on past and future tense verbs. In intermediate verbs as well as nouns and

adjectives primary stress is assigned to the final syllable, regardless of whether it is part of the stem, a derivational suffix, or an inflectional suffix, as illustrated below:

(12)

kotév	write(m.sg.)	baxúr	young man
kotv-im	write(m.pl.)	baxur-im	young men
kotv-ót	write(f.pl)	baxur-á	young woman

In past and future tense verbs on the other hand, stress is assigned to the penultimate syllable just in case the final syllable is an inflectional suffix. Examples are given in (13):

(13)

katáv-ti	wrote(1sg)	hiktív-u	dictated(3pl)
katáv-tem	wrote(2pl)	taktív-u	will dictate(2pl)

Recall that the inflectional suffix on intermediate verbs consists of number and gender markers only, but the inflectional suffix on past and future tense verbs encodes both tense and agreement information. This

5. It should be pointed out that there are two classes of apparent counter-examples which arise as a consequence of vowel reduction or deletion and vowel insertion: (a) A (non-high) final stem vowel is reduced or deleted when a vowel initial suffix is added. Stress shifts to the right after application of this rule, so that the derived forms do in fact show stress on the inflectional suffixes as shown in (i):

- (i) katáv+u --> katvú 'wrote (m.pl.)'
katáv+a --> katvá 'wrote (f.sg.)'
tiktovi --> tiktoví 'will write (f.sg.)'

(b) The vowel in the feminine singular suffix -et never bears stress as shown in (ii).

- (ii) kotév+t --> kotévet 'writes (f.sg.)'
ozér+t --> ozéret 'cleaning lady'

This vowel is stressless because it is not present in the underlying representation, but rather inserted after stress assignment. Note that the feminine singular suffix -a does bear stress, as shown in (12)).

array of facts suggests that tense affixes are not included in the domain of word stress.

These contrasts between past/future tense verbs on the one hand and intermediate verbs on the other are not accidental facts, but rather they correlate with other differences between the two classes of verbs which have led a number of linguists to suggest that there is no tense in sentences headed by an intermediate verb form. I address this issue in the next section.

2.3.2 Tenseless Intermediate verbs

The Hebrew term for present tense verbs, benoni 'intermediate', is a fitting name for this form, not only because it is intermediate between past and future tenses, but also because it shares some properties with infinitives in contradistinction to past and future tense verbs. The intermediate form also occupies a medial position between nouns and verbs, manifesting properties of both classes of lexical items⁶. Linguists working within the generative framework characterize this tri-partite verb system in terms of tense and agreement features⁷. For example, Berman (1978) analyses infinitives as

6. I defer analysis of infinitives and nominal constituents until chapters 3 and 4, respectively.

7. Biblical Hebrew used a bivalued aspect system of verbal inflection which distinguished perfective from imperfective aspect. At that stage, intermediate predicates belonged to tenseless, nominal

[-TNS], past and future verbs as [+TNS], and intermediate as [0 TNS]. Similarly, Doron (1984) and Rapport (1987) claim that the functional head (INFL) of a sentence containing an intermediate predicate has AGR features but not TNS. The proposal that the intermediate verb form lacks tense is needed independently to account for its ability to function as a participle or derived nominal.

2.3.2.1 Differences between Intermediate verbs and Tensed verbs

In this section I shall review some properties of intermediate verbs which lend support to the position that they are not (necessarily) tensed verbs.

Participles

The Hebrew intermediate functions as a participle when it appears with a past tense form of the verb haya 'be' to express the habitual past tense. However, as shown by the contrast between (14a) and (14b), neither past nor future tense verbs can be used as participles:

sentences. During the Mishnaic period, this system was replaced with a three-way tense system which reanalysed the perfective as past tense, imperfective as future tense and intermediate as something in between, i.e. present tense. Cf. Berman (1978), Borer (1983) and references cited therein for further discussion.

(14)

- a. dan haya lomed ivrit
dan was study(int.) Hebrew
'Dan used to study Hebrew'
- b. *dan haya {lamad \yilmad} ivrit
dan was {studied\will study} Hebrew

This contrast is expected under the assumption that participles are not tensed verbs. If past and future verb forms are synthetic forms which encode tense information both in the inflectional affixes and in the verb stem, they will never be licit in contexts which require a tenseless verb.

Complements of Perception Verbs

Intermediate verbs, but not past and future tense verbs, can function as the head of a complement to a perception verb^a:

(15)

- a. Samanu oto menagen etmol ba-koncert
heard-we him play(int.) yesterday at-the-concert
'we heard him playing at the concert yesterday'
- b. *Samanu oto nigen etmol ba -koncert
heard-we him played yesterday at-the-concert

8. The examples in (15) are due to Berman (1978, p.153) who notes that in non-standard Hebrew, it is possible to use an infinitive in place of the intermediate in this context:

- (i) af pa'am lo Samati et amos lehaqid zot
never not heard-1sg ACC Amos to say that
'I've never heard Amos saying so'
- (ii) hu od lo tafas af exad me-itanu lehaatik be-mivxan
he yet not caught none of-us to copy in-exam
'he's never caught any of us copying in a test'

This alternation between intermediate and infinitival verbs in the complement of a perception verb is not unexpected, given that both verb forms may be untensed.

- c. hu gila et ha- yeladim mesaxakim ba- kadur
 he discovered ACC the-children play(int.) with-the-ball
 'he discovered the children playing with the ball'
- d. *hu gila et ha- yeladim saxaku ba- kadur
 he discovered ACC the-children played with-the-ball
 Berman (1978, p.153)

As can be seen in the glosses, a tensed verb is impossible in this context in English as well. However, English uses a bare verb stem where Hebrew uses an intermediate verb form. In neither language does the complement clause contain tense.

Negation by Eyn

As noted in the introduction to this chapter, eyn may be used to negate sentences with a predicate headed by an intermediate verb. It may also be used to negate infinitival and nominal sentences, but it cannot be used to negate past or future tense sentences. If we adopt the position taken by Berman, Doron and Rapoport that intermediate verbs are distinguished from past and future tensed verbs in terms of inflection, we can describe the distribution of eyn as follows: The negative particle may only appear in clauses that are unspecified for the tense feature [\pm past].

(16)

- a. dan eyn-o oxel bananot
 dan NEG-3ms eats banana
 'Dan doesn't eat bananas'
- b. dan eyn-o more
 Dan NEG-3ms teacher
 'Dan is not a teacher'

- c. dan eyn-o ba-bayit
Dan NEG-3ms in-the-house
'Dan is not at home'
- d. eyn le'aSen
NEG to-smoke
'One shouldn't smoke'
- e. *dan eyn-o axal bananot
Dan NEG-cl ate bananas
- f. *dan eyn-o yoxal bananot
Dan NEG-3ms will eat bananas

However, negation by eyn imposes a restriction on the interpretation of the intermediate. As illustrated in (17), only the generic interpretation is available under this type of negation⁹.

(17)

- a. dan oxel bananot
'Dan eats bananas'
'Dan is eating bananas'
- b. dan eyn-o oxel bananot
'Dan doesn't eat bananas'
* 'Dan isn't eating bananas'
- c. dan eyn-o oxel banana
#dan doesn't eat a banana
* 'Dan isn't eating a banana'

In order to account for this contrast I shall assume that eyn has associated with it nomic (generic) tense, but that otherwise present tense sentences have an abstract TNS element which is totally underspecified. Therefore, eyn may select as its complement any

9. I use the symbol # to indicate that the sentence is semantically odd, rather than ungrammatical.

tenseless constituent⁴⁰. Thus, the sentences in (18) are all ungrammatical under the progressive interpretation.

(18)

a. *dan eyn-o haya oxel bananot
Dan NEG-3ms was eat(int.) bananas

b. dan eyn-o oxel banana
Dan NEG-3ms eat(int.) banana
*'Dan isn't eating a banana'
'Dan doesn't eat a banana'

c. dan eyn-o oxel bananot
Dan NEG-3ms eat(int.) bananas
*'Dan isn't eating bananas'
'Dan doesn't eat bananas'

The generic interpretation obtains when there is neither a tensed main verb, nor an auxiliary. In this context the head of IP may be filled by eyn.

ha Relativization

In the unmarked case, the complementizer Se 'that' marks all relative clauses. However, the determiner ha may function as a relative complementizer under the following conditions: (i) the verb form is intermediate; (ii) the subject is the relativized argument; (iii) nothing intervenes between the complementizer ha and the intermediate

10. Alternatively one might propose that the progressive interpretation requires a null auxiliary which is realized in the position of TNS. If this were the case then the presence of this null element would prevent eyn from appearing in progressive sentences, just as the presence of the overt auxiliary does in the habitual past.

verb form⁴⁴. As illustrated in (19), the complementizer Se 'that' may also appear in contexts where relativizing ha is possible, but ha is only available if all of the above requirements are met:

(19)

- a. yeled Se/ha kore ma'amarim
 boy that/the reads articles
 'a boy that reads articles'
- b. yeled Se/*ha-kara ma'amarim
 boy that/the read articles
 'a boy that read articles'
- c. ma'amarim Se/*ha yeladim korim
 articles that/the boys read
 'articles that boys read'
- d. yeled Se/*ha eyn-o kore ma'amarim
 boy that/the NEG-cl reads articles
 'a boy that doesn't read articles'

The intermediate verbs in these constituents retain both their argument structure and Case-assigning properties. In chapter 4, I account for the availability of this marked structure with intermediate verb forms. I shall suggest that the definite article ha occupies the position of TNS in present tense root clauses. The restrictions on the structure will be shown to follow from aspects of both structure and content of functional categories.

Nominalization

11. There is also a semantic restriction on the use of the definite determiner as a relative complementizer, viz. the subject must be interpretable as generic or non-specific. At this point I have nothing to say about this semantic restriction.

As noted above, the intermediate verb form may function as the head of a noun phrase, unlike past and future tense verbs. In Chapter 4 I shall capitalize on the tenselessness of this form to account for the existence of nominal constituents whose lexical head is an intermediate verb form. In particular, I shall discuss the availability of construct state constructions headed by an intermediate verb form, and for the differences between these and other construct state constructions¹².

The intermediate verb may also function as the semantic head of a non-clausal (i.e. nominal) argument which retains its internal argument structure, but whose subject is not expressed. These constituents have the form [ha + intermediate + X] where X represents the internal arguments of the intermediate verb.

(20)

- a. [ha- rocim lehibaxen] yirašmu kan
[the-want to be examined] will register here
'those wanting to be examined will register here'
- b. [ha- mesarvim lexakot] yictaaru
[the-refuse to wait] will be sorry
'those refusing to wait will be sorry'
- c. eyn hu mevin et [ha- mištamea mitox dvaray]
neg he understands acc [the-is implied by words-my]
'he doesn't understand what my words imply'

12. A construct state construction is a type of noun phrase in which the head noun is immediately followed by a genitive phrase to which it bears some relation, such as possessed-possessor or theme-source. See chapter 4 for discussion and examples.

- d. hem eynam roim keSer ben [ha- mitraxeS
 they not+cl see connection between [the-happen
 ecl-enu] leven [ha- naase eclam]
 by -us] and [the-go on by them]
 'they don't see a connection between what is happening here and
 what is going on there'

(Berman, p.148-149)

This ability to function as a nominal argument is unique to intermediate verbs. The examples in (21) illustrate that nominal constituents cannot be constructed with verbs inflected for past or future tense.

(21)

- a. *[ha- yircu lehibaxen] yiraSmu kan
 [the-will want to be examined] will register here
- b. *[ha- sirvu lexakot] yictaaru
 [the-refused to wait] will be sorry
- c. *eyn hu mevin et [ha- hiStamea mitox dvaray]
 neg he understands acc [the-was implied by words-my]
- d. *hem eynam roim keSer ben [ha- yitraxeS eclenu]
 they not+cl see connection between [the-will happen by us]
 leven [ha- naase eclam]
 and [the-go on by them]

Again, this contrast suggests that the intermediate verb form is not a tensed verb stem, unlike its past and future counterparts.

Summary

In summary, an intermediate verb is not necessarily a tensed verb. We saw that it functions as a participle in the habitual past, where it is the complement of a tensed auxiliary and that it may appear in the tenseless complement of a perception verb. It is also compatible with the negative particle eyn, which never occurs in the context of [+past]. In addition, the intermediate verb may appear in nominal contexts,

including construct state constructions and relative clause headed by the definite article ha.

2.3.3 Intermediate Verbs in Tensed Sentences

In this section I discuss the relationship between present tense and intermediate verbs. I shall demonstrate that an intermediate verb may become tensed when it amalgamates with a phonetically null TNS morpheme. However, I argue that intermediate verbs are only optionally merged with TNS, whereas their counterparts in past and future tense sentences obligatorily do so.

As noted above, the intermediate verb may function as a participle in habitual past tense sentences constructions where it is embedded under a past tense form of the verb haya 'be'. When the sentence does not have an overt auxiliary, the intermediate verb may receive either a progressive or a generic interpretation, as exemplified in (22):

(22)

- a. dan haya holex la- beyt sefer kol yom
Dan was walk to-the school every day
'Dan used to walk to school every day'
- b. dan holex la- beyt sefer kol yom
Dan walk to-the school every day
'Dan walks to school every day'
- c. dan holex la- beyt sefer akSav
Dan walk to-the school now
'Dan is walking to school now'

From this set of examples one might conclude that the intermediate verb form in (22b,c) is functioning as a main verb and not as a participle. However, Hebrew has no overt present tense form of the auxiliary haya 'be', so it is impossible to tell from the surface string whether or not a phonetically null auxiliary verb is present in these cases.

Like past and future tense verbs, the intermediate verbs may be fronted in questions, as exemplified in (23) (from Doron (1983), p. 43-44):

(23)

- a. dan tilfen/metalfen el rina
Dan called/calls to Rina
'Dan called/{is calling/calls} Rina'
- b. el mi tilfen/metalfen dan
to who called/calls Dan
'Who did Dan call/{is Dan calling/does Dan call}??'

Now consider questions formed in the conditional: As shown in (24b), the auxiliary verb may be fronted in this structure. However, the participle may not be raised across the auxiliary (24c); nor may it appear in a position intermediate between the fronted auxiliary and the subject (24d).

(24)

- a. dani haya Soleax le-rina matanot
Dani was sends to-Rina presents
'Dani used to send Rina presents'
- b. ma haya dani Soleax le-rina
what was Dani sends to-rina
'What did Dani used to send to Rina?'

- c. *ma Soleax dani haya le-rina
what sends Dani was to-rina
- d. *ma haya Soleax dani le-rina
what was sends Dani to-rina

The contrast between (23) and (24c,d) seems to suggest that the intermediate is in fact a main verb when there is no overt auxiliary, because it can be fronted. However, Doron observes that it is possible to adjoin the participle to the left of the auxiliary in which case [participle + BE] may appear in a position preceding the subject¹³. In other words, X Participle+BE ... is a possible surface order for a conditional sentence, as shown in (25)¹⁴.

(25)

- a. Soleax haya dani le-rina matanot
sends was Dani to-Rina presents
'Dani used to send Rina presents'
- b. ma Soleax haya dani le-rina
what sends was Dani to-Rina
'What did Dani used to send Rina?'

On the assumption that it would also be possible to adjoin the verb to a null auxiliary - if there were one - in the present tense, the fact that

- 13. Doron assumes that the D-structure word order in Hebrew is (INFL)SVO and that auxiliaries are base-generated in INFL, so that the surface order is derived by movement of the participle to the head of IP. Alternatively, if Hebrew is S(INFL)VO, the surface order could be derived by first adjoining the participle to the auxiliary and then raising [Participle + BE] to its surface position. Since nothing in the present discussion hinges on this point I shall postpone discussion of Doron's analysis until section ().
- 14. Although my informants judge the sentences in (25) grammatical, they find them extremely poetic and note that they would be considered marginal in colloquial speech.

the intermediate can be fronted in sentences like (23b) cannot be interpreted as conclusive evidence that an intermediate verb functions as a tensed verb in simple root sentences.

I shall argue below that the differences between past and future tense sentences and present tense sentences are due to (a) differences in the feature specification of TNS and AGR and (b) differences in the structural relationship between TNS and AGR. In present tense sentences TNS is null category with no tense features, so the temporal interpretation arises by default, i.e. TNS which is neither past nor future is necessarily present. I shall show that this abstract TNS node is required as a nominative Case-assigner. In root clauses, this ec is made visible either by lexical insertion of eyn at d-structure or by lowering onto the lexical verb in the derivation of S-structure. In past and future tense sentences TNS is specified as [+past] and has phonetic content. In addition, I shall argue that AGR heads a separate projection (AGRP) which is the complement of TNS in Hebrew present tense clauses, but that AGR is base-generated as an adjunct to TNS in Hebrew past and future tense clauses.

2.3.4 Previous Analyses

Doron (1983) develops a tri-partite distinction among sentence types in Hebrew which separates present tensed clauses from their past and future counterparts and from infinitives in terms of the feature

specification of the INFL node. In her system a finite sentence which is neither past nor future has no tense specification whatsoever. She uses the feature [\pm tense] to distinguish past and future tense clauses from infinitives. In order to differentiate past tense from future tense, Doron argues that [\pm tense] INFL is further specified for the feature [past]. Finally, AGR appears in all and only finite clauses, i.e. past and future tense sentences as well as "present tense" sentences containing an intermediate predicate and no overt auxiliary¹⁵.

This system is summarized in (26):

(26) INFL features in Hebrew (Doron, 1983)

	[tense]	[past]	AGR
past	+	+	yes
future	+	-	yes
present			yes
infinitives	-		no

Rapoport proposes a modification of this system which dispenses with the feature [\pm tense]. She argues that such a feature is unnecessary because "any sentence which has AGR features is interpreted as tensed.... When AGR is absent, the sentence will be understood as having no tensed interpretation, i.e. as an infinitive" (Rapoport, 1987, p.50). Rapoport retains the feature [\pm past] to distinguish between past and future tense sentences only. In her system, present tense sentences are distinguished from infinitives by the presence of AGR and

15. Berman (1978) makes a similar distinction, analysing infinitives as [-TNS], past and future verbs as [+TNS], and present tense verbs as [0 TNS]. However, as noted in footnote (), she does not posit a separate INFL node at any level of syntactic representation.

from past and future tense sentences by the absence of the feature [±past]. This modification is presented in (27):

(27) INFL features in Hebrew (Rapoport, 1987)

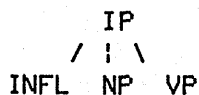
	[past]	AGR
past	+	yes
future	-	yes
present		yes
infinitives		no

By not attributing any tense specification to present tense sentences, both Doron and Rapoport capture the fact that an inflected intermediate verb is less verbal than its past and future counterparts. However, their feature systems, which seem to be almost notational variants, make very different predictions about the structure of infinitival clauses and about the relationship between TNS and AGR.

2.3.4.1 Doron's Analysis

Doron assumes Hebrew is underlyingly (INFL)-Subj-VP and that sentences in this language have ternary branching structure. The structure she posits is given in (28):

(28)



In order to derive the unmarked surface order (SVO) Doron assumes that INFL lowers to V, although she also assumes that V may alternatively raise to INFL to derive V-initial surface structures. Should a language

allow both V-raising and INFL-lowering as strategies to amalgamate these heads? In Doron's framework (Chomsky, 1981, 1982) heads are not subject to the Empty Category Principle (ECP), so no problem arises with the lowering option. However, even under current assumptions (that all empty categories, including heads, must be properly governed), INFL lowering is a viable derivation, just in case INFL+V is subsequently raised to the higher head position at LF. Raising of V to INFL entails no violation of the ECP because the verb can antecedent govern its trace.

The surface order of tensed verbs relative to VP-initial adverbs has been used to determine whether V raises to INFL or INFL lowers to V. It is assumed that the D-structure order is INFL (adverb) V ... and that the adverb does not move. If either V raises to INFL or INFL lowers to V, the moved element must cross the adverb or negative marker. Both derivations are attested: For example, English adverbs such as barely must precede a tensed (main) V as shown by the following minimal pair¹⁶.

(29)

- a. John barely speaks Italian
- b. *John speaks barely Italian

In French, on the other hand, such adverbs must follow the tensed verb, as illustrated in (30).

16. Pollock (1987) demonstrates that V-raising is also possible in English, but it is restricted to auxiliaries have and be.

(30)

- a. *Pierre à peine parle l'italien
- b. Pierre parle à peine l'italien

This contrast between (29) and (30) is accounted for on the assumption that INFL lowers to V in English, but V raises to INFL in French.

Doron's analysis predicts that both V Adverb ... and Adverb V ... should be acceptable orders in Hebrew. However, this prediction is not fulfilled in that language: VP initial adverbs as well as the negative marker lo 'not' always precede the verb on the surface. This fact is illustrated by the following minimal pairs. The contrast between (31a) and (31b) shows that the verb must follow a VP initial adverb such as tamid 'always', and the contrast between (32a) and (32b) shows that the verb must also follow the negative marker.

(31)

- a. dan tamid axal bananot
dan always ate bananas
'Dan always ate bananas'
- b. *dan axal tamid bananot

(32)

- a. dan lo axal bananot
dan not ate bananas
'Dan didn't eat bananas'
- b. *dan axal lo bananot

These examples show that only the order Adv V ... or NEG V ... is grammatical in Hebrew. This follows if we assume that INFL must lower to V in the derivation of the S-structure representation¹⁷.

Doron's analysis fails to account for present tense clauses negated by eyn. She assumes that the negative particle is adjoined to initial INFL, and analyses the optional clitic as a realization of AGR on eyn. Recall, however, that AGR on an intermediate verb is also derived by amalgamating V+INFL. In other words, the same AGR is realized twice in negated present tense clauses; once on the negative particle and again on the inflected verb. In addition, the clitic on eyn is marked for person, but AGR in present tense clauses bears number and gender marking only, so the inflection on the verb and the clitic on eyn cannot be realizations of the same element.

More problematic is the assumption that eyn is adjoined to INFL. This wrongly predicts that it should be impossible to strand eyn when INFL lowers in the derivation of SVO sentences, as in (33).

(33)

eyn dan yodea ivrit
NEG Dan knows Hebrew
'Dan doesn't know Hebrew'

17. In section () I discuss one case in Hebrew where INFL does not lower to V. This occurs in verbless sentences containing an element which has been described in the literature as a pronominal copula. Evidence that this element occupies a different position from tensed (and finite) verbs comes from the relative order of lo 'not' and the inflected head: Lo must precede inflected verbs (even after fronting in questions) but it always follows the pronominal copula.

In addition, if SVO order is derived by INFL-lowering in verbal sentences, it should be possible to lower INFL+eyn to V, deriving a surface structure with no clitic on the negative particle. (In Doron's analysis AGR only functions as an argument if the subject is fronted.) However, as indicated by the asterisk in (34) this is not possible.

- (34)
b. *dan eyn yodea ivrit

These problems suggest that Doron's analysis is both too weak and too strong to account for all and only grammatical surface structures containing eyn in present tense clauses in Hebrew.

Doron observes that VS order is never attested in past and future tense sentences with overt pronominal subjects. Examples are given in (35) below¹⁸:

- (35)
a. ani tilfanti le-sara
 I telephoned to-sara
 'I telephoned Sara'
b. *tilfanti ani le-sara

18. These examples are taken from Doron (1984). Shlonsky (1987) attributes the relative unacceptability of (35h) to the presence of the PP. He observes that V-Subj order is perfectly acceptable if the PP is not present as in (i).

