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SENTENTIAL COMPLEMENTS IN HEBREW

by

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Abstract

SENTENTIAL COMPLEMENTS IN HEBREW

by

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This work is a transformational-generative account of some syntactic aspects of embedded sentences in Hebrew. Sentences that are exhaustively dominated by a NP are differentiated from sentences that are not dominated by a NP. The former are generated through the expansion of NP as two NPs in mutual construction. A condition on deep structure, the Sameness Relation Condition, is postulated to be applicable when two NPs are in mutual construction. The Sameness Relation Condition therefore applies in the case of embedded sentences dominated by a NP. The same condition also applies in nominal (verbless) sentences generated by a rule that expands S as two NPs in mutual construction.

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ABBREVIATIONS

BC	Burial Constraint
CNPC	Complex Noun Phrase Constraint
LDR	Left Dislocation Rule
LMR	lo-Movement Rule
NPC	Noun Phrase Constraint
NRC	Non-restrictive Relative Clause
OM	Object Marker
PCR	Preposition Copying Rule
PDR	Pronoun Deletion Rule
P-marker	Phrase Marker
PPP	Prepositional Phrase Preposing
PS-rule	Phrase Structure Rule
PSR	Pronoun Substitution Rule
RC	Relative Clause
RDR	Right Dislocation Rule
RM	Relative Marker
RRC	Restrictive Relative Clause
SC	Sentential Complement
SCNP	Sentential Complement of Noun Phrase
SNP	Sentence dominated by a Noun Phrase
SRC	Sameness Relation Condition
SRn	Sameness Relation
T-rule	Transformational Rule
VFR	Verb Fronting Rule

CHAPTER ONE

1.1 The Topic of Investigation

The present work represents an investigation of certain syntactic aspects of embedded sentences in Hebrew. The main question which is raised is as follows: Are there any syntactic differences among embedded sentences, and if there are, what is the most significant way to capture them within the framework of Chomsky (1965)? (Henceforth, referred to as the Standard Theory).

Given the Standard Theory and the structure of the syntactic component, the investigation concentrated mainly on the following two areas: (a) Are there any differences among embedded sentences in terms of the applicability of Transformational rules (T-rules)? (b) Are there any differences among embedded sentences in terms of conditions on deep structure Phrase Markers (P-Markers)?

The different conditions on applicability of various T-rules argued for in Chapters Two and Three, particularly with respect to movement (interpreted here as copying and deletion), provide evidence for the claim that not all embedded sentences whose surface structure is similar should be analysed as derived from the same deep structure. In order to capture these differences, a distinction is made between embedded sentences that are exhaustively dominated by a NP (SNP) and where movement is constrained by the recoverability constraint (Chomsky 1964:71 1965:138); and embedded sentences of which

the cyclic node immediately dominating them is an S and not a NP, and where movement is not so constrained.

With respect to conditions on P-Markers, (b), it is then observed that an SNP, or an element of it, is interpreted as being the same as a NP immediately preceding the SNP. This observation is captured by postulating the Sameness Relation Condition (SRC) which is a condition on deep structure P-Markers. The SRC requires that if a deep structure P-Marker includes an SNP, either the S dominate a pronoun which can be in Sameness Relation (SRn) with the NP immediately preceding the S, or that NP be such that the entire S can be intrepreted as being in SRn with it (4.3;4.5).

The incorporation of the SRC into the grammar allows for a unified description of all SNPs. The significance of this analysis is that structures traditionally termed Sentential Complements of Nouns, Restrictive Relative Clauses, and Non-Restrictive Relative Clauses are all derived by the same sub-set of Phrase Structure rules (PS-rules), thus capturing their semantic relatedness. Furthermore, this analysis captures the fact that rules applying in the above, traditionally distinct, structures obey the same constraints and that they all require SRn to hold in the way described above.

In addition, an observation is made that the same requirements with respect to SRn that hold between an SNP (or an element of it) and a NP preceding that S, also hold true for two adjacent NPs which form a sentence. (These sentences are termed 'nominal sentences' by traditional grammarians (cf.

Chapter Five). This fact directly follows from the formulation of the SRC (4.5.22) if one expansion of S corresponds to the surface structure of nominal sentences and is NP NP, and it is for this reason that the PS rule S ---→ NP NP is incorporated into the grammar of Hebrew. Expressing the similarity between nominal sentences and SNPs by means of the SRC suggests the possibility of a unified semantic analysis of the relation between two NPs that are adjacent at the level of deep structure. Specifically, it suggests that the similarity between the second NP of a nominal sentence and an SNP with respect to their attributive or identity function is not accidental.

1.2 The Theoretical Framework

The theoretical framework along the lines of which the analysis is performed is basically that of Chomsky (1965). In particular the following theoretical constructs have been assumed and when necessary modified:

(a) The distinction between a syntactic and a semantic component where the first is characterized roughly as a system of rules that generate structures and the latter is a system of rules that interpret the structures generated by the syntactic component (1965:16). Specifically, the base component of the syntactic component generates deep structure P-Markers that include all the lexical and structural information necessary for the interpretation of a sentence. In turn, each deep structure P-Marker is the input to the semantic component which interprets it, thus providing the meaning of the sentence. Also, this deep structure P-Marker is the input for T-rules to operate on, thus providing the surface structure of the sentence. (This surface structure is then interpreted by the phonological component.)

(b) The syntactic component includes, among others, the following types of rules: Phrase Structure rules (PS rules) that are context free rewrite rules, and T-rules. In particular, a T-rule is taken to be well formed only if it obeys the following specifications:

> Each transformation is fully defined by a structure index, which is a Boolean condition on analyzability, and a sequence of elementary transformations. The notion "Analyzable" is determined in terms of the "is a" relation, which in

> turn is defined by the rewriting rules of the base and by the lexicon. (Chomsky 1965:143).

Thus, a T-rule that is defined in a way other than the one just described is considered an ill-formed rule. That is, any T-rule that contains rule-specific conditions such as "1=2", or "1...3 is dominated by S", or "the transformation is optional/obligatory in case X", etc., is considered an ill-formed transformation. Furthermore, a well-formed T-rule is considered preferable if its application does not result in a change in the meaning of a deep structure P-Marker. The notion 'meaning' is taken here to be that neither cooccurrence restrictions imposed upon a particular deep structure nor its truth value can change as a result of applying a T-rule. (This notion is usually referred to as 'the meaning-preserving hypothesis", (cf. Katz and Postal 1964; Partee 1971). Given that in the anlaysis presented here pronouns are base-generated and the SRC is imposed upon deep structures, an additional feature is added to the meaning preserving hypothesis, namely, that a well-formed T-rule is preferred if its application does not result in new elements that were not in SRn at the level of deep structure establishing SRn at the level of surface structure. That is, T-rules can reduce the number of possible readings of a sentence by eliminating one or more possibilities for establishing SRn but they cannot add such possibilities.

(c) In addition to the various rules, it is assumed that a grammar also includes general constraints on the application of rules. For example, the constraint that rules can only apply once per cycle, the constraint that rules must apply in

a specified order, etc...

With reference to these kind of constraints special attention is devoted to the recoverability constraint which is a constraint on the application of T-rules. Given the restricted phenomenon dealt with here and the limited number of rules postulated, this constraint is redefined, restricting it for the purpose of the present investigation to deletion within the domain of a NP (4.4.13). This reformulation eliminates the need for a Complex NP Constraint (Ross;1967) or variants of it (eg. NP Constraint 4.2.21).

In addition the Burial Constraint (BC, 4.6.17) is postulated to restrict the application of a T-rulein a higher cycle if it could apply to the same element in a lower cycle but did not.

As for the application of PS-rules and lexical insertion rules, the SRC is postulated as a condition on deep structure P-Markers that requires SRn among NPs in mutual construction, and with no other node in mutual construction with them.

(d) Furthermore, the following categories have been assumed: S, NP, VP, PP, N, Pronoun, Preposition, Conjunction. However, contrary to previous anlyses of Hebrew (cf. Hayon 1973; Berman 1973) no assumptions are made with respect to the expansion of either S, NP, or VP or the lexical items which are to be categorized as pronouns. In deciding upon the various expansions of the above nodes or the classification of items as being pronouns or not, two hypotheses are advanced: First, a surface form with more than one interpretation, and for which the different interpretations correlate with

structural differences, should be given one meaning at the level of deep structure and the structure should be generated by PS rules and be given a meaning. The various interpretations are then attributed to the combination of the two meanings, an operation performed by the semantic component. Thus, for example, if a verb is interpreted differently when it precedes a sentential complement that is not an SNP or when it precedes an SNP, this structural difference should be represented in terms of different subcategorization rules given to the same form rather than in terms of lexical homonymy. Second, a form that appears in various different structures does not necessarily belong to different categories. That is, the categorial classification of forms should be determined according to their interaction with rules rather than only according to the meaning of the sentence in which they appear. The significance of the latter is, to mention one case, that a reclassification of šе and ašer as pronounsdominated by a NP node, rather than as relative markers, makes it possible for these forms to be the controls for deletion, thus accounting for various grammatical judgements.

1.3 Disclaimers

Before the discussion begins it is necessary to make a few disclaimers. First, in the examples presented in Chapter Two and Three there is no distinction made between forms traditionally termed verbs and those traditionally termed adjectives, the latter being the passive form of transitive or intransitive verbs which denote an inherent quality (Gesenius 1909:136), eg. yadu'a, 'known' batuax, 'obvious; confident', etc. All of these forms are considered to be derived under the node verb. Second, there is no account of the various forms of the verb which Gesenius calls "tense-forms (perfect and imperfect)" (1909:117), and which trans-formational generative grammarians have called "past, present and future" (cf. Berman 1973:21, Rubinstein 1971:37-38, Hayon 1973). Third, there is no account of the morpheme ha about which Gesenius writes the following:

> The article (ha,haa,he) was originally, as in other languages (clearly in the Romance; (...), a demonstrative pronoun. The demonstrative force of the article, apart from its occasional use as a relative pronoun appears now, however, only (a) in a few standing phrases, and (b) in a certain class of statements or exclamations. (1909:404).

And fourth, to end but not exhaust the list of phenomena not dealth with here, there is no account of the alternation between še/ki and other morphemes in sentential complements that do not modify a noun (i.e., they are not what are traditionally called relative clauses).

The topics outlined above have not been dealt with because each and every one of the phenomena mentioned is

related to structures other than the ones under consideration. It, therefore, seems to me, that any account of the above mentioned phenomena must take into consideration the entire domain where each is believed to occur, rather than only its occurrence in the restricted domain. The subject matter as defined here is therefore much too restricted to handle these questions in any meaningful way. Furthermore, there is a considerable disagreement as to the nature of these topics, a fact that is clearly demonstrated by the different terminology chosen by the various grammarians. Dealing with the terminological disagreement would involve investigating the exact nature of the disagreement and its implications both in terms of a complete description of Hebrew and in terms of the theoretical framework adopted here. Again, such an investigation is felt to be far beyond the scope of the task undertaken here.

The presentation in this work is divided into five chapters. Chapters Two and Three present arguments for differentiating between SNPs on the one hand, and other embedded sentences on the other. Chapter Four presents a unified analysis of all SNPs. Chapter Five presents a partial analysis of nominal sentences and their syntactic similarity to SNPs.

The data presented was made up in its entirety and was checked with other native speakers for grammaticality judgements. It was felt that given the limited scope of the investigation, any other data, either spoken or written, would be too loaded with linguistic forms that might obscure the presentation of the phenomena analysed. The disadvantage of working

withthe minimal information needed for a particular demonstration is that some of the grammaticality judgements, although I believe not too many, might sometimes present some disagreement. However, the positive aspect of restricting the data in such a way is that it makes it possible to discover some very general regularities in the language, such as, for example, the sameness relation that exists between adjacent NPs in a particular configuration.

CHAPTER TWO

2.1 Introduction

In this chapter I will discuss sentences of the type illustrated in 2.1.1 - 2.1.4, all of which might be assumed to have the same surface constituent structure.

2.1.1 nire [še-hi mitragešet lo me-ha-nesi'a ki-im me-ha-haxanot]
S
seems that-she excited not from-the-trip but from-the-preparations

2.1.2 lo nire [še-hi mitragešet me-ha-nesi'a ki-im me-ha-haxanot]
S
not seems that-she excited from-the-trip but from-the-preparations

2.1.3 murgaš [še-hi mitragešet lo me-ha-nesi'a ki-im me-ha-haxanot]
S
feels that-she excited not from-the-trip but from-the-preparations

2.1.4 *lo murgaš [še-hi mitragešet me-ha-nesi'a ki-im me-ha-haxanot]
S
not feels that-she excited from-the-trip but from-the-preparations

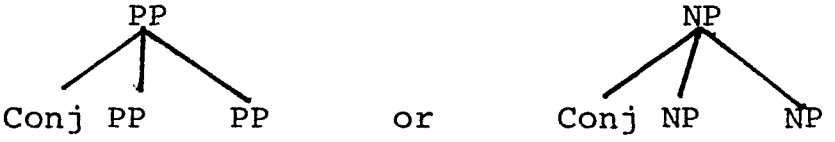
In particular, I will demonstrate that the sentences that appear as embedded S on the surface have two distinct deep structure origins: the embedded S in 2.1.3 and 2.1.4 is dominated by a NP in deep structure whereas the embedded S in 2.1.1 and 2.1.2 is not so dominated. This demonstration will include an analysis of lo 'not' and of ki-im 'but' and the postulation of an optional rule which moves lo when it originates in a sentence not dominated by a NP.

The argument will be presented in four stages:

a. First, it will be shown that when lo occurs with ki-im we have not two separate constituents lo and ki-im, but rather one deep structure bi-morphemic constituent lo..ki-im

where ki-im is a bound morpheme. The lexicon of Hebrew thus contains a constituent lo and a constituent lo..ki-im.

b. Second, lo..ki-im will be considered a conjunction generated in the base in mutual construction with parallel NP or PP nodes, i.e.,



(The term "mutual construction with" is taken from Klima (1964: 297) and in this particular context it means that the node immediately dominating Conj also immediately dominates parallel PP or NP nodes).

c. Third, it will be demonstrated that the cooccurrence of the lo part of lo..ki-im in structures other than parallel construction is the result of the application of a movement rule. This rule is subject, among others, to a constraint on movement out of a NP.

d. Fourth, it will be shown that the grammaticality judgements about 2.1.1-2.1.4 can be accounted for in terms of a-c if 2.1.3 and 2.1.4 are analysed as containing an S exhaustively dominated by a NP.

2.2 The One Constituent Analysis of lo...ki-im.

Examples 2.1.1-2.1.4 show that even though one may assume that in all four sentences the surface structure is the same, the distributional facts with respect to lo are different. Whereas lo can occur both in an embedded S (2.1.1) and in a matrix S (2.1.2) when the matrix verb is nire, 'seem', and the embedded S includes ki-im, it can only occur in the embedded S if the matrix verb is murgaš, 'feels' (2.1.3). That is, 2.1.4, where murgaš is the matrix verb and lo appears in the matrix S, is ungrammatical. It might appear at first that 2.1.4 blocks because of the verb and that, therefore, there should be a rule sensitive to the presence of murgaš when lo precedes it. That this is not the case is shown by sentences such as 2.2.1 and 2.2.2, where lo occurs by itself (i.e., without ki-im) and it can appear in both matrix and embedded sentences. Furthermore, such a rule would be theoretically undesirable because it would require a rule-specific condition.

2.2.1 murgaš še-hi lo mitragešet me-ha-nesi'a
feels that-she not excited from-the-trip

2.2.2 lo murgaš se-hi mitragešet me-ha-nesi'a
not feels that-she excited from-the-trip

A second observation to be made about the distribution of lo is that the conditions on its occurrence and position are different when it occurs with ki-im than when it occurs with other morphemes that are similar to ki-im in other respects. When morphemes other than ki-im, lo is optional

and its position is free with respect to those morphemes, as shown in 2.2.3 -2.2.5. With ki-im, however, lo is obligatory (i.e., ki-im never occurs without lo) and its position with respect to ki-im is fixed (i.e., lo must always precede ki-im), as shown in 2.2.6 and 2.2.7.

2.2.3 dan roce le-exol et ha-tapuax [aval,ve] xanan roce zot gam ken
Dan wants to-eat OM the-apple [but, and] Xanan wants it too

2.2.4 dan ohev et rut [aval, im-ki, ve] xanan lo ohev ota
Dan loves OM Ruth [but, even-though, and] Xanan not loves her

2.2.5 dan lo ohev et rut [aval,im-ki, ve] xanan ohev ota
Dan not loves OM Ruth [but, even though, and,] Xanan loves her

2.2.6 *dan ohev et rut ki-im et lea
Dan loves OM Ruth but OM Lea

2.2.7 *dan ohev et rut ki-im lo et lea
Dan loves OM Ruth but not OM Lea

The simplest way to state the distribution of lo and ki-im is to generate them together in the base in one position i.e., as a deep structure constituent. That is, unless there is a rule that moves lo to the right of ki-im (a rule which at present seems very unlikely), such an analysis guarantees both the obligatory occurrence of lo with ki-im and their proper order. If we were not to derive lo and ki-im together, we would have to argue for a special restriction on ki-im that would assure its occurrence always to the right of lo. This lo, in turn, would have a number of idiosyncratic restrictions:

ki-im would have to be allowed to the right of lo that immediately precedes a V or immediately precedes (P) NP ki-im (P) NP; however, it would not be allowed to the right of a lo preceding a NP (2.2.8). Also, lo would not be allowed to the left of a parallel construction conjoined by ve 'and', as shown in 2.2.9.

2.2.8 *lo dan halax le-šam ki-im le-kan
not Dan went to-there but to-here

2.2.9 *ani ohev lo et rut ve et dan
I love not OM Ruth and OM Dan

Based on these simplicity arguments about the statement of restrictions on lo and ki-im, I conclude that there is in Hebrew a bi-morphemic deep structure constituent lo... ki-im generated in the base. The separation between the two parts of this constituent on the surface will be accounted for by rules which place lo and ki-im in their surface positions. The rule for lo-movement is motivated in 2.4. The rule that moves ki-im is assumed to be the same rule that places other conjunctions in their surface positions.

2.3 The Subcatergorization of lo..-ki-im

Having justified the existence of the constituent lo...ki-im in Hebrew, I will now motivate PS rules 2.3.1 and 2.3.2 which will provide the proper environment for its insertion and will serve as evidence that its lexical entry should be subcategorized as in 2.3.3.

2.3.1 PP ----→ Conj PP PP

2.3.2 NP ----→ Conj PP NP

2.3.3 lo..ki-im / ___ PP PP

___ NP NP

In order to show that 2.3.1 and 2.3.2 generate the proper environment for the insertion of lo..ki-im, I will bring evidence that the only other way to derive nodes conjoined by lo..ki-im is highly implausible and finds no support in the data. While it might appear possible to consider nodes conjoined by lo..ki-im as derived from conjoined VPs or Ss through a process of deletion rather than as members of the same constituent (as in 2.3.1 and 2.3.2)--such an analysis will be shown to have little support from the facts. This leaves 2.3.1 and 2.3.2 as the only plausible alternative for deriving nodes conjoined by lo..ki-im.

In order to demonstrate the above, I will present and elaborate the following argument which consists of two parts:
2.3.4 There exist no surface structure lo X ki-im X' where X, X' are constituents of the same type, such that lo X ki-im X' is not a constituent.

2.3.5 There exists no surface structure lo X ki-im X', where lo X ki-im X' is a constituent such that X and/or X' are each not generable by PS rules (i.e., X and/or X' must have been derived by a deletion transformation).

The relevance of 2.3.4 is that the failure of lo..ki-im to crucially cooccur with nonconstituents anywhere in the language provides some evidence against postulating abstract deep structures for constituents that do cooccur with lo..ki-im

Taking, for example, two PPs conjoined by lo..ki-im, one may claim that the deep structure of 2.3.6

2.3.6 NP V lo PP ki-im PP'

is 2.3.7

2.3.7 NP [lo [V PP ki-im [V' PP']
VP VP VP'

and that 2.3.6 is the output of applying a rule that deletes one of the V nodes, as might be the case with other conjunctions (cf. 2.3.8b), and an ad-hoc rule that moves lo to the left of V.

2.3.8 a. mose amar le-rut salom ve ledan amar le-hitraot
Moses said to-Ruth hello and to-Dan said to-see-again

b. mose amar le-rut salom ve-ledan -- le-hitraot
Moses said to-Ruth hello and to-Dan -- to-see-again

As one can see the underlined string in 2.3.8 is not a deep structure constituent and therefore generating it cannot be done by PS rules but requires a V deletion rule. i.e., strings that are not nonconstituents are evidence for the existence

of deletion rules. The absence of nonconstituents coordinated by lo..ki-im allows for a more restrictive theory where only single constituents can stand in the place of X and X' in 2.3.4 where both are dominated by the same node.

In our case then, a rule of V deletion such as the one needed to derive 2. 3.8b from 2.3.8a would be necessary only if somewhere in the language there are strings of the form 2.3.9

2.3.9 lo V PP_1 PP_2 ki-im PP'_1 PP'_2

where PP_1 PP_2 or PP'_1 PP'_2 are not a constituent. The absence of 2.3.9 demonstrated by the ungrammaticality of 2.3.10 makes a rule of V deletion unnecessary if the conjunction is lo..ki-im and renders the derivation of 2.3.6 from 2.3.7 unmotivated.

2.3.10 *moše amar lo le-rut šalom ki-im le-dan -- le-hitraot
Moses said not to-Ruth hello but to-Dan -- to-see-again

The same point could be made with respect to 2.3.11 and 2.3.12 where the nonconstituent strings involve a PP and what I shall informally term "causative" in each node of the parallel structures under consideration.