- (i) tilfen Dan
 telephoned Dan
 'Dan telephoned'

He attributes the contrast between (i) and (35h) to the fact that the verb telephone may be interpreted as a presentational predicate or a verb reporting an action. The PP is only compatible with the report interpretation which V-Subj order forces a presentational reading.

- c. tilfanti [e] le sara
- d. hu tilfen le-sara
he telephoned to-sara
'he telephoned Sara'
- e. *tilfen hu le-sara
- f. *tilfen [e] le-sara
- g. dan tilfen le-sara
'Dan telephoned Sara'
- h. ?tilfen Dan le-sara
'Dan telephoned sara'

She proposes the following analysis for the availability of the NS in (35c): In this structure, V raises to INFL at which point AGR in INFL functions like a clitic absorbing nominative Case from the pronominal subject on its right. Consequently this subject must be a Case-less empty category. However, she provides no account of why V-raising should trigger absorption of nominative Case.

This analysis runs into the problems we saw earlier. Consider the examples in (36):

(36)

- a. ani bakoSi dibarti ba-bayit
I hardly spoke in-the-house
'I hardly spoke at home'
- b. *dibarti ani bakoSi ba-bayit
- c. *dibarti [e] bakoSi babayit
- d. bakoSi dibarti im sara

In each case the VP initial adverb bakoSi 'hardly' precedes the verb. I interpret this as an indication that the surface representation is derived by lowering INFL and not by raising the verb. Doron's account correctly predicts that (36a) with an overt pronominal subject is

grammatical, while (36b) which contains a NS is not. However, the ungrammatical sentence in (36c) should also be possible if the verb raised to INFL and AGR in INFL absorbed nominative Case. Similarly, the grammatical sentence in (36d) should be impossible because on her account AGR does not absorb nominative Case if INFL lowers to V. Thus, Doron's assumption that Hebrew is underlyingly (INFL)-Subj-V-Obj does not account for the word order facts of this SVD language. However, similar proposals have been made for VSD languages such as Irish and Breton. These Celtic languages typically have agreement in complimentary distribution with overt subjects. It has been proposed (Hale (1987), Guilfoyle (1987)) that these languages are underlyingly (INFL)-Subj-V-Obj and that agreement is in fact the consequence of head movement (i.e. incorporation) of a pronominal subject from [SPEC, VP] to I¹⁹.

Despite its shortcomings, Doron's analysis captures an important insight that AGR functions like a clitic in tensed sentences containing NSs. I shall show that most of the problems noted here can be solved by assuming a different structure for Hebrew clauses.

2.3.4.2 Rapoport's Analysis

Rapoport (1987) develops an analysis of verbless sentences in Hebrew, focussing in part on structures containing a third person

19. Cf. Chapter 4 for a similar account of Hebrew Construct State DPs, which have an analogous NSD surface order.

pronoun in a position intermediate between the subject and the predicate. This pronoun has the same number and gender features as the subject as shown in (37).

(37)

- a. dan HU xaxam
dan HE smart
'Dan is smart'
- b. sara HI mora tova
sare SHE teacher good
'Sare is a good teacher'

She assumes that the basic word order in Hebrew is Subj-(INFL)-VP, although she notes that her analysis is also compatible with recent proposals that the subject is base-generated inside VP. Following Doron, Rapoport analyses this pronominal element as (autonomous) AGR. However, her analysis fails to account for the fact that eyn never co-occurs with this autonomous AGR. (Recall that eyn may appear in all other non-past, non-future sentences.)

(38)

- a. dan HU lo more
Dan HE not teacher
'Dan is not a teacher'
- b. *eyn dan HU more
- c. *dan HU eyn-o more

Note that Doron is also unable to account for these examples. In order to derive the surface order of sentences such as (38a), Doron is forced to argue that the subject moves to the left of INFL, i.e. to an A-bar position. On her analysis this A-bar subject binds AGR, the

latter being construed as a variable²⁰. She argues that AGR is always a clitic on the negative particle because, as noted above, the clitic is marked for person. However autonomous AGR shows number and gender agreement only. In other words, Doron's analysis fails to provide an adequate account of the ungrammaticality of (39b,c).

(39)

- a. [_{IP} ani_i [_{IP} HU [_{t_i} ha more]
'I am the teacher'
- b. *_{IP} ani_i [_{IP} EYN+m-sg [_{t_i} ha more]
'I am not the teacher'
- c. *_{IP} ani_i [_{IP} EYN+1st-sg [_{t_i} ha more]

2.3.4.3 Summary

Both Doron and Rapoport argue that intermediate verbs are not inflected for tense and that AGR is the head of IP in examples such as (38a) and (39a). They observe that the AGR associated with this tense lacks a person feature, but provide little insight as to why this might

20. On the other hand, if the predicate is headed by a verb as in Dani oxel/axal tapuxim 'Dani eats/ate apples', the subject is in an A-position and AGR is simply (attached to) the functional head. In short, Doron posits two very different derivations for verbal and nominal sentences. The S-structure representations she attributes to these two classes of sentences are depicted in (i) and (ii) below.

- (i) Verbal sentence S-structure
 [_{IP} t_{INFL} Dani [_{VP} met ...]]
 'Dani died'
- (ii) Nominal sentence S-structure
 [_{IP} Dani_i [_{IP} AGR_i t_i [_{ADJP} met]]]
 'Dani is dead'

be the case²¹. Neither of the structures they propose can fully account for the absence of the negative particle in this construction. In the next section I shall propose an alternative structure which overcomes this problem while incorporating their shared insight that TNS and AGR may be disassociated in present tense clauses.

2.4 The Structure of Present Tense Sentences

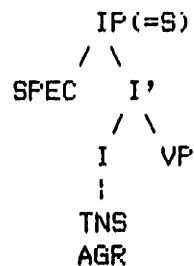
Although I accept Doron and Rapoport's claim that TNS is not specified for the feature [past] in Hebrew present tense clauses, I do not adopt their assumption that TNS and AGR are both base-generated in the head of IP in present tense clauses. (However, I shall argue below that this assumption is valid for Hebrew past and future tense clauses.) I take the position that the head of a non-negative present tense sentence is a phonetically null TNS element while eyn is the head of a negative present tense sentence²². I also show how this analysis can account for the incompatibility of eyn and autonomous AGR. Some preliminary remarks about the relationship between TNS and AGR are in order before discussing the merits of this and other options for the analysis of Hebrew present tense clauses.

21. Borer (1984, 1987) does not distinguish intermediate verbs from their past and future counterparts. However, she does assume that INFL is defective in the present tense but she attributes the defect to the fact that AGR lacks a person feature in this context. See section () below for further discussion.
22. Other lexical elements can fill this position. In chapter 4 I shall argue that the relative complementizer ha is base-generated in the position of TNS. This will be shown to account for the peculiar restrictions on relativization described in section () above.

2.4.1 TNS, AGR and the head of IP

Most current analyses within the GB framework assume that tensed sentences have the structure depicted in (40) (subject to parametric variation in the linear order of constituents).

(40)



As this tree diagram illustrates, S is IP, i.e. the maximal projection of I (=INFL), where I contains both TNS and AGR. TNS and AGR are clearly distinct elements, but it is not obvious that they are treated as separate syntactic categories. If TNS and AGR are separate syntactic categories, then IP is the only projection with two heads. While the assumption that IP is unique is not a priori a problem, the hypothesis that IP has two heads is clearly in violation of the principle of X-bar theory which requires that each syntactic phrase have one and only one head.

Of course, if TNS and AGR are not analysed as separate syntactic categories, but rather components of a single category INFL, the structure in (40) complies with X-bar theory. However, this view faces an empirical challenge in accounting for agglutinating languages, such

as Turkish, where TNS and AGR are clearly separate morphemes. The examples in (41) show that TNS and AGR occupy different positions in an inflected verb in Turkish and the examples in (42) show that Turkish nouns and gerunds may manifest AGR without TNS²³. This suggests that TNS and AGR are in fact separate syntactic categories²⁴.

(41) Turkish tensed verbs

- a. Past: verb+DI+AGR
 giD-DI -1Er git-DI-nIz
 go -past-3pl go-past-2pl
 'they went' 'you (pl) went'
- b. Future: verb+(y)EcEk+AGR
 giD-EcEk -1Er gid-EcEk-sInIz
 go-future-1er go-future-2pl
 'they will go' 'you (pl) will go'
- c. Progressive: verb+Iyor+AGR
 giD-Iyor-1Er giD-Iyor-sInIz
 go-prog.-3pl go-prog.-2pl
 'they are going' 'you (pl) are going'

(42) Turkish nominals

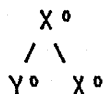
- a. N+AGR
 el-Im el-InIz el-1ErI
 hand-1sg hand-2pl hand-3pl
 'my hand' 'your(pl) hand' 'their hand'
- b. Gerund: V+mE+AGR
 giD-mE-m giD-mE-nIz giD-mE-1ErI
 go-gerund-1sg go-gerund-2pl go-gerund-3pl
 'my going' 'your going' 'their going'

23. Turkish has vowel harmony and voicing assimilation in consonants. I have used capital letters to represent segments which have some feature specifications determined by the application of assimilation rules.

24. George and Kornfilt (1981) argue that the nominalising morphemes -mE and -dIq in the gerundive forms occupy the same slot as tense markers in tensed verbs. They note that -mE gerunds are never morphologically marked for tense. -dIq gerunds may be morphologically marked for future, but they are neutral with respect to non-future tense marking.

Assuming that TNS and AGR are distinct syntactic categories, and that IP does not have two heads, then IP must be a projection of TNS (TP) or AGR (AGRP). Now if both TNS and AGR appear in the head of IP, then either AGR is adjoined to TNS or TNS is adjoined to AGR. What is the source of the adjoined structure - is it base-generated or derived by movement? Consider the possibility that the head of IP has the structure in (43) where either TNS is X^0 and AGR is Y^0 or vice versa.

(43)



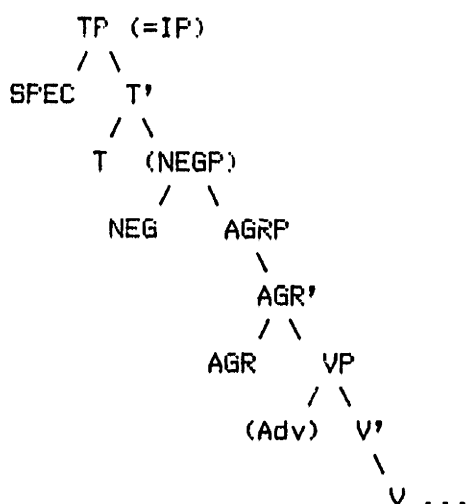
This structure poses no problem for X-bar theory because X^0 , will be the unique head of XP. If the structure is base-generated then Y^0 is like a clitic on X^0 . Alternatively, if the structure is derived by raising Y^0 to X^0 , then IP must also contain a projection of Y. This second alternative is instantiated by V-movement.

I conclude from the discussion in section () that Hebrew verbs never bear tense unless they bear agreement (although the intermediate verb forms attest that the reverse is not true). Exploiting Doron's intuition that AGR can function like a clitic in Hebrew, I shall assume X^0 is TNS and Y^0 is AGR in this language. AGR can either be adjoined to TNS at D-structure, and in this sense it is like a clitic, or it can be the head of a separate projection²⁵.

25. There are other logical possibilities which are consistent with this view including (a) Tense is adjoined to AGR at D-structure (b) AGR and/or TNS is adjoined to the V at D-structure. I won't explore

In a comparative study of English and French sentence structure Pollock (1987) proposes that AGR heads a separate projection from TNS, or more precisely that AGRP is the complement of TNS°. The structure Pollock proposes, including an optional negative Phrase (NEGP) intervening between TP and AGRP, is depicted in (44) (irrelevant details omitted).

(44)



I claim that AGR heads a projection which is distinct from TNS in Hebrew present tense sentences, but that AGR is base-generated in INFL in past and future tense sentences. It will be demonstrated that this hypothesis accounts for the distribution of the negative particle eyn, the relatively impoverished AGR on intermediate verbs, the availability of NSs in the different finite contexts, and the nominal aspects of

 either of these possibilities at this point, because they don't account for the Hebrew facts under consideration. Ken Hale (p.c.) also suggests that perhaps AGR and TNS are heads of IP in different planes. While this alternative raises intriguing possibilities, discussion is beyond the scope of this thesis.

intermediate verbs. (Discussion of this last point will be taken up in chapter 4). In the next section I shall discuss the structure of present tense clauses.

2.4.2 The structure of Present Tense Clauses

The purpose of this section is to demonstrate that the structure in (44) is appropriate for Hebrew present tense clauses. I shall begin by summarizing my assumptions about relevant aspects of UG and the aspects of non-negative Hebrew present tense clauses that this structure should reflect.

As noted above, I assume a version of the universal base hypothesis in which all arguments of a predicate are base-generated inside its maximal projection and more specifically, I assume that the external argument (i.e. the subject) is base-generated in [SPEC,VP]. [SPEC,VP] is a θ -position, so it will never be filled by a non-Argument, such as an expletive or pleonastic subject. I also assume that AGR is not inherently a Case-assigner, but that it may transmit Case (from TNS or some other Case-assigner) to a nominal constituent that it is co-indexed with (cf. Levin and Massam (1985), Massam (1985). (Alternatively, TNS may assign Case directly to a noun phrase in [SPEC,IP].) Finally, I adopt Borer's (1986) proposal that AGR must be co-indexed with some noun

phrase in the accessible domain of AGR, where the accessible domain is defined as in (45)²⁶.

(45)

α is in the accessible domain of AGR_i iff AGR_i c-commands α and there is no β_j , β_j I-subject of AGR_j, such that AGR_i c-commands AGR_j and AGR_j c-commands α .

Recall, first of all, that an intermediate verb in Hebrew is inflected to agree with its subject in number and gender only. It never manifests person agreement or tense features. Second, it has been established that the surface order Subj-V-Obj is derived by lowering inflectional heads onto the verb in Hebrew. Third, the negative particle eyn may appear in present tense clauses containing a predicate headed by an intermediate verb or a non-verbal lexical category, i.e. NP, AP, PP, but it may not appear in past or future tensed clauses or in clauses containing 'autonomous AGR'. Finally, in sentences which are negated by the bare negative particle, the surface order is NEG-Subj-V-Obj but in sentences which are negated by an inflected negative particle, the order is Subj-Neg-V-S.

26. Following my discussion distinguishing AGR from INFL, I have modified Borer's definition by substituting AGR for INFL in (45), and will continue to refer to AGR rather than INFL in subsequent discussion. Although Borer uses the term INFL in her formalizations, in a discussion of its application she states that "[t]he set of I-identifiers assumed in this work is coextensive with those elements that are assigned an index and are assumed, within the Government-Binding model, to have an inherent set of i-features—namely, a coindexed antecedent, a clitic and AGR" (Borer (1986, p.392). Following recent work by Kayne (1987) and Mahajan (1988), this modification also allows for the possibility that there may be more than one AGR per clause, while retaining the assumption that there is only one head of S.

2.4.2.1 TNS in Present Tense Clauses

Consider the following present tense sentences:

(46)

- a. hu oxel bananot
he eats bananas
- b. hi oxelet bananot
she eats bananas
- c. hem oxlim bananot
they eat bananas

Despite the fact that the intermediate verbs in (46) are not overtly marked for tense, I infer that these sentences must have a TNS node from the assumption that AGR is not itself a Case-assigner and from the fact that the pronominal subjects are overtly marked for nominative Case. However, I do not assume that all intermediate verbs are tensed. Rather, the intermediate verb form will only become a tensed verb if there is no other tense-bearing element in the head of TP or on the path between V and TNS.

Further evidence that such clauses contain a TNS element comes from the fact that the temporal interpretation of embedded clauses containing an intermediate verb is independent of the tense of the superordinate clause, as illustrated in (47):

(47)

- a. dan xaSav Se sara lomedet ivrit
'Dan thought that Sara studies Hebrew'
*'Dan thought that Sara studied Hebrew'

- b. dan yaxSov Se sara lomedet ivrit
 'Dan will think that Sara studies Hebrew'
 *'Dan will think that Sara will study Hebrew'

If the complement clause had no TNS we would expect its temporal interpretation to be determined by the matrix clause. In fact, this expectation is borne out in complements of perception verbs which, as argued above, lack TNS. Compare the examples in (47) repeated here as (48) with those in (47) above.

- (48)
- a. Samanu otc menagen etmol ba- koncert
 heard-we him play(int.) yesterday at-the-concert
 'we heard him playing at the concert yesterday'
- b. hu gila et ha- yeladim mesaxakim ba- kadur
 he discovered ACC the-children play(int.) with-the-ball
 'he discovered the children playing with the ball'

Note that these examples provide support for my assumption that TNS assigns nominative Case in finite clauses because, unlike the embedded clauses in (47), these complements lack an overt nominative Case-marked subject. Since we know that past and future tensed verbs cannot occur in this context and that NSs with specific reference are not licensed in non-negative clauses with predicates headed by intermediate verbs, it must be the case that the embedded VPs are predicated of the accusative Case-marked noun phrases²⁷.

The contrast between (47) and (48) is unexpected under Doron's assumption that all clauses containing an intermediate verb lack tense

27. Cf. Higginbotham (1982) for an analysis of complements of perception verbs in terms of events.

and also under Rapoport's assumption that all inflected verbs are in tensed clauses. However, it follows naturally from the view that an intermediate verb must be tensed if its s-projection (in the sense of Abney (1987)) extends to TP. Following a proposal of Pollock (1987) that finite TNS should be analysed as an operator, we can account for this contrast (and also for the other cases where intermediate verbs are not interpreted as finite).

Pollock suggests that V-raising to TNS is required to provide the TNS operator with an appropriate variable, the syntactic counterpart of Davidson's (1966) 'Event variable'. He argues that movement of the verb to TNS creates a variable which is bound by TNS and whose range is defined by the lexical content of the verb. According to Pollock, this type of binding occurs at S-structure in French and English, but the fact that inflectional elements lower to V in Hebrew forces me to assume that the event variable could only be bound by movement of the verb at LF in Hebrew. I also depart from Pollock in assuming that TNS need not be specified for the feature [\pm past] to be construed as finite, because I analyse present tense as finite TNS which is not specified for this feature in Hebrew²⁸.

2.4.2.2 Eyn as TNS

28. In chapter 3, I shall argue that infinitival TNS is anaphoric in Hebrew, i.e. an empty category with no inherent features.

Having argued that present tensed sentences do in fact contain TNS, I shall now defend my claim that TNS and AGR head distinct projections in this construction. My argument is based on the assumption that when eyn appears, it is the head of IP (or more prespicuously TP). I shall show that eyn occupies the position of TNS and that it has a semantic interpretation which is consistent with this hypothesis. I shall propose that eyn realizes TNS, i.e. it is an independent morpheme which has inherent temporal reference. An intermediate verb will be tenseless in the domain of eyn because TNS is lexically incorporated into eyn.

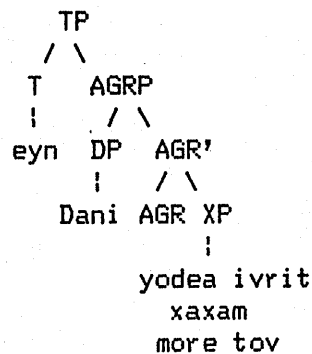
Recall that eyn is used to negate intermediate, infinitival and nominal clauses, but cannot occur in either past or future tense clauses. This is shown by the contrast between (49a-d) and (49e,f).

(49)

- a. eyn dani yodea ivrit
NEG Dani knows Hebrew
'Danny doesn't know Hebrew'
- b. eyn li-Stot kafe
NEG to drink coffee
'One should not drink coffee'
- c. eyn dani xaxam
NEG Dani smart
'Danny isn't smart'
- d. eyn dani more tov
NEG Dani teacher good
'Danny isn't a good teacher'
- e. *eyn dani yada ivrit
NEG Dani knew Hebrew
- f. *eyn dani yida ivrit
NEG Dani will know Hebrew

TNS is specified for the feature [\pm past] in past and future tense sentences only. (In present tense sentences TNS is unspecified for the feature [\pm past] so it receives a default interpretation which is neither past nor future). Remember also that in the discussion of verbal morphology it was observed that TNS only has phonetic content in past and future tenses. In these tenses TNS and AGR features are realized as a portmanteau morpheme affixed to the verb stem²⁹. If we assume that TNS has some lexical content in past and future tenses because it has features, and that it is a null category in all other non-negative clauses, then eyn may occupy T⁰ just in case this position is not otherwise filled. Within a framework that assumes two distinct functional projections in S, eyn may be assumed to occupy the higher head position, i.e. T⁰, while AGR appears in the lower head position. In the remainder of this section I shall argue that the sentence in (49a) has the structure depicted in (50):

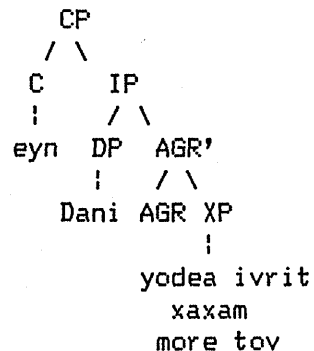
(50)



29. I defer discussion of the structure of past and future tensed sentences until ().

Although the structure in (50) is compatible with my claim that TNS and AGR head distinct projections in Hebrew present tense clauses, if we substitute the node label C for T and INFL for AGR, it also lends itself to an analysis in which eyn is analysed as a complementizer and S has a single functional head which may dominate TNS, and/or AGR, as shown in (51) (cf. Borer (1984)).

(51)



I shall begin by presenting my reasons for rejecting this analysis. If eyn occupied the head of CP, we would predict that eyn could not co-occur with another complementizer. However, as illustrated by the following examples, a complementizer (Se 'that') does appear in embedded clauses containing eyn.

(52)

- a. ani xoSev (Se) eyn dani yodea ivrit
 I think that NEG Dani knows Hebrew
 'I don't think that Danny knows Hebrew'
- b. ani xoSev (Se) dani eyn-o yodea ivrit
 I think that Dani NEG-cl knows Hebrew
 'I don't think that Danny knows Hebrew'

In addition, if the subject is moved to a pre-IP position when it precedes the negative particle, one would predict from the structure in

(51) that it should be impossible to topicalize or question the object when the subject precedes the negative particle. However, this prediction is not borne out, as shown by the grammaticality of the following examples:

(53)

- a. ma dani eyn-o yodea
what Dani NEG-cl knows
'what doesn't Dani know'
- b. ivrit, dani eyn-o yodea
Hebrew Dani NEG-cl knows
'Hebrew, Dan doesn't know'

If eyn is analysed as a complementizer, then it is the only complementizer that may appear in a Hebrew root clause.

In the next section I discuss additional motivation for analysing eyn as the base-generated head of TP.

2.4.2.3 Eyn as a compound operator

As noted above, non-negative present tense clauses may be interpreted as either nomic or progressive, but when eyn is present only the nomic interpretation is available. Hebrew has a second negative element lo which can be used for negation of both tensed and tenseless sentences³⁰

30. When lo is used for predicate negation it appears immediately before the head of the predicate, even in cases where the head is fronted as illustrated in (i) and (ii):

(54)

- a. dan {lo/*eyn-o} oxel banana
Dan NEG eats banana
'Dan isn't eating a banana'
- b. dan {lo/*eyn-u} axal bananot
Dan NEG ate bananas
'Dan didn't eat bananas'

Unlike eyn, lo is purely a negative operator so it can be used to negate any constituent as illustrated by the following examples:

(55)

- a. [lo kol yeled] oxel bananot
not every child eats bananas
- b. hu kotev sfarim [lo be-ivrit] ele be-anglit
he writes books not in-Hebrew but (rather) in-English

This difference in the distribution of lo and eyn is expected if the former is simply a negative operator while the latter is both nomic tense and negation. This proposal amounts to analysing eyn as a compound operator, (NEG+TNS), which is base-generated in the position of the head of the clause, i.e. in $T^{0_{31,32}}$.

In the last section I noted that the facts of Hebrew were compatible with Follock's proposal that verbs raise to the head of TP in

- (i) dani betax lo ohev bananot
'Dani surely doesn't like bananas'
(ii) ma lo ohev dani
'what doesn't Dani like'

Therefore, I shall assume that lo can be adjoined to X^0 .

31. Add footnote: there are other languages in which negation interacts with tense eg Kru(?) - get examples

32. See below for evidence that eyn is not a complementizer.

finite clauses in order to generate a variable which could be bound by a tense operator. I suggested that this movement could only occur at LF in Hebrew, and that the head of TP could be analysed as an operator in the present tense, even though it is unspecified for the feature [past]. However, I assume that the verb does not raise to T⁰ which is occupied by eyn. First, not all predicates negated by eyn are headed by verbs. As noted above, this negative particle may also be used to negate clauses with NP and AP predicates (nominal clauses). While it is reasonable to posit an event position in the verb, it seems highly unlikely that the trace of a nominal category could function as a tense variable.

Recall also that eyn imposes a nomic (generic) interpretation on the clause. For example, (55a) means that Dan doesn't eat bananas, not that he isn't eating them at the moment. This sentence does not describe a single event of non-banana-eating, but rather denies that Dan is a banana-eater. I infer from this that eyn is not a tense operator but rather that it is referential in the relevant sense, i.e. it refers to (the non-existence) of a characteristic of the subject. In other words I shall argue that it is not a tense operator and thus there is no motivation to raise V (through AGR) to eyn²².

33. In () I shall show that this treatment can be extended to account for the use of eyn as an auxiliary in locative, existential and possessive constructions. Examples of these constructions are given in (i-iii) below.

- (i) ha- sefer eyn-o ba- sifriya
 the-book NEG in-the-library
 'the book isn't in the library'

I should also like to point out that there may be a universal constraint against head movement to autonomous functional categories²⁴. Although I know of no principled explanation for this fact, evidence from a variety of languages suggests that there is no adjunction to autonomous C, T, D, or AGR²⁵. Note, however, recent work on incorporation of lexical categories suggests that this generalization does not apply to lexical heads (Baker, 1986, 1988).

Platzack (1986) argues that all Germanic languages which exhibit verb-second phenomena have a rule which obligatorily moves INFL to COMP, unless this position is already filled. This is illustrated by the contrast between grammatical sentences such as (56a,c) which contain a

-
- (ii) eyn sfarim ba-sifriya
NEG books in-the-library
'there aren't any books in the library'
 - (iii) eyn le-dan sefer
NEG to-Dan book
'Dan doesn't have a book'

34. In order to avoid terminological confusion I shall use the term autonomous rather than lexicalized to refer to functional categories which are realized as words without the morphological support of a lexical category.
35. Add evidence that this generalization also extends to D. Here are some possibilities: (a) quantifiers block head movement cf. every student vs everyone (but everybody should probably be analysed as a lexical compound). (b) Bare plurals may be a case where the lexical head raises to D. Compare the following:
- (i) Books about Canada are interesting.
 - (ii) Some books about Canada are interesting.
- (c) Note also Hebrew has construct states with numerals and the universal quantifier kol 'every'. In this case the head of the NP complement of Q(=D?) does not raise, deriving the surface order Q-NP_{gen}, as in Sney ha-yeladim 'The two children'. When Q is not present the noun raises to D as in yaldey ha-more 'the children of the teacher'. In this case the surface order is N-NP_{gen}.

lexical complementizer or a finite verb in the head of CP, and ungrammatical sentences such as (56b) where the head of CP is empty and (56d) where both the complementizer and the lexical verb are in second position³⁶.

(56) (German)

- a. Es scheint als ob er nicht krank wäre.
it looks as if he not ill were
'It looks as if he was not ill.'
- b. *Es scheint als er nicht krank wäre.
it looks as he not ill were
- c. Es scheint als wäre er nicht krank.
it looks as were he not ill
'It looks as if he was not ill.'
- d. *Es scheint als ob wäre er nicht krank.
it looks as were he not ill

(Platzack (1986, p.199)

Pollock (1987) accounts for the absence of agreement marking on English modals by assuming that AGR does not raise to TNS when the latter position is filled by a modal. On his analysis do bears agreement because it is base generated in AGR and subsequently raised to (non-lexical) TNS. Compare the following examples:

(57)

- a. John can/*cans speak Hebrew.
- b. John *do/does speak Hebrew.

36. Platzack attributes the observation that finite verbs move to COMP if this position is not occupied by a complementizer in Germanic to den Besten (1983).

The fact that a verbal predicate cannot appear with 'autonomous AGR' in Hebrew may also be adduced as evidence that this generalization extends to AGR. I shall argue in section () below that the reason why 'autonomous AGR' never co-occurs with a verbal predicate is that Hebrew verb stems must have an agreement suffix to be well formed, but a verb stem cannot adjoin to autonomous AGR.

2.4.2.4 EYN as a Case-assigner

In the introduction to this section I said that I assume that TNS assigns nominative Case in tensed clauses. If eyn is TNS then it too must assign nominative Case. Unlike the TNS element in non-negative present tense clauses or TNS specified for [+past], the bare particle eyn must assign Case to the right. More precisely, eyn assigns Case to the subject in [SPEC,AGRP] (either directly or by passing on its Case-assigning ability to AGR which in turn transmits Case to the subject in [SPEC,AGRP]). I infer that the subject is realized in [SPEC,AGRP] and not in [SPEC,VP] from the fact that an overt expletive subject may appear in this position, as illustrated in (3b) repeated here as (58).

(58)

eyn ze margiz oti Se dan lo ha
 NEG that bother me that Dan not came

*eyn [e] margiz oti Se dan lo ba

'It doesn't bother me that Dan didn't come'

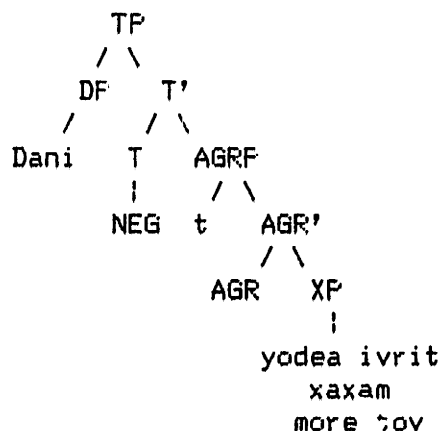
This is expected if [SPEC,AGRP] is an A-position - but not necessarily a θ -position. Both arguments and expletives may be Case-marked in this position. (Remember that only θ -marked arguments may appear in [SPEC,VP].) If eyn could assign Case to the left then the subject would be realized in [SPEC,TP], deriving the surface order Subj-NEG-Pred. However, the following sentences show that this word order is not possible.

(59)

- a. *dani eyn yodea ivrit
 Dani NEG knows Hebrew
- b. *dani eyn more tov
 Dani NEG teacher good
- c. *dani eyn xaxam
 Dani NEG smart

I attribute the ungrammaticality of the examples in (59) to a violation of the ECP which arises as a consequence of movement of the subject from [SPEC,AGRP] to [SPEC,TP], as illustrated in (60).

(60)



In this structure eyn is a closer governor of the empty category in [SPEC,AGRP] than its antecedent - the subject in [SPEC,TP]. By minimality, eyn governs the trace, but because eyn is a functional head, it is not a proper governor. I have been calling eyn a negative particle because, unlike modals and auxiliaries, it does not belong to the lexical category of verbs; it does not have the characteristic morphology of a Hebrew verb, nor does it bear the agreement affixes of a lexical category.³⁷ This explanation is reminiscent of the account of "that-t" effects in English explicated in Chomsky (1986) (but see section () above for arguments that eyn is not a complementizer)³⁸.

2.5 Inflected Negative Particles: Clitics or Agreement

Thus far the discussion of eyn as TNS in this section has focussed exclusively on the bare particle which appears in sentence-initial position, so that the derived word order is TNS-Subj-AGR-Pred. I shall now show how this analysis also accounts for the case where eyn appears between the subject and the predicate in finite clauses. In this case, a morpheme which bears the person, number and gender features of the

37. The clitics which are normally attached to the negative particle are also used for other particles such as yeS 'exist' and 'od 'still'. Borer (1984, p.244, footnote 1) notes that these clitics are morphologically distinct from object clitics, but that object clitics sometimes surface instead of particle clitics on eyn and 'od (but not on yeS).

38. Chomsky argues that when the head of CP is filled by an overt complementizer such as that, the category immediately dominating C becomes a barrier for government of the subject by its antecedent.

subject is suffixed to the negative particle, and the derived word order is Subj-TNS-AGR-Pred as illustrated below:

(61)

- a. dani₁ eyn-o₁ yodea ivrit
Dani NEG-cl knows Hebrew
'Danny doesn't know Hebrew'
- b. dani₁ eyn-o₁ xaxam
Dani NEG-cl smart
'Danny isn't smart'
- c. dani₁ eyn-o₁ more tov
Dani NEG-cl teacher good
'Danny isn't a good teacher'

As noted in the last section, I assume that eyn is not itself a proper governor. Borer (1984) adduces the following scope facts to support the same claim:

(62)

- a. eyn harbe xatulim ba- gan
NEG many cats in-the-garden
'There aren't many cats in the garden'
- b. harbe xatulim eyn-am ba -gan
many cats NEG-cl in-the-garden
'many cats aren't in the garden'

She reasons that when eyn precedes the subject it must have scope over the entire sentence, but when eyn follows the subject, it may only have scope over the predicate. Borer attributes this to the ECP, arguing that eyn is not a proper governor, so quantifier raising of the subject from a position governed by the negative particle will be impossible, unless a clitic is present to properly govern the trace of the moved

subject in that position³⁹. Since the subject can only appear in [SPEC,TP] when the clitic is present, it must be the case that the clitic properly governs the trace in [SPEC, AGRP]. Following Diesing (1987) I analyse [SPEC,TP] (her [SPEC,IP]) as an A position just in case it is a Case-position, and as an A-bar position otherwise.

This section addresses the following questions: What is the status of the morpheme that bears person, number and gender - is it AGR or a clitic? Why is the subject forced to move to [SPEC,TP] when eyn bears this suffix? Is nominative Case (obligatorily) assigned by the inflected negative particle to [SPEC,TP]? (Remember that [SPEC, TP] is not a theta-position under my analysis, because external arguments are always base-generated in [SPEC, VP].)

The suffix on eyn exhibits the two properties which are characteristic of AGR in past and future tensed sentences: It is a marker of person, number and gender affixed to the head of TP and co-occurs with an overt nominative Case-marked subject. As noted in the introduction it also licenses the same subset of referential NSs as AGR in past and future tensed clauses, i.e. first and second person NSs but not third person NSs. Recall, however, that verbs are only inflected for number and gender in present tense and that NSs are with specific reference are not otherwise licensed in this context. It is also distinguished from AGR in past and future tensed clauses because the

39. However, Borer assumes that the bare particle in (63a) is a complementizer. Cf. above for arguments against this view.

latter license all classes of NSs, but the suffix on eyn only licenses NSs with specific reference. Thus, the behavior of this element is distinct from AGR in present tense clauses and from AGR in past and future tense clauses.

The fact that only referential NSs are licensed by the suffix may be construed as evidence that it is a referential element, i.e. a clitic. I suggested earlier that the reason why 'autonomous AGR' does not select a VP complement is that verb stems must amalgamate with AGR to be well-formed. If this suffix is AGR, we might expect a similar restriction on the category of its complement. The examples in (63) illustrate that the suffix may occur with a predicate headed by an intermediate verb. Moreover, the verb must agree with its subject in this context as shown by the ungrammaticality of (63c) and (63e) where the verb bears no overt agreement but is interpreted as masculine, singular by default.

(63)

- a. Hu eyn-enu oxel bananot.
he NEG-3sg. eat(m.sg.) bananas
'He doesn't eat bananas.'
- b. Hi eyn-ena oxel-et bananot.
she NEG-3sg. eat-f.sg. bananas
'She doesn't eat bananas.'
- c. *Hi eyn-ena oxel bananot.
- d. Hem eyn-am oxl-im bananot.
they NEG-3m.pl. eat-m.pl bananas
'They don't eat bananas.'
- e. *Hem eyn-am oxel bananot.

Summarizing the discussion so far, we have seen that these suffixes do not exhibit the syntactic properties of either present tense or past/future tense AGR in Hebrew. They appear to co-occur with present tense AGR and license referential NPs only. All these facts argue in favour of analysing them as clitics.

I would also like to point out that clitic doubling of the subject is attested in other languages. In particular the distribution of the suffix on eyn is reminiscent of clitic doubling in northern Italian Dialects. In Trentino, for example, subject clitics are generally obligatory regardless of whether a lexical preverbal NP is present, as shown in (64). The examples in (65) show that these clitics are illicit when the subject is post-verbal⁴⁰.

(64)

- a. (El) magna.
cl eat-3s
'He eats.'
- b. El Mario *(el) magna.
the Mario cl eats
'Mario eats.'
- c. *(Le) ven
cl come-3pl
'They come.'
- d. Le putele *(le) ven.
the girls cl come
'The girls come.'

40. There is some variation in the distribution of subject clitics among different northern Italian dialects. An account of these facts is beyond the scope of this thesis, but see Safir (1985), Rizzi (1984) and Roberge (1986).

(65)

- a. (*E1) magna el Mario
- b. (*Le) ven le putelle
- c. E 'vegnu 'na putela
has come a girl
'A girl came.'
- d. *L' ei vegnuda una putela
(Roberge (1986:153))

However, the fact that the suffix attached to eyn does not license third person NSs distinguishes this element from other clitics in Hebrew, raising doubts about its status as a clitic. The examples in (66) show that third person pronominal clitics attached to prepositions or nouns may have specific reference.

(66)

- a. sara natna le-dan tmuna yafa
Sara gave to-Dan picture pretty
'Sara gave Dan a pretty picture'
- b. sara natna lo tmuna yafa
Sara gave to-3m.sg. picture pretty
'Sara gave him a pretty picture'
- c. sara roca tmunat ha-more
Sara wants picture the-teacher
'Sara wants the teacher's picture'
- d. sara roca tmunat-o
Sara wants picture-his
'Sara wants his picture'

Thus, the evidence suggests that these suffixes manifest some properties of both clitics and AGR in Hebrew. Doron (1983) and Borer (1984) take different approaches to account for this hybrid element. As noted above, Doron argues that the suffix on eyn is AGR, but she also argues that AGR functions like a clitic in the context of a NS or an

(65)

- a. (*E1) magna el Mario
- b. (*Le) ven le putele
- c. E 'vegnu 'na putela
has come a girl
'A girl came.'
- d. *L' ei vegnuda una putela
(Roberge (1986:153))

However, the fact that the suffix attached to eyn does not license third person NSs distinguishes this element from other clitics in Hebrew, raising doubts about its status as a clitic. The examples in (66) show that third person pronominal clitics attached to prepositions or nouns may have specific reference.

(66)

- a. sara natna le-dan tmuna yafa
Sara gave to-Dan picture pretty
'Sara gave Dan a pretty picture'
- b. sara natna lo tmuna yafa
Sara gave to-3m.sg. picture pretty
'Sara gave him a pretty picture'
- c. sara roca tmunat ha-more
Sara wants picture the-teacher
'Sara wants the teacher's picture'
- d. sara roca tmunat-o
Sara wants picture-his
'Sara wants his picture'

Thus, the evidence suggests that these suffixes manifest some properties of both clitics and AGR in Hebrew. Doron (1983) and Borer (1984) take different approaches to account for this hybrid element. As noted above, Doron argues that the suffix on eyn is AGR, but she also argues that AGR functions like a clitic in the context of a NS or an

"clitics...have the same syntactic function as agreement markers with respect to the licensing of [NSs]" (Roberge, p.306). I suggest that this result follows from standard assumptions about the structural position and content of clitics and AGR.

Doron, Borer and Roberge all assume that AGR is the nominal component of INFL, the head of IP, and that subject clitics are pronominal heads adjoined to INFL. In other words, clitics are distinct syntactic categories from the zero-level syntactic category (X^0) to which they are adjoined, but AGR is a component of X^0 . However, I take the position that AGR and TNS are separate syntactic categories. As I argued above this claim permits an analysis of AGR as adjoined to TNS (=INFL) in derived verbs which are inflected for both tense and agreement. On this view AGR adjoined to TNS is a clitic because it too is a distinct syntactic category from the X^0 to which it is attached⁴³. Therefore, a clitic is an X^0 which does not head its own projection or an X^0 which has raised to the position of a c-commanding head. This definition is formalized in (67):

features and pronominal heads (D^0 's) which are also specified for person. However, I shall continue the tradition which uses the term nominal to refer to a syntactic category which is specified for any of these features.

43. I shall argue below that adjunction of a nominal head to TNS is a necessary, but not sufficient, condition for licensing a referential NS.

(67)

X is a clitic on Y iff (i) and (ii) and (iii).

- (i) X is a zero level syntactic category dominated by a zero level syntactic category Y.
- (ii) Every projection which dominates both X and Y is a projection of Y or a projection which dominates the maximal projection of Y.
- (iii) No projection which dominates both X and Y is a projection of X.

By syntactic category I mean both lexical categories (N, V, A, and P) and functional categories such as complementizers (COMP), tense (TNS), agreement (AGR) and determiners (DET). I assume that both functional and lexical categories can be characterized in terms of a system of syntactic features, but I leave open the question of how this system is organized⁴⁴.

Now, if both AGR and subject clitics are nominal X^0 categories which may be adjoined to TNS, we cannot characterize the difference between them either in structural terms or in terms of content. Still there is a difference: Subject (and object) clitics are inherently specified for phi features, but AGR gets its feature specification by coindexation with a noun phrase in its domain⁴⁵. In other words AGR may

44. There have been a number of attempts to ascribe syntactic or semantic content to the lexical features originally proposed in Chomsky (1972), but there is no consensus as to whether lexical features should be extended to functional categories, and if so how. For relevant discussion see Jackendoff (1977), Reuland (1983), Muysken (1986) Fukui and Speas (1986), Holmberg (1986) and Cowper (1987).

45. It is immaterial to the point under discussion whether AGR gets co-indexed via the mechanism of SPEC-head agreement as argued by Kayne (1987) or by free co-indexation as argued by Borer (1986).

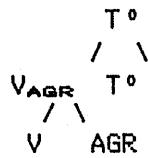
be seen as a bound X^0 , i.e. as an anaphor whereas the subject clitic must be a free X^0 . **

I propose that pronominal clitics and AGR be contextually distinguished as follows: A nominal X^0 in an adjoined position will be construed as AGR if it is locally bound by an antecedent in an A-position, (i.e. a Case position), and as a pronominal clitic otherwise. I discuss the implications of this proposal for the analysis of pro-drop in Hebrew present tense sentences in section () below. The application of this proposal to pro-drop in past and future tenses will be deferred to chapter 3. Before returning to the discussion of the suffix attached to eyn, I will briefly discuss the consequences for the analysis of AGR in non-negative present tense clauses.

I have argued that AGR is base-generated as the head of a syntactic projection distinct from TP. Therefore, it occupies a position which is distinct from that of TNS at D-structure. I suggested that an intermediate verb must merge with AGR to be well-formed, but that it only raises to the head of TP (at LF) when T^0 is occupied by a phonetically null element. Consequently, when the intermediate verb adjoins to TNS, AGR will also be adjoined to this head. The internal structure of the derived head of TP is depicted in (68):

46. Note that this proposal suggests a principled explanation for the extension to the projection principle (the stipulation that all clauses have a subject). This extension might then be derived as a consequence of binding theory applied to AGR. If a clause contains AGR, then AGR must be locally A-bound.

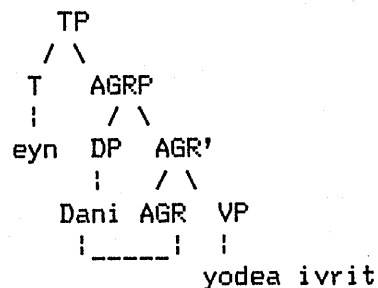
(68)



By the definition in (67), AGR is clitic on TNS in this structure. Assuming that TNS assigns Case to [SPEC,TP] then AGR will be A-bound by the subject in this position.

I have also argued that the intermediate verb does not move to T^o when this position is occupied by eyn. Therefore, according to (67), AGR associated with present tense is not a clitic on eyn at any level of representation. Recall, however, that the nominative Case-marked subject is realized in [SPEC,AGRP] in the context of suffix-less eyn. In this structure AGR is A-bound by a noun phrase in SPEC position of its own projection.

(69)



Let us now return to the discussion of the nominal suffix attached to eyn in examples such as () repeated here as (70):

(70)

- a. dani₁ eyn-o₁ yodea ivrit
Dani NEG-cl knows Hebrew
'Dani doesn't know Hebrew'
- b. dani₁ eyn-o₁ xaxam
Dani NEG-cl smart
'Dani isn't smart'
- c. dani₁ eyn-o₁ more tov
Dani NEG-cl teacher good
'Dani isn't a good teacher'

I noted at various points that this morpheme is specified for person as well as number and gender features, and in this respect it crucially contrasts with the head of AGRP in present tense clauses. I also argued that AGR was manifested on the intermediate verb in (70a). Since these two nominal elements are distinguished both in terms of their position and their content, I conclude that the suffix is not the D-structure head of AGRP. Moreover, by the definition in (68) it must be a clitic.

In my discussion of the differences between AGR and pronominal clitics I suggested that the crucial difference was whether the element was inherently specified for person, number and gender features or whether it inherited these features from an antecedent via co-indexation, i.e. whether the element was anaphoric or referential.

Let us assume that the grammar of Hebrew allows a nominal X⁰ to be freely base-generated as a clitic on eyn, ignoring for the moment the fact that this clitic doesn't license third person null subjects. I suggest that the subject is forced to move to [SPEC,TP] in the presence

of this clitic by the CHAIN condition (Chomsky, 1986). This condition is formalized in (71):

(71)

If $C = (\alpha_1, \dots, \alpha_n)$ is a maximal CHAIN, then α_n occupies its unique θ -position and α_1 its unique Case-marked position.

(Chomsky, 1986, p.137)

The CHAIN condition derives from the principle of full interpretation, insuring that every noun phrase is linked to a Case position and a θ position. Extending the notion of CHAIN to include all nominal categories, then AGR (and clitics) must also be included in a maximal CHAIN. Chomsky's (1986) definition of a maximal CHAIN is reproduced in (72):

(72)

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

(Chomsky, 1986, p.137)

If TNS assigns Case to the closest nominal element, it will assign Case to the clitic rather than AGRP or [SPEC, AGRP]. The clitic, being attached to the head of TP, is clearly not in an θ position. In order to be interpretable it must be co-indexed with a θ -marked position. If it were co-indexed with a θ -position which is also a Case position, the CHAIN would not be licit because it has two Cases. Therefore, it must be co-indexed with a Case-less θ -position, i.e. [SPEC, VP]. Since [SPEC, VP] is the D-structure position of the subject, this derives the result that the clitic will have the same phi features as the subject because co-indexed nominal elements cannot have conflicting features.