2.3.11 *ha-ganav yošev lo ba-bayit biglal še-hu adam yašar ki-im
the-thief sits not at-home because that-he man honest but
be-veyt ha-sohar biglal še-hu ganav
at-house of guards because that-he thief

2.3.12 *axoti ha-ktana makšiva lo li mišum še-ani axiha ki-im le-yedida mišum

sister-my the-little listens not to-me because that-I brother-hers but to-friend-hers because

še-hi ohevet oto

that-she loves him

I conclude, then, that there is no need to postulate more abstract underlying structures than the surface constituent structure suggests, thus pointing to 2.3.1 and 2.3.2 as the correct way to generate the environment for the insertion of lo..ki-im.

The relevance of 2.3.5 is that if lo..ki-im coordinated nodes with deleted deep structures elements, the structures coordinated by lo..ki-im would have to be analysed as having more abstract deep structure than their surface structure suggests. That is, their deep structure would include elements not present in surface structure. I will demonstrate in what follows that in nodes coordinated by lo..ki-im no deletions can take place and that therefore the deep structure of such nodes should be essentially the same as their surface structure.

In order to make this point, I will assume that the grammar of Hebrew contains a rule of Gapping which deletes a verb in a conjoined sentence when the verbs in the two conjuncts are indentical. Sentences 2.3.13, for instance, would show the operation of Gapping, which, as shown by the grammaticality of 2.3.13a and 2.3.13b, is an optional rule.

2.3.13 a. moše ohev xalav ve-raxel ohevet gvina

Moses loves milk and-Rachel loves cheese

2.3.13 b. moše ohev xalav ve-raxel gvina

Moses loves milk and-Rachel cheese

Further, I will assume that the principle of Strict Cyclicity (Chomsky 1973:243) is a valid constraint. It therefore follows that since Gapping can apply in conjoined sentences which are embedded in a higher sentence, Gapping is a cyclic rule.

2.3.14 a. moše meruce mi-ze [še-dan holex la-kolno'a ve-ran holex

Moses happy of-this that-Dan goes to-the-movies and-

la koncert]

Ran goes to-the-concert

b. moše meruce mi-ze [še-dan holex la-kolno'a ve-ran la-koncert]

Moses happy of-this that-Dan goes to-the-movies and-Ran to-the-concert

The operation of Gapping shows that deletions can never take place in nodes conjoined by lo..ki-im despite the fact that nodes conjoined by other conjunctions regularly undergo deletions. Sentence 2.3.14b is a case of deletion in nodes conjoined by ve which results in a grammatical string; the ungrammaticality of 2.3.15 leads to the conclusion that deletions cannot take place in nodes conjoined by lo..ki-im. It should be noted that sentences conjoined by lo..ki-im are ungrammatical whether or not še 'that' is included in the parallel construction (cf 2.3.15a and b).

2.3.15 a. *moše meruce mi-ze [še-lo dan halax la-kolno'a ki-im ran
Moses happy of-this that-not Dan went to-the-movies but
la-koncert]
Ran to-the-concert

b. *moše meruce mi-ze lo [še-dan halax la-kolno'a ki-im še-
Moses happy of-this not that Dan went to-the-movies but
ran la koncert]
that Ran to-the-concert[2.3.1]

The evidence shown above with respect to 2.3.4 and 2.3.5 has served to demonstrate that lo..ki-im should be inserted in the base in the environments generated by 2.3.1 and 2.3.2 and that there is no need to postulate a more abstract analysis for nodes conjoined by it, i.e., no need to analyse such nodes as derived from separate VPs or Ss through processes of deletion. In what follows, I will provide additional arguments against the abstract analysis of nodes conjoined by lo..-ki-im by showing that such an analysis would be undesirable on theoretical grounds because it would force us to add a condition which makes obligatory a rule that is otherwise optional.

In order to make this point we will assume that sentences 2.3.16 and 2.3.17 are transformationally related and are derived by the optional application of a rule or rules that have the effect of deleting NP-of-S and V of the second conjunct of two conjoined nodes.

2.3.16 ani ohev et ha-marak ve-ani ohev et ha-baser

I love OM the-soup and-I love OM the-meat

2.3.17 ani ohev et ha-marak ve-et ha basar

I love OM the-soup and-OM the-meat

Now, if we were to make the assumption that 2.3.18 is derived in the same way as 2.3.17, then the rule or rules that are optional when the conjunction ve 'and', (cf. the grammaticality of 2.3.16 and 2.3.17) would have to be obligatory when the conjunction is lo..ki-im as shown by the ungrammaticality of 2.3.19.

2.3.18 ani ahev lo et ha-marak ki-im et ha-basar

I love not OM the-soup but OM the-meat

2.3.19 a. *lo ani ohev et ha-marak ki-im ani ohev et ha-basar

I love not OM the-soup but I love OM the-meat

b. *ani lo ohev et ha-marak ki-im ani ohev et ha-basar

I not love OM the-soup but I love OM the-meat

c. *ani ohev lo et ha-marak ki-im ani ohev et ha-basar

I love not OM the-soup but I love OM the-meat

Having conditions on a transformation other than Boolean conditions, especially having a condition which refers to the optional or obligatory application of a particular rule

is not a desirable situation. It therefore follows that if there are two analyses, one that avoids having a rule specific condition and another which requires it, the former is to be chosen. This argument therefore provides further support for 2.3.1 and 2.3.2. Having 2.3.1 and 2.3.2 in the grammar eliminates the need to derive parallel constructions of the type discussed here by deletion rules and hence eliminates the need for a rule-specific condition.

In summary, then, I have demonstrated that there are no occurrences of lo..ki-im with parallel constructions that are not deep structure constituents. I have also shown that even if lo..ki-im could coordinate Ss such an underlying structure could not be the deep structure for lo PP ki-im PP., without complicating the statement of Gapping. The conclusion is therefore that lo..ki-im cannot have any other source than 2.3.1 and 2.3.2 and that therefore its correct subcategorization in the lexicon is 2.3.3.

2.4 Lo Movement Rule: Simplicity of cooccurrence statements

In the preceding sections I have accounted for the occurrence of lo..-ki-im as a conjunction in mutual construction with parallel PPs or NPs by motivating rules 2.3.1 and 2.3.2. It remains now to account for the occurrence of lo when, as in sentence 2.1.2 for example, it does not appear in that position.

If lo were regarded as a separate constituent from ki-im, the framework outlined in Chapter One would allow two analyses of the distribution of lo in sentences such as 2.1.1 and 2.1.2. Under one analysis, lo could be generated both as a constituent of parallel PPs and NPs and as a preverbal (or presentential) element. This analysis would claim no transformational relation between 2.1.1 and 2.1.2. Under a second analysis, lo is derived only as a constituent of parallel PPs or NPs and a transformational relation exists between 2.1.1 and 2.1.2. As I have already demonstrated in section 2.2 lo and ki-im must be analysed as one constituent, therefore the first of these two analyses cannot be considered since it requires that lo and ki-im be two separated constituents. The second analysis, on the other hand, is compatible with both the one and the two constituents view of lo and ki-im and for this reason must be preferred.

Accepting the analysis of lo as a constituent of parallel PPs or NPs requires the postulation of a Lo-Movement rule (LMR) of the form

2,4.1 X V Y lo Z

1 2 3 4 5 ====⇒ optional

1 4 2 3 ∅ 5

that would relate sentences like 2.1.1 and 2.1.2. I will now provide independent evidence that LMR is a rule in the grammar of Hebrew by showing that the postulation of LMR allows for the most economical statement of cooccurrence restrictions of lo with conjunctions such as ela 'but' . Consider the following sentences:

2.4.2 a. ata oxel lo gvina ki-im beycim [ve-ilu, aval] hu oxel gvina
you eat not cheese but eggs but he eats cheese

b. ata lo oxel gvina ki-im beycim[ve-ilu,aval] hu oxel gvina
you not eat cheese but eggs but he eats cheese

2.4.3 a. *ata oxel lo et ha-gvina ki-im et ha-beycim ela hu oxel et ha-gvina
you eat not OM the-cheese but OM the-eggs but he eats OM the-cheese

b. *ata lo oxel et ha-gvina ki-im et ha-beycim ela hu oxel et ha-gvina
you not eat OM the-cheese but OM the-eggs but he eats OM the-cheese

Sentences 2.42a and 2.4.2b provide evidence for the fact that lo can occur with the conjunctions ve-ilu and aval (both meaning 'but') whether it appears immediately preceding a conjoined NP (2.4.2a) or immediately preceding the V (2.4.2b). On the other hand, if ela 'but' appears lo cannot do so whether immediately preceding a conjoined node (2.4.3a) or immediately

preceding the V (2.4.3b). Failure to capture these distributional facts by a rule would force us to provide for each set of conjunctions two statements of cooccurrence. One with lo when it immediately precedes a conjoined (P)NP the other when it immediately precedes a V. That at least two statements would be necessary and that they could not be reduced to eg."ela cannot cooccur with lo preceedint it" or "ela cannot cooccur with ki-im preceding it" is demonstrated by the following grammatical sentence which violates both of the alternative single cooccurrence statements suggested above.

2.4.4 lo ani avo lo hayom ki-im maxar ela hu yavo maxar
not I will-come not today but tomorrow but he will-come tomorrow

In contrast to the analysis above which does not relate transformationally 2.4.2 a & b, in the analysis proposed here the a sentences of 2.4.2 and 2.4.3 are base generated and the b sentences are transformationally derived through LMR. The cooccurrence restrictions of lo with ve-ilu and aval and with ela, can thus be stated only once effecting an economy in the grammar. Such an analysis also makes it possible to state the cooccurrence restrictions on ki-im, at least for the cases under consideration, in terms of the domain of one sentence only rather than having to state them across sentences as would be required by the grammaticality of 2.1.2 where lo and ki-im appear in two different cyclic nodes.

Furthermore, since all structures related by LMR have the same semantic interpretation (cf. 2.4.5) this rule also conforms

to the meaning-preserving hypothesis.

2.4.5 a. nire li [še-ata oxel lo gvina ki-im beycim]
seems to-me that-you eat not cheese but eggs

b. nire li [še-ata lo oxel gvina ki-im beycim]
seems to-me that-you not eat cheese but eggs

c. lo nire li [še-ata oxel gvina ki-im beycim]
not seems to-me that-you eat cheese but eggs.

In all three sentences in 2.4.5 the meaning is the same: in all three lo is interpreted as contrasting the conjoined NP, i.e., the relationship of the eggs and the cheese to the verb 'eat' is the same and they all mean 'it seems to me that you are not eating cheese, but eggs'. The derivation of 2.4.5 which captures these facts is the following: 2.4.5a is base generated and provides the semantic interpretation for all the sentences in 2.4.5; in 2.4.5b LMR (which is a meaning-preserving T-rule) has applied in the embedded S; in 2.4.5c it has applied in the matrix S. The different positions of lo caused by LMR have in no way affected the meaning of the sentences.

In conclusion then, we see that the occurrence of lo in sentences such as 2.1.2 (where it is not in mutual construction with parallel (P)NPs can be best accounted for by a rule of LMR, which I have justified here.

2.5 The Interaction of LMR with other Syntactic Rules

In order to further demonstrate that LMR is a rule in the grammar of Hebrew I will show that there is a range of grammaticality judgements that can be accounted for through the interaction of LMR with other syntactic rules. Specifically, I will show that LMR must follow a rule of Prepositional Phrase Preposing (PPP). Furthermore I will show that those judgements of grammaticality that cannot be accounted for through the ordered application of PPP and LMR follow in fact from a general condition on rule application that I shall call the Burial Constraint (BC)

In 2.9 I justify the existence in the grammar of Hebrew of a rule of PPP which has the following form:

2.5.1

	X	PP	Y		
	1	2	3	⟹	optional
2	1	Ø	3		

I will now show that LMR has to be ordered after PPP.

Consider the following sentences;

2.5.2 david ohev lo et rut ki-im et rina
David loves not OM Ruth but OM Rina

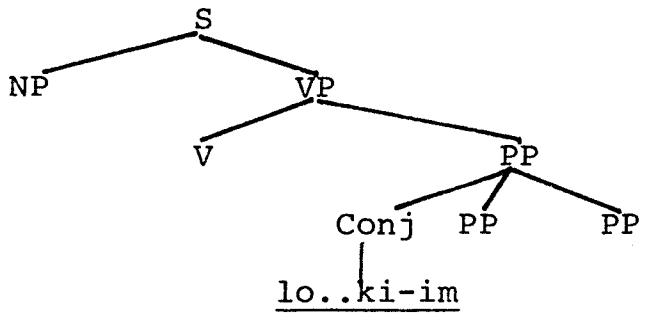
2.5.3 david lo ohev et rut ki-im et rina
David not loves OM Ruth but OM Rina

2.5.4 le et rut ki-im et rina david ohev
not OM Ruth but OM Rina David loves

2.5.5 *et rut ki-im et rina david lo ohev
OM Ruth but OM Rina David not loves

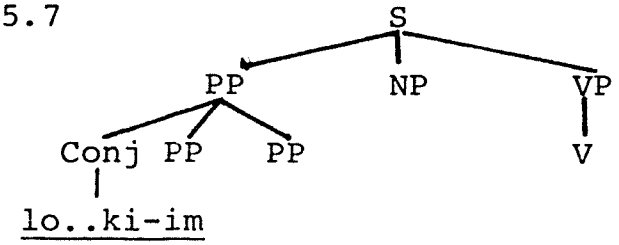
According to the analysis so far presented 2.5.2 is base generated; 2.5.3 is derived by LMR and 2.5.4 is derived by PPP. If we assume that LMR follows PPP, 2.5.5 can be blocked as illustrated in 2.5.6-2.5.7.

2.5.6



APPLICATION OF PPP

2.5.7



In the derivation of 2.5.5, LMR does not apply because the SD of the rule is not met. (i.e., lo must follow V in order for the rule to apply). Sentences 2.5.8-2.5.13 demonstrate the application of PPP and LMR in both embedded and matrix sentences. The order PPP, LMR accounts for the grammaticality of 2.5.8-2.5.11 and also the ungrammaticality of 2.5.12. However, ordering the rules as suggested will not block the ungrammatical 2.5.13.

2.5.8 nire li [$_{S}$ še-david ohev lo et rut ki-im et rina]

seems to-me that David loves not OM Ruth but OM Rina

2.5.9 lo et rut ki-im et rina mire li [$_S$ še-david ohev]
not OM Ruth but OM Rina seems to-me that David loves

2.5.10 lo nire li [$_S$ še-david ohev et rut ki-im et rina]
not seems to-me that-David loves OM Ruth but OM Rina

2.5.11 lo nire li [$_S$ še-et rut ki-im et rina david ohev]
not seems to-me that-OM Ruth but OM Rina David loves

2.5.12 *et rut ki-im et rina lo nire li [$_S$ še-david ohev]
OM Ruth but OM Rina not seems to-me that David loves

2.5.13 *et rut ki-im et rina nire li [še-david lo ohev]
OM Ruth but OM Rina seems to-me that-David not loves

Sentence 2.5.8 is base generated; 2.5.9 is derived by applying PPP in the matrix S. It should be noted that the generation of 2.5.9 does not violate the principle of strict cyclicity (Chomsky 1973: 243) since PPP involves not only nodes from the embedded S but also a variable. Therefore, PPP could apply for the first time in a higher cycle, moving a PP to the beginning of this cycle. Sentence 2.5.10 is derived by applying LMR in the matrix S, and again strict cyclicity is not violated. Sentence 2.5.11 is derived by applying PPP in the embedded S and LMR in the matrix S.

Sentence 2.5.12 will be blocked in the same way as 2.5.5. However, given that both PPP and LMR are optional rules and can apply separately on both cycles, the order will not block 2.5.13. The derivation proceeds in the following steps: In the embedded S PPP does not apply but LMR does; in the matrix S, PPP applies and generates an ungrammatical output. At the

point of application of PPP in the matrix S, lo is no longer a constituent of the PP factored by the SD of PPP and therefore it cannot move with the PP to the matrix S.

The ungrammaticality of 2.5.13 can be accounted for if we assume that there is a constraint on rule application, the Burial Constraint (BC), that blocks the application of a rule in a higher cycle if the same rule could have applied to the same node on a lower cycle but didn't. The BC can be summarized as follows:

2.5.14 If the application of a rule Z crucially involves X in the structure

$$[_{\alpha} \ldots \ [_{\alpha'} \ldots X \ldots] \ \ldots]$$

where α, α' are cyclic nodes and where the SD of Z is satisfied in α' and Z does not apply even though its SD is met, then the application of Z in α cannot crucially involve X.

The BC will now block sentence 2.5.13 in the following way: In order for lo to immediately precede V in the embedded S, it is necessary for lo to follow the V at the point where LMR applies. (This follows from the SD of LMR). This in turn means that the only way that lo can move in front of the V in the embedded S is if PPP has not applied under circumstances where it could have applied. (This follows from the fact that PPP precedes LMR in the order of application). Given the BC, PPP can no longer apply in the matrix S because it did not apply in the embedded S when it could. The ungrammaticality of 2.5.13, then, is the result of violating the BC. 2.5.1

To summarize, then, I have demonstrated in this section that LMR is ordered in the grammar of Hebrew after PPP and that it interacts in accounting for grammaticality judgements not only with other rules of the grammar but also with general constraints on rule application such as the BC. The necessary ordering of PPP and LMR and their interaction with the BC is support for the hypothesis that they are rules in the grammar of Hebrew.

2.6 The Interaction of LMR and PPP with Constraints on Movement Rules

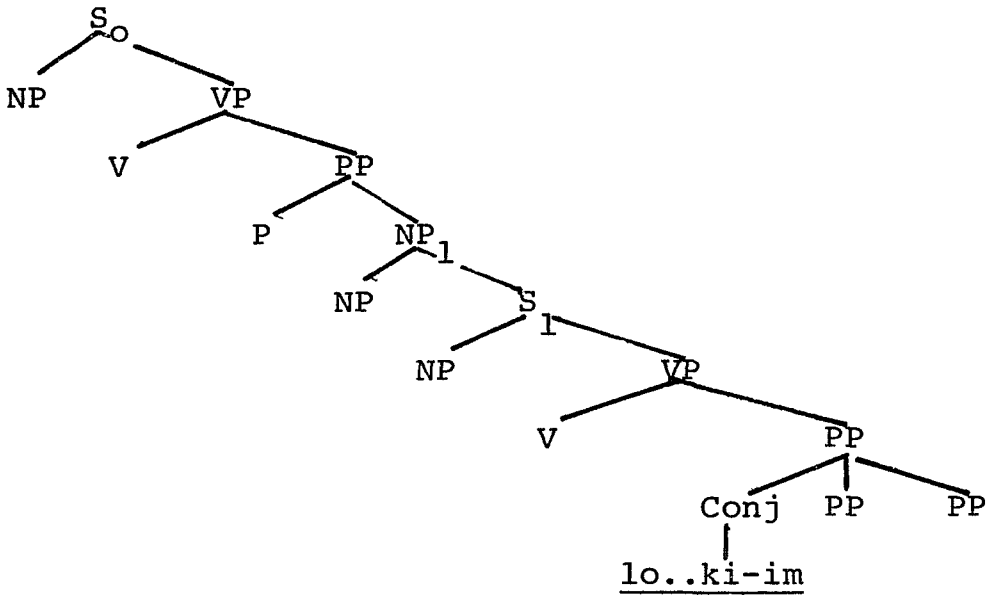
In 2.5 I have demonstrated the necessity of incorporating the BC into the grammar of Hebrew. In this section I will demonstrate that the BC alone cannot account for the ungrammaticality of sentences like 2.1.4 and 2.6.1. In order to account for these cases, it will be necessary to postulate a modified form of the Complex Noun Phrase Constraint (CNPC) that will apply to all NPs dominating an S, regardless of whether they have a lexical head. This constraint, which is more general than the CNPC and accounts for all the cases covered by it and more, will be called the Noun Phrase Constraint (NPC).

In sentences such as 2.6.1, whose deep structure is shown in 2.6.2, the BC is not enough to account for the judgement of ungrammaticality which, however, can be accounted for by the CNPC.

2.6.1 * lo hu raa et [ha-iš [še-halax le-xan ki-im le-šam]
NP S
not he saw OM the-man that-went to-here but to-there

The deep structure of 2.6.1 is represented in 2.6.2

2.6.2



The BC requires that if LMR is to apply in S_0 it should have applied in all previous cyclic nodes satisfying the SD of the rule. In 2.6.1, the node lower than S_0 where the SD of LMR is met is S_1. The grammaticality of 2.6.3 indicates that LMR could have applied in the S_1 cycle of 2.6.1

2.6.3 hu raa et [ha-iš [še-lo halax le-xan ki-im le-šam]
NP S
he saw OM the-man that-not went to-here but to-there

Given that LMR could have applied in S_1 it should have been possible for it to apply in S_0 and therefore the ungrammaticality of 2.6.1 is not accounted for by the BC. We now turn to the CNPC for an explanation. The CNPC was formulated by Ross in the following terms:

> No element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by a transformation (1967:70)

In 2.6.2, NP_1 is a CNP and lo is an element of S embedded in a CNP. It therefore follows that lo could not have moved out of S_1 and the ungrammaticality of 2.6.1 is thus a result of LMR violating the CNPC.