If the clitic does not transmit this Case then the overt subject will not be Case-marked and the sentence will be ungrammatical. Compare the examples in (73) with (70) above.

(73)

- a. *eyn- α_1 dani $_1$ yodea ivrit
 NEG-cl Dani knows Hebrew
 'Dani doesn't know Hebrew'

- b. *eyn- α_1 dani $_1$ xaxam
 NEG-cl dani smart
 'Dani isn't smart'

- c. *eyn- α_1 dani $_1$ more tov
 NEG-cl Dani teacher good
 'Dani isn't a good teacher'

Note that the sentences in (73) obey the CHAIN condition because the clitic on eyn is in a Case-position (α_1) and the subject (or its trace) is in a θ -position (α_n). The ill-formedness of these examples is due to a violation of principle C of the binding theory because the overt subject is bound by the co-indexed clitic. In (70), on the other hand, the subject in [SPEC,TP] is not bound by the clitic⁴⁷.

Finally, if the clitic absorbs nominative Case, [SPEC,TP] is neither a Case-position nor a θ -position. Therefore, it is not an A-position in this structure. Consequently, movement of the subject to this position will leave a variable which is A-bar bound by the clitic,

47. This account assumes that the original notion of c-command (Reinhart (1976) (formulated in terms of branching nodes) rather than m-command (formulated in terms of maximal projections) is relevant for binding theory. In addition it must be assumed either that the index of the clitic percolates to the head or that branching at the level of heads is not visible.

the closest co-indexed antecedent. Note that according to the definition in (72) the subject is not part of the maximal CHAIN containing the clitic and the variable in this derivation because the clitic is Case-marked.

Now consider the possibility that the clitic transmits Case. Since the head of a well-formed CHAIN must be in a Case-marked position, the clitic must transfer Case to a position which C-commands T°. The closest position which satisfies this condition is [SPEC,TP]. In this derivation [SPEC,TP] will be analysed as an A position because it is a Case-marked position. Since movement to an A-position leaves an NP-trace, i.e. an anaphor, the empty category in [SPEC,AGR] must be λ -bound. Although the trace of the subject is locally bound by the clitic, which is in an A-bar position, the clitic is itself an anaphoric element A-bound by the Case-marked subject.

I conclude this analysis of the clitic on eyn with an account of the fact that an expletive subject is only licit in the context of bare eyn but not in the context of eyn+cl, as shown in (74)⁴⁸:

48. Following Hazout (1986), Shlonsky (1987) argues that ze is a referential pronoun which can only appear in thematic subject positions, accounting for its inadmissability in sentences like the following:

(74)

- a. *eyn ze margiz oti Se dan lo ba*
NEG that bother me that Dan not came
**eyn [e] margiz oti Se dan lo ba*
'It doesn't bother me that Dan didn't come'
- b. **ze eyn-o margiz oti Se dan lo ba*

Adopting Chomsky's (1986) proposal that expletives are replaced by Arguments at LF, ze will be replaced by the clausal subject just in case it is in an A-position. In (74a) the expletive in [SPEC,AGRPF] is assigned nominative Case by eyn. Therefore, [SPEC,AGRPF] is an A-position in this example. However, (74b) will be ruled out in any derivation. The S-structure of this example is depicted in (75).

-
- (i) (*ze) *nimsera hoda'a*
it was communicated message
- (ii) (*ze) *nimsar Se dan higia*
it was communicated that Dan arrived
- (iii) (*ze) *carix la'avod*
it must to work
- (iv) (*ze) *duvax 'al ha-te'una*
it was reported on the-accident
- (v) (*ze) *kar*
it cold
'it's cold'

(Shlonsky (1987, pp. 73-74)

If this is the case then the unacceptability of ze in the context of the inflected negative particle may be attributed to the fact that ze 'this (m.sg.)' is a demonstrative which has no person feature, so the anaphoric third person feature in CL is unbound. Note that ze is also distinguished from personal pronouns in that it does not cliticize onto prepositions as shown by the pairs in (vi).

- (vi) *b-o ba-ze 'in it/this'*
ot-o et ze 'it/this (acc)
l-o le-ze 'to it/this'
'al-av 'al ze 'on it/this'

(75)

[_{TP} ze eyn-o_i [_{AGRP} [e]_i AGR_i [_{VP} margiz [_{NP}]_i]]]

Consider first the derivation of (74b) where the expletive is in [SPEC,TP] and the clitic absorbs Nominative Case. Regardless of whether the expletive is inserted in this position or moved from [SPEC,AGRP] the derivation will be ungrammatical because this position is not in a θ -chain. Consequently, the position of the expletive will not be appropriately interpretable at LF.

Now consider the derivation of this sentence in which the clitic transmits Case to [SPEC, TP]. On this account the expletive will be Case-marked and therefore in an A-position. If we assume that it is base-generated in this position, then [SPEC,AGRP] will be construed as an A-bar position, being neither Case-marked nor θ -marked. The derivation will be ruled out by the ECP if [SPEC,AGRP] is not co-indexed with the clitic. Alternatively if [SPEC,AGRP] is co-indexed with the expletive in [SPEC,TP] the derivation will be ruled out as a case of improper movement because replacement of the expletive by the empty category in [SPEC,AGRP] will be movement from an A-bar position to an A-position.

Summarizing the results of this discussion, I began by assuming that TNS assigns case to the closest nominal element. When there is a nominal clitic adjoined to this position, the clitic will be assigned Case. I appealed to the CHAIN condition to explain why the clitic has the same features as the subject. I argued that movement of the subject to [SPEC,TP] was required to circumvent a binding condition

violation. Finally, I argued that [SPEC,TP] should be analysed as an A-bar position if the clitic absorbs Case, but as an A position if it inherits Case from the clitic. If [SPEC,TP] is an A-bar position, the clitic is the head of the maximal CHAIN whose foot is [SPEC,VF].

2.5.2 Past Participle Agreement in Romance

In his analysis of past participle constructions in Romance, Kayne (1987) posits two AGR nodes in clauses where the past participle is overtly marked to agree with its object. He accounts for the fact that past participles may agree with an accusative clitic or wh-moved object but they may not agree with a post-verbal noun phrase by hypothesizing that AGR can only manifest features of a noun phrase in [SPEC,AGRP]. Examples are given in (76)⁴⁹.

(76)

- a. Paul a repeint les chaises
'Paul has repainted the chairs'
- b. *Paul a repeintes les chaises
- c. Paul les a repeintes
'Paul them-has repainted-AGR'
- d. les chaises que Paul a repeintes
'the chairs that Paul has repainted-AGR'

In these French sentences the first AGR is realized on the tensed auxiliary verb and manifests the phi features of the subject, and the

49. All the examples in this section are taken from Kayne (1987).

second is realized on the past participle and manifests the phi features of the object. The latter is base-generated as the head of AGRP immediately dominating the participial VP. This derives a structure which is highly reminiscent of the structure I posited for inflected negative particles in Hebrew. Moreover, Kayne provides a strikingly parallel account of the fact that past participle agreement is illicit in the context of an expletive subject. Examples are given in (77).

(77)at'

- a. les chaleurs qu'il a fait(*es)
'the heat that it has made(*AGR)
- b. Je me demande combien de chaises il sera repeint(*es) cette année
'I wonder how many chairs it/there will-be repainted(*AGR) this year'

For independent reasons, Kayne argues that [SPEC,AGRP] is not a Case position. Consequently he derives the illicitness of such examples from the fact that the expletive cannot form a CHAIN with the trace of the clitic or wh-phrase because the latter is in an A-bar position⁵⁰.

Thus, the unacceptability of an expletive subject both in French past participle constructions and Hebrew inflected negative particle constructions derives from the fact that expletive replacement cannot apply across AGRP if [SPEC,AGRP] is not assigned Case.

50. Since [SPEC,AGRP] is not a Case position, Kayne assumes that the wh-phrase or clitic must be adjoined to AGRP deriving the following structure:

- (i) ...Wh-phrase_i il V_{AUX} [AGRP e_i [AGRP AGR_i V_{PP} e_i]].

2.5.3 Conclusion

My analysis answers all but one of the questions that I posed at the beginning of this section: Is the clitic attached to eyn AGR? If so, why is it distinguished from all other instances of AGR in Hebrew? In particular, why is it the only AGR associated with a present tense sentence that is specified for person, and why is it the only AGR which is incompatible with an overt expletive?

Recall that I argued above that AGR must be A-bound, but a pronominal clitic must be free. Therefore, we can infer from the above discussion that the clitic is to be analysed as AGR if it transmits Case to [SPEC,TP] and as a pronominal clitic, otherwise. Now consider the possibility that AGR may optionally be inherently specified for phi features. In other words, I am suggesting that the distinction between a pronominal clitic and AGR be reduced to a distinction in the level at which the phi features are specified. Intuitively, the idea behind this proposal is that a nominal category with no semantic content other than person, number and gender features may be inherently specified for these features, or it may inherit these features from an antecedent. Personal pronouns, pronominal clitics and AGR in NS contexts are all inherently specified for phi features, but anaphors and AGR in non-NS contexts have their phi feature specification determined by their antecedents.

The exceptional properties of this clitic AGR are a consequence of the interaction of two aspects of this construction. First, this element is adjoined to the head of TP at D-structure. In chapter 3 I shall argue that AGR of past and future tense clauses is also base-generated in this position. I defer discussion of why only AGR which is base-generated as a clitic on TNS is specified for person until that chapter. Second, the complement of TNS in this construction is a nominal syntactic category, i.e. AGRP, NP or AP (cf. footnote () above). I argued that the verb does not raise to eyu at any level of representation because the negative particle is autonomous TNS. However, I also argued at various points in the discussion that a verb stem must adjoin to AGR in Hebrew to derive a well-formed verb word. Therefore, this construction is distinguished in having two AGRs - one adjoined to TNS and a second as the head of the complement of TNS. The illicitness of an overt expletive in this construction stems from the presence of AGRP intervening between TNS and the main predicate.

In the next section I shall show how this structure accounts for the distribution of null subjects in present tense clauses.

2.6 Null Subjects

In this section I develop an analysis which accounts for the distribution of NSs in Hebrew present tense clauses⁵¹. My objective is to articulate both necessary and sufficient conditions which explain the

51. This analysis will be extended to account for NSs in past and future tensed clauses in chapter three.

availability of NSs as a function of both tense and substantive reference.

I claim that AGR which licenses a referential NS in a tensed sentence must satisfy two conditions: First, it must be Case-marked. This condition serves to insure that AGR is the head of a CHAIN, specifically the CHAIN whose foot is the θ position in which the subject is base-generated. Second, it must have sufficient phi features to recover the content of the noun phrase it is co-indexed with. Following Borer (1986), I shall assume that noun phrases which have no phonetic content have to be I-identified. Borer defines I-identification as coindexation with an antecedent with a set of sufficiently rich inflectional features. Among the antecedents that can I-identify an empty category, Borer includes clitics, AGR and antecedents in an A or A-bar chain. I shall suggest that the relation between AGR and the NS it I-identifies is analogous to the relation between a clitic and the Argument (subject or object) that it identifies.

I shall depart from current standard assumptions in analysing referential NSs as properly governed empty categories which are A-bar bound by AGR. However, this analysis more closely resembles the approach taken by Chomsky in Lectures on Government and Binding where he argues that "in the pro-drop languages the element AGR is more closely connected with the verbal element with which it is morphologically manifested, and thus need not govern the subject position" (Chomsky (1981, p.256)). My analysis differs from that in Chomsky (1981) in that I assume that external arguments are base-generated in [SPEC,VP], a

position which is c-commanded by AGR and, therefore, potentially bound by it. I assume that expletive NSs need not be properly governed because they are replaced by thematic subjects at LF, the level at which the ECP applies.

I shall distinguish between two classes of AGR; pronominal AGR and nounal AGR. The former is inherently specified for the feature person and therefore I-identifies a pronominal subject, while the latter has number and gender features only, enabling it to I-identify a full noun phrase subject, but not a pronoun. This distinction will be necessary to account for the contrasting distributions of NSs with specific reference and arbitrary reference. NSs with specific reference are pronominal, and consequently they must be bound by AGR which is specified for the feature person as well as number and gender, but NSs with arbitrary reference are more like full noun phrases because they are never coreferential with any other noun phrases. Note that in Hebrew present tense AGR, which is specified for number and gender features only, cannot license a pronominal NS, (i.e. a NS with specific reference), although it may license a nounal NS (i.e. NS with arbitrary reference or an expletive NS).

Recall from the introduction to this chapter that expletive NSs, NSs with specific reference, and NSs with arbitrary reference all have different distributions. I shall discuss the availability of each class in the context of the three present tense TNS elements examined in this chapter, (i.e. eyn+CL, bare eyn and non-negative abstract TNS).

2.6.1 Null Subjects with specific reference

NSs with specific reference are possible in present tense clauses in the context of the inflected negative particle only, as exemplified by the contrast between (78a) and (78b,c)⁵²:

(78)

- a. (ani) eyn-eni oxel bananot
(I) NEG-1sg eat bananas
'I don't eat bananas'
- b. eyn *(ani) oxel bananot
NEG (I) eat bananas
'I don't eat bananas'
- c. *(ani) oxel bananot
(I) eat bananas
'I eat bananas'

In the last section I argued that the clitic on eyn was both a proper governor and AGR. In the course of the discussion, it was proposed that AGR be analysed as an anaphoric element when its phi features are determined by a c-commanding noun phrase in an A-position ([SPEC,TP]) and as a free pronominal otherwise. This suggests an approach to NSs which constitutes a significant departure from current

52. In the discussion of CL in the last section it was noted that this element does not license third person NSs with specific references. Compare (i) with (78a):

- (i) *(hu) eyn-o oxel bananot
(he) NEG-CL eats bananas
'he doesn't eat bananas'

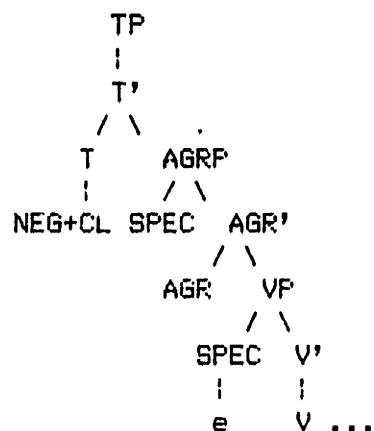
In order to account for this fact, I shall adopt Borer's claim that the third person feature is anaphoric in Hebrew. However, I shall postpone discussion of this proposal until chapter 3.

assumptions about the licensing conditions for NSs: I shall propose that (referential) NSs in tensed clauses are properly governed empty categories which are A-bar bound to Case-marked AGR. In other words, they are clitic-bound variables.

2.6.1.1 CL licenses referential NSs

Consider the structure of (78a) as depicted in (79). (I have labelled AGR attached to eyn CL to distinguish it from AGR which is realized on the intermediate verb. In the rest of this section I shall continue to refer to it as CL simply to avoid confusion with the head of AGRP.)

(79)



The subject is base-generated in [SPEC,VP]. This is a θ -position, but not a Case-position. CL cannot properly govern an empty category in this position because they are not close enough. More specifically, VP and/or AGRP are barriers to government of [SPEC,VP] by CL. However, the

subject may move to [SPEC,AGRP], a position which is accessible to government by CL. Note also that if both head government and antecedent government are necessary for proper government, CL which is a zero-level syntactic category satisfies both requirements.

Now, what about the trace of the NS in [SPEC,VP]? Is it also properly governed? We want to derive the result that it is antecedent governed by [SPEC,AGRP], but according to the structure in (79) AGR, the head of AGRP is a closer governor. Recall that AGR lowers to V in the derivation of the surface representation. If lowering occurs prior to S-structure, then AGR would not be in a position to block proper government at this level⁵³. If V+AGR raises to AGR⁰ at LF, [SPEC,VP] will be locally governed by a lexical head, i.e. V/AGR at this level.

Note that there is no [SPEC,TP] in the structure in (79). I assume that since this would be neither a Case position, nor a θ position, it need not be generated. This could follow from the principle of full interpretation, given that an expletive pro in this position could not be replaced by the subject at LF⁵⁴.

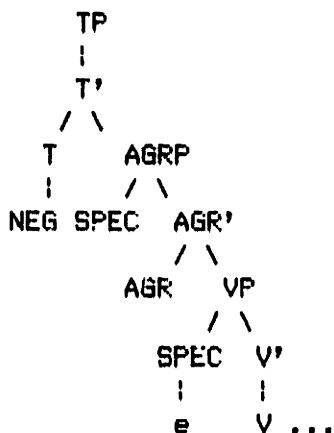
53. Cf. Shlonsky (1988) for a similar treatment of the absence of that-trace effects in Hebrew tensed clauses containing the complementizer Se 'that'.

54. If [SPEC,TP] is not obligatory, then the extension to the Projection Principle which requires that all clauses have a subject might be reanalysed as a requirement that non-pronominal AGR be coindexed with some noun phrase in an A position. (See Borer (1986) for an analysis which adopts this approach.) The requirement that AGR be coindexed with a noun phrase should also follow from the principle of full interpretation since AGR which is neither co-indexed with the subject or functioning as the subject is uninterpretable.

2.6.1.2 Eyn does not license a referential NS

Consider next the structure of (78b), depicted in (80).

(80)



This construction has no CL. If Case is assigned to [SPEC, AGRP], then an overt subject will be forced to raise to this position to get Case. The D-structure trace of the subject is properly governed in this structure, just as it was in (79). However, an empty category in [SPEC, AGRP] could not be properly governed by eyn because the negative particle is not itself a proper governor. Therefore, the impossibility of a NS in this structure is attributed to the fact that [SPEC, AGRP] is not properly governed.

Further evidence for this analysis may be adduced from the fact that the subject of a sentence negated by eyn may only undergo wh-movement if CL is present. Compare (81a,c) with (81b,d):

(81)

- a. mi eyn-o oxel bananot
who NEG-CL eats bananas
'who doesn't eat bananas'
- b. *mi eyn oxel bananot
- c. ha- iS Se eyn-o oxel bananot
the-man that NEG-CL eats bananas
'the man who doesn't eat bananas'
- d. *ha-iS Se eyn oxel bananot

The S-structures of these examples are represented schematically in

(82):

(82)

- a. [_{CP} WH_i [_{TP} t_i NEG-CL_i [_{AGRP} t_i AGR [_{VP} t_i V ...]
- b. * [_{CP} WH_i [_{TP} t_i NEG [_{AGRP} t_i AGR [_{VP} t_i V ...]

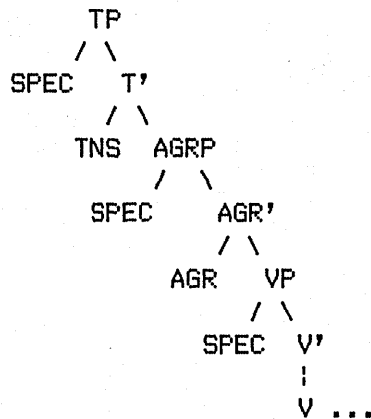
In (82a) the trace in [_{SPEC},_{AGRP}] is locally antecedent governed by CL, but in (82b) the uninflected negative particle is the closest governor to this trace, blocking antecedent government by the trace in [_{SPEC},_{TP}]²⁵. Since eyn is not a proper government, the sentence is ungrammatical²⁶.

55. Or if there is no base-generated SPEC position, by the trace adjoined to TP.
56. It may be the case that a negative particle which assigns accusative Case in possessive constructions is a proper governor. This is suggested by the fact that wh-movement is possible in the possessive construction, even though eyn is never inflected in this context. Compare (ii) with (81).
- (i) eyn li et ha-sefer 'I don't have the book'
NEG to-me ACC the-book
- (ii) ma eyn-(*o) li? 'what don't I have'
what NEG-(CL) to-me
- See Shlonsky (1987) for discussion.

2.6.1.3 Abstract TNS does not license a referential NS

The third case to be considered is non-negative present tense. The structure I attribute to these sentences is depicted in (83).

(83)



As in the case of the bare negative particle, there is no CL on abstract the TNS element which could properly govern [SPEC,AGRP]. Consequently, a NS in this position would not be properly governed in this context either. Note, however, that this structure is distinguished from that in (80) above by the assumption that an overt subject is realized in [SPEC,TP]. Although abstract TNS is not a proper governor, it does not block antecedent government by the subject in [SPEC,TP] of an empty category in [SPEC,AGRP]. However, the empty category in [SPEC,TP] would violate the ECP.

Until now we have not considered the possibility that AGR (i.e. the head of AGRP) could be assigned Case enabling it to antecedent govern a

NS in its D-structure position, [SPEC,VP]. I suggest that AGR, which is specified for number and gender features only is unable to I-identify a pronoun which must be specified for person features as well. In other words, even if AGR absorbs Case, it is not sufficiently rich in features to function as the antecedent for a personal pronoun⁵⁷. See Chapter 3 for a proposal to explain the contrast between present tense AGR (specified for number and gender only) and past/future tense AGR (specified for person as well as number and gender) in structural terms.). In the next section, I shall show that AGR is sufficiently rich in features to function as the local antecedent for an arbitrary pronoun.

2.6.2 Null Subjects with arbitrary reference

In this section, I shall account for the distribution of NSs which are interpreted as arbitrary in reference. It was noted in the introduction to this chapter that arbitrary interpretation never obtains with an overt pronoun and requires that AGR be marked for (third person) plural. As illustrated in (84), this class of NSs is possible in present tense clauses in the context of a bare negative particle or abstract TNS, but not in the context of the inflected negative particle:

57. This explanation is also adopted in previous accounts of the distribution of NSs in Hebrew (cf. Borner (1981, 1984), Doron (1983) and Shlonsky (1987)).

(84)

- a. *eyn-am oxl-im harbe falafel be-sin
NEG-3pl eat-pl much falafel in-China
- b. eyn oxl-im harbe falafel be-sin
NEG eat-pl much falafel in-China
'They(arb) don't eat much falafel in China'
- c. oxl-im harbe falafel be-sin
eat-pl much falafel in-China
'They(arb) eat alot of falafel in China'

NSs with arbitrary interpretation are available in all and only contexts where NSs with specific reference are unavailable. I interpret this as evidence that AGR, rather than CL licenses the empty category in the grammatical examples of (84). I shall suggest that in [SPEC,VP] is variable A-bar bound by AGR if this head is inherently specified for the feature [+pl] and is assigned Case by TNS. Because AGR is inherently specified for number (and gender) features, it is able to absorb Case, but it will not be assigned specific reference because it is never marked for the feature person.

Although I have no specific proposal to make regarding the mechanism involved in deriving an arbitrary interpretation, I shall assume that difference in interpretation between a NS with specific reference and a NS with arbitrary reference is due to the fact that specific reference picks out a particular individual (or set of individuals) while arbitrary reference does not. Consider the following examples:

(85)

- a. John asked his students if they ate falafel in China
- b. John thinks that one should not eat falafel in China
- c. The mechanic says that it will be expensive [e to fix my car]

If the pronoun they in (85a) is co-indexed with the students in the matrix clause, it is interpreted as a pronoun with specific reference. If it is not co-indexed with this argument, it may refer to either some other set of people who had been to in China, or it may refer to the people of China. In each case, the pronoun picks out a particular set of people. Now consider the impersonal pronoun one in (85b). This cannot be coreferential either with John, the subject of the matrix clause; nor can it refer to anyone in particular. It must be free in reference. Similarly, the empty category in (85c) may refer to my mechanic in which case it can be paraphrased as 'The mechanic says that it will be expensive for him to fix my car'. Alternatively, the subject of the infinitive may be free in reference, as suggested by the paraphrase 'The mechanic says that it will be expensive to have my car fixed (by anybody)'⁵⁸.

2.6.2.1 CL does not license NS with arbitrary reference

Let us begin by explaining why a NS with arbitrary reference is impossible in the context of the inflected negative particle. Recall that in this construction eyn assigns Case to CL. If CL absorbs Case it functions as a pronoun, binding the NS in [SPEC, AGRP], but as noted above I adopt Borer's claim that third person CL (i.e. AGR adjoined to -----

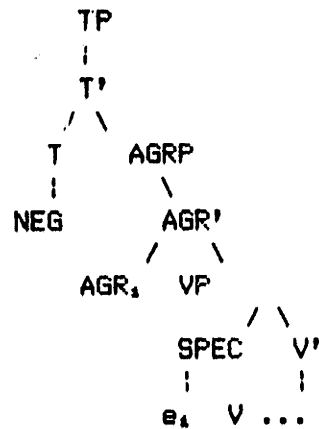
58. For specific proposals regarding the derivation of arbitrary interpretation see Manzini (1983) Epstein (1984), Borer (1985).

eyn at D-structure) is anaphoric in Hebrew. Therefore, it is unable to I-identify the NS. If CL transmits Case to [SPEC,TP], then CL must be A bound by a noun phrase in this position, but a NS in this position would violate the ECP because it would not be properly governed. Note also that if eyn assigns Case to AGRP or [SPEC,AGRP] in this construction, CL will not be interpretable because it will not be a link in a well-formed CHAIN. In short, the impossibility of a NS with arbitrary interpretation in the context of CL is attributed to the fact that CL which is specified for third person must be A bound or the head of referential Argument CHAIN.

2.6.2.2 Uninflected Negative Particles

NSs in the context of a bare negative particle must be licensed by AGR. In this context AGR, the head of AGRP must be functioning as the antecedent of the empty category in [SPEC,VP]. If AGR, which is inherently specified for number and gender features, absorbs nominative Case assigned by eyn it can serve as an A-bar binder for the empty category in [SPEC,VP]. At LF, the verb raises to AGR so that the subject is both head governed by a lexical head and antecedent governed by AGR. In short, the empty category in [SPEC,VP] is both I-identified and properly governed. The D-structure I attribute to (84b) is depicted in (86).

(86)



There is no [SPEC, AGRP] in this representation. Note that if it were generated, this position would not be properly governed. Therefore, I assume that SPEC is optional. It is generated if the position is required by an independent module of the grammar, such as Case or Binding.

2.6.2.3 Arbitrary NSs and abstract TNS

I shall extend the proposal developed in the last paragraph to account for the availability of NSs in the context of abstract TNS. Until now I have been assuming that abstract TNS assigns Case to [SPEC, TP]. If the availability of NSs in this context is contingent on AGR absorbing Case, I must account for the fact that abstract TNS assigns Case to [SPEC, TP] if the subject is an overt noun phrase, but to AGRP otherwise.

Consider the possibility that abstract TNS may assign nominative Case either to [SPEC,TP] or to AGRP. If the subject is an overt noun phrase and TNS assigns Case to AGRP, either [SPEC,AGRP] will not be Case-marked, so that the subject is not visible at LF, or pronominal AGR transfers Case to the subject in [SPEC,AGRP]. However, if AGRP is assigned Case, I assume that it must also have a referential index. If AGR transfers Case to [SPEC,AGRP] the subject and AGRP will have the same index, in other words the derivation will entail an i-within-i violation. In either case, the derived structure will not be well-formed. However, if TNS assigns Case to [SPEC,TP] an overt subject in this position will be licit because it is Case-marked in compliance with the visibility condition, and it will also be outside the c-command domain of AGR both at S-structure and at LF. In short, it is not necessary to stipulate that TNS assigns Case to the left, if we assume that AGR is non-pronominal, i.e. anaphoric, in the context of an overt subject.

Now, if Case is assigned to AGRP, AGR will be Case-marked so that it is a potential antecedent for a NS in [SPEC,VP]. At LF the verb raises (through AGR) to TNS. At this level of representation, AGR(+V) is adjoined to TNS. Either the trace of AGR can function as a local antecedent or the NS raises to adjoin to AGRP, in which case it is properly governed by V+AGR+TNS.

2.6.3 Expletive Null Subjects

In this section, I shall account for the distribution of expletive NSs. It was noted in the introduction to this chapter that expletive NSs are impossible in the present tense in the context of the negative particle, but that otherwise they are acceptable as shown by the contrast between (87a,b) and (87c).

(87)

- a. *eyn-o margiz oti Se ...
NEG-CL bothers me that
- b. *eyn margiz oti Se ...
- c. margiz oti Se ...
'it bothers me that ...'

Recall that expletive NSs cannot be base-generated in [SPEC,VP] because this is a θ position. Therefore, they must be inserted either in [SPEC,TP] or [SPEC,AGRP]. Remember also that we are adopting Chomsky's (1986) proposal that expletives are replaced by Arguments at LF. Therefore, CL and/or AGR cannot absorb nominative Case, if the expletive is to be visible at this level of representation. If the ECP applies at LF, it is necessary to insure that an expletive NS occupies a Case position at this level of representation, and that the D-structure position of the Argument (and any intermediate trace) is properly governed. The null expletive itself need not be properly governed.

2.6.3.1 CL does not license expletive NSs

Recall from the discussion in section 5 that if the clitic does not absorb nominative Case, then it can only transfer Case to [SPEC,TP]. If an expletive NS is base-generated in this position then AGRP will be a barrier to movement of the subject from [SPEC,VP], as in the case of overt expletives because it is neither Case-marked nor θ -marked by eyn+CL.

Now consider the derivation of this sentence in which the clitic transmits Case to [SPEC, TP]. On this account the expletive will be Case-marked and therefore in an A position. If we assume that it is base-generated in this position, then [SPEC,AGRP] will be construed as an A-bar position, being neither Case-marked nor θ -marked. The derivation will be ruled out by the ECP if [SPEC,AGRP] is not co-indexed with the clitic. Alternatively if [SPEC,AGRP] is co-indexed with the expletive in [SPEC,TP] the derivation will be ruled out as a case of improper movement because replacement of the expletive by the NS will require adjunction to AGRP, i.e. movement through an A-bar position to an A position. This account is essentially the same as that proposed above to explain the impossibility of an overt expletive in the context of CL.

2.6.3.2 Eyn does not license expletive NSs

The contrast between (87b) and (87c) suggests that AGR must raise to the position of the head of TP in order to license an expletive NS.

Compare the schematic LF representations of the two sentences depicted in (88a) and (88b) respectively:

(88)

- a. * $[_{TP} \text{ NEG } [_{AGRP} \text{ Subj}_i \text{ V+AGR}_i [_{VP} \text{ t}_i \text{ t}_V \dots]]]$
- b. $[_{TP} \text{ Subj}_i \text{ V+AGR+TNS } [_{AGRP} \text{ V+AGR}_i [_{VP} \text{ t}_i \text{ t}_V \dots]]]$

The ill-formedness of (88a) may be attributed to a conflict between two requirements on the construction: I have suggested that AGRP has no SPEC in the context of a NS (because AGR absorbs Case like a pronominal clitic) and yet the expletive NS must be in a Case-marked A position if it is to be replaced by an Argument at LF. When the head of TP is occupied by the negative particle, the complex category V+AGR cannot adjoin to this position and must, therefore, appear in the head of AGRP. If AGR absorbs Case then [SPEC,AGRP] is not generated as an A position.

In the last section, I argued that arbitrary *pro* is licensed because AGR absorbs Case enabling it to A-bar bind an empty category in [SPEC,VP]. However, if the subject replaces the expletive at LF in expletive contexts, AGR cannot absorb Case in this instance. Rather, [SPEC,AGRP], which is assigned Case by *eyn*, must provide necessary phi features to license non-pronominal AGR. This conflict cannot be resolved because on the one hand, the empty category has no features, so AGR cannot be licensed at S-structure and on the other hand, if AGR absorbs Case, then [SPEC,AGRP] cannot be an A position. In other words,

an expletive NS in this position will not be licit if AGR is a pronominal⁵⁹.

2.6.3.3 Expletive NSs and Abstract TNS

The discussion in the last paragraph suggests that the crucial difference between abstract TNS and the bare negative particle eyn is that abstract TNS may assign Case to [SPEC,TP], so that an expletive NS may be base-generated in this position. If the ECP applies at LF, we need only insure that all empty categories are properly governed at this level. Thus, although the empty category in [SPEC,TP] is not properly governed at S-structure, it will be replaced by the thematic subject in the semantic component. Note that the subject can move directly from [SPEC,VP] to [SPEC,TP] if AGRP is L-marked by the raised verb at this level. At LF the expletive NS is replaced by the thematic subject whose trace is properly governed as in the case of an overt subject. Since AGR lowers to V in the derivation of the S-structure representation, it may obtain its phi features from a VP internal noun phrase.

59. Note that transmission of Case from AGR to [SPEC,AGRP] in a NS construction will require co-indexation of AGR and [SPEC,AGRP]. If AGR is construed as a pronominal in this context, such co-indexation violate the i-within-i constraint (cf. Chomsky (1981, 1986)). If Case is assigned directly to [SPEC,AGRP], AGR is not a referential element. Consequently AGRP and [SPEC,AGRP] need not be co-indexed if the subject is overt, thereby obviating a potential i-within-i violation.

Alternatively, if AGR is adjoined to V prior to D-structure, it may have default phi features (i.e. [-plural, -feminine]) or its phi features may be determined by a VP internal argument prior to application of head movement and expletive replacement. This option may be required to account for examples such as (89) where the verb assigns no external theta role and an internal argument appears in its D-structure position in the surface representation⁶⁰.

(89)

- a. nigmar li ha-kesef
finished to-me the-money
'My money is all gone'
- b. meforatim harbe dvarim ba- karox ha- ze
specified many things in-the-leaflet the-this
'Many things are specified in the leaflet'
- c. xaSuv ligmor be-zman
important to-finish on-time
'It is important to finish on time'

2.6.4 Summary

- Argument NSs are in properly governed positions
- require that AGR be inherently specified for phi features as an option
- referential NSs are I-identified (antecedent governed) by AGR which is inherently specified for person, number and gender
- arbitrary NSs are (antecedent governed) by AGR which is inherently specified for number and gender features

60. (89b) is due to Borer (1986, p.385).

-in both cases the NS is A-bar bound by AGR and properly governed (at LF)

-expletive NSs are in Case positions, but not necessarily positions which are properly governed

-AGR must be inherently specified for phi features, but does not absorb nominative Case

-need only insure that the trace of subject is properly governed at LF after expletive replacement

2.7 APPENDIX: Autonomous AGR

In this appendix I shall discuss nominal sentences containing an optional nominative Case-marked third person pronoun in a position intermediate between the subject and predicate⁶¹. As illustrated in (90), this pronominal element has the same number and gender features as the subject.

(90)

- a. dani HU xaxam
Dani HE smart
'Dani is smart'
- b. sara HI mora
Sara SHE teacher
'Sara is a teacher'
- c. dani ve sara HEM 'al ha- gag
Dani and Sara THEY 'on the-roof
'Dani and Sara are on the roof'

Doron and Rapoport adduce convincing arguments to show that this element (which I call autonomous AGR) is neither the present tense form of the copular verb haya 'be' nor a resumptive pronoun. Since it is

61. I shall confine my remarks to predication structures. However, this element also appears in equitive nominal clauses containing two referring expressions, as illustrated in (i).

(i) dani HU ha- more Seli 'Dani is my teacher'
Dani HE the-teacher of-me

(ii) sara HI roS ha- 'ir 'Sara is the mayor'
Sara SHE head the-city

One difference between the two constructions is that the pronominal is obligatory in equitives, but as noted in the text, it is optional in predicatives. See Doron (1983), Rapoport (1987) for relevant discussion and analysis.

neither a predicate nor a subject, they conclude that it must be INFL. More specifically, they assume that it is the overt realization of INFL that dominates AGR but not TNS. The purpose of this appendix is to show that autonomous AGR is most felicitously analysed as AGR, adjoined to abstract TNS. I shall begin by reviewing arguments that have been adduced to show that the pronominal elements in (90) are AGR. I shall then discuss additional evidence which suggests that autonomous AGR is an autonomous functional category which contains TNS as well as AGR.

2.7.1 Autonomous AGR

First, as noted in section 4, autonomous AGR never co-occurs with a verbal predicate. In this respect it contrasts with the auxiliary haya 'be' as shown by the contrast between (91b) and (91c)⁶²:

(91)

- a. dani haya lomed ivrit
Dani was studying Hebrew
'Dani used to study Hebrew'
- b. dani lomed ivrit
'Dani studies/is studying Hebrew'
- c. *dani HU lomed ivrit

Following Doron, I attribute the impossibility of a verbal predicate in the context of autonomous AGR to the fact that Hebrew verbs must merge

62. Most of the examples in this appendix are due to Doron (1983, Chapter 3).

with AGR to be well-formed, but an intermediate verb cannot be merged with AGR which is realized as a pronoun. Note that this fact would be unexplained in an analysis of autonomous AGR as a resumptive pronoun. This analysis also conforms to the generalization against adjunction to autonomous functional categories discussed earlier.

In section 4 it was also argued that TNS and AGR lower to the verb in the derivation of the surface representation based on the fact that the verb always follows sentential adverbs such as be-emet 'really' and the negative marker lo 'not' in simple declarative sentences. Autonomous AGR, on the other hand, precedes both these elements, as shown in (92) and (93)⁶³:

(92)

- a. dani HU lo more
 Dani HE not teacher
 'Dani isn't a teacher'
- b. *dani lo HU more
- c. dani lo haya more
 Dani not was teacher
 'Dani wasn't a teacher'
- d. *dani haya lo more

(93)

- a. dani HU be-emet ha- baxur Se raiti
 Dani HE really the-fellow that saw-1sg.
 'Dani is really the fellow I saw'
- b. *dani be-emet (HU) ha-baxur Se raiti

63. These facts are noted in Doron (1983). Berman and Grosu (1976) adduce an analogous argument based on the order of the verb relative to sentential adverbs.

- c. ?dani haya be-emet ha- baxur Se raiti
 Dani was really the-fellow that saw-1sg.
 'Dani was really the fellow that I saw'
- d. dani be-emet haya ha baxur Se raiti

These contrasts are precisely what we would expect if autonomous AGR is TNS and/or AGR rather than a constituent of the predicate.

In the next subsection I shall present my arguments for analysing autonomous AGR as a complex head derived by adjunction of AGR to TNS.

2.7.2 Autonomous AGR is adjoined to TNS

In section 4 I defined a clitic as a zero-level syntactic category that was adjoined to another zero-level syntactic category at any level of representation. If autonomous AGR consisted solely of AGR it should have the properties of an independent word, but Doron shows that in fact it behaves like a clitic⁶⁴. First of all, autonomous AGR cannot bear contrastive stress, although as shown in (94) both the auxiliary haya and the negative particle may do so. The examples in (95) show that homophonous personal pronouns may also be contrastively stressed.

(Stressed elements are underlined in these examples.)

64. Doron also analyses autonomous AGR as a clitic, but she does not specify what it is cliticized to. As noted in earlier discussion, she analyses INFL (TNS and/or AGR) as the head of S, but assumes that TNS is not present in these constructions.

(94)

- a. *dani HU more tov
 Dani HE teacher good
- b. dani eyn-o more tov
 Dani NEG-CL teacher good
 'Dani is not a good teacher'
- c. dani haya more tov
 Dani was teacher good
 'Dani was a good teacher'

(95)

- a. hu xaxam me'od
 he smart very
 'he is very smart'
- b. hi mora tova
 she teacher good
 'she is a good teacher'

This contrast is expected if autonomous AGR is a clitic attached to TNS, but not if it is an autonomous head.

In section () it was demonstrated that tensed complement clause containing an intermediate verb has a temporal interpretation which is present by default, being neither past nor future. In this respect such clauses contrast with tenseless complements which contain the same verb form but whose temporal interpretation is determined by the superordinate clause. The relevant examples are reproduced as (96) below:

(96)

- a. dan xaSav Se sara lomedet ivrit
 'Dan thought that Sara studies Hebrew'
 *'Dan said that Sara studied Hebrew'

- b. dan yaxSov Se sara lomedet ivrit
 'Dan will think that Sara studies Hebrew'
 *'Dan will think that Sara will study Hebrew'
- c. Samanu oto menagen etmol ba- koncert
 heard-1pl. him play(int.) yesterday at-the-concert
 'we heard him playing at the concert yesterday'
- d. niSma oto menagen maxar ba- koncert
 will hear-1pl. him play(int.) tomorrow at-the-concert
 'we will hear him playing at the concert tomorrow'

Strikingly, a similar contrast obtains with nominal clauses with and without autonomous AGR. Compare (97a) and (97b):

(97)

- a. Samati lifney Sana Se sara be-herayon
 heard-1pl before year that Sara pregnant
 'A year ago I heard that Sara was pregnant'
- b. #Samati lifney Sana Se sara HI be-herayon
 'A year ago I heard that Sara is pregnant'

(97a) is well-formed if Sara was pregnant a year ago but has since had her baby. In contrast (97b) is syntactically well-formed but it is semantically odd given that the gestation period for women is only nine months. Therefore, if Sara is now pregnant, she could not have been expecting the same baby a year ago. I interpret this contrast as evidence that autonomous AGR is a tensed category.

Also, as noted in the introduction to this appendix, autonomous AGR can be realized as a (third person) pronoun, but not as a first and second person pronoun. If third person pronominals in Hebrew are not

inherently specified for the feature person then autonomous AGR, like AGR of present tense sentences, is marked for number and gender only⁶⁵.

Doron also observes that autonomous AGR cannot appear in the context of a personal pronoun. The ungrammaticality of both (98b) and (98c) shows that this cannot be attributed to feature mismatch between the subject and agreement.

(98)

- a. dani HU more
Dani HE teacher
'Dani is a teacher'
- b. *hu HU more
he HE teacher
- c. *ata HU more
you HE teacher

I argued above that TNS assigns nominative Case to the closest nominal element. If AGR raises to TNS (or similarly if TNS lowers to AGR), then AGR will be Case-marked by TNS. If AGR can transmit abstract Case but not morphological Case then the incompatibility of autonomous

65. Note that the demonstrative article is formed by combining the definite article and a third person pronoun, as shown in (i).

- (i) a. ha- yeled ha- hu 'that boy'
the-boy the-he
- b. ha- yalda ha- hi 'that girl'
the-girl the-she

The use of both the definite article and the third person pronoun to form a demonstrative seems to be a counter-example to the claim that both pronouns and definite articles are to be analysed as DET (refs??). However, the formation of the demonstrative is consistent with the view that third person pronouns are unspecified for the feature person in Hebrew. More specifically that they are in fact pro-N and not pro-D. I shall argue in chapter () that these pro-Ns become definite by raising to a base-generated empty D position.

AGR and personal pronouns may be attributed to the fact that personal pronouns, unlike full noun phrases must also be morphologically marked for Case to be well-formed. This may be attributed to constraint against two morphologically Case-marked elements in a single CHAIN. Kayne (1983) formulates such a constraint to account for restrictions on complex inversion in French.

(99)

Given a chain C with Case K, K can be realized morphologically on at most one element of C.
(Kayne (1983, p.159))

Kayne attributes the contrast between (100a) and (100b) to the assumption that il and ce must bear morphological Case to be well-formed, but cela need not do so. Therefore, it is possible to create a chain containing il and cela, but not il and ce:

(100)

- a. Cela est-il faux
That is- it false
'Is that false'
- b. *C'est-il faux?

The contrast in (101) may be interpreted as further evidence that the co-occurrence restriction on autonomous AGR and pronouns is a morphological one:

(101)

- a. mi (*HU) more
who HI teacher
'who is a teacher'
- b. [eyzo yedida Selxa] HI mora
which friend(f.) of-you(m.sg.) SHE teacher
'which friend of yours is a teacher?'

These examples show that autonomous AGR may not appear with an interrogative pronoun, but that it is acceptable in construction with a non-pronominal wh-phrase. This difference can be straightforwardly accounted for if mi 'who' must also be morphologically marked for Case.

It should be pointed out, however, that there are two contexts in which autonomous AGR does co-occur with an interrogative pronoun; "long" wh-movement and relative clauses. Moreover, as shown in (102), autonomous AGR is obligatory in these cases.

(102)

- a. mi ata ma'amin Se *(HU) more
who you believe that HE teacher
'who do you believe is a teacher'
- b. ha- iS Se *(HU) more
the-man that HE teacher
'the man who is a teacher'
- c. ha- iS Se ata ma'amin Se *(HU) more
the-man that you believe that (HE) teacher
'the man who you believe is a teacher'

Doron argues that autonomous AGR is necessary to allow Se 'that' to absorb the index of the intermediate trace in COMP enabling the complementizer to properly govern the empty subject position. In other words she suggests that Se can properly govern the trace of the subject, but only if AGR is present. Rapoport also argues that AGR is necessary to circumvent an ECP violation, but she argues that INFL, not the subject may be properly governed by the complementizer. (Following Shlonsky (1986, 1988) Rapoport assumes that the complementizer cliticizes onto iP, enabling the operator (or its trace) to properly govern the subject position. I shall also assume this analysis.).

I would like to suggest yet another explanation which attributes the obligatoriness of autonomous AGR to the ECP. Like Rapoport, I assume that AGR is necessary to make the head of S visible at LF. However, I depart from her analysis by assuming that the realization of autonomous AGR in the position of TNS is due to syntactic movement rather than insertion at D-structure. TNS is an empty category which may be visible at LF either by virtue of being properly governed, or by acquiring phonetic content. Adjunction of AGR to TNS instantiates the latter strategy.

This account suggests that the impossibility of autonomous AGR in cases of "short" wh-movement of interrogative pronouns may be due to the fact that mi in sentences such as (101) is in a Case-marked position at S-structure. In other words mi is in [SPEC,TP] and not [SPEC,CP]. In the examples in (102), on the other hand, autonomous AGR absorbs Case so that the D-structure trace of the wh-phrase is locally A-bar bound to the clitic. Movement through [SPEC,TP] to [SPEC,CP] constitutes A-bar movement, i.e. [SPEC,TP] is not a Case position if AGR absorbs nominative Case assigned by TNS.

Finally, this analysis also permits an account of the fact that sentences containing autonomous AGR are the only non-past/future construction in Hebrew that cannot be negated by eyn.

(103)

- a. *dani eyn-o-HU xaxam
 Dani NEG-CL-HE smart
- b. *eyn-HU dani xaxam
 NEG-HE Dani smart

If autonomous AGR is in fact the realization of AGR as an clitic on TNS, then the ungrammaticality of the examples in (103) may be attributed to the constraint against adjunction to an autonomous functional head.

Remember from the discussion in sections 4 and 5 that TNS may be filled at D-structure by the bare negative particle or by a complex head made up of the negative particle and AGR(CL). In other words, the incompatibility of eyn and autonomous AGR is due to the fact that it is impossible to adjoin to an autonomous functional head⁶⁶.