While the ungrammaticality of 2.6.1 can be accounted for through the interaction of LMR with the CNPC, there are similar sentences with sentential complements whose ungrammaticality cannot be accounted for by the CNPC or the BC. In sentences like 2.1.4 we note that if the surface constituent structure is the same as the underlying structure (i.e., V - S), neither the BC nor the CNPC can block LMR from applying. The grammaticality of 2.1.4' shows that it is perfectly plausible to assume that LMR applied in the S_1 cycle of 2.1.4 just as it did in the S_1 cycle of 2.1.4'

2.1.4' murgaš [še-hi lo mitrageš-et me-ha-nesi'sa ki-im
feels that-she not excited from-the-trip but
me-ha-haxanot]
from-the-preparations

Now, if there is a plausible analysis of 2.1.4 in which LMR has applied in the S_1 cycle, then the ungrammaticality of the sentence cannot be due to the violation of the BC by LMR, and therefore the BC cannot account for the ungrammaticality of 2.4.1. If we now turn to the CNPC for an explanation, we discover that the S in 2.1.4 is not embedded in a CNP. The CNPC is therefore inapplicable and thus provides no explanation for the ungrammaticality of 2.1.4 either.

I will now propose a different account for 2.1.4, an account which is based on a more abstract deep structure for 2.1.4 and the existence of the NPC.

If we look at surface structures of the following two types:

2.6.4 V P NP S

2.6.5 V S

and if we assume that their deep structures are essentially the same as their surface structures, i.e., as shown in 2.6.4 and 2.6.5, then we discover that LMR and PPP when applied to a deep structure like 2.6.5 behave, in some cases, in the same manner as they do when applied to 2.6.4 and in some cases they do not. The cases where PPP and LMR behave the same are illustrated in 2.6.6-2.6.17. The cases where they behave differently are illustrated in 2.6.18 - 2.6.21.

2.6.6 raiti et [ha-iša [$_{NP}$ še-$_{S}$ natat la et ha-sefer]
saw-I OM the-woman that-gave-you to-her the-book

2.6.7 ani ko'es meod [še-$_{S}$ natat la et ha-sefer be-acmex]
I angry much that-gave-you to-her OM the-book by-yourself

2.6.8 raiti et [ha-iša [$_{NP}$ še-et ha-sefer natat la $_{S}$]
saw-I OM the-woman that-OM the book gave-you to-her

2.6.9 ani ko'es meod [$_{S}$ še-et ha-sefer natat la be-acmex]
I angry much that-OM the-book gave-you to-her by-yourself

2.6.10 * et ha-sefer raiti et [ha-iša [$_{NP}$ še-$_{S}$ natat la]
OM the-book saw-I OM the-woman that-gave-you to-her

2.6.11 * et ha-sefer ani ko'es meod [$_{S}$ še-natat la be-acmex]
OM the-book I angry much that-gave-you to-her by-yourself

2.6.12 raiti et [ha-iša [NP še-kanta lo praxim ki-im acicim] S
saw-I OM the-woman that-bought not flowers but plants

2.6.13 ani ko'es meod [še-hi kanta lo praxim ki-im acicim] S
I angry much that-she bought not flowers but plants

2.6.14 raiti et [ha-iša [NP še-lo kanta praxim ki-im acicim] S
saw-I the-woman that-not bought flowers but plants

2.6.15 ani ko'es meod [še-hi lo kanta praxim ki-im acicim] S
I angry much that-she not bought flowers but plants

2.6.16 *lo raiti et [ha-iša [NP se-kanta praxim ki-im acicim] S
not saw-I OM the-woman that-bought flowers but plants

2.6.17 *ani lo ko'es meod [še-hi kanta praxim ki-im acicim] S
I not angry much that-she bought flowers but plants

Sentences 2.6.8 and 2.6.9 are transformationally derived by the application of PPP in the embedded S of 2.6.6 and 2.6.7 respectively. Sentences 2.6.10 and 2.6.11 are derived by applying PPP in the matrix S of 2.6.6 and 2.6.7. Sentences 2.6.14 and 2.6.15 are transformationally derived by the application of LMR in the embedded S of 2.6.12 and 2.6.13 respectively. Sentences 2.6.16 and 2.6.17 are derived by applying LMR in the matrix S of 2.6.12 and 2.6.13 respectively. We observe that the application of PPP or LMR in the embedded Ss generates grammatical Ss whether the deep structure is 2.6.4 (2.6.8, 2.6.14) or 2.6.5 (2.6.9, 2.6.15). Likewise, the application of PPP or LMR in the matrix Ss generates ungrammatical

Ss whether the deep structure is 2.6.4 (*2.6.10, *2.6.16) or 2.6.5 (*2.6.11, *2.6.17).

Consider now the cases where the application of PPP or LMR in the matrix S of deep structures like 2.6.5 produces results different than when applied to 2.6.4.

2.6.18 ani mecape [$_S$ še-titen la et ha-sefer]
I expect that-you-give to-her OM the-book

2.6.19 ani mecape [$_S$ še-hi tikne lo praxim ki-im acicim]
I expect that-she-will-buy not flowers but plants

2.6.20 et ha-sefer ani mecape [$_S$ še-titen la]
OM the-book I expect that-you-give to-her

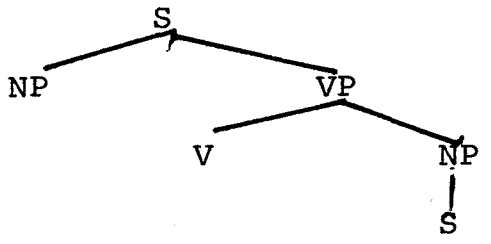
2.6.21 ani lo mecape [$_S$ še-hi tikne praxim ki-im acicim]
I not expect that-she-will-buy flowers but plants

Sentences 2.6.20 and 2.6.21 are derived transformationally by applying PPP and LMR to 2.6.18 and 2.6.19 respectively. We observe, however, that despite the similarity in surface structure among sentences where the embedded S is not preceded by a NP, these sentences behave differently with respect to the application of movement rules, i.e., sometimes they generate grammatical sentences (2.6.20, 2.6.21) and sometimes they don't (*2.6.11, *2.6.17)

The fact that, with respect to PPP and LMR, 2.6.5 is sometimes like and sometimes unlike 2.6.4 is evidence that in some cases the deep structure of 2.6.5 is not like its surface structure but rather more similar to the surface structure of

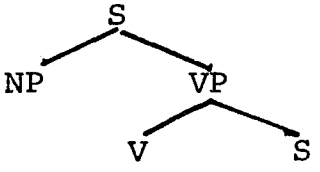
2.6.4. That is, sentences with a 2.6.5 surface structure (e.g. 2.6.7), where rules that move constituents out of the embedded S generate ungrammatical Ss, will be analysed as having a deep structure of the form

2.6.22



On the other hand, sentences with a 2.6.5 surface structure (e.g. 2.6.18) where rules that move constituents out of the embedded S generate grammatical Ss, will be derived from a deep structure of the form

2.6.23



An analysis in terms of 2.6.22 and 2.6.23 requires that the set of PS rules include

2.6.24 NP ----→ S

2.6.25 VP ----→ V S

Returning now to the problem of accounting for the ungrammaticality of 2.1.4, we see that under the analysis just argued for, it is possible to assign to the ungrammatical 2.1.4 a different underlying structure than to the similar but grammatical 2.1.2. However, the ungrammaticality of 2.1.4

is still problematic, since even under the analysis which assigns to 2.1.4 the deep structure 2.6.22, there is no way to block LMR. In particular, the application of LMR cannot be blocked by the CNPC because the NP dominating S in 2.6.22 does not contain a lexical head. A modification of the CNPC, however, will allow us to account for the cases previously accounted for by the CNPC (e.g. 2.6.1) as well as for 2.1.4. The Noun Phrase Constraint (NPC) reads as follows:

2.6.26 No element can move out of a sentence embedded in a NP.

In summary, then, in this section I have, first motivated two different deep structures for sentences with a V S Surface structure, one in which the embedded S is dominated by a NP and one in which it is not; second, I have proposed a constraint on movement rules, the NPC. These two deep structures interace with the NPC and account for the applicability of PPP and LMR in the derivation of sentences in Hebrew.[2.6.1]

2.7 Further Arguments in Favor of a PS Rule NP --> S

It was demonstrated in the previous section that in order to capture a number of linguistically significant generalizations with respect to PPP and LMR it was necessary to hypothesize 2.6.24 as a PS rule in the grammar of Hebrew. I will now strengthen the validity of this hypothesis by providing independent motivation for 2.6.24. There are, in addition to those outlined in 2.6, at least two arguments for postulating the existence of an S exhaustively dominated by a NP node. The first argument centers around avoidance of several ad-hoc conditions on transformations that would have to be postulated if 2.6.24 were not in the grammar. The second argument is grounded on the failure to capture a generalization.

Consider the following sentences:

2.7.1 a ani sameax [$_{PP}$al [$_{NP}$ze [$_{S}$še-hu halax]
I happy about it that-he went

b. ani semeax [$_{PP}$al [$_{S}$še-hu halax]
I happy about that-he went

c. ani sameax [$_{S}$še-hu halax]
I happy that-he went

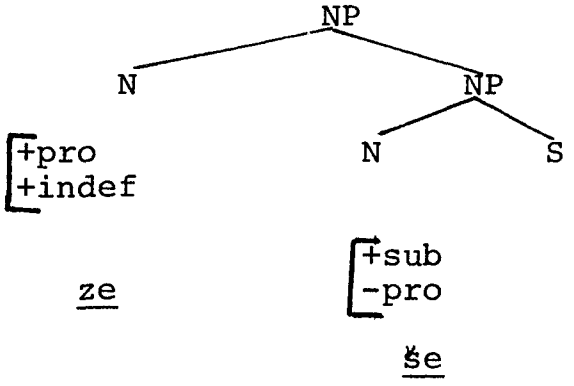
2.7.2 a. kol yom ani xolem [$_{PP}$al [$_{NP}$ze [$_{S}$še-hu ba le-xan]
every day I dream about it that-he came to-here

b. *kol yom ani xolem [al [še-hu ba le-xan]
PP S
every day I dream about that-he came to-here

c. kol yom ani xolem [še-hu ba le-xan]
S
every day I dream that-he came to-here

Berman has proposed (1973: 269-75) that the internal structure of the node dominating the S in 2.7.1 and 2.7.2 should be roughly 2.7.3.

2.7.3



Berman has further suggested (1973:275) that there is a rule of ze deletion that deletes ze under well-defined conditions. However, the distribution of ze in 2.7.1 and 2.7.2 suggests that there is no transormational rule that can properly generate the two sets of sentences without the postulation of ad-hoc conditions on the rule. In 2.7.1 and 2.7.2 the presence of ze in the a examples makes for grammatical sentences. In the b examples, deletion of ze results in a grammatical sentence in 2.71b but in an ungrammatical sentence in 2.7.2b. And then in the c examples deletion of ze with a preposition results in a grammatical sentence in both cases.

In order to account for this distribution of grammaticality judgements, a rule of ze deletion would have to be constrained in one of the following ways: (a) adding a condition

to the rule listing all of the verbs which block its application or (b) marking in the lexicon all the verbs which block its application as exceptions to it (Lakoff 1970). Both alternatives are ad-hoc and seem to me unacceptable. However, these problems can be avoided if some verbs are subcategorized as appearing in the environment (NP)(S) and the expansion of NP in the grammar includes the rule schema 2.7.4.

2.7.4 NP ----→ (NP) (S)

which allows S to be exhaustively dominated by NP. The first argument advanced in this section for 2.6.24, in its reformulation as 2.7.4 is, then, the ad-hoc nature of the rule of ze deletion that would have to be in the grammar if 2.7.4 were not a rule.

The second argument in favor of 2.7.4 has to do with the generation of surface sequences of P S. Such a sequence can be generated from PS rules of the form

2.7.5 PP ----→ P NP

and 2.7.4. But if 2.7.4 were not in the grammar of Hebrew, then the generation of surface P S would require the postulation of a rule of the form

2.7.6 PP ----→ P S

which could be collapsed with 2.7.5 to form a rule such as

2.7.7 PP ----→ P $\left\{\begin{matrix} S \\ NP \end{matrix}\right\}$

However such a grammar would fail to account for the fact that S nodes following Ps behave with respect to movement rules like S nodes embedded in NPs. Also, the explanation of why there can be movement out of some Ss but not out of others that was advanced in 2.6 and which requires a rule like 2.7.4, where 2.6.24 is incorporated could not be given in a grammar which does not include 2.7.4.

2.8 The Expansion of VP

In the previous sections I have presented evidence for the existence of the strings analysed as V S, V NP and V P [S. This leads to the postulation of a PS rule of the form

2.8.1 $VP \longrightarrow V \begin{Bmatrix} (P)\ NP \\ S \end{Bmatrix}$

I will now show that the operation of movement rules such as, for example, LMR, makes it necessary to expand VP as

2.8.2 VP ----→ V PP S

Consider the following sentences:

2.8.3 a. ani moxer et ha-bayit [še-hu yikne lo xašiš ki-im
I sell OM the-house that-he will-buy not hash

oxel la-yeladim]
but food for the children

b. ani lo moxer et ha-bayit [še-hu yikne xašiš ki-im
I not sell OM the-house that-he will-buy hash

oxel la-yeladim]
but food for-the-children

Sentence 2.8.3a is base generated and b is the output of LMR. Since b is a grammatical sentence LMR should be able to apply. As was demonstrated before, LMR can apply across cyclic nodes if the embedded S is not dominated by a NP. It therefore follows

that in 2.8.3 the embedded S is not dominated by the same node which dominates ha-bayit, i.e., it is not dominated by a NP. In order to generate 2.8.3 the expansion of VP must include the rule 2.8.2, which together with the PS rules given in the previous sections gives us 2.8.4 as the set of rules relevant to the topic under consideration in this chapter.

2.8.4 VP ----→ V (PP) (S)

NP ----→ (NP) (S)

PP ----→ (P) NP

2.9 Justification for and Characteristics of PPP

Before closing this chapter and outlining the derivation of sentences 2.1.1 - 2. 1.4, I will discuss the rule of PPP, whose interaction with LMR was discussed in 2.6. I will show that by assuming that both pronouns and question words (QW) are derived in the base under a NP node there is no need to postulate separate rules for Question Formation (QF) and Topicalization. (cf. Hayon (1973:47-8) where he implies the existence of such a rule).

The presentation will proceed in the following manner: First, I will provide examples of simple sentences, both assertions (2.9.1) and questions (2.9.2), that are semantically related and therefore should be related transformationally within the framework used here. The rule relating each pair of sentences in 2.9.1 and 2.9.2 is 2.5.1 which is repeated below.[2.9.1]

2.5.1

	X	PP	Y
	1	2	3
2	1	ø	3

=====⇒ optional

Examples 2.9.3 illustrate the two applications of PPP in complex sentences where the embedded S is either dominated by a NP or not so dominated. The verbs used in the examples and their subcategorization are <u>murgaš</u> 'feels', _____NP, and <u>nire</u> 'seem', _____S, (cf. 3.4 for a second subcategorization of <u>nire</u>). It will be shown here how the subcategorization and the NPC account for the various grammatical

judgements thus providing supportive evidence for both.

As the discussion proceeds, it will become obvious that Topicalization and QF operate in the same way on the same nodes and obey the same constraints. The conclusion is therefore that these rules are in fact one rule of PP Preposing. The existence of a rule that preposes PPs and not NPs, coupled with the assumption that QWs are derived directly in the base, make the following two predictions: Unless there are other rules which can move only NPs

a. There is no preposing of NP-of-S

b. There are no stranded prepositions.

Examples 2.9.8 - 2.9.11 and 2.9.14 - 2.9.15 illustrate that both predictions are borne out.

Consider the following sentences:

2.9.1 a. moše kana et ha-sefer TOP ==⇒

Moses bought OM the-book

b. et ha-sefer moše kana

OM the book Moses bought

2.9.2 a. moše kana et ma QF ==⇒

Moses bought OM what

b. et ma moše kana

OM what Moses bought

2.9.3 a. nire [$_{\bar{S}}$ še-hu kana et ha-sefer] TOP ==⇒

seems [$_{\bar{S}}$ that-he bought OM the-book

b. nire [$_{S}$ še-et ha-sefer hu kana]

seems that-OM the-book he bought

c. et ha-sefer nire [$_{S}$ še-hu kana]

OM the-book seems that-he bought

2.9.4 a. nire [$_{S}$ še-hu kana et ma] QF ⟹

seems that-he bought OM what

b. nire [$_{S}$ še-et ma hu kana]

seems that-OM what he bought

c. et ma nire [še-hu kana]

OM what seems that-he bought

2.9.5 a. murgaš [$_{NP}$ [$_{S}$ še-hu hitgaber al ha-mašber] TOP ⟹

feels that-he overcame over the-crisis

b. murgaš [$_{NP}$ [$_{S}$ še-al ha-mašber hu hitgaber]

feels that-over the-crisis he overcame

c. * al ha-mašber murgaš [$_{NP}$ [$_{S}$ še-hu hitgaber]

over the-crisis feels that-he overcame

2.9.6 a murgaš [$_{NP}$ [$_{S}$ še-hu hitgaber al ma] QF ⟹

feels that-he overcame over what

b murgaš [$_{NP}$ [$_{S}$ še-al ma hu hitgaber]

feels that-over what he overcame

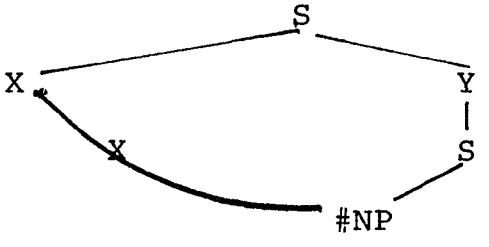
c * al ma murgaš [$_{NP}$ [$_{S}$ še-hu hitgaber] 2.9.2

over what feels that-he overcame

A close examination of 2.9.1 - 2.9.6 reveals that whether a P + QW or a P + NP have been fronted the same grammatical judgements hold, i.e., if the rule has the effect of moving either a P + QW or a P + NP out of an S embedded in a NP, the output is the ungrammatical sentences 2.9.5c and 2.9.6c. If the embedded S is not dominated by a NP, movement out of it yields a grammatical sentence (cf. all other examples in 2.9.1 - 2.9.6). The conclusion that follows is that the examples presented above, where PPs following the verb have been fronted, can be accounted for by 2.5.1 and that therefore there is no justification for assuming the existence of separate rules for QF and TOP.

One prediction made by the collapsing of TOP and QF is that questioning or any other fronting of NP-of-S from an embedded S should result in an ungrammatical sentence. This will be so even where the S is not dominated by a NP and where thus the ungrammaticality is not predicted by the NPC. In other words, the movement described by 2.9.7 is not allowed,

2.9.7



where Y = VP or Ø

That this prediction is borne out can be seen from the ungrammaticality of the following sentences.

2.9.8 * moše ata yode'a [$_S$ še-ba la mesiba]
Moses you know that-came to-the-party

2.9.9 * mi ata yode'a [$_S$ še-ba la-mesiba]
who you know that-came to-the-party

2.9.10 * moše barur li [$_S$ še-ba la-mesiba]
Moses clear to-me that-came to-the-party

2.9.11 * mi barur li [$_S$ še-ba la-mesiba]
who clear to-me that-came to-the-party

The ungrammaticality of 2.9.8 - 2.9.11 may erroneously suggest that Hebrew does not allow a NP to be initial and to be associated with a NP-of-S in an embedded S. However, the following examples illustrate that such structures are possible if there is a pronoun in the embedded S associated with the initial NP.

2.9.12 moše barur li [$_S$ še-hu ba la-mesiba]
Moses clear to-me that-he came to-the-party

2.9.13 mi barur li [$_S$ še-hu ba la-mesiba]
who clear to-me that-he came to-the-party

An analysis of structures such as 2.9.12 and 2.9.13 is given in Chapter Five, where it is shown that they must be base generated and therefore not derived by either a fronting or a copying rule (most often referred to as Left Dislocation Rule (Ross 1967)).

The fact that there are different restrictions on

questioning NP-of-S as opposed to NP-of-PP suggests even more strongly that there is no one process of question formation and that therefore postulating that QWs originate in the deep structure and that fronting of a constituent is a result of the general PPP rule, is a correct analysis.

The other prediction made by PPP is that there are no stranded prepositions, since when movement occurs the preposition is also moved.[2.9.3] That this prediction is also borne out can be seen from the ungrammaticality of 2.9.14 and 2.9.15.

2.9.14 *ha-sefer ata yode'a še-kaniti et _____
the-book you know that-bought-I OM

2.9.15 *ma ata yode'a še-kaniti et _____
what you know that-bought-I OM

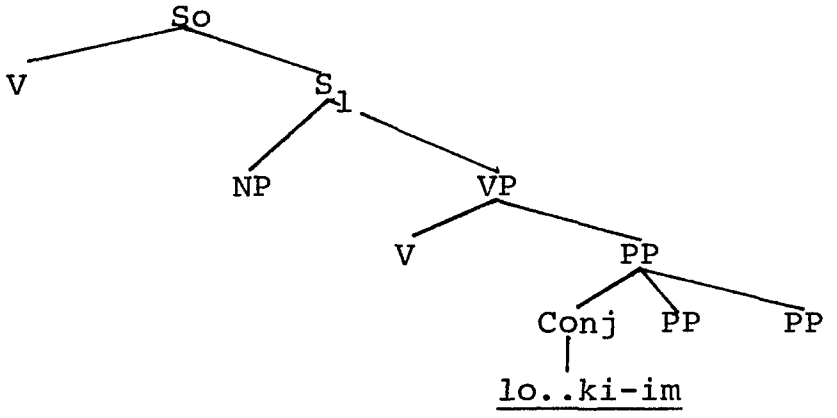
Conclusion: I have argued in this section for the existence of a PPP rule that collapses into one rule both Topicalization and Question Formation. I have shown that the impossibility of preposing NP-of-S follows directly from the SD of the rule. And finally, by not having any rule that preposes NP nodes only, I have provided an account of the fact that there are no stranded prepositions in Hebrew.[2.9.4]

2.10 The Derivation of 2.1.1 - 2.1.4

In this last section I will present a step-by-step derivation of sentences 2.1.1 - 2.1.4 which are the examples of the sentence-types under consideration in this chapter illustrating only the rules which have been argued for.