(104)

- a. *eyn dani HU xaxam
NEG Dani HE smart
- b. *eyn dani HU more
NEG Dani HE teacher

Note that if autonomous AGR were simply a spell-out of AGR, my analysis would predict that it could co-occur with the bare negative particle.

However, as shown in (104) this prediction is not borne out⁶⁷:

-
- 66. This approach is compatible with the account proposed by Doron. She suggests that the incompatibility of inflected eyn and autonomous AGR is due to fact that clitic on eyn absorbs nominative Case. Note that the clitic and autonomous AGR cannot both appear in a given sentence if they must both be morphologically marked for nominative Case.
 - 67. Doron attributes the ungrammaticality of examples such as (104) to her assumption that autonomous AGR only co-occurs with fronted subject, whereas the subject must follow the bare negative particle in INFL. (Recall that Doron assumes that Hebrew sentences have a flat structure and that the unmarked constituent order is INFL-Subj-Pred.)

2.7.3 Conclusion

In short, I have analysed autonomous AGR as a clitic derived by raising AGR, the head of AGRP in present tense sentences, to abstract TNS. This approach accounts for the clitic properties of AGR in this construction, as well as the co-occurrence restrictions between autonomous AGR and intermediate verbs and the negative particle. The assumption that autonomous AGR is a clitic on TNS also explains why this construction has the same autonomous temporal interpretation as other present tense clauses.

Chapter 3

The Structure of Noun Phrases

3.1 Introduction

In this chapter I turn my attention to noun phrases, focusing on the structure of noun phrases containing a subject which is construed either as a possessor or as an argument of the lexical head. As a point of departure I adopt the hypothesis that noun phrases are maximal projections of a functional category. (Throughout this chapter, I shall use the term noun phrase to refer to the maximal projection of a non-clausal argument. In referring to maximal projections of a specific category I shall use abbreviations such as DP and NP.)

The claim that noun phrases are headed by a category other than N is originally due to Brame (1981, 1982). Since the publication of that work there have been a number of independent proposals based on data from a variety of languages suggesting that noun phrases, or at least some classes of noun phrases, contain one or more functional heads which are analogous to COMP, INFL or AGR. For example, Reuland (1983) argues that English gerunds have an INFL node. Kornfilt (1984) proposes that AGR is the head of possessed noun phrases in Turkish. Abney (1986, 1987) argues that all English noun phrases are maximal projections of an

INFL-like functional head D. Szabolcsi (1983-84, 1987) analyses the definite article as a COMP-like head of Hungarian noun phrases, positing nominal AGR as the noun phrase analog of INFL in this language. Horrocks and Stavrou (1986) argue that both English and Greek noun phrases are more perspicuously analysed as DPs. Horrocks and Stavrou claim that D has the syntactic properties of COMP in Greek and INFL in English, although in both cases D selects a NP complement.

In earlier work (Ritter, 1986) I argued that Hebrew D was analogous to INFL.⁴ In this work I shall show that D, the head of the DP, is the noun phrase counterpart of TNS, i.e. a functional category which may be filled by a Case-assigning element. Moreover, I shall provide evidence that the complement of D is not NP, but rather a second non-lexical projection. I shall suggest that the head of this projection bears the number (and possibly gender) of the noun phrase. This approach retains the structural parallelism between noun phrases and sentences originally captured in analyses which posited a functional category analogous to INFL.

3.2 Three Genitive Constructions in Hebrew

Hebrew has three different genitive constructions, as illustrated in the examples in (1). As the examples in (2) illustrate, each such

1. In that work I suggested that in construct state noun phrases, D contained the feature [_±definite] and POSS, where the former parallels [_±tense] and the latter is a case-assigner. However, I shall show below that the functional head of a DP cannot be specified for definiteness if it also assigns genitive case.

construction can appear with a pronominal possessor in place of a full noun phrase possessor.

(1)

- a. ha- misrad Sel ha- mora
the-office of the-teacher
- b. misrad ha- mora
office the-teacher
- c. misrad-a Sel ha- mora
office-her of the-teacher

'the teacher's office'

(2)

- a. ha- misrad Sel-i
the-office of -my
- b. misrad-i
office-my

'my office'
- c. misrad-i Sel-i
office-my of my
'MY office'

(1a) and (2a) illustrate the free genitive construction in which the possessor is introduced by the particle Sel, which is comparable to of in English or de in French. With the exception of nominative Case-marked pronouns, all personal pronouns are realized as clitics in Hebrew. Consequently, a pronominal possessor in the free genitive construction is always realized as a clitic on Sel.

The examples in (1b,c) and (2b,c) are both considered construct state constructions (henceforth CSs). These examples contrast with the free genitive construction in that the definite article ha never appears

in initial position of the matrix DP. Moreover, in some cases the shape of the noun differs in the free genitive construction and in the CS. For example, the free form of the noun meaning "house" is bayit, but in the CS it is always realized as beyt. (1b) and (2b) illustrate the simple CS. The most salient characteristic of this construction is that the head noun is immediately followed by the possessor. (1c) and (2c) illustrate the doubled CS construction which has some properties of both the free construction and the simple CS. As in the simple CS, a pronominal clitic manifesting phi features of the genitive phrase is attached to the head noun, and as in the free genitive construction, the genitive phrase is immediately preceded by the particle Sei 'of'. As indicated by the glosses there is no semantic distinction between the three constructions if the possessor is a full noun phrase, although repetition of a pronominal possessor in the doubled construction receives a contrastive interpretation, as shown in the gloss of (2c).

Berman (1978, p.234) claims that "irrespective of whether the adjunct is a full noun or a pronominal, everyday colloquial Hebrew usage will today prefer one of the two forms that use the genitive particle Sei, and the bound form with no particle will be confined to more formal, literary style, with certain quite limited exceptions, where the bound form is required." The exceptions Berman refers to are CSs in which the semantic head is either an adjective or a non-finite verb form². Adjectival CSs are illustrated in (3) and two classes of verbal

 2. Berman also notes that some lexical compounds, such as beyt sefer, 'school' (literally house-book) or beyt xolim 'hospital' (literally

CSs are illustrated in (4) and (5):

(3) Adjectival CSs

- a. naara [arukat raglayim]
girl [long legs]
'a long-legged girl'
- b. baxurim [adumey panim]
fellows [red face]
'red-faced fellows'

(4) Gerundive CSs

- a. Suv ha- sfinot Suv -an Sel ha- sfinot
returning the-ships returning-their of the ships
'the ships' returning'
- b. hikaneS ha- yeled hikans -o Sel ha- yeled
entering the-boy entering-his of the-boy
'the entering of the boy'

(5) Participial CSs

- a. msader baayot
settle problems
'a problem settler'
- b. noaley ha- sandalim
wear the-sandals
'the sandal wearers'

She calls these 'quasi-nominal' CSs because the lexical head of the noun phrase is not of the category N, but rather a verb (either the intermediate verb form discussed in chapter 2, or what she calls a gerund, which has the same form as the infinitival verb stem) or an adjective. I shall discuss the verbal CSs in the appendix to this chapter.

house-sick(pl)), have the form of a simple CS construction. Discussion of these forms is beyond the scope of this thesis, but see Borer (to appear) for a detailed investigation of similarities and differences between compounds and syntactically derived CSs.

The rest of this chapter deals with each of the three genitive constructions in turn, focussing on the role of the functional categories in each structure.

3.3 The structure of non-construct noun phrases

The first class of genitive construction I shall discuss is the free genitive construction. I shall begin by investigating the structure of possessed (non-argument taking) noun phrases, which are distinguished from unpossessed noun phrases only in the presence of the phrase final possessor. I shall also use this opportunity to explicate some basic facts of Hebrew noun phrases that will be relevant in subsequent discussion.

The examples in (6) show that the surface constituent order of free genitive constructions is Det N AP* Possessor:

(6)

- a. ha- kova ha- yafe Sel ha- yalda
the hat(m.sg.) the-pretty(m.sg.) of the-girl
'the girl's pretty hat'
- b. ha- simla ha- yafa Sel ha- yalda
the-dress(f.sg.) the-pretty(f.sg.) of the-girl
'the girl's pretty dress'

The definite determiner ha is realized as a proclitic on the noun it specifies. (There is no indefinite article in Hebrew.)². Note also that

3. Sometimes a reduced form of the numeral one (exad/axat) is used as in ha-me'il sel yeled xad/yalda xat, 'the coat of some boy/girl'. However, unlike the definite determiner, xad/xat appears postnominally and is inflected for gender (either masculine or feminine.) In short, it has the syntactic properties of an

adjectives appear post-nominally in Hebrew and that they are overtly marked to agree in definiteness as well as number and gender with the noun (phrase) they modify. I shall adopt the standard assumption that adjective phrases are generated inside NP, leaving aside the question of how the AP acquires the features of the noun (phrase) it modifies.

3.3.1 On the structural realization of (in)definiteness

The examples of the free genitive construction adduced thus far all illustrate definite noun phrases containing a definite possessor; either a full noun phrase genitive containing the definite article or a pronominal clitic attached to Sel. However, there are no restrictions on the definiteness of either the matrix noun phrase or the genitive noun phrase. The examples in (7) show that the definiteness of the matrix noun phrase is independent of the definiteness of the genitive phrase in this construction. Note, in particular, that the adjectives modifying the head noun are overtly marked as definite in (7a,c) and that the adjectives modifying the possessor are overtly marked as definite in (7a,b).

adjective, not a determiner, (but cf. Givón (1981) for arguments that this usage is the first step in the development of an indefinite article in the language).

(7)

- a. ha- kova ha- yafe Sel ha- yalda ha- ktana
the-hat the-pretty of the-girl the-little
'the little girl's pretty hat'
- b. kova yafe Sel ha- yalda ha- ktana
hat pretty of the-girl the-little
'a pretty hat of the little girl's'
- c. ha- kova ha-yafe Sel yalda ktana
the-hat the-pretty of girl little
'the pretty hat of a little girl'
- d. kova yafe Sel yalda ktana
hat pretty of girl little
'a pretty hat of a little girl'

Note that English does not have indefinite possessed noun phrases such as (7c,d), but in English the possessor is assumed to be realized in [SPEC,NP]⁴. In English, but not in Hebrew, the definite determiner and possessor are in complementary distribution. I shall show that the possessor is not in [SPEC,DP] in Hebrew.

3.3.1.1 Indefinite noun phrases are not DPs

As stated in the introduction to this chapter, I am assuming that noun phrases are DPs. In other words, they are maximal projections of a functional element. In the case of a definite noun phrase, ha is analysed as D, the functional head of the DP. Adopting the assumption of Borer (1984) and Hazout (1988) that Sel can be inserted inside any

4. See Woisetschlaeger (1984) for arguments that possessed noun phrases such as an old man's dirty hat are always definite in English.

One might infer from the grammaticality of (9a) that either that an empty category in this context need not be properly governed or that there is no empty head in noun phrases such as yeled katan 'little boy'.

However, there is no reason to assume that an empty functional head would not have to be properly governed. On the contrary, it has been argued that the ECP applies to both maximal projections and heads. For example, Stowell (1981) appeals to the ECP to account for the availability of empty complementizers in sentential objects, but not sentential subjects in English, as illustrated by the following examples:

(10)

- a. John knew [_{CP} that [Bill had lost the money]]
- b. John knew [_{CP} [e] [Bill had lost the money]]
- c. [_{CP} that [Bill had lost the money]] surprised everyone.
- d. *_{CP} [e] [Bill had lost the money]] surprised everyone.

The grammaticality of (10b) follows from the assumption that the verb properly governs the empty category in the head of its complement. Similarly, the impossibility of an empty category in the head of CP in (10d) is attributed to the fact that the subject position is not properly governed.

The assumption that English indefinite noun phrases are not DPs provides a structural distinction between definite and indefinite noun phrases which may account for differences in extractability of the complement of a noun in the two contexts:

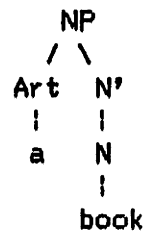
(11)

- a. *[which boys]_i did John want the picture of t_i
- b. *[which boys]_i did John want Bill's picture of t_i
- c. [which boys]_i did John want a picture of t_i
- d. [which boys]_i did John want several pictures of t_i

If (11a,b) are DPs, but (11c,d) are NPs, then the contrast in grammaticality may be attributed to the fact that DP is a barrier by inheritance for extraction of the complement of NP.

There are two possibilities for analysing the indefinite article in English. On the first analysis the indefinite article is taken to be a modifier of N. In this case the structure of an indefinite noun phrase would be:

(12)

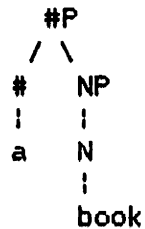


I shall assume that this option is available for cases where the indefinite article is interpreted as the numeral one as in "I want two coffees and a cheese sandwich". (See also footnote (3) for arguments that the numeral one has the properties of a modifier in Hebrew.)

On the second analysis, the indefinite article is taken to be the head of a maximal projection which takes the NP as its complement. My proposal is that this position is the syntactic locus of the number feature (singular, plural, etc.) of the phrase. Therefore, I shall call

this head #, and its maximal projection, #P. On this analysis, the structure of a book is as in (13):

(13)



This proposal builds on my assumption that inflectional categories head syntactic projections. Furthermore, it implies that nouns may be inherently specified for gender, but not for number. This approach is consistent with the fact that new words may be derived by adding a feminine suffix (-et, -it, or -a to a noun stem, as illustrated in (14)⁵.

(14)

a.	xaSmal	'electricity'	xaSmalit	'trolley car'
	maxsan	'warehouse'	maxsanit	'magazine'
b.	Sayat	'sailor, rower'	Sayetet	'fleet'
	magav	'wiper'	magevet	'towel'
c.	Sir	'song'	Sira	'poetry'
	amud	'page'	amuda	'column'

However, it is not possible to derive new nouns by addition of a plural suffix to a singular noun stem. Compare (15) with (14):

(15)

a.	maxsanim	'warehouses'	maxsaniot	'magazines'
b.	magavim	'wipers'	magavot	'towels'
c.	amudim	'pages'	amudot	'columns'

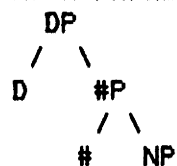
5. These examples are due to Bat-El (1986). See that work for detailed discussion of word formation strategies in Hebrew.

Therefore, I assume that indefinite noun phrases in Hebrew are #Ps, not DPs whose head is an empty category. Note, also that the complement of D is #F, not NP on this analysis.

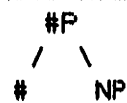
The hierarchical structure of definite noun phrase is depicted in (16a) and that of an indefinite noun phrase is depicted in in (16b) (irrelevant details omitted):

(16)

a. Definite Noun Phrase



b. Indefinite Noun Phrase



3.3.1.2 The interpretation of Possessors

Previous analyses of Hebrew within the government and binding framework have all assumed that the particle Sel is the realization of genitive Case assigned by the head noun (cf. Borer (1984), Shlonsky (1987), and Hazout (1988))⁶. Borer and Hazout both analyse Sel as dummy Case marker which is inserted by a language specific rule. Borer's formulation is given in (17)⁷.

-
6. Borer (1984), Shlonsky (1987) and Hazout (1988) all assume that Hebrew noun phrases are NPs, i.e. maximal projections of N, and that the genitive phrase may inside any projection of N.
7. Borer assumes that Sel insertion applies at PF. However, if Case-marking is derives from a requirement that noun phrases be visible at

(17)

Sel Insertion

0 --> Sel / [NP₁ ... _____ NP_j]

According to this rule, Sel may be inserted immediately before a noun phrase which is the rightmost constituent of a containing noun phrase. This rule correctly derives the relative order of adjectives and possessors. As will be shown below, this approach accounts for the fact that the presence of Sel does not block antecedent government of an overt anaphor.

With respect to the interpretation of the genitive phrase as a possessor, there are basically two treatments in the literature: (a) The head noun determines some unspecified interpretation for the genitive phrase. Higginbotham (1985) introduces an interpretive rule (19) for noun phrases of the structure in (18):

(18)

[~~NP~~ NP₁'s N']

(19)

[the x: N'(x) & R(x, NP₁)]

I take this to mean that the noun phrase subject bears some unspecified relation to the variable-place in the interpretative rule. For example, John's cat is interpreted as (20):

LF, this rule will have to apply by S-structure, as pointed out by Hazout.

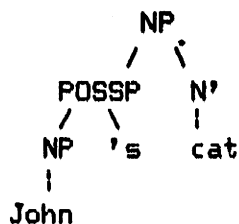
(20)

[the x: cat(x) & R(John, x]

There are two ways to interpret this relation R. We may think of relation R as a relation of θ -role assignment between the head noun and the genitive, or we may think of the relation as one of modification with the genitive NP modifying the head noun. On the first interpretation, the impossibility of expletive subjects, as in *there's book, is attributed to the fact that [SPEC,NP] is always a θ -position. On the second interpretation, the expletive has no inherent semantic content and consequently cannot function as a modifier.

(b) The element that assigns genitive Case also assigns a θ -role to the possessor. The second approach assumes that nouns such as book are incapable of assigning a θ -role, but shares with the first approach, the assumption that subject of NP is always a θ -position. For example, Anderson (1983-84) develops an analysis of prenominal genitives in English in which she takes the position that concrete nouns are incapable of assigning θ -roles. (See also Grimshaw (1986) for an analysis based on similar assumptions, and Szabolcsi (1986) for a similar proposal in her analysis of Hungarian noun phrases.) Anderson argues that the element which Case-marks the genitive phrase also assigns it the θ -role of possessor. She posits a Possessive Phrase (POSSP) headed by a lexical possessive element ('s) in [SPEC,NP], deriving the structure depicted in (21) for the possessed noun phrases, such as John's cat.

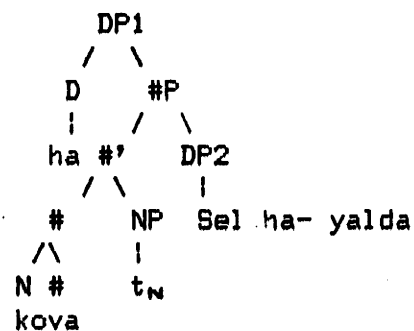
(21)



Focussing on Hebrew, these two approaches provide different answers to the question of whether Sel assigns a θ -role to the noun phrase it Case-marks. Since nothing in this discussion hinges on this issue, I shall leave it open to future research.

The possessor bears some relation to the inflected noun, not to the noun stem. In other words in a noun phrase such as sfarim Sel dan '(some) books of Dan's', Dan is the possessor of the set of books I assume that the possessor is base-generated as a daughter of #P, not NP, deriving the structure in (22):

(22)



ha- kova Sel ha yalda
the-hat of the girl

3.3.2 Derived Nominals

In Romance it has been argued that there is a thematic hierarchy (possessor > external arguments > internal arguments) (cf. Zubizarreta (1979), Aoun (1985), Cinque (1980), Milner (1982)). Assuming an NP analysis, Giorgi suggests that possessors are N" specifiers, while external arguments are N" specifiers and internal arguments are daughters of N' in Italian examples like the following:

(23)

Gianni , mi mostrò la sua, preziosa lettera di
 Leonardo agli Sforza
 'Gianni showed me his valuable letter by Leonardo to the
 Sforzas'

In our terms possessors are in [SPEC,#P], but all arguments of the head noun are base-generated inside NP. In the last subsection I suggested that the former was indeed the case in Hebrew. In this section, I discuss evidence which suggests that all arguments of a process (argument-taking) nominal are base-generated inside NP.

Consider the argument-taking nominals illustrated in (24) and (25):

(24)

- a. ha- axila Sel dan et ha- banana
 the-eating of Dan ACC the-banana
 'Dan's eating of the banana'
- b. ha- axila Sel ha- banana
 the-eating of the-banana
- c. *ha- axila et ha- banana Sel dan
 the-eating ACC the-banana of Dan
- d. *ha- axila Sel dan
 the eating of Dan

(25)

- a. ha- ktiva Sel ha-student et ha- ma'amar
the-writing of the-student ACC the-article
'the student's writing of the article'
- b. ha- ktiva Sel ha- ma'amar
the-writing of the-article
- c. *ha- ktiva et ha- ma'amar Sel ha-student
the-writing ACC the-article of the-student
- d. *ha- ktiva Sel ha- student
the-writing of the-student

The contrast between (24a) and (24c) and between (25a) and (25c) shows that the order of arguments is necessarily agent (external argument) theme (internal argument). The presence of the particle et, which also marks (definite) direct objects of transitive verbs, suggests Hebrew derived nominals have the ability to assign accusative Case like their verbal counterparts⁹. The grammaticality of (24b) and (25b) shows that the external argument of a derived nominals may be 'suppressed', in which case the internal argument receives genitive Case. This is indicated by the presence of Sel rather than et in these examples. The ungrammaticality of (24d) and (25d) shows that the external argument of an argument-taking (process) nominal cannot be expressed unless its internal argument is also expressed (cf. Grimshaw (1986, 1988)).

The constituent order in Hebrew noun phrases (i.e. (D) N-Subj-Obj) is of particular interest. Note that if we assume a DP analysis, but no

8. Et only appears if the direct object is definite. See below for discussion.

(27)

- a. ha-ahava Sel dan et acmo
the-love of Dan ACC himself
'Dan's love of himself'
- b. *ha- ahava Sel acmo et dan
the-love of self ACC Dan

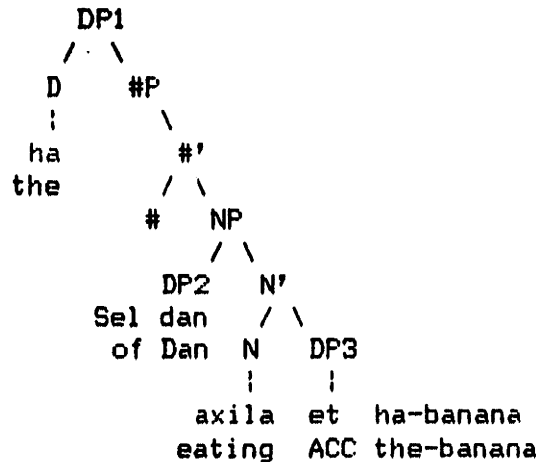
It would be impossible to develop a structural account of this contrast based on the representation in (26). Note also that a non-structural account which attributes the contrast to a thematic hierarchy (where agents bind themes, but not vice versa) provides no explanation for the fact that the agent (subject) must precede the theme (object)¹⁰.

However, if we posit a projection intermediate between DP and NP and if we further assume that the N raises to the position of the intermediate head in the derivation of the S-structure representation, then the structural relationship between the agent and theme in (27) follows without stipulation. In the last section I proposed that noun phrases do contain such a projection, i.e. #P. Assuming this projection for argument taking nouns, we derive the D-structure in (28):

10. Note that in this respect the Hebrew facts crucially differ from Italian, where the external argument is realized as the rightmost genitive phrase inside the noun phrase. In addition, Giorgi (1985) notes that there is some flexibility in the relative order of internal arguments in Italian noun phrases as illustrated by the following examples:

- a. la restituzione di Maria a se stessa
the restitution of Maria to herself
- b. la resituzione di se stessa a Maria
the restitution of herself to Maria

(28)



Now, if N raises to the head of #P, we can derive the correct surface order (N-Subj-Obj), and at the same time posit a structure in which the subject asymmetrically c-commands the object, as required by binding theory.