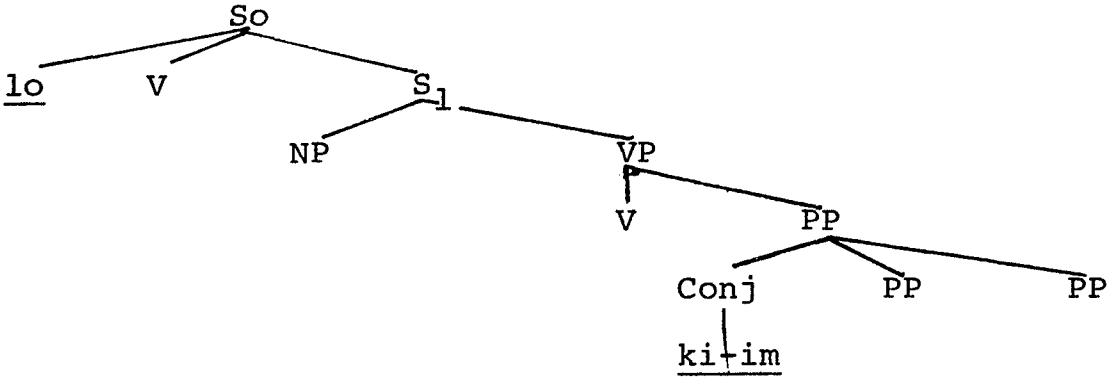
The deep structure P-Markers of 2.1.1 and 2.1.3 are 2.10.1 and 2.10.3 respectively. (Justification for V being an initial node is given in 3.4; for discussion of the omission of šɛ, see 4.6).

2.10.1



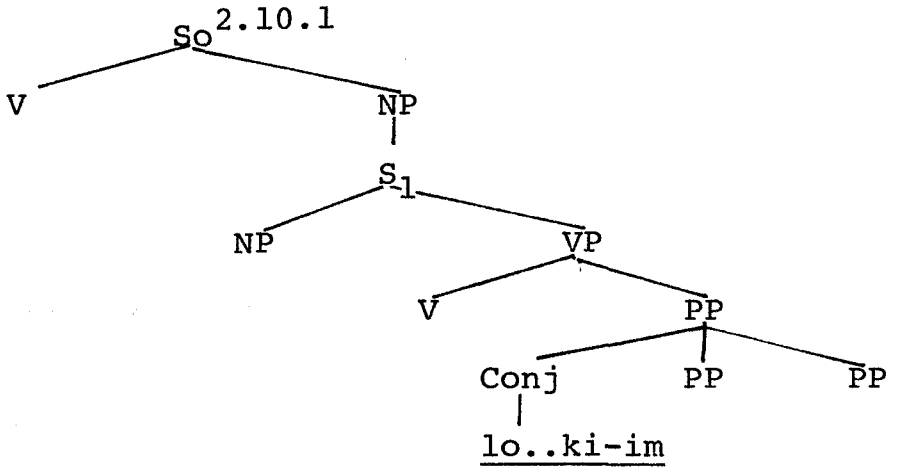
APPLICATION OF LMR

2.10.2



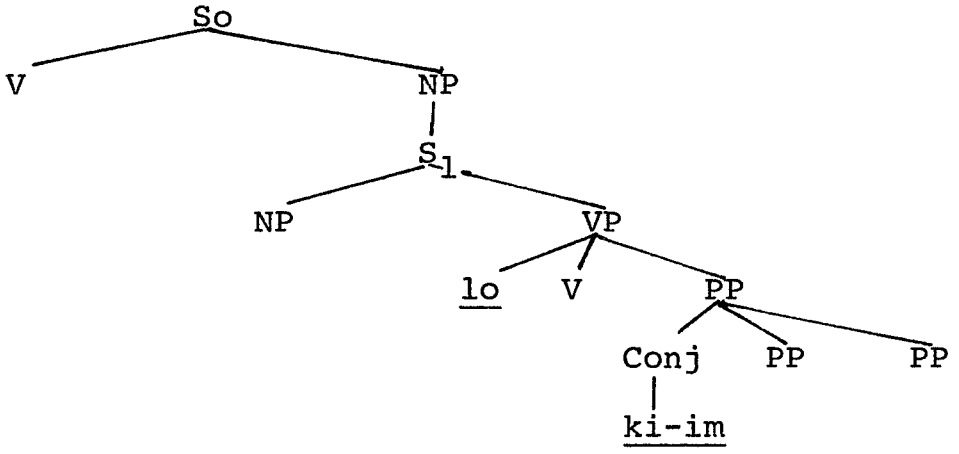
LMR can apply in So because it could and did apply on the S_1 cycle thus conforming to the Burial Constraint. Since S_1 is not dominated by a NP the NPC is inapplicable.

2.10.3



APPLICATION OF LMR

2.10.4



Applying LMR to 2.10.4 would conform to the BC but it is blocked by the NPC.

2.11 Summary and Implications

In this chapter I have illustrated the asymmetric distribution of lo in the presence of ki-im in matrix sentences, as in 2.1.1 - 2.1.4. In order to explain this asymmetric distribution I have justified

a. A bi-morphemic deep structure constituent lo...ki-im, 'not...but'

b. Two movement rules: PPP and LMR.

c. PS rules of the form

(i) $PP \rightarrow \begin{Bmatrix} (P) & NP & \\ Conj & PP & PP \end{Bmatrix}$

(ii) $NP \rightarrow \begin{Bmatrix} Conj & NP & NP \\ (NP) & (S) & \end{Bmatrix}$

(iii) $VP \rightarrow V \quad (PP) \quad (S)$

d. Two constraints on rule application: BC and NPC.

The main implication of this analysis for the grammar of Hebrew is the emergence of a syntactic subcategorization for verbs of the following form:

2.11.1 Verbs in Hebrew can be subcategorized as either

V _____ NP

V _____ S

V _____ PP S

V _____ PP

FOOTNOTES

2.3.1 The questionable nature of (i) which is the deep structure of 2.3.15a

(i) moše meruce mi-ze še-lo dan halax la-kolno'a ki-im ran

Moses happy from-it that-not Dan went to-the-movies

halax la-koncert

but Ran went to-the-concert

suggests that lo..ki-im cannot conjoin S nodes at all. If this is the correct observation then the argument against deriving lo X ki-im X' from underlying conjoined Ss is even stronger. However, at this point the grammaticality judgements with respect to lo..ki-im coordinating Ss where no deletion has occurred are not very clear to me and I have therefore assumed in the present discussion that such structures are grammatical.

2.5.1 One should notice then that in the derivation of 2.5.9 and 2.5.10 PPP must have applied both in the embedded S and in the matrix S in accordance with the BC.

2.5.2 One should notice that the BC does not entail the principle of Strict Cyclicity since the following situation is possible. Let us assume that a rule X has applied in α', that the output of a rule Y which follows X is such that the SD of X is met again, and Y has also applied.. X cannot reapply in α' since rules apply only once per cycle. However, X could reapply in α to the same element it applied in α' since it applied in α ', affecting only α '. Such a situation can therefore be blocked only if Strict Cyclicity is assumed.

2.6.1 One may argue that if lo...ki-im is under a NP node in the structure NP ---→ Conj NP NP, then the NPC should block the application of lo movement in all cases, i.e. make it an impossible rule. The fact that NPC is independently eliminated from the grammar by the reformulation of the recoverability constraint (4.4.13) supports even further the existence of LMR. One should notice that the reformulation in 4.4.13 requires that the control for deletion, (in this case the constant lo) be present in the NP from which it has been deleted. Given that the constituent is not just lo but lo..ki-im and the fact that ki-im never moves

outside the NP where it originated from, it is ki-im which is the element by which lo is recoverable and hence no violation of any constraint occurs. The application of the constraint in such cases as when lo..ki-im is present and the fact that it is not violated, provide further support to the claim that lo..ki-im is one constituent (2.2).

2.9.1 This rule is formulated in accordance with permissible surface word order presented in Hayon (1973:199). It seems, however, that there are more orders allowed, a fact that would cause a change in the formulation of the rule. For example, it seems to me, that sentences such as (i)

(i) david et ha-banana axal
David OM the-banana ate

Which Hayon considers ungrammatical, are in fact grammatical. A possible rule which will derive (i) as well as the other cases is (ii)

(ii)

	#		NP		X		PP	Y
	1		2		3		4	5
								=====⇒ optional
	1	4/Ø	2	Ø/4	3		Ø	5

Furthermore, if (iii) is a grammatical sentence, which I think it is,

(iii) mi et ma li-mi natan
Who OM what to-who gave

and if it is to derive by the application of PPP (rather than by V-postposing rule, for example) then PPP will have to apply iteratively. The consequences of such an operation for the theory, as well as a clearer statement of what orders are not allowed are still open to investigation.

2.9.2. It has been pointed out by G. Ben Hurin (personal communication) that 2.9.5ca and 2.9.6c are acceptable to native speakers when the preposed PP is stressed, and therefore the NPC is not a valid constraint. The question of acceptability of utterances when elements of them are stressed requires, in my opinion, a very thorough investigation since it seems that many otherwise ungrammatical structures become acceptable when stress is added. To such an investigation I would like to add the observation that if a PP has been fronted inside the embedded S it is possible to stress the NP-of-S in that cycle rather than the preposed PP (i). However, in cases such as 2.9.5c, where the PP has been moved out of NP, even if they are acceptable, it is the preposed PP which must be stressed and the embedded NP-of-S can no

longer be stressed (ii).

(i) murgaš še-al ha mašber hu yitgaber
feels that-over the-crisis he will-overcome

(ii) * al ha-mašber murgaš še-hu yitgaber
over-the-crisis feels that-he will overcome

2.9.3 It has been suggested by R.Fiengo that if we consider what I call prepositons to be case markers derived under a NP node rather than under a PP node, then the fact that there are no stranded "prepositions" in Hebrew can be explained. If we were to adopt such an analysis then the PPP rule will probably have to be replaced by a NPP rule and we will have to assume some constraint which blocks the application of NPP to subject NPs, to block 2.9.8-2.9.11. The implications of such an analysis to the entire description of Hebrew are not known to me at present.

2.9.4 An examination of grammatical sentences where PPP is assumed to have applied reveals that except for the question words eyfo, 'where', matay, 'when', lama, 'why' madu'a, 'why' keycad, 'how', and one instance of fronting a N when it is not preceded by ha, all other fronted elements are PPs. Despite the exceptions, there are at least two reasons for assuming that PPP is a correct generalization: (a) All question words that are not PP can be conveyed by such a form. eyfo = be eyze makom (in which place); matay = be-eyze zman (at which time); lama = me eyzo siba (for which reason); madu'a = me eyzo siba (for which reason); keycad = be eyze ofen (by which method). I will therefore assume that a one-word question word is derived by a morphological rule. (b) The distribution of NPs not preceded by a preposition is restricted to NP-of-S whether preceded by ha or not, and NP-of-VP when it is not preceded by ha. It therefore seems plausible to assume that there is a preposition preceding a NP-of-VP which is realized as Ø under certain conditions, namely when this NP is not preceded by ha. There does not seem to be such justification for assuming a Ø preposition in the case of NP-of-S since its realization is always Ø and assuming its existence does not capture, to my knowledge, any generalization in Hebrew.

2.10.1 As we shall see in 3.4, 2.10.3 is in fact not the deep structure P-Marker but rather a P-Marker derived by the application of V-Fronting Rule.

CHAPTER THREE

3.1 Introduction

In Chapter Two I have presented syntactic evidence for the set of PS rules 2.8.4 and the set of verbal subcategorization in 2.11.1. In this chapter I will demonstrate that given a verb in Hebrew, the difference in its syntactic behavior can be accounted for by assuming that the verb is subcategorized to appear in more than one environment, thus eliminating the need for double or triple entries in the lexicon for items that show the same surface form. I will also point out the different meanings that the same verb can have in different structures.

The net result is that a verb with one surface form but with seemingly more than one meaning and with a number of different patterns of syntactic behavior can be considered as a single lexical item subcategorized as appearing in more than one environment, the environment being the determining factor in the difference in meaning. This effects a considerable degree of simplification in the lexicon, where several different lexical entries would otherwise be required, as well as capturing the systematic differences assigned to the meaning of a verb if in a specific environment.[3.1.1]

The discussion will consist of three steps. First, I will discuss those verbs whose subcategorization is $\_\_\_\left\{\begin{matrix}PP\\S\end{matrix}\right\}$ and those whose subcategorization is $\_\_\_\left\{\begin{matrix}NP\\PP\ S\end{matrix}\right\}$. I will show that the distribution of grammaticality judgements in sentences where these verbs appear can be accounted for in terms

of the distinction motivated in Chapter Two between Ss dominated by NP and embedded Ss that are not so dominated. Second, I will argue against deriving ze by a right dislocation rule when ze follows the verbs under consideration. These two sets of considerations, together with the arguments presented in 2.7 against a rule of ze deletion, constitute the arguments for the set of subcategorization rules 2.11.1. The third step in the discussion in this chapter will involve motivating the rule S ---→VP S to account for the insertion of some verbs that are followed by S rather than preceded by NP. Implicit in this PS rule is the idea that, in addition to subcategorization, base constituent order is also a factor in determining meaning.

3.2 Base Constituent Structure as a Meaning Determiner

Consider the following sentences involving the verb le-ha'arix, 'to appreciate'; to estimate', which is sub-categorized as ___ {PP, S}. The examples in 3.2.1 show the verb followed by an S and those in 3.2.2 show it followed by a PP.

3.2.1 a. ani ma'arix [šе-hu yikne et ha-sefer]
S

I V that-he will-buy OM the-book

b. et ha-sefer ani ma'arix [šе-hu yikne]
S

OM the-book I V that-he will-buy

c. * ani ma'arix meod [šе-hu yikne et ha-sefer]
S

I V very-much that-he will-buy OM the-book

3.2.2 a. ani ma'arix et [ze [šе-hu yikne et ha-sefer]
NP S

I V OM it that-he will-buy OM the-book

b. * et ha-sefer ani ma'arix et [ze [šе-hu yikne]
NP S

OM the-book I V OM it that-he will-buy

c. ani ma'arix meod et [ze [šе-hu yikne et ha-sefer]
NP S

I V very-much OM it that-he will-buy the-book

In 3.2.1 the node immediately following the V is S. One observes that PPP can apply to such structures (cf. the

grammaticality of 3.2.1b) but on the other hand the morpheme meod 'very much', renders the structure ungrammatical, as in 3.2.1c.[3.2.1] However, in 3.2.2 where the hypothesized constituent structure is V [P [NP [S the distributional facts of 3.2.2b and 3.2.2c are the exact opposite of their counterparts in 3.2.1b and 3.2.1c: PPP is blocked (cf. 3.2.2b) whereas meod is allowed (cf. 3.2.2c).

The difference in grammaticality judgements between 3.2.1b and 3.2.2b is accounted for syntactically in terms of the NPC: the application of PPP must be blocked where it has the effect of moving elements out of an S embedded in a NP. The difference between 3.2.1c and 3.2.2c can also be accounted for syntactically once a distinction is made between PP complements and S complements: meod will be subcategorized as occuring only with verbs that take PP as complements.

With regard to considerations of meaning, we can observe that the verb has different meanings in the different structures. The interpretation of 3.2.1a is 'I guess, estimate, that he will buy the book' whereas 3.2.2a is interpreted as 'I appreciate it that he will buy the book'.

We see then that there is a correlation between the interpretation given to the verb le-ha'arix, the morphemes that can cooccur with it and the applicability of movement rules to the embedded sentences that follow the verb. All of these facts can properly be accounted for if we assume that le-ha'arix is subcategorized as occurring in the context of either S or PP. If we have ___S, movement rules that move elements out of S

can apply but meod cannot occur. On the other hand, if we have ____PP, movement rules cannot apply but meod can occur.

Consider now the following examples which involve the verb la-'asot, 'to do'; 'to cause', which is subcategorized as ____{NP, PP S}. The examples in 3.2.3 show the verb followed by NP and those in 3.2.4 show it followed by PP S.

3.2.3 a. ani asiti [[še-hu yilmad lo be-xeyfa ki-im bi-yerušalayim]
S
NP

I V that-he will-study not in-Haifa but in-Jerusalem

b. * ani lo asiti [[še-hu yilmad be-xeyfa ki-im bi-yerušalyim]
S
NP

I not V that-he will-study in-Haifa but in-Jerusalem

3.2.4 a. asiti et [ze] [še-hu yilmad lo be-xeyfa ki-im bi-yerušalyim]
NP S

V OM it that-he will-study not in-Haifa but in-Jerusalem

b. lo asiti et [ze] [še-hu yilmad be-xeyfa ki-im bi-yerušalayim]
NP S

not V OM it that-he will-study in-Haifa but in-Jerusalem

In 3.2.3 the a example is base generated and b is the output of LMR. Since b is ungrammatical, the operation of LMR should be blocked. As was demonstrated before, LMR is blocked if its operation violates the NPC. I, therefore, postulate that the embedded S in 3.2.2 is in turn embedded in a NP. ON the other hand, in 3.2.4, despite the fact that the embedded

S is preceded by a PP, LMR can apply. This suggests that the embedded S does not form a constituent with PP, i.e., S is not embedded in the NP dominated by the PP and, therefore, the NPC is inapplicable, LMR applies and the sentence is grammatical.

With regard to the meaning of the verb, it should be noted that in 3.2.3 the verb la-'asot means 'to cause', the whole sentence meaning 'I caused his studying not in Haifa but in Jerusalem'; in 3.2.4 the verb means 'to-do' and the sentence means 'I did it, so that he would study not in Haifa but in Jerusalem'.

The economy achievedby having verbs such as those of 3.2.1 - 3.2.4 listed in the lexicon only once is a substantial one when we consider that there are many other verbs that function in exactly the same way. The following examples, which are analogous to 3.2.1 - 3.2.4, show the effects of the operation of the same rules as those discussed. The differences in the interpretation of the verb is indicated in the translation.

3.2.5 a. ani ciyanti [$_{S}$ še-yael hicila et axoti mi-mavet]

I mentioned that-Yael saved OM sister-my from-death

b. et axoti ani ciyanti [$_{S}$ še-yael hicila mi-mavet]

OM sister-my I mentioned that-Yael saved from-death

c. * ani ciyanti la-sevax [$_{S}$ še-yael hicila et axoti mi-mavet]

I mentioned for-praise that-Yael saved OM sister-my from-death

3.2.6 a. ani ciyanti et [ze [šše-yael hicila et axoti mi-mavet]
NP S

I praised OM it that-Yael saved OM sister-my from-death

b. *<u>et axoti</u> ani ciyanti et [ze [šše-yael hicila mi-mavet]
NP S

OM sister-my I praised OM it that-Yael saved from-death

c. ani ciyanti la-ševax et [ze [šše-yael hicila et axoti mi-mavet]
NP S

I praised for-praise OM it that-Yael saved OM sister-my from-death

3.2.7 a. ani mecape [šše-hi tikne et ha-sefer]
S

I wait that-she will-buy OM the-book

b. <u>et ha-sefer</u> ani mecape [šše-hi tikne]
S

OM the-book I wait that-she will-buy

3.2.8 a. ani mecape la-[ze [šše-hi tikne et ha-sefer]
NP S

I expect to-it that-she will-buy OM the-book

b. *<u>et ha-sefer</u> ani mecape la-[ze [šše-hi tikne]
NP S

OM the-book I expect to-it that-she will-buy

3.2.9 a. ani met [šše-hu yikne et ha-serfer]
S

I am-dying that-he will-buy OM the-book

b. <u>et ha-sefer</u> ani met [šše-hu yikne]
S

OM the-book I am-dying that-he will-buy

3.2.10 a. ani met al [ze [še-kana et ha-sefer]
NP S

I am-dying about the-one that-bought the book

b. *et ha-sefer ani met al [ze [še-kana]
NP S

OM the-book I am-dying about the-one that-brought

In summary, then, it is necessary to consider major constituents such as NP , S etc, as carrying semantic information as well as syntactic one since there is a large number of structures that look the same but have different interpretations and different syntactic behavior depending on the major constituents that follow the verb. Unless such an analysis is adopted, a significant generalization in Hebrew is missed. I will refer to the notion presented here as "base constituent structure as a meaning determiner".

3.3. ZE and the Right Dislocation Rule

In order to show that ze is not derived by a rule of right dislocation when it follows the verbs under consideration, I will make two assumptions. First, I assume that there is in Hebrew a Right Dislocation rule (RDR) which moves a NP or an S to the end of S, leaving behind a pronoun or a Pro-S, as in

3.3.1 moše ganan tov

Moses gardener good

3.3.2 hu ganan tov- moše

he gardener good - Moses

Second, I assume under the theory advocated here that T-rules preserve meaning in the way explained in the introduction. Based on these two assumptions, I will now show that ze in sentences of the type of 3.2.2 cannot be derived by RDR but is rather base-generated.

In section 3.2 I demonstrated that sentences change their meaning depending on whether the V is immediately followed by an S or a PP despite the fact that the V is the same. But this theory of constituent nodes as meaning determiners applies only to deep structure nodes; those changes in structure that result from the operation of T-rules do not affect meaning. If they did, i.e., if T-rules were not meaning preserving, it might have been reasonable to analyze structures such as 3.2.2, where the surface structure is VP ze S, as derived by

the application of RDR to a V S deep structure. But since T-rules are meaning-preserving, such an analysis is impossible and the ze of 3.2.2 must be base-generated.

Furthermore, even if the meaning-preserving hypothesis were not part of the theory, there would still be no justification for an anlysis of 3.2.2 as undergoing RDR. The evidence for this claim is that in the structures under consideration, it is zot and not ze that is a Pro-S. This analysis, if correct, provides further support for both the meaning-preserving hypothesis and for the hypothesis of constituent nodes as meaning determiners.

Consider the following sentence:

3.3.3 a. *ani ma'arix ze [šeˇ-ata talmid tov]
S

I guess it that-you student good

b. ani ma'arix zot [šeˇ-ata talmid tov]
S

I guess it that-you student good

3.3.4 a. ani ma'arix et ze [šeˇ-ata talmid tov]
S

I appreciate OM it that-you student good

b. ani ma'arix et zot [šeˇ-ata talmid tov]

Examples 3.3.3 suggests that S nodes can be dislocated leaving behind zot (cf. the ungrammaticality of 3.3.3a where ze appears as opposed to the grammaticality of b where zot appears). It is therefore reasonable to assume that in 3.3.4 it is the b

example where RDR has applied and not the a one. However, even though in 3.3.3b zot is a Pro-S, it has to be analysed as a Pro-Noun too, since it can appear as a pronoun in examples such as

3.3.5 kaniti lexa zot
bought-I to-you it

Given that RDR applies both to S nodes and to NPs, it is consistent with the analysis presented here that in 3.3.4b zot is a reflex of the NP node dominating the S. This observation gets even further support from examples such a 3.3.6 where ze and zot can cooccur, (the meaning of the verb being 'to appreciate').

3.3.6 ani ma'arix et zot et ze še-ata talmid tov
I appreciate OM it OM it that-you student good

and from examples such as the ungrammatical 3.3.7 where zot is not preceded by a preposition but is followed by et ze S and the meaning of the verb is 'guess'

3.3.7 *ani ma'arix zot et ze še-ata talmid tov
I guess it OM it that-you student good

If in 3.2.2 et ze were to be interpreted as a Pro-S rather than as an indispensable constituent that uniquely determines the nature of the node following the V (i.e., it being a NP), it is impossible to explain how 3.3.6 is derived without assuming that RDR has applied twice in the same cycle to the

same node. That is, if the deep structure of 3.3.6 is V S, then RDR has to apply once to derive V PP S and then to apply again to derive V PP PP S. According to the theory advocated here, such a derivation is disallowed because rules cannot apply more than once per cycle. On the other hand, if the deep structure of 3.3.6 is V PP and the V is subcategorized as occurring in such structures, then RDR has to apply only once to derive V PP PP S. Also the fact that a verb can be followed by various prepositions makes it impossible to write a T-rule which inserts the correct preposition in all environments. The examples illustrating this fact are given in 3.3.8.

3.3.8 a. ani modi'a al zot še-hu higi'a
I announce about it that-he came

b. ani modi'a ba zot še-hu higi'a
I announce in-it that-he came

Finally, it should be noted that in those cases where zot is a Pro-S it can be replaced by kax, 'so', which can only be classified as a Pro-S. However, in cases where zot is a reflex of the NP, kax cannot replace zot.

3.3.9 ani ma'arix kax še-ha-mexirim ya'alu
I guess so that- the-prices will-rise

3.3.10 *ani ma'arix et kax še-ha-mexirim ya'alu
I appreciate OM so that-the-prices will-rise

Summary: In sections 3.1 - 3.3 I presented examples where the same morphological unit had to be interpreted in two different ways, and pointed out the correlation between the interpretation, the syntactic behavior and the environment in which the verbs occur. I have then suggested that the difference in meaning can be accounted for if the environment is analysed differently with respect to constituent structure. Such an analysis can account for both cooccurrence restrictions and restrictions on movement rules with the verbs under consideration. And finally, I have demonstrated that unless verbs are allowed to be subcategorized as $\_\_\left\{\begin{matrix}PP\\S\end{matrix}\right\}$, certain structures involving RDR cannot be derived. In the discussion I have assumed the correctness of the meaning-preserving hypothesis. The various generalizations which this assumption has led to give further support to its adequacy.

3.4 Justification for S ----→ VP S

So far I have demonstrated that by postulating a different dominating node to sentential complements it is possible to account for a number of syntactic facts concerning movement rules and cooccurrence restrictions. It has also been claimed that differences of subcategorization statements for a particular verb can account for the different interpretations given to the same verb in different environments. In this section it will be demonstrated that the order of the verb with respect to either NP or S is also a contributing factor in determining the distribution and the meaning of the verb. In particular I will show that differences in meaning and distribution of a verb when it appears in a sequence of the form V S and in a sequence of the form NP V can best be account for by postulating a PS rule of the form

3.4.1 S ----→ VP S

The argument for this rule will proceed as follows. First, I will present data that suggests the existence of an optional Verb-Fronting Rule (VFR). Second, I will demonstrate that in a grammar of Hebrew that contains a rule like 3.4.1 the formulation of VFR will be simpler than in one where no such PS rule is found. Third, I will show that if 3.4.1 is included in the grammar, the lexicon will be simplified by avoiding listing verbs of the same form twice.

Consider the following sentences:

3.4.2 hayom ha-balutot šelanu megivot kefi še-higivu lifney šanim
today the-glands ours react as that-reacted-they before years

3.4.3 hayom megivot ha-balutot šelanu kefi še-higivu lifney šanim
today react the- glands ours as that-reacted-they before years

3.4.4 hayom ha-balutot šelanu megivot kefi še-higivu lifney šanim
today the-gland ours react as that-reacted-they before years

Sentences 3.4.2 - 3.4.4 have the same meaning and, therefore, should be related by a rule. I propose 3.4.5 as the optional rule that relates them.[3.4.1]

3.4.5 Adv NP V Y
1 2 3 4
⟹ optional
1 3 2 Ø 4

Consider now the following sentences:

3.4.6 nire li [$_{S}$ še-ha-mexirim lo ya'alu ha-šana]
seems to-me that-the-prices not will-rise the-year

3.4.7 *nire li [$_{NP}$ ze] [$_{S}$ še-ha-mexirim lo ya'alu ha-šana]
seems to-me it that-the-prices not will-rise the-year

3.4.8 [$_{NP}$ ze] [$_{S}$ še-ha-mexirim lo ya'alu ha-šana] nire li
it that-the-prices not will-rise the-year approve to-me

There are two observations to be made about sentences 3.4.6 - 3.4.8. First, if the verbal form precedes the embedded

S then the S cannot be embedded in a NP with a lexical head (cf. the grammatical 3.4.6 as opposed to the ungrammatical 3.4.7). On the other hand, if the verbal form follows S, the S can be embedded in a NP with a lexical head. (cf. 3.4.8). Second, when the verbal form precedes the embedded S the interpretation of the verb is 'seem'; when it follows the embedded S the interpretation of the verb is 'approve'. These sentences show, then, that the position of the verb with respect to the embedded S has both syntactic and semantic consequences. Now, in order to show that a rule like 3.4.1 is necessary, it must be shown that these facts cannot be accounted for in any other way despite the fact that it seems at first glance that they can be handled in terms of different subcategorization, as was done in previous sections (cf. 3.3).

Specifically, there is a conceivable derivation of 3.4.6 and 3.4.8 in which the PS rule for the expansion of S expands S as either S VP or NP VP and then VFR applies optionally to the string underlying 3.4.6 but not to that underlying 3.4.8, producing the desired results. The difference in meaning could still be accounted for at the level of deep structure by the difference of subcategorization. Evidence that this is not the best analysis is provided by 3.4.9 - 3.4.11 where VFR, which is elsewhere an optional rule, applying only when a NP precedes the V, must be made obligatory when an S precedes the V if we are to get the right results.

3.4.9 *ka-rega ze [$_{S}$ še-ha-mexirim lo ya'alu] mistaber li
at-this moment it that-the-prices not will-rise turns-out to-me

3.4.10 *ka-rega [$_{S}$ še-ha-mexirim lo ya'alu] mistaber li
at-this-moment that-the-prices not will-rise turns-out to-me

3.4.11 ka-rega mistaber li [$_{S}$ še-ha-mexirim lo ya'alu]
at-this-moment turns-out to-me that-the-prices not will-rise

Examples 3.4.1 illustrate the fact that unlike nire, mistaber cannot cooccur with a NP. In other words le-histaber, 'to turn out' is not a V subcategorized as NP_____. A comparison between 3.4.10 and 3.4.11 reveals that if in a string the verb is le-histaber, VFR is obligatory (cf. the ungrammatical 3.4.10 where the V follows the S). In order to block the ungrammatical sentence 3.4.10 it is therefore necessary to impose a condition on the optional VFR that it be obligatory just in case the verb is of the type le-histaber and also include both NP and S as the second element in the SD of 3.4.1. Furthermore, as was demonstrated above, not all S nodes which are dominated by a NP must contain a head NP. It is therefore possible to have structures of the form 3.4.12 where ze is not present.

3.4.12 [[$_{S}$ še-ha-mexirim ya'alu]$_{NP}$ nire li
that-the-prices will-rise approve to-me

This sentence, where nire means 'approve', looks like the one which would have been derived by 3.4.1, where the V means

'seem'. However, unless the verb is fronted the interpretation of V as 'seem' is impossible. We see then that in the absence of 3.4.1 the VFR would not only have to be optional in some cases and obligatory in others but that it also would have to be a meaning changing transformation. In an analysis that includes 3.4.1, verbs that must appear sentence-initially will be in that position in deep structure and will be subcategorized accordingly. By allowing verbs such as nire to be inserted in two different positions in deep structure, the difference in meaning can be attributed to their position, thus eliminating the need to postulate homophony in the lexicon.

That position in the sentence is a factor in determining meaning is supported by examples from colloquial Hebrew (which are innovations in the language) where the verb la-vo, 'to come', which occurs normally not in initial position (3.4.13) is used in that position to convey the meaning 'feel like it'.

3.4.13 ha-gešem ba li ke-hafta'a

the-rain came to-me as-surprise

3.4.14 ba li [$_{S}$ še-yered gešem]

came to-me that-will-fall-rain

Conclusion: If we are to prohibit T-rules from having rule-specific conditions imposed on them, it is necessary to postulate 3.4.1 as a PS rule in Hebrew. This structure, it is suggested, may also play a role in determining the meaning of certain predicates and hence the selectional restrictions which they must obey. Also, determining meaning in this way effects a considerable economy in the lexicon.

3.5 Summary and Conclusions

In this chapter I have demonstrated that by assigning two different environments for insertion to verbs that have the same surface form one can account for their different patterns of distribution, their different patterns of interaction with rules of the transformational components, and their different semantic interpretation without resorting to the postulation of double or triple entries with the same surface form in the lexicon of Hebrew. The analysis in terms of subcategorization is supported by the impossibility of deriving ze by RDR in contexts that are NPs and not Ss (cf. 3.3) and the impossibility of predicting the nonoccurrence of ze by a rule of ze-deletion in context that are Ss (cf. 2.8). Furthermore, I have demonstrated that if the expansion of S does not include the rule 3.4.1, subcategorization alone cannot in some cases block the generation of ungrammatical sentences without resorting to ad-hoc conditions on VFR. The analysis in this chapter has specified the range of subcategorization statements for verbs that take sentential complements and has motivated the PS rules and T-rules that will generate and block sentences with such verbs.

At this point, then, the grammar of Hebrew includes the following constructs:

a. PS rules of the form

(i) $$S \longrightarrow \begin{Bmatrix} VP & S \\ NP & VP \end{Bmatrix}$$

(ii) $VP \rightarrow V \quad (PP) \quad (S)$

(iii) $NP \rightarrow \begin{Bmatrix} Conj & NP & NP \\ (NP) & (S) & \end{Bmatrix}$

(iv) $PP \rightarrow \begin{Bmatrix} (P) & NP & \\ Conj & PP & PP \end{Bmatrix}$

b. T-rules: LMR, PPP, RDR, VFR.

c. Constraints: NPC, BC.

FOOTNOTES

Chapter Three

3.1.1 In his comprehensive study of the VP Rubinstein (1971) has made observations similar to the ones presented here. In particular, I find interesting his observation concerning the contribution of the structures to the various meanings of the verb (1971:31).

3.2.1 I am not referring to all the possible uses of meod such as in

(i) hu yafe meod
he handsom very or

(ii) hu rac maher meod
he runs fast very etc.

These facts obviously deserve an explanation but are far beyond the scope of the present work. However, I would like to point out one interesting fact which concerns the classification of morphemes. Rosen (1962:21) analyses meod as a modifier of adjectives. Rosen (1962:42) states, however, that "verbs can be modified by the same modifiers as adjectives: eg. ani micta'er meod ('I am very sorry)". That the last statement is not specific enough can be easily demonstrated by the ungrammaticality of (i)

(i) ani rac meod
I run very

A close examination of the example given by Rosen shows that meod is allowed precisely in those cases where the verb is or should be followed by a NP complement which is what the present analysis assumes.

3.4.1 (a) There is some doubt whether 3.4.5 is an independent rule or whether its output is the result of a scrambling rule that moves constituents around within a simple S. So far, I am not aware of any formalization of such a rule which is not problematic (Ross 1967:42).
(b) I have postulated an adverb as the initial term of the rule. However, it is possible (although rare and usually restricted to literary style) to front the verb in the absence of an adverb. At present I do not know how to handle this fact. Despite the reservations mentioned, I have chosen to incorporate 3.4.5 as a possible analysis of some word order facts within a simple S so that different meanings and distributional facts of predicates that take sentential complements can be accounted for.

CHAPTER FOUR

4.1 Introduction

In studies on Sentential Complements (SC) of Nouns, in Hebrew as well as in other languages, a distinction is usually made between, on the one hand, Relative Clauses, both restrictive (RRC) and nonrestrictive (NRC), and Sentential Complements of Nouns which are not RC on the other. For example, Peretz writes the following:

> A Relative Clause is defined here as a Sentential Complement of Nouns, since the function of both in general is to modify a N by adding some details to it (...), but they are not identical. A Relative clauses is a special case of Sentential Complement of N, it has different usages and its use in the language is much wider (...) . As for the structure, they differ from each other in that a Complement sentence does not exist without a N that it modifies whereas a Relative Clause can exist without it and be independent (emphasis mine, ZM) (...). As for the function, the difference between the two is that a Relative Clause defines the head noun on which it depends whereas the Sentential Complement expresses the content of the noun to which it is attached. In the Sentential Complement the modified noun lacks any real meaning, it is an 'empty word', it only hints to something and gets its meaning from what follows eg. "the news that both sides met for peace talks encourages us" (1967:73; my translation, ZM)

Statements similar to Peretz's can be found in, for instance, the writings of Yehiel Hayon (1973:168). And with respect to the distinction between RC and SC of N Rubinstein writes:

> In a RC there is reference to the grammatical frame in which they are inserted but in SC of N there is no such reference (...). A RC will refer to the modified N - the head N - by an

> anaphoric pronoun which agrees with the head noun. A SC of N does not agree at all with the modified noun. (emphasis mine ZM, (1968:101; my translation, ZM).

On the same topic, Huddleston makes a similar observation with respect to English:

> The distinctive characteristic of RC is that they contain a element, normally a NP, that is identical with an 'antecedent in the matrix S, there is no such identity constraint in Complementation (1971:141)

Both Peretz and Rubinstein (and many others) point out a further distinction between the two structures, namely that a SC of N is introduced by either se or ki whereas a RC is introduced by either se aser or ha

This analysis, if correct, renders untenable the claim by Peretz that the distinction between SC of N and RC lies in the nonoccurrence of the former without a head N. This suggests that there may be no structural distinction between RC and SC dominated by NP.

In this chapter I will argue that this is indeed the case: I will show that there is no need to establish any syntactic distinction between RC and those SC that are dominated by NP, and that any differences captured by analyses that do make a distinction in fact follow from general principles.

Thus, my terminology henceforth. Those structures elsewhere referred to as RC and SC of N will be referred to as SC dominated by NP (SCNP).

In order to establish the unity under SCNP of the traditional categories of RC and SC of N, I will give in 4.2 a few examples from the application of PPP in

both RC and SC of N. More examples of this kind involving LMR are given in previous chapters. I will then demonstrate that unlike languages such as English, Hebrew does not allow Extraposition from NP, regardless of whether this rule applies to RC or SC of N, thus supporting the claim about the sameness of these structures. (I will also demonstrate, by the way, that contrary to the claim of Berman 1973 Hebrew does not allow any extraposition, but only copying. The nonexistence of Extraposition and the restriction upon other movement rules allow the reformulation of NPC so that it prohibits movement not only out of an S embedded in a NP but out of the entire NP).

Further, the presentation in 4.3 will include a demonstration of the falsity of the traditional claim that the distinction between a RC and a SC of N lies in that the latter requires identity with an antecedent in the matrix S. This demonstration will center around the observation that even SCs of N require identity with an antecedent in the matrix S. The difference between the two structures will then be attributed to the type of constituent with which the antecedent in the matrix S establishes identity. It will be shown that this difference follows from a condition on deep structure P - Markers called the Sameness Relation Condition (SRC). I will then demonstrate in 4.4 that given the SRC, a rule of pronoun deletion, (PDR), can be formulated in accordance with the recoverability

constraint (Chomsky 1965) and without having to postulate a rule-specific condition.

In 4.5 I will reformulate SRC in a way that will account for NRC as well as SCNP, thus capturing their essential similarity.

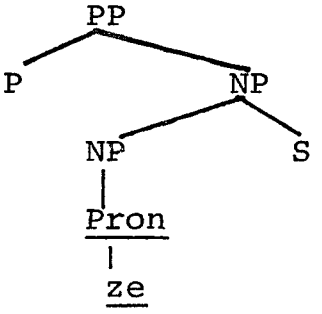
In 4.6 I will discuss the morphemes <u>še</u> and <u>ašer</u>, traditionally classified as Relative Markers (RM). I will show that by classifying them as pronouns rather than RM it is possible to describe all facts regarding their distribution and judgements of grammaticality by means of the same rules that delete pronouns (PDR).

The conclusion of this chapter is that all sentences embedded in a NP are syntactically similar in that they obey the same conditions and constraints and are derived from the same subset of PS rules.

4. 2 The Syntactic Behavior of RC and SC of N

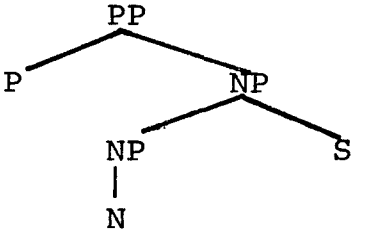
In the previous discussion it has been demonstrated that many cases where the embedded S is preceded by a P + Pronoun ze should be analysed as P + NP where the NP dominating the pronoun and the S node are in mutual construction with each other.

4.2.1



In these cases the embedded S does not dominate an element identical to the head NP and is therefore traditionally termed SC of N. The behavior of 4.2.1, in turn, was shown in Chapter Two to be similar to the behavior of 4.2.2

4.2.2



where the NP in mutual construction with S was not a pronoun and the S dominated an element identical to it. These structures are traditionally termed RC.

In this section I will compare the behavior of two types of structures of the form 4.2.2 with respect to the application of PPP and will show that it is the same. The only difference

between these two structures is that the N in one is identical to an element in the embedded S, whereas in the other it is not. The latter types of nouns have been termed "empty word" by Peretz (1967:74). This includes nouns such as ha-uvda, 'the fact' ; ha-ra'ayon, 'the idea' , etc. . In this section I will also argue against the existance of Extraposition rules in structures such as 4.2.1 and 4.2.2 . These two points constitute the argument for considering 4.2.1 and both types of 4.2.2 one syntactic structure. The absence of movement out of NP will result in a reformulation of NPC.

Consider the following sentences, where PPP has applied both in the embedded and the matrix S.

4.2.3 a. yariv maca et[$_{NP}$ha-cipor[$_{S}$ še-yael doeget la]

Yariv found OM the-bird that-Yael worris for-her

b. yariv maca et[$_{NP}$ha-cipor[$_{S}$ še-la yael doeget]

Yariv found OM the-bird that-for-her Yael worries

c. * la yariv maca et[$_{NP}$ha-cipor[$_{S}$ še-yael doeget]

for-her Yariv found OM the-bird that-Yael worries

4.2.4 a. yariv masar et[$_{NP}$ha-yedi'a[$_{S}$ še-yael doeget la-hem]

Yariv handed OM the news that-Yael worries for-them

b. yariv masar et[$_{NP}$ha-yedi'a[$_{S}$ še-la-hem yael doeget]

Yariv handed OM the-news that-for-them Yael worries

c. * la-hem yariv masar et [ha-yedi'a [še-yael doeget] 4.2.1
NP S
for-them Yariv handed OM the news that-Yael worries

As one can clearly observe PPP when applied in the embedded S both in 4.2.3a and 4.2.4a generates grammatical sentences 4.2.3b and 4.2.4b. When applied in the matrix S it violated the NPC in both cases and therefore the result is the ungrammatical sentences 4.2.3c and 4.2.4c. Similar behavior is manifested if LMR or VFR apply.