It should be pointed out that this rigid order of arguments does not extend to picture noun phrases in Hebrew. The examples in (29) show that the possessor (Dan), the agent (Rembrandt), and the theme

(Aristotle) of a non-derived nominal may appear in any order

- a. ha- tmuna Sel dan Sel rembrandt Sel aristo
the-picture of Dan of Rembrandt of Aristotle
- b. ha- tmuna Sel dan Sel Aristo Sel rembrandt
- c. ha- tmuna Sel aristo Sel dan Sel rembrandt
- d. ha- tmuna Sel aristo Sel rembrandt Sel dan
- e. ha- tmuna Sel rembrandt Sel dan Sel aristo
- f. ha- tmuna Sel rembrandt Sel aristo Sel dan

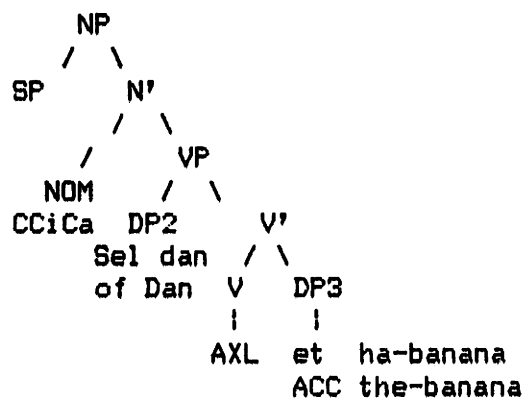
There are two important distinctions between 'picture' noun phrases and process nominals that may account for this difference. First picture nouns never assign accusative case to their complements. Second, picture nouns may be pluralized. I speculate that the relative freedom of 'arguments' attested in examples such as (i) may be due to the fact

that picture nouns assign no θ -roles. Therefore, all 'arguments' are base-generated as daughters of #P.

3.3.2.1 Hazout (1988)

Hazout (1988) proposes an NP analysis which is similar in spirit to the one being defended here, except that he suggests that nominals such as axila 'eating', ktiva 'writing' and ahava 'love' are all syntactically derived by raising a verb to the head of a nominal projection, which he denotes as NOM¹⁴. The D-structure he proposes is given in (29):

(29)



11. As noted above, Hazout also rejects the DP hypothesis. However, he allows adjunction of a head to its own maximal category in CS constructions. Since I am assuming that such adjunction strategies are ruled out by structure preservation, I shall continue to assume the DP hypothesis both for CSs and for non-CS noun phrases in Hebrew.

According to Hazout, NOM is not a lexical category, although it becomes lexicalized when V adjoins to it. Hazout argues that this analysis accounts for the fact that such derived nominals have the internal properties of a verb phrase, but the external distribution of a noun phrase.

He cites two properties of such nominals which are characteristic of verbs. First, VP adverbs are possible in derived nominals, (although sentential adverbs are impossible) as illustrated in (30):

(30)

- a. ha- ktiva Sel dan et ha- avoda bi-mehirut
the-writing of Dan ACC the-work quickly
'Dan's writing of the work quickly'
- b. ha- harisa Sel ha -oyev et ha- ir emeS
the-destruction of the-enemy ACC the-city last night
'the enemy's destruction of the city last night'
- c. *ha -ktiva Sel dan et ha- avoda lelo safek
the-writing of Dan ACC the-work without doubt

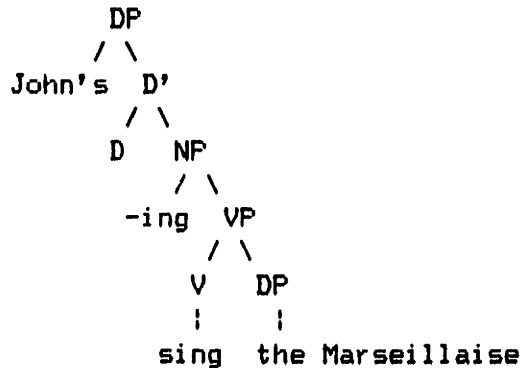
While adjectives such as (ha-)mehira 'quick' immediately follow the head noun in all noun phrases, both the subject and object intervene between adverbial phrases such as bi-mehirut 'quickly' and the head noun. This is consistent with his structure which contains a VP inside the nominal projection.

(31)

- a. ha- ktiva ha- mehira Sel dan et ha- avoda
the-writing the-quick of Dan ACC the work
- b. *ha- ktiva Sel dan et ha- avoda ha- mehira
the-writing of Dan ACC the work the-quick
- c. *ha-ktiva bi-mehirut Sel dan et ha- avoda
the-writing quickly of Dan ACC the work

Hazout argues that this analysis also provides a unified account of accusative Case-assignment in Hebrew, since accusative Case is assigned by the verb in both derived nominals and sentences. His analysis is highly reminiscent of Abney's account of English POSS-ing gerunds reproduced in (32):

(32)



"John's singing the Marseillaise"

(Abney (1987, p.223))

Both analyses assume syntactic derivation of a nominal category as a consequence of adjunction of V to the non-lexical head of the nominal projection that dominates it. The most salient difference between English POSS-ing gerunds and Hebrew derived nominals is in the position of the subject. The subject of the English gerund is in [SPEC,DP] (where it receives genitive case from D). However, the subject of the Hebrew derived nominal remains inside the VP.

In order to reconcile this fact with his assumption that Sel is the realization of case assigned by a nominal element, Hazout assumes that movement of V to NOM makes the VP transparent to the application of the rule of Sel-insertion. One might interpret Sel insertion in process

nominals as an instance of exceptional Case-marking on his account because Sel is the realization of Case assigned by NOM to an argument in [SPEC,VP]. This is incompatible with the analysis of Sel as the realization of inherent Case assigned by N. In particular, if we adopt Chomsky's uniformity principle, then N(OM) should be unable to assign Case to a noun phrase which is θ -marked by V.

Extending Abney's assumption, that the non-lexical category in the POSS-ing gerund projects no structure of its own, to Hebrew derived nominals permits an alternative solution to the problem of explaining how Sel is inserted in the VP. Let us interpret Abney's claim that syntactic adjunction of V to Nom "converts" the VP into an NP as follows: At S-structure adjunction of V to NOM changes the category of all projections of the verb to projections of a noun, i.e. V^A becomes N^A at S-structure. Now, Sel will be inserted in an NP as required. However, this solution raises a problem for assignment of case to the internal argument. More specifically, if accusative case is structural case assigned by V at S-structure, then at this level there will be no Case-assigning V. Thus, this approach loses the unification of accusative Case-assignment Hazout originally intended to capture.

Alternatively, if Sel is analysed as the realization of Case assigned by the verb, one might expect it to be possible to insert Sel to assign case to an overt subject of an infinitive. However, as shown by the ungrammaticality of the examples in (33), this prediction is false.

(33)

- a. *ani roce Sel dan lavo la- misiba
I want of Dan to come to-the-party
- b. *ani nisiti Sel dan lavo la- misiba
I tried of Dan to come to-the party

Thus, the realization of the genitive Case-marked subject inside VP raises significant problems for Hazout's claim that process nominals in are syntactically derived in Hebrew. In the next subsection I shall take a lexicalist approach to this construction. More specifically, I shall argue that process nominals are nouns at all levels of representation.

3.3.2.2 Process nominals are nouns

If Hebrew process nominals are nouns at all levels of representation, then we can account straightforwardly for the presence of the dummy Case-marker Sel in SPEC position of the lexical projection, i.e. in [SPEC,NP]. However, we must explain how such nominals are capable of assigning genitive Case to their subjects on the one hand and accusative Case to their complements on the other.

Let us begin by looking more closely at noun phrases such as (a) and (a) reproduced here as (34):

(34)

- a. ha- axila Sel dan et ha- banana
the-eating of Dan ACC the-banana
'Dan's eating of the banana'
- b. ha- ktiva Sel ha- student et ha- ma'amar
the-writing of the-student ACC the-article
'the student's writing of the article'

In the introduction to this section I described et as a particle which is obligatorily inserted before definite direct objects in Hebrew. No particle precedes an indefinite direct object of a verb as shown in

(35):

(35)

- a. dan axal et ha- banana
Dan ate ACC the-banana
'Dan ate the banana'
- b. dan axal (*et) banana
Dan ate (*ACC) banana
'Dan ate a banana'
- c. ha- student katav et ha- ma'amar
the-student wrote ACC the-article
'the student wrote the article'
- d. ha- student katav (*et) ma'amar
the-student wrote (*ACC) article
'the student wrote an article'

Let us assume that et is the realization of accusative Case assigned by verb to a DP complement. The absence of et in examples such as (35b) may be interpreted as evidence that Hebrew verbs assign partitive Case to indefinite complements, along the lines proposed by Belletti (1988). Now, if the lexical head of a process nominal were also a verb, one might expect bare indefinite complements to receive partitive Case from V at D-structure, prior to conversion of V to N. However, an indefinite

complement of a process nominal is ungrammatical. Compare the examples in (36) to those in (34):

(36)

- a. *ha- axila Sel dan banana
the-eating of Dan banana
'Dan's eating of a banana'
- b. *ha- ktiva Sel ha- student ma'amar
the-writing of the-student article
'the student's writing of the article'

I propose to analyse this fact as evidence that et is the realization of accusative case which may be assigned by both verbs and derived nominals in Hebrew. Since derived nominals are incapable of assigning partitive case they never select indefinite complements.

Hazout's second argument for analysing the lexical projection in a process nominal as a VP is based on the availability of adverbs in these constituents. Note, however, that all the adverbs he notes are either time adverbials such as emeS 'last night' or manner adverbials - more precisely manner PPs - such as bi-mehirut 'with quickness'. Such adverbs may also appear in English process nominals, as shown in (37):

(37)

- a. John's criticism of the play last night was vicious
- b. John's destruction of the model without malice or forethought ...

The grammaticality of these examples suggests that time adverbs and manner adverbs are possible, not because these phrases contain a VP, but rather because they denote an event.

In chapter 2, I discussed a class of adverbs that appear VP initially, such as be-koSi 'hardly' kimat 'almost'. If Hazout is correct that derived nominals contain a VP, then these adverbs should also be possible. However, the examples in (38) demonstrate that this prediction is not borne out:

(38)

- a. *ha-axila be-koSi Sel dan et ha-banana
 the-eating hardly of Dan ACC the-banana
- b. *ha-ktiva kimat Sel ha-student et ha-ma'amar
 the-writing almost of the-student ACC the-article

Note that such adverbs are possible in English POSS-ing gerunds:

(39)

- a. I was worried about Dan's hardly eating his dinner
- b. The student's almost writing that article caused a scandal in the department.

Assuming with Abney that POSS-ing gerunds are syntactically derived from verbs, this contrast provides further support for my claim that Hebrew derived nominals are nouns at all levels of representation.

Summary

Hebrew noun phrases are DPs if definite, but #Ps otherwise, where the head of #P is the position where number of the head noun is inserted. The surface order (D) N+# ... is derived by head movement of N to #. Sel is the realization of Case assigned by N to any genitive phrase generated as a daughter of NP. et is the realization of accusative Case assigned by a derived nominal to its complement.

(40)

a. D-structure:

[DP ha [NP # [NP dan [N, axila ha-banana]

b. S-structure:

[DP ha [NP axila+ [NP Sei dan [N, t_N et ha-banana]

the-eating of Dan ACC the banana

3.4 Simple Construct State Constructions

The term construct state (CS) refers to a type of noun phrase in which the head noun is immediately followed by a genitive phrase to which it bears some relation, such as possessed-possessor or theme-source¹²

(41)

- a. misrad ha- mora
office the-teacher
'the teacher's office'
- b. maxazot sekspir
plays Shakespeare
'Shakespeare's plays'
- c. ba'al ha- rofa
husband the-doctor
'the doctor's husband'

3.4.1 Definiteness in CSs

12. In fact, CSs can be formed with other lexical heads, including adjectives, intermediate verbs and infinitival verb stems as well as with some quantifiers. Cf. Berman (1978), Borer (1984) for detailed discussion of the properties of CS constructions.

The first thing to note is that CS noun phrases are strictly N initial: Although, the definite article ha- always surfaces as a proclitic on the head noun in definite non-CS DPs, it cannot appear in this position in a CS. This is illustrated by the contrast between the definite CSs in (41) and the definite non-CS DPs in (42). Recall that Hebrew has no indefinite determiner. (See also footnote (3).)

(42)

- | | | | |
|----|-------------|-----|-------------|
| a. | ha- misrad | vs. | misrad |
| | the-office | | (an) office |
| b. | ha- maxazot | vs. | maxazot |
| | the-plays | | plays |
| c. | ha- ba'al | vs. | ba'al |
| | the-husband | | (a) husband |

The examples in (43) show that insertion of the definite article before the head noun of a CS leads to ungrammaticality.

(43)

- a. *ha-misrad ha-mora
- *ha-misrad mora
- b. *ha-maxazot sekspir
- c. *ha-ba'al ha-rofa
- *ha-ba'al rofa

Recall that noun phrase internal adjectives always agree in definiteness (as well as number and gender) with the noun they modify in Hebrew. The examples in (44) show that an adjective in a definite CS must also be overtly marked as definite, regardless of whether it modifies the head noun or the genitive phrase.

(44)

- a. [misrad ha- mora] ha-xadaS
office-m. the-teacher-f. the-new-m.
'the teacher's new office'
- b. *[misrad ha- mora] xadaS
office-m. the-teacher-f. new-m.
- c. misrad [ha- mora ha- xadaSa]
office-m. the-teacher-f. the-new-f.
'the new teacher's office'
- d. *misrad [ha- mora xadaSa]
office-m. the-teacher-f. new-f.

These examples show that a CS noun phrase and its possessor must agree in definiteness. If the genitive is a full noun phrase which is overtly marked as definite, or if it is pronominal, or if it is a proper name, the CS will be construed as definite; otherwise, a CS DP is indefinite.

Compare (45) with (44a,c):

(45)

- a. misrad mora xadaS
office teacher new
'an office of a new teacher'
- b. misrad mora xadaSa
office teacher new
'a new teacher's office'

Since no definite article appears when the possessor is a proper name or a pronominal, I assume that the head of a CS DP can never be specified for the feature [\pm definite], but rather that this feature percolates from the possessor.

Further evidence for the claim that the matrix noun phrase inherits its specification for definiteness from the possessor comes from the

multiply embedded CSs in (46). In these examples only the most deeply embedded noun may bear a definite article, and still definiteness percolates up to the maximal DP.

(46)

- a. ben xaver ha- mora
son friend the-teacher
'the teacher's friend's son'
* 'a son of the teacher's friend'
- b. ceva yadit ha-delet
colour handle the-door
'the colour of the handle of the door'
* 'a colour of the handle of the door'

These facts suggest that the surface order N D ... in (45) is not derived by moving the determiner across the head N. I interpret these examples as evidence that the functional head of a CS DP can never be specified for the feature [\pm definite]. Moreover, I attribute the impossibility of a definite or indefinite determiner in this construction to the fact that the head of the DP is occupied by a phonetically null genitive Case-assigning element that I will designate as D_{gen} .

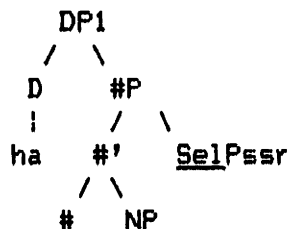
In earlier work (Ritter, 1986) I argued that D in the noun phrase was parallel to INFL in the sentence. Both functional heads contain two elements: INFL has TNS and AGR while D has DEF and GEN (where DEF is specified for [\pm definite] and GEN is the genitive Case-assigning element. However, we have just seen that the head of a DP cannot be specified for [\pm definite] if it is also a Case-assigner. Moreover, if DEF and GEN are distinct syntactic categories, then the assumption that noun phrases are maximal projections of both DEF and GEN violates X-bar

theory, just like the assumption that Ss are maximal projections of both TNS and AGR. This leaves us with two options, either DEF and GEN are heads of distinct syntactic projections, or DEF and GEN both belong to the class of elements that may fill the head of DP. The fact that the definite article is in complementary distribution with the genitive Case assigning functional category suggests that the latter is the case, i.e. they are both Ds.

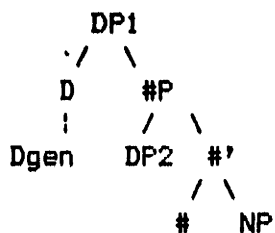
Since the head noun in a CS noun phrase is specified for number, just like the head noun in a non-CS noun phrase, I shall assume that the complement of D is #P rather than NP in this case as well. Therefore, I propose that a simple CS noun phrase containing a derived nominal has a comparable S-structure representation to the corresponding definite non-CS noun phrase. They differ only in the content of the head of the maximal projection, and in the position of the possessor. In a non-CS noun phrase, the definite determiner occupies the position of D, and the possessor is adjoined to the right periphery of #P. In a CS noun phrase, on the other hand, the head of DP is filled by an abstract Case-assigning element, and the possessor is on the the left periphery of #P. The two structures are depicted in (47):

(47)

a. non-CS DP



b. CS DP



This analysis assumes that possessors can be freely generated either on the right as in (47a) or on the left (47b). Sel is the realization of case assigned by N (or N+#) to a noun phrase on the right only:

(48)

- a. *<sub>[DP ha [_{#P Sel ha-mora # [_{NP misrad]]]}]}
the of the-teacher office</sub>
- b. *_{[_{#P Sel ha-mora # [_{NP misrad]]}]}}

If possessor is generated on the left, it will not be Case-marked unless the head of DP is occupied by *D_{gen}*.

(49)

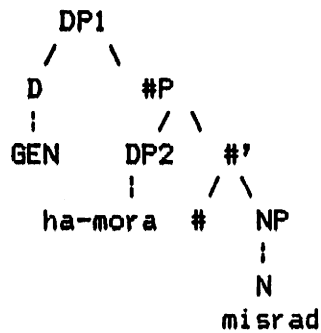
- a. *_{[DP ha [_{#P ha-mora # [_{NP misrad]]}]}}
- b. *_{[_{#P ha-mora 3 [_{NP misrad]]}]}}

Note that if adjectives are base-generated inside NP (or inside #P), they will follow the possessor in a construct state noun phrase, but precede the possessor in a free genitive construction

D-structure of the CS noun phrase in (1b) repeated here as (50) is depicted in(51):

(50)
 misrad ha- mora
 office the-teacher
 'the teacher's office'

(51) D-structure of (51)



The s-structure is derived by head movement of N to #, and subsequent movement of N+# to D_{GEN}.

3.4.2 Construct States headed by Argument-Taking Derived Nominals

Now let us consider the structure of argument taking nominals in CS constructions. The examples in (52) and (53) show that the same constraints apply to the syntactic realization of arguments in the CS as in the free genitive construction. Note, in particular, that the head noun is immediately followed by the subject and that the object must follow both the noun and the subject.

Examples are given in (52) and (53):

(52)

- a. axilat dan et ha- banana
eating Dan ACC the-banana
'Dan's eating of the banana'
- b. axilat ha- banana
eating the-banana
- c. *axila et ha- banana dan
eating ACC the-banana Dan
- d. *axilat dan
eating Dan

(53)

- a. ktivat ha-student et ha- ma'amar
writing the-student ACC the-article
'the student's writing of the article'
- b. ktivat ha- ma'amar
writing the-article
- c. *ktivat et ha- ma'amar ha-student
writing ACC the-article the-student
- d. *ktivat ha- student
writing the-student

In order to account for this array of facts I shall propose that the CS involves head movement of N (through #) to D, as well as movement of the subject from [SPEC,NP] to [SPEC, #P]. Thus, the CS construction is distinguished from the free genitive in two respects. First the head noun is realized in the head of DP, rather than in the head of #P. Second, the subject of the head noun is realized in [SPEC, #P] rather than in [SPEC,NP].

At first glance it is not obvious why the subject of an argument-taking noun should be forced to move to [SPEC,#P] to get genitive Case from D_{gen} in the CS. In particular, recall that it was argued that Sel

is the realization of Case assigned by N to [SPEC,NP] in the free genitive construction. We must, therefore, account for the ungrammaticality of examples such as (54) in which N raises to D, but the subject in [SPEC,NP] is Case-marked by Sel.

(54)

- a. *axilat Sel dan et ha-banana
eating of Dan ACC the-banana
- b. *ktivat Sel ha-student et ha-ma'amar
writing of the-student ACC the-article

The structure I attribute to these examples is depicted in (55):

(55)

*[DP N##D_{gen} [_{NP} t_N [NP Sel-DP t_N ...]

Adopting the approach of Fukui and Speas (1986), we might argue that this structure is illicit because D_{gen} is unable to discharge its Case. With respect to the Case assigned by N, we might assume either that N only optionally assigns Case, or that a noun phrase which is assigned inherent Case may also be assigned structural Case. In other words, assignment of inherent Case by N will not preclude assignment of structural Case by D.

Alternatively, if genitive Case assignment by N is optional, then movement of the subject to [SPEC,#P] will be required for purposes of visibility¹².

13. Noam Chomsky (p.c.) suggests that in fact no case is assigned to the subject of a CS noun phrase. Rather, a syntactically derived compound is formed between the head noun and its subject after movement of N to D. This approach, which accounts for the surface similarities between syntactic CSs and lexical compounds such as

Note also that in derived nominals, the same binding relations obtain in the CS as in the free genitive construction, as illustrated in (56):

(56)

- a. ahavat dan et acmo
love D: acc himself
- b. ha-ahava Sel Dan et acmo
the-love of Dan acc self

'Dan's love of himself'
- c. *ahavat acmo et dan
- d. *ha-ahava Sel acmo et dan

This is as expected because dan asymmetrically c-commands the anaphor acmo regardless of whether it is in [SPEC, #P] or in [SPEC, NP].

3.5 Clitic Doubled Construct States

The third class of genitive constructions to be considered is the doubled CS construction. As noted in the introduction to this chapter, this construction manifests some properties of both the free genitive construction and the simple CS. The examples in () and () are reproduced here as (57):

beyt-sefer 'school' (literally, house-book), is reminiscent of the account of English double object constructions developed in Stowell (1981). Larson (1988) proposes alternative account of English double object verbs which entails the postulation of an empty V projection dominating the lexical VP and subsequent head movement. If D_{gen} is analysed as an empty nominal category which is capable of assigning Case, (but no θ -role) then the account in the text may be viewed as an extension of the latter treatment.

(57)

- a. misrad-a Sel ha- mora
office-her of the-teacher
'the teacher's office'
- b. misrad-i Sel-i
office-my of my
'MY office'

The focus of inquiry in this section will be the clitic attached to the head noun. In particular, we shall be concerned with determining the role the clitic plays in the construction. What is its source and how does it come to manifest the person, number and gender features of the subject? I shall suggest that the clitic is AGR which is attached to D at all levels of syntactic representation.

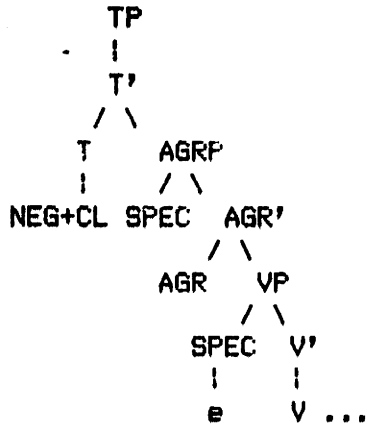
In this respect the structure of clitic-doubled CSs resembles the structure of negated present tense sentences containing an inflected negative particle, such as (58).