Turning now to Extraposition rules, it should be remembered that, as Hayon pointed out (1973:228), Hebrew does not allow Extraposition from NP. Thus 4.2.5b, which is the result of applying Extraposition from NP to the SCNP (RC) of 4.2.5a is ungrammatical.[4.2.2]

4.2.5 a. masarti et [ha-mexirim [še masarta li]la-anašim še-hayu be-veyti
gave I OM the-prices that-gave-you to-me to the-people that-were in-my-house

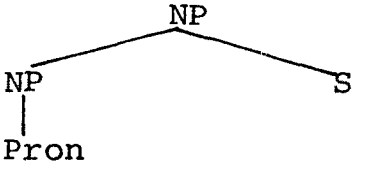
b. *masarti et [ha-mexirim] la-anašim še-hayu be-veyti [še-masarta li]
NP S
gave-I OM the-prices to-the-people that-were in-my-house that-gave-you to-me

That Extraposition from NP cannot apply even in SCNP where the head N is claimed to be an "empty word" (SC of N) can be seen from the ungrammaticality of 4.2.6b which is the output of applying Extraposition from NP to 4.2.6a

4.2.6 a. si^parti al [ha-šmu'a [še-ha-mexirim ya'alu] la-anašim še-hayube-veyti
NP S
told-I about the-rumor that-the-prices will-rise to-the-people that were in my house

b. *siparti al [ha-šmu'a]$_{NP}$ la-anašim še-hayu be-veyti
told-I about the-rumor to-the-people that-were
[še-ha-mexirim ya'alu]$_{S}$
in-my-house that-the-prices will rise

In 3.3 I discussed structures of the form



in PP-of-VP positions where the head NP was the pronoun ze. I have demonstrated that such cases could not be the output of RDR. What remains to be demonstrated with respect to the question of extraposition rules is that even when we find ze in the position of NP-of-S followed by V X S these structures are not the output of Extraposition. Berman (1973:272-4) proposed rules 4.2.7 for deriving 4.2.9b from 4.2.9a and 4.2.8 for deriving 4.2.9c from 4.2.9b.

4.2.7 [[[N$_{S\ NP}$ X [V-Copula$_{VP}$ Y

1 2 3 4

1 3 4 2

Conditions: a. 1 = [+Pro [+indef (ze)

b. 2 includes S

4.2.8 [N$_{S}$ [V-Copula$_{VP}$ X Y

1 2 3 4

ø 2 3 4

Conditions: a. 1 = [+Pro [+indef (ze)

b. 4 includes S

4.2.9 a. [ze]$_{NP}$ [še-na'azor la-hem]$_{S}$ kedai lanu
it that-we-will-help to-them worth to-us

b. [ze]$_{NP}$ kedai lanu [še-na'azor la-hem]$_{S}$
it worth to-us that-we-will-help to-them

c. kedai lanu [še-na'azor la-hem]$_{S}$
worth to-us that-we-will-help to-them

A basic argument in Berman's analysis for postulating ze in the underlying structure of sentences such as 4.7.9 reads as follows:

> We turn now to question (b) above: why have we assumed its existence (that of ze, ZM) as the head noun of a NP-Subject in the cases discussed here? First, (...) the subordination marker se does not appear in the underlying structure, but is introduced transformationally as the head of a NP which includes an S. That means that structure (72) (the one which is the deep structure P-Marker of 4.2.9, ZM) is essentially lacking a head N for its deep Subject - a state that violates the basic PS rule of Hebrew as of a considerable number of languages in the world, i.e., that an S is composed essentially of two constituents NP + VP that function as the deep structure Subject and deep structure Predicate whether they retain these functions on the surface or not. In order to keep this basic rule we have therefore postulated that the basis of each S whose Subject includes an S is a head N in the form of a Pro-S. (273; my translation, ZM).

The grounds for my disagreement with Berman on this issue are clear. In 3.4 it has been shown that there is independent motivation for an expansion of S as V S, thus demonstrating that the basic PS rule in Hebrew does not

conform to the basic PS rule in a considerable number of languages. The postulation of a Pro-S in the structures under consideration so that a universal PS rule can be retained is not a strong enough justification for the proposed deep structure. Furthermore, if we consider sentences 4.2.9 - 4.2.12 we see that rule 4.2.8 will have to be optional in cases where its application (4.2.10b, 4.2.11b) generates grammatical sentences and obligatory in cases where its failure to apply generates ungrammatical sentences (4.2.12a), i.e., the analysis proposed by Berman would require a rule-specific condition which in this framework is an undesirable consequence.

4.2.10 a. ze yafe [$_{S}$ še-hi baa]
it nice that-she came

b. yafe [$_{S}$ še-hi baa]
nice that-she came

4.2.11 a. ze muvan [$_{S}$ še-hu oxel bixlal lo ra]
it understood that-he eats at-all not bad

b. muvan [$_{S}$ še-hu oxel bixlal lo ra]
obvious that-he eats at-all not bad

4.2.12 a. *ze mistaber [$_{S}$ še-hu oxel bixlal lo ra]
it turns-out that-he eats at-all not bad

b. mistaber [$_{S}$ še-hu oxel bixlal lo ra]
turns out that-he eats at-all not bad

It is for these two reasons that I would like to propose a different analysis to account in a simpler way for the type of data presented in Berman (1973).

In an analysis such as mine where there is no rule of Extraposition, a number of cases handled by Berman by means of this rule remain unaccounted for. I will now shown how these cases can be handled by subcategorization in a grammar with no rule of Extraposition. In Transformational-Generative grammar, verbs are subcategorized with respect to the type of constituent that can or need follow them. In languages where the only expansion of S is NP VP there is no need to subcategorize verbs with respect to the type of constituent which should precede them (since it must be a NP) but it is necessary to specify what type of NP can precede --a function fulfilled by selection restrictions. However, a similar subcategorization of V cannot be maintained for a language in which the initial node S is expanded in at least two ways, NP VP and VP S, since it is necessary to indicate which verbs can be preceded by NP and which ones cannot. Furthermore, just as there are meaning changes in verbs depending on whether they are followed by S or NP (cf. 3.2), it is also the case that there are meaning changes in verbs depending on whether they are preceded by S or NP.

If we return now to 4.2.10 - 4.2.11 and present the subcategorization of the verb with respect to the constituents that can precede them in the deep structure, we have to assume the following description:

yafe, 'nice', NP___

muvan, 'understood', 'obvious', {NP / Ø}___

mistaber, 'turns out' Ø___

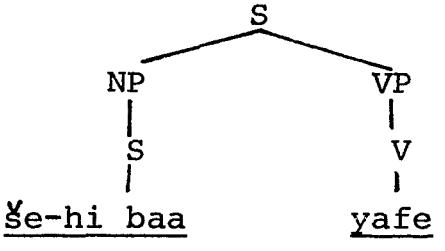
yafe can only be preceded by a NP and, as one observes, its meaning is not different whether the embedded S precedes it or does not.

muvan can be preceded by either a NP or Ø and its meaning is accordingly different.

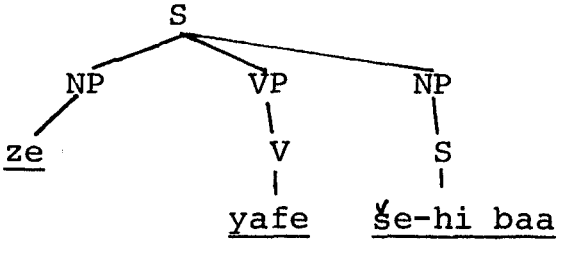
mistaber can only be preceded by Ø and therefore a NP preceding it renders the sentence ungrammatical.

In order to derive the sentences in 4.2.10 - 4.2.12 we have to assume the existence of a Right Dislocation rule and a VFR. The derivation of 4.2.10a is given in 4.2.13; 4.2.10b in 4.2.14; 4.2.11a in 4.2.15; 4.2.11b in 4.2.16; and 4.2.12a in 4.2.17.

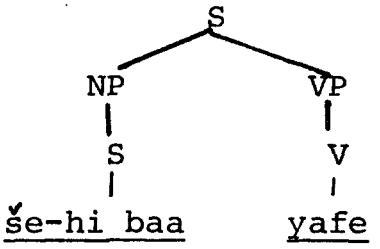
4.2.13



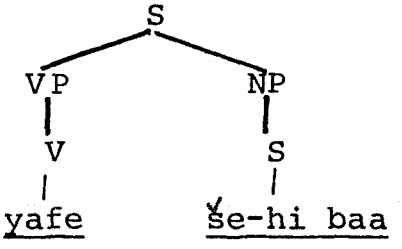
RDR



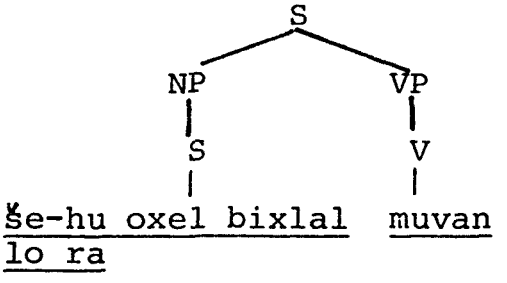
4.2.14



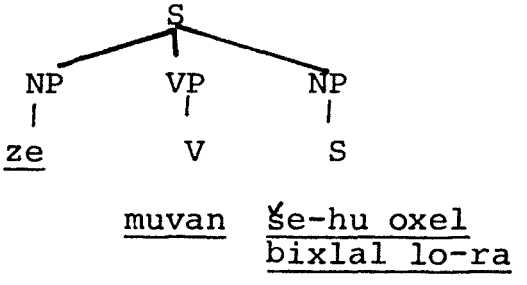
VFR



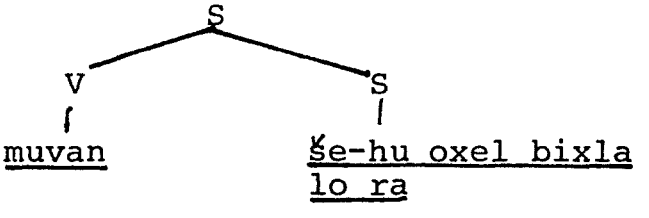
4.2.15



RDR

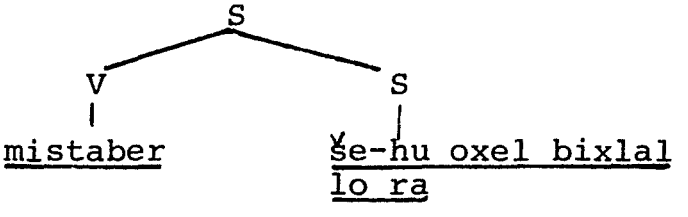


4.2.16



No other rules can apply here

4.2.17



No other rules can apply here

Further evidence that this analysis is correct is provided by the following examples:

4.2.18 [ha-uvda ha-zot]$_{NP}$ meacbenet oti [še-hu yavo maxar]$_{S}$
the-fact the-that bothers me that-he will-come tomorrow

4.2.19 [ha-yeled ha-ze]$_{NP}$ meacben oti [še ata ohev oto kol kax]$_{S}$
the boy that-this bothers me that-you love him so much

4.2.20 *[ha-uvda ha-zot]$_{NP}$ mistaberet [še yavo maxar]$_{S}$
the-fact the-that turns-out that-he will come tomorrow

It was pointed out before (4.2.6b) that it is disallowed to extrapose a sentence embedded in a NP and that only RDR is allowed. Examples 4.2.18 and 4.2.19 are examples of RDR applying to a sentence embedded in a NP, the reflex of which is the Pro-S zot, ze. Example 4.2.18 involves a SC of N and 4.2.19 a RC. Example 4.2.20 is further justification for subcategorizing mistaber as not allowing a NP to precede it.

Summary: I have demonstrated the similar behavior of the so called RC and SC of N with respect to PPP, the non-existence of Extraposition, and the possible application of RDR. Two conclusions follow from the demonstration:
(a) There is no syntactic evidence for distinguishing between RC and SC of N.
(b) NPC can be reformulated as 4.2.21 since restrictions on movement rules apply not just to elements of an S embedded in a NP but to any element of a NP.

4.2.21 No movement rules can apply to elements embedded in a NP if their effect is to move those elements outside of that NP.

4.3 The Sameness Relation Condition.

We now turn to the second piece of evidence that is usually advanced in favor of the distinction between RC and SC of N, namely that in the former but not the latter the embedded S includes an element coreferential with the head NP. This section will include a demonstration that this traditional distinction between RC and SC of N, in terms of presence in one but not in the other of a Sameness Relation (SRn) between the head NP and an element in S, fails to capture the relevant generalization. In both structures, which are syntactically CNPs (Ross 1967), there must be a SRn between the head NP and the embedded S. This SRn is sometimes between the head NP and an element of the embedded S and sometimes between the head NP and the entire embedded S. Any analysis that differentiates between RC and SC of N on the basis of the existence of SRn in one case but not the other necessarily fails to capture this generalization. The analysis proposed here postulates a Sameness Relation Condition (SRC) on deep structures that not only captures the relevant SRn but also covers the distribution of grammaticality judgements accounted for in traditional analyses.

In the analysis of Hayon, as well as in traditional analyses, the assumed difference of SRn between RC and SC of N is accounted for by means of a rule of Relative Clause Formation (RCF) which in a CNP pronominalizes a NP of the embedded S if that NP is coreferential with the head NP. Hayon's rule (1973:106) is given in 4.3.1.

4.3.1	X	[NP NP	#	W	NP	Z	#]	Y
SD:	1	2	3	4	5	6	7	8
SC:	1	2	Ø	RM + Y	(a) +Pro (b) Ø	6	Ø	8

SC: (a) Either (i) if 4 contains V or

(ii) if 5 is dominated by a coordinate NP node, or

(iii) if 4...6 is dominated by S and does not contain tense.

(b) Elsewhere:

Conditions:

(i) 2=5

(ii) $\begin{Bmatrix} S \\ NP \end{Bmatrix}$ 4...6

One problem posed by assuming that a coreferential pronoun in the embedded S is derived by the application of RCF is that it cannot block the generation of the ungrammatical 4.3.2.

4.3.2 * ha-iš [ani ohev et ha-iša]$_S$ ne'elam
the-man I love OM the-woman disappeared

In Hayon's treatment (1973: 26), the rule generating an embedded S is NP→ NP (S). However, there are no restrictions proposed for what the context of the embedded S should be and therefore 4.3.2 should be grammatical. The ungrammaticality of 4.3.2 suggests that a deep structure condition called the Sameness Relation Condition (SRC) is needed in the grammar:

4.3.3 SRC: In a CNP, the head NP must be identical with a node in the embedded S.[4.3.1]

Lasnik, in a paper in which he argues for the free generation of pronouns in the base, has proposed a principle for the conditions under which two NPs are disjoint in reference:

4.3.4 If NP_1 precedes and commands NP_2, and NP_2 is not a pronoun, then NP_1 and NP_2 are disjoint in reference.

The SRC, together with the principle 4.3.4 proposed by Lasnik, predicts that an S embedded in a NP that is in mutual construction with a NP includes a node identical to the head NP and that this node is not a full NP at the level of deep structure. The cases that the two principles account for are the ones accounted for by SC(a) in Hayon's RCF. Examples of such sentences are given in 4.3.5.

4.3.5 a. ani xošev al [ha-yeled [še-nas'ata elav]
NP S
I think about the-boy that-traveled-you to-him

b. ata makir et [ha-iš [še-ani makir oto gam ken]
NP S
you know OM the-man that-I know him too

One advantage of the analysis in terms of the SRC and 4.3.4 over the one proposed by Hayon is that it eliminates the need for the part of 4.3.1 that deals with pronominalization and hence his rule-specific condition (1). Instead of deriving the pronouns through a T-rule, the pronominal source under my analysis is a PS rule needed independently to derive

pronouns in simple sentences. This results in a unified and simple account of the distribution of the pronouns.[4.3.2] However, there is a problem raised by the incorporation of SRC and 4.3.4 into the grammar: sentences such as 4.3.6 would be incorrectly predicted to be ungrammatical because the head noun does not have an element identical to it in the embedded S as required by 4.3.3.

4.3.6 [ha uvda [še-hu yavo]] mesamaxat oti
NP S
the-fact that-he will come pleases me

The need to provide a grammatical derivation for 4.3.6 suggests that the SRC will have to be either modified or eliminated from the grammar altogether. In the following discussion I will demonstrate that a modified version of SRC is in fact part of a grammar that provides all the correct derivations, including a grammatical derivation for 4.3.6. The demonstration will involve showing that contrary to the claims of Rubinstein, Huddleston, and others, head NPs of SC of N <u>do</u> have an element identical to them in the embedded S, namely the entire S.

Let us consider the following ambiguous sentence:

4.3.7 [ha-ra'ayon [še-dan siper alav la-xaverim]] mafxid meod
NP S
the idea that-Dan told about {him / it} to-the friends scares very

One one reading 4.3.7 means "The idea that Dan told about (it) to his friends is very scary;" on the other interpretation

it means "The idea that Dan told about him (some other person) to his friends is very scary". In the first reading the pronoun alav, "about it, him" and the head NP ha-ra'ayon are interpreted as the same, whereas in the second reading the pronoun is interpreted as being the same as some object, person etc. other than the head NP ha-ra'ayon itself. However, a close examination of the second reading of 4.3.7 reveals that even though the head NP does not establish any SRn with any particular item in the embedded S, it nonetheless establishes SRn with the entire embedded S. For example, there is no way in which the head NP ha-ra'ayon can mean anything else but what is meant by the embedded S, i.e., "that Dan told about him to his friends".

It should be noted that the two grammatical interpretations of 4.3.7 are derived from the same syntactic deep structure, i.e., a CNP. Since SRC is a condition on deep structures, it follows that in order for both interpretations to be grammatical there must have been SRns established in both cases. That the first interpretation of 4.3.7 involves the establishment of SRns is clear from the agreement of the pronoun alav with the head NP. But to show that under the second reading there must be also a SRn between the head NP and the entire embedded S requires us to look at 4.3.8 - 4.3.12 which will help to illustrate the following:
NPs such as ha-uvda, 'the fact', ha-ra'ayon, 'the rumor', etc. (traditionally considered head NPs of SCs) when occurring in

structures different from 4.3.7 but where similar SRns seem to hold, can establish such relations only with themselves, a pronoun, or a sentence. That is, if SRns cannot be established with any of these three elements, the result will be an ungrammatical sentence.

4.3.8 a. [ha-šmu'a [še-siparta lanu aleha] hi [šmu'a meanyenet meod]
NP S NP
the rumor that-you-told us about her she rumor interesting very

b. *[ha-šmu'a [še-siparta lanu aleha] hi [ra'ayon me'anyen meod]
NP S NP
the rumor that-you-told us about her she idea interesting very

4.3.9 a. [ha-šmu'a] hi [ha-šmu'a [še-siparta lanu aleha]
NP NP S
the rumor she the rumor that-you told us about her

b. *[ha-šmu'a] hi [ha-ra'ayon [še-siparta lanu alav]
NP NP S
the-rumor she the idea that-you-told us about him

4.3.10 a. [ha-šmu'a] hi [zo [še-siparta lanu aleha]
NP NP S
the-rumor she the one that you told us about-her

4.3.11 *[ha-šmu'a] hi [ha-yeled]
NP NP
the rumor she the child

4.3.12 [ha-šmu'a] hi [še-siparta lanu aleha]
NP S
the rumor she that-you-told us about her

The examples in 4.3.8 illustrate a NP hi NP surface structure (cf. chapter 5 for its derivation) where the first NP is a CNP, i.e., it includes an embedded S, and the second

NP is on the surface a string of N Adj Intensifier. The sentences in 4.3.9 are also NP hi NP structures but, unlike 4.3.8, it is the second NP of 4.3.9 that is a CNP. The ungrammaticality of the b sentences in both 4.3.8 and 4.3.9, as opposed to the grammaticality of the a sentences, seems to result from the following: In the b sentences the head Ns are different from each other and there is no element in the embedded S that is the same as the head N in the other NP; in the a sentences, on the other hand, the head Ns are the same. It appears, then, that there is a restriction on structures of the form NP hi NP requiring that at least the head NPs of both NPs must be "the same". In 4.3.10 the head NP of 4.3.9 has been replaced by a pronoun. The pronoun zo agrees in gender and number with the first NP, ha-smu'a, as well as with the pronoun that appears in the embedded S, aleha, and the three of them are interpreted as being "the same". The restriction that the two head NPs must be the same still seems to operate.

That this restriction is significant in determining grammaticality is further supported by the ungrammaticality of 4.3.11 where there are only two NPs, and they are not the same. Unless some restriction exists on the SRns of these NPs, the ungrammaticality of 4.3.11 cannot be accounted for. If we consider now 4.3.12 we note that a noun of the type under discussion occurs with no other NP to establish SRn with, i.e., it occurs with an S. Since nouns such as ha-šmu'a have been independently shown to require SRn in order to

produce a grammatical output, we must conclude that, given the grammaticality of 4.3.12, ha-šmu'a has established SRn with the entire S.

The evidence studied so far suggests something about the nature of lexical entries for nouns such as ha-uvda, 'the fact', ha-ra'ayon, 'the idea'. These nouns, like other nouns, are often found in structures that require the establishment of SRn, for instance CNPs. The range of grammaticality judgements that we have just looked at suggests that the lexical entry for these nouns contains a statement specifying that, when required, a noun of such type can establish SRn with itself, a pronoun, or a sentence. This statement would read as follows:

4.3.13 SRn can be established with

(a) the same noun

(b) a pronoun

(c) a sentence

A possible argument against 4.3.13, in particular against 4.3.13c, is that in order to account for 4.3.12 we can postulate that the deep structure of 4.3.12 contains the pronoun ze as its head N, deleted by an optional rule in the derivation of the S. Such an analysis is unjustified, unnecessarily complex and, in addition, fails because it generates ungrammatical Ss. The analysis is unjustified because, as I have argued before, we must generate Ss dominated by NPs with no head NP (cf. 2.7). The analysis is unnecessarily complex

as shown also in 2.7 because the rule cannot be stated. But above all, unless 4.3.13c is in the grammar the ungrammaticality of 4.3.14 is not predictable.

4.3.14 *[$_{NP}$ha-šmu'a [$_{S}$še-raxel baa] hi [$_{NP}$zo [$_{S}$še-raxel halxa]
the-rumor that-Rachel came she it that-Rachel left

In 4.3.14 there is a failure to establish SRn which, given that the head NPs agree in number and gender, cannot be attributed to anything but the contradictory nature of the embedded Ss. This confirms 4.3.13c. The ungrammaticality of 4.3.14 also confirms the validity of the SRC (4.3.3) since the only way to establish the SRn between Ss is through the successive establishment of SRns between the embedded Ss and their head nouns in compliance with SRC.

Another argument in favor of the notion that NPs establish SRns with Ss (4.3.13c) is that if we assume such a condition we can account for the otherwise unexplained restriction concerning number and definiteness of head nouns of SCs: Consider the following sentences:

4.3.14' [$_{NP}$ha-uvda [$_{S}$še-hu yavo] mesamaxat oti
the fact that he will-come please me

4.3.15 *[$_{NP}$uvda [$_{S}$še-hu yavo] mesamaxat oti
fact that-he will-come please me

4.3.16 *[[ha-uvdot [še-hu yavo] ve [še-hi telex]] mesamxot oti
the facts that he will come and that she will go please me

4.3.17 *[[uvdot [$_{S}$še-hu yavo]$_{NP}$ ve[$_{S}$še-hi telex]]$_{NP}$ mesamxot oti
facts that he will come and that she will go please me

We observe that in grammatical derivations the only form of head N capable of establishing SRn is [+def], [+sing.]. We further observe (4.3.18 - 4.3.21) that this peculiar distribution is similar to the distribution of some Pro-S, e.g., zot, 'it', in conjoined sentences. If the only pronoun that can be a Pro-S has to be [+def], [+sing.], and if a head noun has to establish a SRn with S (which I assume to be the same kind of relation existing between an S and a Pro-S) then it follows that there will be some similarity between the form of the head NP in a CNP and the Pro-S.

The following distinctions and assumptions are relevant to demonstrate the similarity between the class of head NPs under consideration and the Pro-S:

i) zot is a [+definite, +sing., pronoun]'it'.

ii) otam is a [+definite, +plural, pronoun] 'them'.

iii) exad is a [-definite, +sing, pronoun] 'one'.

iv) axadim is a [-definite, +plural, pronoun] 'several'.

v) One possible expansion of VP is V S where the S is not dominated by a NP.

vi) One possible expansion of S is S S.

4.3.18 Dan amar [$_{S}$še-raxel avra et ha-bxina] ve-max a mar zot gam ken
Dan said that Rachel passed OM the exam and Max said it too

4.3.19 *Dan amar [$_{S}$še-raxel avra et ha-bxina]
Dan said that-Rachel passed OM the exam

ve-max amar <u>exad</u> gam ken
and Max said one too

4.3.20 *Dan amar [[$_{SS}$še raxel avra et ha-bxina]
Dan said that Rachel passed OM the exam

ve [$_{S}$rut nixšela]] ve max amar <u>otam</u> gam ken
and Ruth failed and Max said them too.

4.3.21 *Dan amar [[$_{SS}$še raxel avra et ha-bxina] ve [$_{S}$rut nixšela]]
Dan said that Rachel passed OM the exam and Ruth failed

ve-max amar <u>axadim</u> gam ken
and Max said several too.

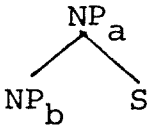
We observe that in the second conjunct of each sentence in 4.3.18 - 4.3.21 there is a pronoun in a position where there would otherwise be a sentence. The meaning of this pronoun, along with <u>gam ken</u>, 'too', must be the same as the meaning of the S in the previous conjunct. Also, there is no way in which the embedded S can be dominated by a node other than the VP. We see, then, that there is a SRn between the Pro-S and the embedded S. The only pronoun allowed in such a structure is <u>zot</u>, which is [+def], [+sing.]. Unless we assume that a relation such as SRn must be established between the head N and S in 4.3.14'- 4.3.18 we cannot explain

the similarity in the distribution of [+def], [+sing] in these two unrelated sets.[4.3.4; 4.3.5]

I have shown so far in this section that SRns can be established between a N and a pronoun and that there are cases where it must be established between a N and a sentence. I will continue this analysis by postulating that CNPs are structures where SRn must be established. I will discuss the range of phenomena described by this restriction on CNPs and outline the way ambiguities of the type of 4.3.7 are represented in the grammar.

In this discussion the notion of SRn is taken to mean the kind of relation that the speakers of Hebrew understand to exist in some cases between a NP and either a pronoun or an S. With respect to SRC, the definition of this construct, updated from 4.3.3, should now read as follows:

4.3.22 Sameness Relation Condition (SRC):

In a CNP  the head NP (here NP_b) must establish

SRn with either S or an element in S

I would like to point out the significance of stating that it must be the head NP that establishes SRn with S rather than the S establishing SRn with the head NP. First, it would be necessary to indicate somewhere in the grammar what elements an S can enter into SRn with. Given that there is no place in the grammar for listing sentences, it would be impossible to state the restrictions in terms of sentences.

We are therefore left with the need to impose the restriction upon the NPs and state these restrictions in the lexical entry for nouns. Thus, for example, the nouns

ha-uvda 'the fact'
ha-smu'a 'the rumor'
ha-ra'ayon 'the idea'
ha-xadaša 'the news'
ha-yedi'a 'the news'

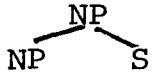
will be classified as having the privilege of establishing SRn with both a pronoun and a sentence. On the other hand, nouns such as

ha-yeled 'the boy'
ha-xatul 'the cat'
ha-sulxan 'the table'

can establish SRn with pronouns only. The statement of SRn privilege for the pronouns is as follows: The pronouns ze, hu-hi, and zot, which can be translated as 'it' or 'the one' can establish SRn with both a pronoun and an S; all other pronouns are restricted to enter into SRns only with other pronouns.

One significant consequence of stating privileges of SRn only in the entries for nouns and pronouns is that we can predict the ungrammaticality of 4.3.23, despite the fact that in my analysis a NP can exhaustively dominate an S node.

4.3.23 *[[[$_{NP}$[$_{S}$še-hu yavo [$_{S}$še-hu yelex]]]$_{NP}$]...
that-he will come that-he will go

Since in the configuration  the head NP must establish SRn and since the only elements for which SRn privileges are stated are nouns of pronouns, it follows that the NP of the CNP must at least dominate a N or a pronoun but cannot exhaustively dominate an S.

Next, I will provide a detailed account of the operation of SRC on the basis of sentences 4.3.24 - 4.3.26.

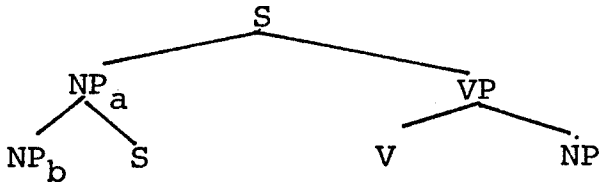
4.3.24 [$_{NP}$ha-yaled [$_{S}$še-siparta li alav] hicik li
the boy that-told you to me about-him bothered me

4.3.25 [$_{NP}$ha-ra'ayon [$_{S}$še-siparta alav] hicik li
the-idea that-you told about-{him / it} bothered me

4.3.26 [$_{NP}$ze [$_{S}$še siparta alav] hicik li
{it / the / one} that-you told about-{it / him} bothered me

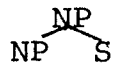
Sentences 4.3.24 - 4.3.26 all have the following deep structure P-marker:

4.3.27



NPa is a complex structure in which SRn must be established by 4.3.22. In 4.3.24 the head NP is ha-yaled, 'the boy', which can establish SRn with a pronoun only and the embedded sentence includes a pronoun alav, 'about him', which allows for such relation to be established since the pronoun agrees in gender and number with the head NP. Since 4.3.27 does not violate SRC, it is a well formed deep structure which, if all rules apply properly, will generate a grammatical sentence.

In 4.3.25 the head NP ha-ra'ayon, 'the idea' can establish SRn with both a pronoun and an S. In this sentence the embedded S includes a pronoun that agrees in number and gender with the head NP and, therefore, on one reading, the SRn can be established between the head NP and a pronoun. This reading is similar to that of 4.3.24. If we choose, however, not to establish the SRn with the pronoun in the embedded S we must establish it with S itself. Since the head NP in 4.3.25 allows for establishing SRn with S such a reading is grammatical as well and thus we get an ambiguous sentence. The explanation for 4.3.26, where the head NP is the pronoun ze, is the same as that of 4.3.25.

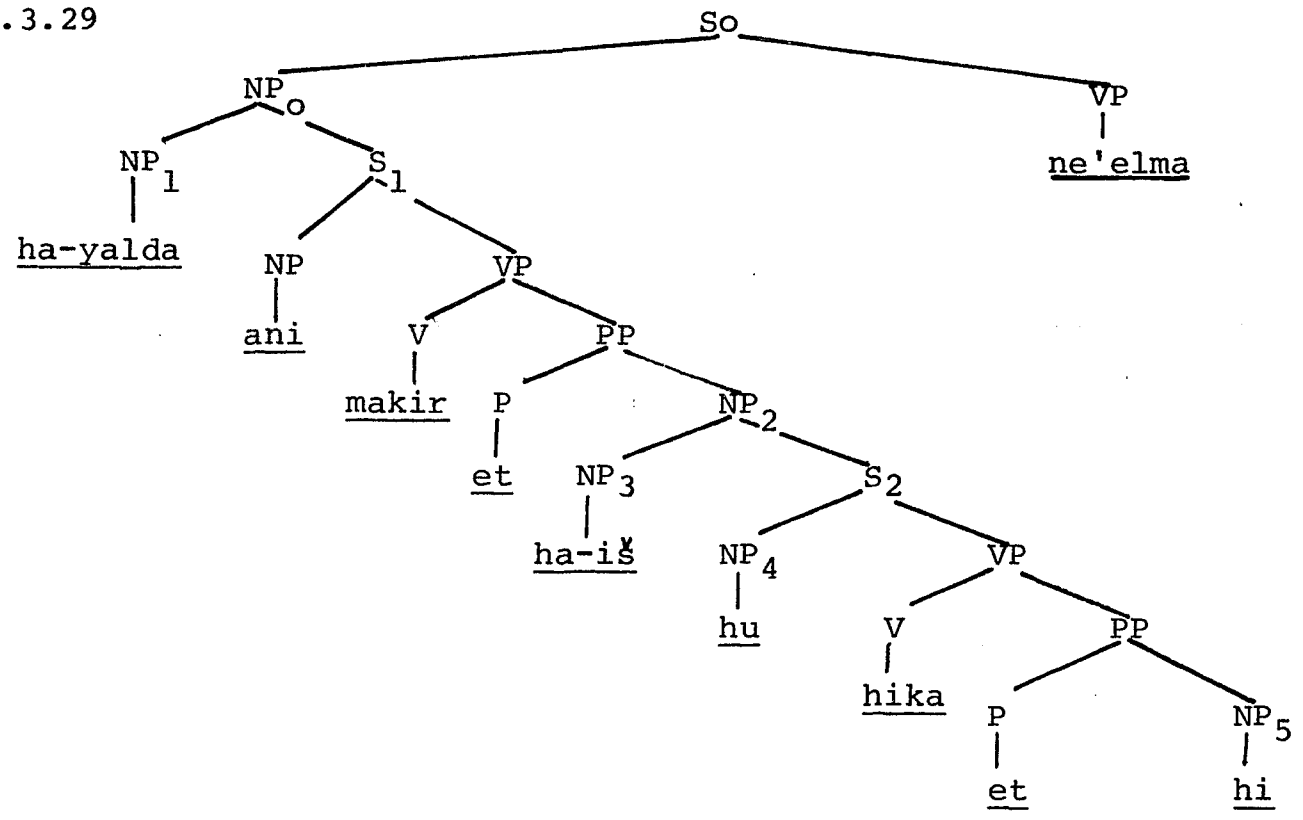
The discussion of SRC up to this point has been limited to cases with one level of embedding, i.e., structures of the general form 

. The question arises of whether more than one degree of embedding will have an effect on the operation of SRC. Consider sentences 4.3.28, a possible deep structure for which is 4.3.29.

4.3.28 [ha-yalda [še-ani makir et [ha-iš [še-hika ota] ne'elma
NP S NP S

the-girl that-I know OM the-man that-hit her disappeared

4.3.29



In 4.3.28 there are two NPs which have to establish SRn with an element in S_1, i.e., NP_1 and NP_3 since both of them are heads of a CNP. NP_1 establishes SRn with NP_5 and NP_3 does the same with NP_4. Both NP_4 and NP_5 are embedded in S_2 which is in turn embedded in NP_2. NP_1, however, is outside the domain of NP_2. The conclusion one draws is that for a head NP of a CNP to establish SRn with an element in S it does not matter how deeply embedded that element is. It follows that in cases where there are two head NPs both of which are of the same number and gender, and two pronouns in the most embedded S, that the sentences should be ambiguous

since either NP can establish SRn with either pronoun. 4.3.30 confirms that this is really the case.

4.3.30 [ha-yeled [$\overset{\vee}{\text{s}}$e-ani makir et [ha-i$\overset{\vee}{\text{s}}$ [$\overset{\vee}{\text{s}}$e-hu hika oto] ne'elam
NP S NP S
the-boy that-I know OM the-man that-he hit him disappeared

Since both ha-yeled and ha-is in 4.3.30 are [+Mas.] [+Sing.] the most embedded S can mean either that the boy hit the man or the man hit the boy. 4.3.30 is somewhat complicated in terms of processing because normally one of the pronouns will be deleted (I'll return to the question of deletion below). An even more revealing example would be one in which one of the head NPs is one which can establish SRn with either a pronoun or an S. 4.3.31 is such an example.

4.3.31 [ha-i$\overset{\vee}{\text{s}}$ [$\overset{\vee}{\text{s}}$e-katav la-yeled al [ze
NP S NP
the-man that-wrote to-the-child about {it / the-one}

[$\overset{\vee}{\text{s}}$e-raxel meohevet bo] ne'elam
that-Rachel is in love with him disappeared

4.3.31 is ambiguous, having at least two readings.

(i) ha-i$\overset{\vee}{\text{s}}$, 'the man' = bo, 'him'
ze, 'it' = S

(ii) ha-i$\overset{\vee}{\text{s}}$, 'the man' = Ø (i.e., deleted NP of NP-of-S in the first embedded S)
ze, 'the one' = bo, 'him'.

Thus if (i), then the meaning of the CNP is that the man wrote to the child about the fact that Rachel was in love

with him, i.e., with the man. If (ii), then the CNP means that the man wrote to the child about someone that Rachel was in love with. The ambiguity of 4.3.31 or any other similar structure is accounted for by the following:

(i) The derivation of pronouns directly from the base and not by a pronominalization rule.

(ii) The SRC and its wide domain of applicability.

(iii) The analysis of certain elements as capable of SRn with either S or a pronoun.

Conclusion: In this section I have demonstrated that SC of N and RC are not structurally distinguished from each other. The same syntactic rules that apply in one can apply in the other, SRn must be established in both, and the domain of SRC is also the same for both. The consequences of this demonstration is that there is no reason for postulating a RCF rule to distinguish one structure from the other. As for the difference between the two, it was attributed to the type of node that a particular noun could establish SRn with. In the rest of the present work I will, therefore, refer both to RC and SC of N as SCNP (Sentential Complement of NP). In course of developing the argument in favor of a unified analysis for the traditional RC and SC of N I have postulated the SRC on deep structure and developed the notion of SRn.

4.4 The Pronoun Deletion Rule

One of the characteristics of SCNP is that under certain circumstances a node that had to be present in the deep structure for the V to be inserted is missing on the surface. Examples of such cases appear in 4.4.1 - 4.4.5.[4.4.1]

4.4.1 [ha-iš$_{NP}$ [še-ata makir oto$_{S}$] ne'elam
the-man that-you know him disappeared

4.4.2 [ha-iš$_{NP}$ [še-ata makir$_{S}$] ne'elam
the-man that-you know disappeared

4.4.3 [ha-iš$_{NP}$ [še-oto ata makir$_{S}$] ne'elam
the-man that-him you know disappeared

4.4.4 [ha-iš$_{NP}$ [oto ata makir$_{S}$] ne'elam
the-man him you know diappeared

4.4.5 *[ha-iš$_{NP}$ [ata makir$_{S}$] ne'elam
the-man you know disappeared

Sentences 4.4.1 and 4.4.2 are assumed to be transformationally related because there are no restrictions, selectional or structural, that are true in one but not in the other. Sentences 4.4.3 - 4.4.5 suggest something of what the SD of this rule might be: a pronoun cannot be deleted if the Comp. <u>še</u>, 'that', is not present (cf. 4.4.5). The rule of Pronoun Deletion (PDR)[4.4.2] will thus have the following form:

4.4.6 X Comp Y P-Pron. Z

1 2 3 4 5

=====⇒ optional

1 2 3 Ø 5

PDR states that any PP of which the NP is a pronoun can be deleted from an embedded sentence. But 4.4.7b shows that the prediction made by PDR is wrong.

4.4.7 a. [$_{NP}$ha-iš [$_{S}$še-hi makira oto] ne'elam
the-man that-she knows his disappeared

b. *[$_{NP}$ha-is [$_{S}$še-Ø makira oto] ne'elam
the-man that-knows him disappeared

However, if we assume SRC on deep structure and the recoverability constraint on application of rules then 4.4.7b will correctly block. In this section I will discuss the interaction of PDR with SRC and with the recoverability constraint and the evidence that this interaction provides for the different nature of these two theoretical constructs: The first, (SRC) is a condition on deep structure and the latter a constraint on the application of rules. The correct application of PDR requires that the domain of recoverable deletion be restricted to the smallest domain dominated by a NP where the rule can apply. This allows for a reformulation of the SRC in terms of a modified version of the recoverability constraint.

The SRC and the recoverability constraint interact with PDR to block 4.4.7b in the following way. At the level of deep structure the head NP ha-is establishes SRn with a pronoun in the embedded S. In 4.4.7b this pronoun can only be oto since it is the only one agreeing in gender and number with the head NP. If we then assume the recoverability constraint, which disallows deletion of elements unless they are recoverable, we observe that only oto is recoverable since only oto could enter into SRn with the head NP. If we delete oto as in 4.4.2, the result is a grammatical sentence. If, on the other hand, the deleted pronoun is not one with which the head NP has established SRn, its deletion is not recoverable and hence the ungrammaticality of 4.4.7b.

Consider now the following sentences:

4.4.8 ani makir et [$_{NP}$ha-yeled [$_{S}$še-raxel raata et [$_{NP}$ha-iš [$_{S}$še-hu hika oto]

I know OM the-child that-Rachel saw OM the-man that-he hit him

4.4.9 ani makir et [$_{NP}$ha-yeled [$_{S}$še-raxel raata et [$_{NP}$ha-iš [$_{S}$še-hu hika]

I know OM the-child that-Rachel saw OM the-man that-he hit

4.4.10 ani makir et [$_{NP}$ha-yeled [$_{S}$še-raxel raata et [$_{NP}$ha-iš [$_{S}$še-hika oto]

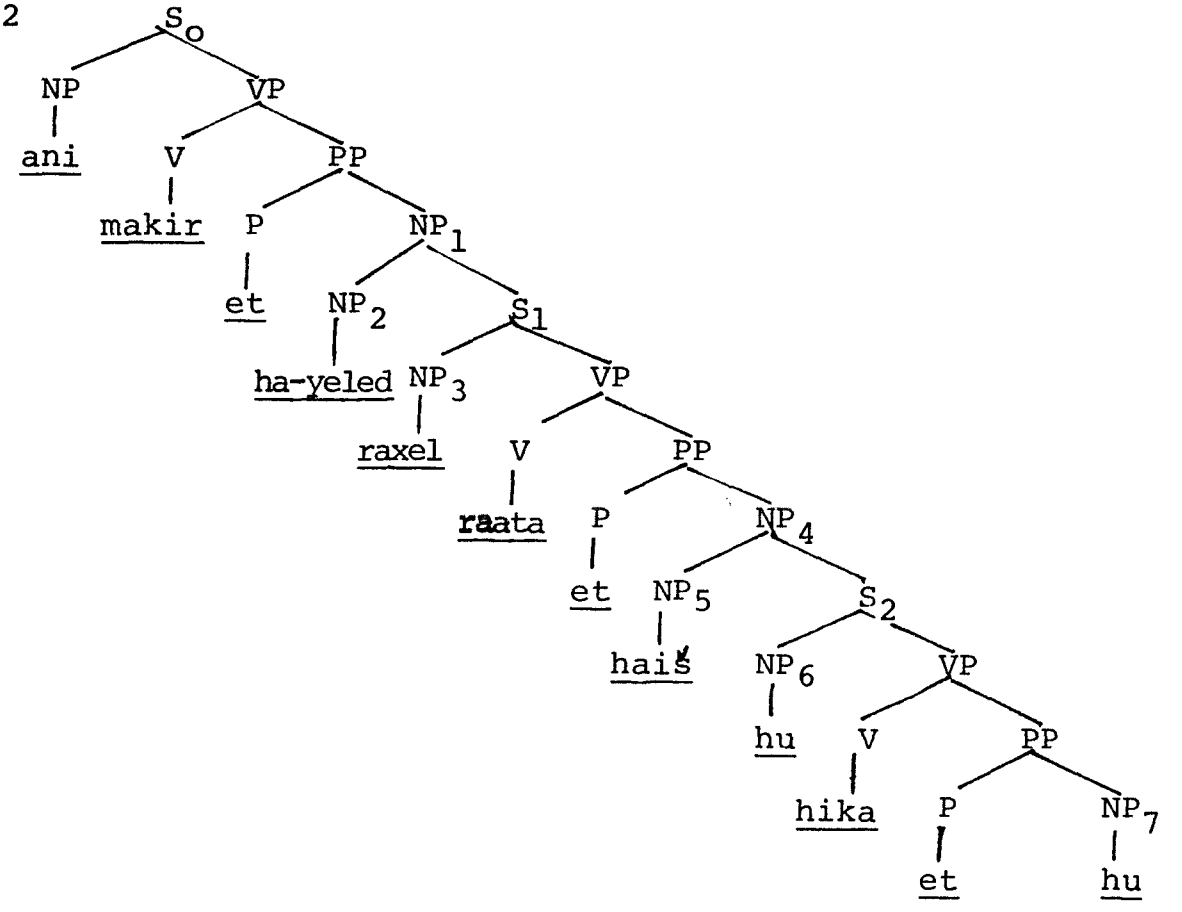
I know OM the-child that Rachel saw OM the-man that-hit him

4.4.11 *ani makir et [$_{NP}$ha-yeled [$_{S}$še-raxel raata et [$_{NP}$ha-iš [$_{S}$še-hika]

I know OM the-child that-Rachel saw OM the-man that hit

4.4.12 is a possible deep structure of 4.4.8 - 4.4.11 (comp. omitted).