(58)

- a. dani, eyn-o, yodea ivrit
Dani NEG-cl knows Hebrew
'Dani doesn't know Hebrew'
- b. ani , eyn-eni, oxel bananot
I NEG-cl eat bananas
'I don't eat bananas'

The structure I posited for such sentences is reproduced in (59):

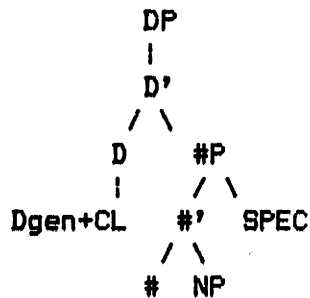
(59)



Compare (59) to the structure of clitic doubled CSs depicted in

(60):

(60)



In this structure D_{gen} assigns genitive Case to CL (=AGR), which absorbs the Case. The subject of the noun phrase remains in its D-structure position, receiving inherent genitive Case from N(+ $\#$), which is realized via Bel insertion.

In order to account for the fact that CL has the same person, number and gender features as the subject, I shall assume a mechanism of SPEC-head agreement between the head of #P and its SPEC. (Below I also adopt this approach to account for coindexation of CL and the subject in [SPEC,NP] of argument-taking derived nominals.) After head movement of

N+# to D, the derived head will have the index of [SPEC,#P], permitting AGR to be spelled out as required. The S-structure representation of (50) is depicted in (61).

(61)

[_{DP} misrad-CL₁ [_{NP} t₀ [_{NP} t_N] [of ha-mora]₁]]
'the teacher's office'

Note that this approach divorces SPEC-head agreement from Case assignment since the subject is independently Case-marked by N+#, as evidenced by the appearance of Sel. Moreover, it implicitly assumes that SPEC-head agreement may obtain, even if the head is not overtly marked for features of its SPEC.

3.5.1 Construct States headed by Argument-Taking Derived Nominals

Now consider clitic doubled CSs headed by argument taking derived nominals, such as (62) and (63):

(62)

- a. axilat-o Sel dan et ha-banana
eating-CL of Dan ACC the-banana
'Dan's eating of the banana'
- b. axilat-a Sel ha-banana
eating-CL of the-banana
- c. *axilat-o et ha-banana Sel dan
eating-CL ACC the-banana of Dan
- d. *axilat-o Sel dan
eating-CL of Dan

(63)

- a. ktivat -o Sel ha-student et ha- ma'amar
writing-CL of the-student ACC the-article
'the student's writing of the article'
- b. ktivat-o Sel ha- ma'amar
writing of the-article
- c. *ktivat -o et ha- ma'amar Sel ha-student
writing-CL ACC the-article of the-student
- d. *ktivat -o Sel ha- student
writing-CL of the-student

We observe the same distribution for clitic-doubled CSs as with free genitives and simple CSs. In particular, the head noun precedes both the subject and the object and where both arguments are syntactically realized, the subject must precede the object as shown by the contrast between (62a) and (63a) and (62c) and (63c).

Note that if we were to assume that CL is freely coindexed with any noun phrase inside DP, we might predict that CL could optionally be co-indexed with object. However, as shown by the following pairs of examples, such a derivation is ungrammatical.

(64)

- a. axilat-o_i Sel dan_i et ha- banana
eating-CL of Dan ACC the-banana
'Dan's eating of the banana'
- b. *axilat-a_i Sel dan_i et ha- banana_i
eating-CL of Dan ACC the-banana

(65)

- a. ktivat -o, Sel ha-student, et ha-ma'amarim
writing-CL ' of the-student ACC the-articles
'the student's writing of the article'
- b. *ktivat -am, Sel ha-student et ha-ma'amarim,
writing-CL ' of the-student ACC the-articles
'the student's writing of the article'

Recall that the clitic is marked for person, number and gender. When CL agrees with 'Dan' it manifests the features of (3rd), masculine, singular, and is realized as -o. 'Benana', on the other hand, is a feminine noun, so CL is realized as -a when it is coindexed with this noun. Since both 'student' and 'article' are masculine nouns, I have pluralized the latter in (65), to insure that CL is unambiguously interpreted as coindexed with the subject and the object in (65a) and (65b) respectively.

The ungrammaticality of (64b) and (65b) cannot be due to the fact that CL has absorbed genitive Case, because the full noun phrase object is independently assigned (accusative) Case by the head noun. Note that although we call the case which is assigned to the subject of a noun phrase 'genitive Case,' there are in fact two distinct Case-assigners, and presumably, two distinct Cases. First, there is inherent Case assigned by the head noun (realized in Hebrew via Sel insertion), and second there is structural Case assigned by D_{gen} to [SPEC,#P]¹⁴. Having established this distinction between Case assigned by D_{gen} and Case

14. Similarly, in English, of is the realization of inherent genitive Case assigned by nouns while 's is analogous to structural genitive Case-assignment by D.

assigned by N, there would be no way to rule out coindexation of CL with the object, if CL were freely coindexed with any noun phrase inside the matrix DP. Thus, the ungrammaticality of (64b) and (65b) support the assumption of coindexation via SPEC-head agreement.

References

- Abney, S. (1986) "Functional Elements and Licensing," paper presented to GLOW 1986, Gernona, Spain.
- Abney, S. (1987) The English Noun Phrase in its Sentential Aspect, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Aissen, J.L. (1987) Tzotzil Clause Structure, Reidel, Dordrecht.
- Anderson, M. (1979) Noun Phrase Structure, Doctoral dissertation, University of Connecticut, Storrs.
- Anderson, M. (1983-84) "Prenominal Genitive NPs," The Linguistic Review 3, 1-24.
- Aoun, J. (1985) A Grammar of Anaphora, MIT Press, Cambridge, Massachusetts.
- Aoun, J. and D. Sportiche (1981) "On the Formal Theory of Government," The Linguistic Review 2.3.
- Ariel, S. (1972) "Is the Hebrew Form Sel Merely the Outward Shell of 'Se+1'?", Paper presented at Grammaticus Club, Department of Linguistics, Tel Aviv University.
- Baker, M. (1985a) "The Mirror Principle and Morphosyntactic Explanation," Linguistic Inquiry 16, 373-415.
- Baker, M. (1985b) Incorporation: A Theory of Grammatical Function Changing, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Baker, M. and K. Hale (1988) "Pronoun and Anti-Noun Incorporation," ms. McGill University, Montreal and MIT, Cambridge, Massachusetts.
- Bat-El, D. (1986) Extraction in Modern Hebrew Morphology, Masters thesis, UCLA.
- Belletti, A. and L. Rizzi (1986) "Psych Verbs and θ Theory," Lexicon project working paper 13, MIT, Cambridge, Massachusetts.
- Besten, H. den (1983) 'On the interaction of Root Transformations and Lexical Deletive Rules,' in W. Abrahams (ed.) On the Formal Nature of the Westermania, John Benjamins, Amsterdam. Also published in Groninger Arbeiten zur germanistischen Linguistik 20, (1981) 1-78.
- Berman, R.A. (1978) Modern Hebrew Structure, University Publishing Projects, Tel Aviv.

- Berman, R.A. and A. Grosu (1976) "Aspects of the Copula in Modern Hebrew," in P. Cole (ed.), Studies in Modern Hebrew Syntax and Semantics, North Holland, p. 265-285.
- Borer, H. (1983) Parametric Syntax, Foris, Dordrecht.
- Borer, H. (1985) "Anaphoric AGR," ms. University of California, Irvine.
- Borer, H. (1986) "I-Subjects," Linguistic Inquiry 17, 375-416.
- Borer, H. (to appear) "Anaphoric AGR," in O. Jaeggli and K. Safir (eds.), Reidel, Dordrecht.
- Borer, H. and Yosef Grodzinsky (198?) "Syntactic Cliticization and Lexical Cliticization: The Case of Hebrew Dative Clitics," in Syntax and Semantics, Volume 19, 175-217.
- Brame, M. (1981) "The General theory of Binding and Fusion," Linguistic Analysis 7.3.
- Brame, M. (1982) "The Head-Selector Theory of Lexical Specifications and the Nonexistence of Coarse Categories," Linguistic Analysis 10.4.
- Brandi, L. and P. Cordin (1981) "On Clitics and Inflection in Some Italian Dialects," ms. Scuola Normale Superiore di Pisa.
- Bresnan, J. and S.A. Mchombo (1987) "Topic, pronoun, and agreement in Chicheŵa," Language 63, 741-782.
- Burzio, L. (1981) Intransitive Verbs and Italian Auxiliaries, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Chomsky, N. (1955) The Logical Structure of Linguistic Theory, Plenum (1975), New York. <check>
- Chomsky, N. (1970) "Remarks on Nominalizations," in S.A. Jacobs and P.S. Rosenbaum (eds.), Readings in English Transformational Grammar, Ginn, Waltham, Massachusetts, 184-221.
- Chomsky, N. (1981) Lectures on Government and Binding, Foris, Dordrecht.
- Chomsky, N. (1982) Some Concepts and Consequences of the Theory of Government and Binding, MIT Press, Cambridge, Massachusetts.
- Chomsky, N. (1986a) Barriers, MIT Press, Cambridge, Massachusetts.
- Chomsky, N. (1986b) Knowledge of Language: Its Nature, Origin, and Use, Praeger, New York.

- Chomsky, N. (forthcoming) "A generalization of X-bar theory," in A. Borg, S. Somekh & P. Wexler (eds.), Studia Linguistica et Orientalia Memoriae Haim Blanc dedicata, Verlag Otto Harrassowitz, Wiesbaden.
- Chomsky, N. and H. Lasnik (1977) "Filters and Control," Linguistic Inquiry 8, 425-504.
- Cinque, G. (1980) "On Extraction from NP in Italian," Journal of Italian Linguistics 1/2, 47-99.
- Cowper, E.A. (1987) "Pied Piping, Feature Percolation and the Structure of the Noun Phrase," Canadian Journal of Linguistics 32, 321-338.
- Davidson, D. (1966) "The Logical Form of Action Sentences," in Essays on Actions and Events, Oxford University Press.
- Doron, E. (1983) Verbless Predicates in Hebrew, Doctoral dissertation, The University of Texas at Austin, Austin.
- Emonds, J. (1976) A Transformational Approach to English Syntax, Academic Press, New York.
- Emonds, J. (1978) "The Verbal Complex V'-V in French," Linguistic Inquiry 9, 151-175.
- Epstein, S. (1984) "Quantifier-PRO and the LF Representation of PRO_{ARB}," Linguistic Inquiry 15, 499-505.
- Fabb, N. (1984) Syntactic Affixation, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Fassi Fehri, A. (1982) Linguistique arabe: forme et interprétation, Faculté des Lettres et Sciences Humaines, Rabat.
- Fassi Fehri, A. (1987) "Generalised IP structure, Case, Inflection, and VS Word Order," ms. MIT, Cambridge, Massachusetts.
- Fillmore, C. (1968) "The Case for Case," in E. Bach and R.T. Harms, eds., Universals in Linguistic Theory, Holt, Rinehart and Winston, New York.
- Fiva, T. (1984) "NP-Internal Chains In Norwegian," Working Papers in Scandinavian Syntax number 14, Trondheim.
- Fukui, N. (1986) A Theory of Category Projections and its Applications, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Fukui, N. and M. Speas (1986) "Specifiers and Projections," in N. Fukui, T.R. Rapport and E. Sagey, eds. MIT Working Papers in Linguistics, Volume 8, Massachusetts Institute of Technology, Cambridge, Massachusetts.

- George, L.M. and J. Kornfilt (1981) "Finiteness and Boundedness in Turkish," in F. Heny (ed.) Binding and Filtering, MIT Press, Cambridge, Massachusetts.
- Giorgi, A. (1985) "The Proper Notion of C-command and the Binding Theory: Evidence from NPs," paper presented at NELS 16, McGill University, Montreal, published in S. Berman, J.-W. Chong and J. McDonough (eds.), Proceedings of NELS 16, GLSA Department of Linguistics, University of Massachusetts, Amherst, Massachusetts.
- Giorgi, A. and G. Longobardi (1987) The Syntax of Noun Phrases: Configuration, parameters and empty categories, ms.
- Givón, T. (1981) "On the Development of the Numeral 'One' as an Indefinite Marker," in H. Borer and Y. Aoun, eds., MIT Working Papers in Linguistics 3, MIT, Cambridge, Massachusetts.
- Greenberg, J.H. (1966) "Some Universals of Grammar with Particular Reference to the order of Meaningful Elements," in J.H. Greenberg (ed.) Universals of Language, MIT Press, Cambridge, Massachusetts, 73-113.
- Grimshaw, J. (1986) "Nouns, Arguments and Adjuncts," ms. Brandeis University, Waltham Massachusetts.
- Grimshaw, J. (1988) "Adjuncts and Argument Structure," Occasional Paper #36, Center for Cognitive Science, MIT, Cambridge, Massachusetts.
- Gueron, J. (1986) "Le verbe 'avoir'," in P. Coopmans, I. Bordelcois and B.D. Smith (eds.) Formal Parameters of Generative Grammar II, Going Romance, ICG Printing, Dordrecht.
- Guilfoyle, E. (1988) "Parameters and Functional Projection," paper presented at NELS 18, University of Toronto, to appear in Proceedings of NELS 18, GLSA Department of Linguistics, University of Massachusetts, Amherst, Massachusetts.
- Haegeman, L. (1986) "INFL, COMP and Nominative Case Assignment in Flemish Infinitivals," in P. Muysken and H. van Riemsdijk (eds.) Features and Projections, Foris, Dordrecht.
- Hale, K. (ms.) "Agreement and Incorporation in Athabaskan and in General," MIT.
- Hazout, I. (1986) "The Pronoun ze in Hebrew," ms. University of Massachusetts, Amherst.
- Hazout, I. (1988) "Nominalization Constructions in Modern Hebrew," ms. University of Massachusetts, Amherst.

- Hellan, L. (1985) "The Headedness of NPs in Norwegian," in P. Muysken and H. van Riemsdijk (eds.) Features and Projections, Foris, Dordrecht.
- Higginbotham, J. (1982) "The Logic of Perceptual Reports: An Extensional Alternative to Situation Semantics," Occasional Paper #21, The Center for Cognitive Science, MIT, Cambridge, Massachusetts.
- Higginbotham, J. (1985) "On Semantics," Linguistic Inquiry 16, 547-594.
- Horrocks, G. and M. Stavrou (1987) "Bounding theory and Greek syntax: evidence for wh-movement in NP," Journal of Linguistics 23, 79-108.
- Huang, C.T. J. (1984) "On the Distribution and Reference of Empty Pronouns," Linguistic Inquiry 15, 531-574.
- Hyams, N.M. (1986) Language Acquisition and the Theory of Parameters, Reidel, Dordrecht.
- Hyams, N.M. (1987) "The Theory of Parameters and Syntactic Development," in T. Roeper and E. Williams (eds.), Parameter Setting, Reidel, Dordrecht, 1-22.
- Jackendoff, R. (1972) Semantic Interpretation in Generative Grammar, MIT Press, Cambridge, Massachusetts.
- Jackendoff, R. (1977) X-bar Syntax, MIT Press, Cambridge, Massachusetts.
- Kayne, R. (1981b) "On Certain Differences between French and English," Linguistic Inquiry 12, 349-372.
- Kayne, R. (1984) Connectedness and Binary Branching, Foris, Dordrecht.
- Kayne, R. (1986) "Participles, Agreement, Auxiliaries, se/si and PRD," ms., MIT, Cambridge Massachusetts.
- Kayne, R. (1987) "Facets of Romance Past Participle Agreement," ms., MIT, Cambridge, Massachusetts.
- Keyser, S.J. and T. Roeper (1984) "On the Middle and Ergative Constructions in English," Linguistic Inquiry 15, 381-416.
- Kitagawa, Y. (1986) Subjects in Japanese and English, Doctoral dissertation, University of Massachusetts, Amherst.
- Koopman, H. (1984) The Syntax of Verbs, Foris, Dordrecht.
- Koopman, H. and D. Sportiche (1985) "Theta-theory and Extraction," paper presented at GLOW meeting, Brussels.

- Kornfilt, J. (1984) Case Marking, Agreement, and Empty Categories in Turkish, Doctoral dissertation, Harvard University, Cambridge, Massachusetts.
- Kuroda, S.-Y. (1986) "Whether you agree or not: rough ideas about the comparative grammar of English and Japanese," ms., University of California, San Diego.
- Larson, R. (1988) "On the Double Object Construction," Linguistic Inquiry 19, 335-391.
- Lasnik, H. and M. Saito (1984) "On the Nature of Proper Government," Linguistic Inquiry 15, 235-290.
- Levin, J. and D. Massam (1985) "Surface Ergativity: Case/Theta Relations Reexamined," in S. Berman (ed.) Proceedings of the Fifteenth Annual Meeting of NELS, GLSA, University of Massachusetts, Amherst.
- Massam, D. (1985) Case Theory and the Projection Principle, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- McCawley, J. (1968) "Concerning the Base Component of a Transformational Grammar," Foundations of Language 4.
- McCawley, J. (1970) "English as a VSO Language," Language 46, 286-299.
- McCloskey, J. and K. Hale (1983) "The Syntax of Inflection in Modern Irish," in P. Sells and C. Jones (eds.), Proceedings of NELS 13, GLSA Department of Linguistics, University of Massachusetts, Amherst, Massachusetts.
- McCloskey, J. and K. Hale (1984) "On the Syntax of Person-Number Inflection in Modern Irish," Natural Language and Linguistic Theory 1, 487-533.
- Melvold, J. (1986) "Factivity and Definiteness," ms. MIT, Cambridge, Massachusetts.
- Milner, J.-C. (1982) Ordres et Raisons de Langue, Editions de Seuil, Paris.
- Muysken, P. and H. van Riemsdijk (eds.) (1986) Features and Projections, Foris, Dordrecht.
- Perlmutter, D. (1971) Deep and Surface Constraints in Syntax, Holt, Rinehart and Winston, New York.
- Platzack, C. (1986) "COMP, INFL, and Germanic Word Order," in L. Helland and K. Koch Christensen (eds.) Topics in Scandinavian Syntax, Reidel, Dordrecht.

- Pollock, J.-Y. (1987) "Verb Movement, UG and the Structure of IP," ms. Université de Haute Bretagne, Rennes II.
- Pullum, G.K. (1985) "Assuming Some Version of X-Bar Theory," paper presented at Chicago Linguistic Society 21.
- Pullum, G.K. and D. Wilson (1977) "Autonomous syntax and the analysis of auxiliaries," Language 53, 741-788.
- Rapoport, T.R. (1987) Copula, Nominal and Small Clauses: A Study in Israeli Hebrew, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Rappaport, M. (1983) "On the Nature of Derived Nominals," in L. Levin, M. Rappaport, and A. Zaenen (eds.) Papers in Lexical-Functional Grammar, Indiana University Linguistics Club, Bloomington.
- Rappaport, M. and B. Levin (to appear) "-er Nominals: Implications for the Theory of Argument Structure," in E. Wehrli and T. Stowell (eds.) Syntax and the Lexicon, Syntax and Semantics 24, Academic Press, New York.
- Raposo, E. (1987) "Case Theory and Infl-to-Comp: The Inflected Infinitive in European Portuguese," Linguistic Inquiry 18, 85-109.
- Rappaport, M. (1983) "On the Nature of Derived Nominals," in L. Levin, M. Rappaport, and A. Zaenen, eds., Papers in Lexical-Functional Grammar, Indiana University Linguistics Club, Bloomington.
- Reinhart, T. (1976) The Syntactic Domain of Anaphora, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Reuland, E. (1983) "Governing -ing," Linguistic Inquiry 14.
- Ritter, E. (1986) "NSO Noun Phrases in Modern Hebrew," paper presented at NELS 17, MIT, Cambridge, Massachusetts, published in J. McDonough and B. Plunkett (eds.), Proceedings of NELS 17, GLSA Department of Linguistics, University of Massachusetts, Amherst, Massachusetts.
- Ritter, E. (to appear) "A Head Movement Approach to Construct State Noun Phrases," Linguistics.
- Rizzi, L. (1981) "Nominative Marking in Italian Infinitives and the Nominative Island Constraint," in F. Heny (ed.) Binding and Filtering, MIT Press, Cambridge, Massachusetts.
- Rizzi, L. (1982) Issues in Italian Syntax, Foris, Dordrecht.

- Rizzi, L. (1984) "On the status of subject clitics in Romance," in O. Jaeggli and C. Silva-Corvalan (eds.) Proceedings of the XIV Linguistic Symposium on Romance Languages, Foris, Dordrecht.
- Rizzi, L. (1986) "Null Objects in Italian and the Theory of pro," Linguistic Inquiry 17, 501-557.
- Roberge, Y. (1986) The Syntactic Recoverability of Null Arguments, Doctoral dissertation, The University of British Columbia, Vancouver.
- Rouveret, A. (1980) "Sur la notion de proposition finie: Gouvernement et inversion," Langages 60, 75-107.
- Rothstein, S. (1983) The Syntactic Forms of Predication, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Rothstein, S. (1983) The Syntactic Form of Predication, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Safir, K. (1985) Syntactic Chains, Cambridge University Press, Cambridge, England.
- Shlonsky, U. (1986) "The Structure of COMP in Hebrew and the ECP," ms., MIT, Cambridge, Massachusetts.
- Shlonsky, U. (1987) Null and Displaced Subjects, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Silverstein, M. (1976) "Hierarchy of features and ergativity," in R.M.W. Dixon (ed.), Grammatical Categories in Australian Languages, (Linguistic Series 22) Australian Institute of Aboriginal Studies, Canberra. Reprinted in P. Muysken and H. van Riemsdijk (eds.), (1985) Features and Projections, Foris, Dordrecht.
- Speas, M. (1988) "On Projection from the Lexicon," ms. University of Wisconsin, Madison.
- Sproat, R. (1985) "Welsh Syntax and VSO Structure," Natural Language & Linguistic Theory 3, 173-216.
- Stowell, T. (1981) Origins of Phrase Structure, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Stowell, T. (1982) "On Tense of Infinitives," Linguistic Inquiry 12, 561-570.
- Stowell, T. (1983) "Subjects across Categories," The Linguistic Review 2, 285-312.

- Szabolcsi, A. (1981) "The Possessive Construction in Hungarian: A Configurational Category in a Non-Configurational Language," Acta Linguistica Academiae Scientiarum Hungaricae 31, 261-289.
- Szabolcsi, A. (1983-84) "The Possessor that Ran Away from Home," The Linguistic Review 3, 89-102.
- Szabolcsi, A. (1987) "Functional Categories in the Noun Phrase," in I. Kenesei (ed.) Approaches to Hungarian 2, 167-189, JATE, Szeged.
- Taraldsen, K.T. (1978) "On the NIC, vacuous application and the that-trace filter," mimeographed, MIT; Indiana Linguistics Club, 1980.
- Travis, L. (1984) Parameters and Effects of Word Order Variation, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Williams, E. (1985) "PRO and Subject of NP," Natural Language and Linguistic Theory 3.3.
- Woisetschlaeger, E. (1983) "On the question of definiteness in 'An old man's book'," Linguistic Inquiry 14, 137-154.
- Zribi-Hertz, A. (1984) "Prépositions orphelines et pronoms nuls," Recherches Linguistiques 12, 46-91.
- Zubizarreta (1979) "Extraction from NP and Reformulation of Subjacency," ms. MIT, Cambridge, Massachusetts.
- Zubizarreta, M.L. (1982) On the Relationship of the Lexicon to Syntax, Doctoral dissertation, MIT, Cambridge, Massachusetts.
- Zwicky, A.M. and G.K. Pullum (1983) "Cliticization vs. inflection: English n't," Language 59, 502-513.