4.4.12



The structure 4.4.12 represents the deep structure of an ambiguous sentence where SRn has to be between NP_2 and NP_6, and NP_5 and NP_7 or NP_2 and NP_7, and NP_5 and NP_6. (For detailed discussion see examples 4.3.28; 4.3.30; 4.3.31). However, if PDR applies in S_2 and deletes one of the pronouns, the structure becomes unambiguous, as 4.4.9 and 4.4.10 illustrate. The deletion of both pronouns results in an ungrammatical structure (4.4.11). One important fact to observe is that in both 4.4.9 and 4.4.10 the remaining pronoun is interpreted as NP_2 whereas the deleted one is always interpreted as NP_5. This fact suggests that the domain for deletion is the most embedded NP that dominates both a control for deletion and the deleted element. The recoverability constraint can be, therefore, reformulated as 4.4.13.

4.4.13 An element can delete if its control is present in the first NP which dominated it.

If we now compare the NPC, which is a constraint on movement, we see that movement is blocked out of the same domain that deletion is blocked. If we further interpret movement as a copying and deletion operation, we conclude that the NPC is subsumed under 4.3.13 and therefore is not needed in the grammar. That is, if a movement rule has applied inside the NP that is crucial for deletion, then the copied element remains within the domain of the NP and therefore deletion can take place. However, if a movement rule has copied an element out of the crucial NP, then deletion is impossible. NPC, then, is not needed in the grammar since the recoverability constraint 4.3.13 can account for all cases that involve movement and are covered by NPC. In addition, the recoverability constraint accounts for the restriction on deletion rules that are not movement (i.e., they do not involve copying and deletion but only deletion).

Returning now to the sentences under consideration, we have the following explanation for 4.4.9 - 4.4.10. SRC requires that NP_2 and NP_5 establish SRn with sone element in S. In the case of deep structure 4.4.12, both SRns are established with elements in S_2 and therefore the domain of recoverable deletion is NP_4. In NP_4 only NP_5 is in SRn with either one pronoun or the other and therefore it is the only possible control for deletion. It follows, then, that since the deleted pronoun must be in SRn to NP_5 the

remaining pronoun is interpreted as being in SRn with NP_2. The constraint proposed in 4.4.13 also predicts the ungrammaticality of 4.4.11 since if there is only one control in the domain of the crucial NP there can be only one deletion.

The following set of examples illustrate the same point, except that one of the NPs which must establish SRn is a pronoun that can do so with both an S and a pronoun. I will show that they way this pronoun is interpreted is predictable from its description in the lexicon, a description supported by examples where deletion has occurred.

4.4.14 gam ani maamin ba [ze [še-ata heemanta bo]
NP S
too I believe in-{it / the-one} that-you believed in-him

4.4.15 gam ani maamin ba [ze [še-ata heemanta]
NP S
too I believe in-it that-you believed

Sentence 4.4.14 is ambiguous, meaning in one reading 'I believe in the fact that you believed in him'. One the other reading it means 'I believe in the one (the same one) that you believed in'. On the first reading ze is taken to establish SRn with S whereas in the second case it establishes SRn with the pronoun bo 'in him'. Sentence 4.4.15, where deletion of the pronoun has occurred, is nonambiguous because the deletion is possible only where it is recoverable, and it is only recoverable if the head NP, in this case ze is taken to establish SRn with a pronoun and not an S.

The analysis of PDR as being constrained by 4.4.13, together with the specification of SRn requirements for nouns

and pronouns, predicts that in cases where SRn is established between the head NP or the head pronoun with an S only, pronoun deletion cannot occur since its deletion is not recoverable. The correctness of the analysis is reaffirmed by the ungrammaticality of 4.4.16b.

4.4.16 a. [ha-uvda [še-hi yesena] hirgiza oti
NP S
the-fact that-she asleep bothered me

b. *[ha-uvda [še-yešena] hirgiza oti
NP S
the-fact that-asleep bothered me

We have seen so far, then, that the grammar of Hebrew contains the rules of PPP, LMR, VFR, and PDR, all of which adhere to the recoverability constraint 4.3.13. This constraint covers all the functions fulfilled by the NPC and thus eliminates the need for this special constraint.[4.4.3]

We have further seen that the SRC and the recoverability constraint while operating on the same nodes have different domains of application.

4.5 A Unified Analysis of NRC and SCNP

In his description of English, Jespersen suggested (1924:112-113) that not all clauses following a N bear the same relation to that N. In some cases they restrict the class of objects denoted by the N (hence restrictive relative clauses (RRC)), and in others they only describe that N without restricting the class of objects denoted by it. Hence nonrestrictive relative clauses (NRC)). The main structural distinction between the two types was claimed to be the fact that NRC are surrounded by pauses whereas RRC are not. Hayon (1973) claims that the same classification made by Jespersen for English applies in Hebrew and adds as a structural distinction between the two types the following observation: In RRC with nonverbal predicates the identical pronoun is deleted, whereas in NRC with the same kind of predicates the pronoun is retained. Examples similar to those used by Hayon (1973:24) are given below.[4.5.1]

4.5.1 [ha-sefer [$_{S}$ še-al ha-kise]$_{NP}$ hu šeli
the-book that-on the-chair he mine

4.5.2 [ha-sefer [$_{S}$ še-hu al ha-kise]$_{NP}$ hu šeli
the-book that-he on the-chair he mine

Ross (1967:90) has proposed to capture this distinction by deriving RRC from the expansion of NP as NP S and NRC from the expansion of S as Conj S S.[4.5.2]

One piece of evidence on the basis of which NRC are given a deep structure similar to that of sentence conjunction is the fact that, when embedded, NRCs can be preceded by either a RM or the conjunction 'and', the meaning being the same in both cases. The following examples illustrate the distribution of RM and the conjunction 'and' in NRC and RRC.

4.5.3 a. [ha-yalda ---[še-ata nasa'ata eleha] --- hi axoti
NP S
the-girl that-you traveled to-her she sister-my

b. [ha-yalda ---[ve-ata nasa'ata eleha] --- hi axoti
NP S
the-girl and-you-traveled to-her she sister-my

4.5.4 a [ha-yalda [še-ata nasa'ata eleha] hi axoti
NP S
the-girl that-you traveled to-her she sister-my

b. *[ha-yalda [ve-ata nasa'ata eleha] hi axoti
NP S
the-girl and-you traveled to-her she sister-my

The theoretical problems posed by deriving NRC from conjoined sentences have been discussed by Ross (1967:241), Jacobs and Rosenbaum (1968) and others. I will therefore restrict the present discussion to a proposal for deriving NRC from conjoined NP nodes, rather than from conjoined Ss. Such an analysis, I believe, can account for the similarity between NRC and conjunctions (if this similarity turns out to be a true generalization) and also for the facts concerning the presence or absence of the pronoun in embedded clauses with nonverbal predicates. In addition, the theoretical problems pointed out by Ross and others do not arise at all. And finally, the analysis presented here and the

theoretical constructs which it forces us to assume allows for a unified syntactic and semantic description of RRC, NRC, and Ss with nonverbal predicates.

Consider the following sentences:

4.5.5 ha-iš [ze [še-(hu) makir ota] ne'elam
NP S
the-man the-one that-(he) knows her disappeared

4.5.6 dan makir et ha-iš et [ze [še-ata raita (oto) ba-koncert]
NP S
Dan knows OM the-man OM the-one that-you saw (him) in-the-concert.

4.5.7 dan poxed me-ha-iš mi[ze [še-ata raita (oto) ba-koncert]
NP S
Dan afraid from-the-man from-the-one that-you saw (him) in-the-concert

Examples 4.5.5 - 4.5.7 illustrate a type of sentence where the head NP is separated from the SCNP that modifies it by the pronoun ze, 'the one'. In addition, the pronoun ze must be preceded by the same preposition that precedes the head NP modified by the SCNP. The ungrammaticality of 4.5.8, as opposed to the grammaticality 4.5.7 shows that this is really the case.

4.5.8 * dan poxed me-ha-iš [ze [še-ata raita ba-koncert]
NP S
Dan afraid from-the-man the-one that-you saw in-the-concert

The type of sentences presented in 4.5.5 - 4.5.7 have never been dealt with before, despite their having the same meaning as those traditionally called NRCs. In the analysis detailed here, the similarity between traditional NRCs and NP še S structures is captured by deriving both from NP

conjunction. The various structures that have the same meaning, as for example, 4.5.5 but which differ syntactically in the pauses and also in the number of pronouns in SRn that appear on the surface are accounted for by the PDR. The examples serving as the basis for this presentation are listed in 4.5.9 - 4.5.12 and the relevant assumptions in 4.5.13.

4.5.9 ha-yeled [ze-[$\overset{\text{NP}}{\text{}}$še-at ohevet oto]$_{\text{S}}$ ne'elam
the-boy the-one that-you love him disappeared

4.5.10 ha-yeled [ze[$\overset{\text{NP}}{\text{}}$še-at ohevet Ø]$_{\text{S}}$ ne'elam
the-boy the-one that-you love disappeared

4.5.11 ya-yeled [Ø [$\overset{\text{NP}}{\text{}}$še-at ohevet oto]$_{\text{S}}$ ne'elam
the-boy that-you love him disappeared.

4.5.12 ha-yeled [se-at ohevet Ø]$_{\text{S}}$ ne'elam
the-boy that-you love disappeared

4.5.13 a. The base component of Hebrew grammar includes the PS rule NP ----→ Conj NP NP (cf. 2.3)

b. The base component of Hebrew grammar includes the PS rule NP ----→ S (cf.2.7)

c. All the pronouns relevant here are base generated (cf. 2.9 & 4.3)

d. The Conj node of (a) is optional (or Ø) (cf. discussion below).

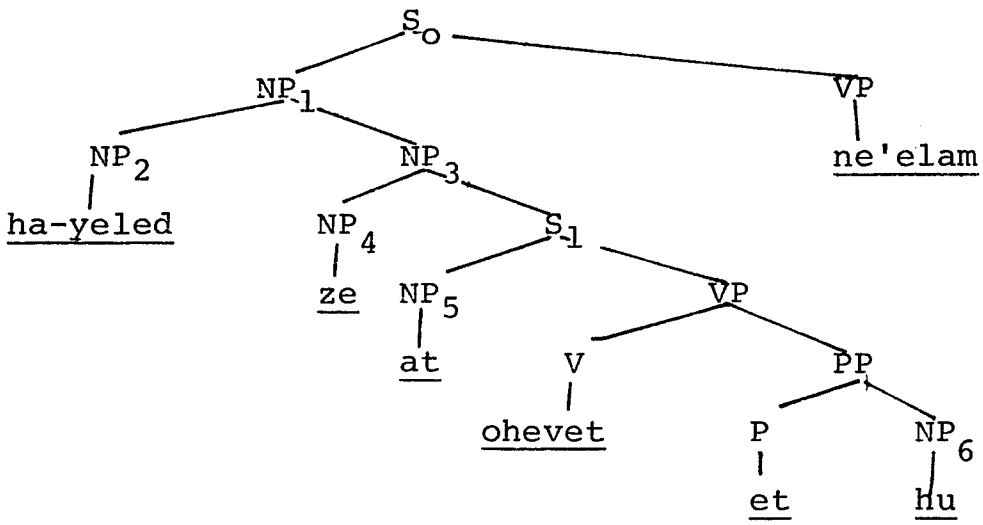
e. SRC is a valid condition (cf. 4.3) but needs modification.

f. Recoverability constraint is a valid constraint (cf. 4.4).

g. PDR is an optional rule (cf. 4.4) but needs modification.

In section 2.3 I have justified deriving directly from the base a string of the form Conj NP NP. If we further assume that the presence of a conjunction is optional, the deep structure of 4.5.9 is 4.5.14 .[4.5.3]

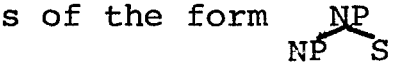
4.5.14



One observation one can make with respect to the NPs in 4.5.9 is that NP_2, NP_4 and NP_6 are interpreted as being the same, i.e, they are in SRn. Further evidence to support this observation comes from the ungrammaticality of 4.5.15 where the NP ha-yeled has been replaced by its plural form ha-yeladim and there is no element in NP_3 identical to it since none of the NPs there are [+plural].

4.5.15 * ha-yeladim [ze [$\underset{NP}{\text{še}}$-ata ohevet oto] $\underset{S}{}$ ne'elam
the-children the-one that-you love him disappeared

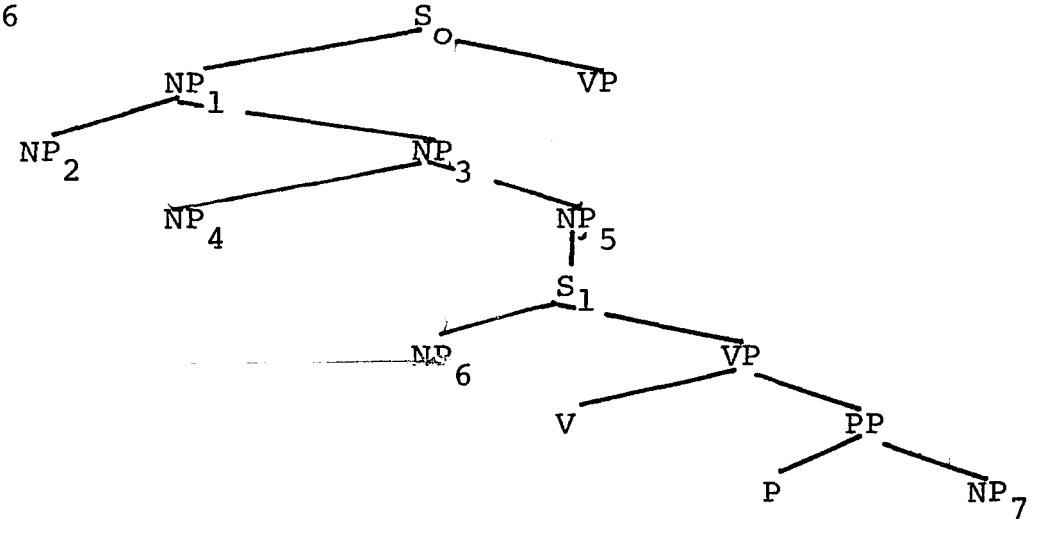
However, the way SRC is now formulated does not predict that

4.5.15 should be ungrammatical because it requires establishing SRn only in structures of the form  and not in

 structures.

In order to predict the ungrammaticality of 4.5.15 the analysis so far presented will be modified in the following two ways: First 4.5.16 will be postulated as the deep structure of 4.5.9 rather than 4.5.14. The difference between the two structures is that in 4.5.16 the SCNP is exhaustively dominated by a NP, whereas in 4.5.14 it is not (all details not relevant have been omitted). Second, SRC will be reformulated as in 4.5.17.

4.5.16



4.5.17 if (i) X is in construction with $Y^{4.5.4}$
and (ii) X , Y are both NPs
then (iii) Y must establish SRn with X or an element of X where X is the highest NP satisfying (i)

In 4.5.16, then, the following NPs satisfy (i) and (ii)

a. NP_7, NP_6, NP_5, NP_4, NP_3, (X) are in construction with NP_2, (Y)

b. NP_7, NP_6, NP_5, (X) are in construction with NP_4 (Y)

c. NP_7 (X) is in construction with NP_6, (Y)

A close look at 4.5.16 reveals that only the NPs in (a) and (b) are in SRn as required by 4.5.17 (iii) whereas (c), despite the fact that it violates (iii) of 4.5.17 does not render 4.5.9 ungrammatical: In (a) NP_2 (ha-yeled) is in SRn with NP_4 (ze) and NP_7 (hu) and since both NPs are dominated by NP_3 which is the highest X in construction with NP_2 (iii) is satisfied. In (b) NP_4 (ze) is in SRn with NP_7 (hu). Since NP_7 is dominated by NP_5 which is the highest X in construction with NP_4 (iii) is satisfied. In (c) NP_6 (at) must establish SRn with NP_7 (hu) because (hu) is the highest NP in construction with it, however such relations cannot be established since at is [+Femin.] and hu [+Masc.] i.e., (iii) is violated.

An attempt to distinguish between (a) and (b) where SRn is properly established, on the one hand, and (c) where such relation is not, reveals that whereas in (a) NP_2 and NP_3 and in (b) NP_4 and NP_5 are not separated by any other constituent, NP_6 and NP_7 are. (verb-preposition). This observation when incorporated into 4.5.17 results in the following reformulation of (iii).

4.5.17'if (i) and (ii) then

(iii) Y must establish SRn with X or an element of X where X is the highest NP in construction with Y and provided there are no elements intervening between X & Y.

We turn now to the data that provides us with the final formulation of SRC. Consider the following sentences:

4.5.18 moše oxel tapuxim ve-bananot
Moses eats apples and-bananas

4.5.19 moše oxel lo tapuxim ki-im bananot
Moses eats not apples but bananas

4.5.20 moše oxel tapuxim ve-tapuxim kol hayom
Moses eats apples and-apples all the-day

4.5.21 * moše oxel lo tapuxim ki-im tapuxim kol hayom
Moses eats not apples but apples all the day

The conclusion one can draw from examining 4.5.18 - 4.5.21 is that in a coordinated NP, if the conjunction is ve, 'and', then the two NPs can, but need not be identical (cf. the grammaticality of 4.5.18, 4.5.20). If, however, the conjunction is lo..ki-im,'not .. but', then the NPs cannot be identical. (cf. the grammaticality of 4.5.19 and the ungrammaticality of 4.5.21). What emerges is a natural class of conjunctions constituting of ve, lo..ki-im and Ø which have to be subcategorized with respect to SRn in the following way: lo..ki-im [-SRn]; ve [$\pm$ SRn]; and Ø [+ SRn].

If we take the above facts into consideration it is possible to simplify SRC considerably as well as accounting for all the facts previously described. In addition, this reformulation makes it possible to explain some of the properties of sentences with nonverbal predicates, in terms of this condition.

4.5.22 If (i) X is in mutual construction with Y
and (ii) X , Y = NP
then (iii) Y must establish SRn with X or an element of X provided there is no other node in mutual construction with X & Y

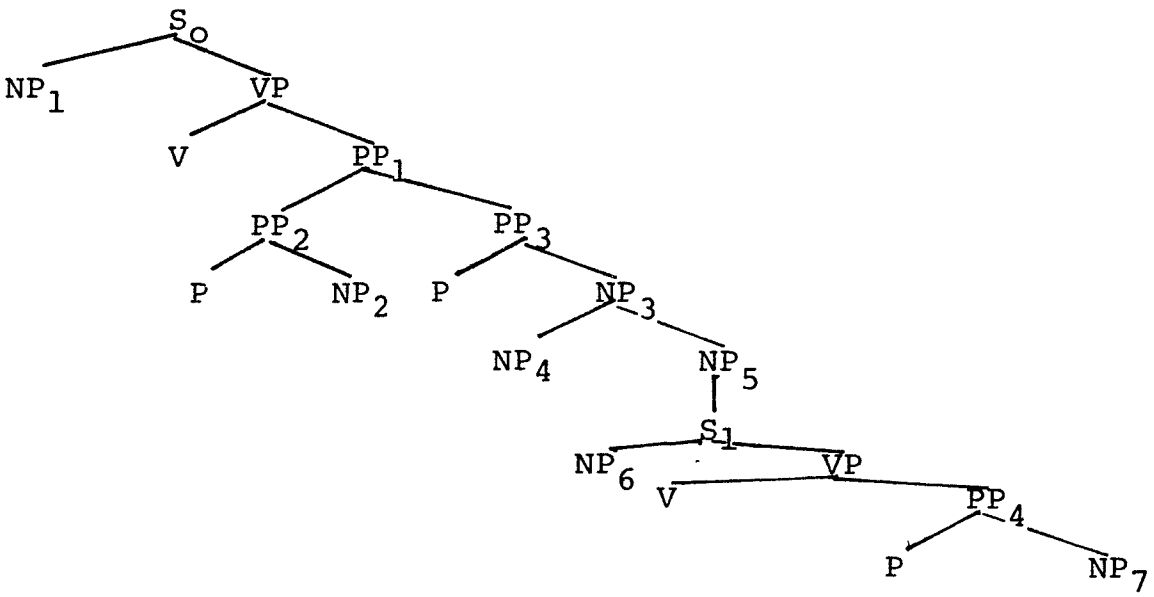
By using the notion 'in mutual construction with' there is no need to (a) refer to the 'highest NP which is in construction with Y' nor to (b) 'an element intervening between the two NPs'.[5.5.5]

Let us now turn to examples that are similar to 4.5.9 except that the SCNP is not a constituent of NP-of-S and hence is preceded by a preposition.

4.5.23 dan makir et ha-iš et ze še-ata makir oto
Dan knows OM the-man OM the-one that-you know him

It has been proposed in 2.3 that the PS rules of Hebrew should generate conjoined PP. If the deep structure of 4.5.23 were 4.5.24

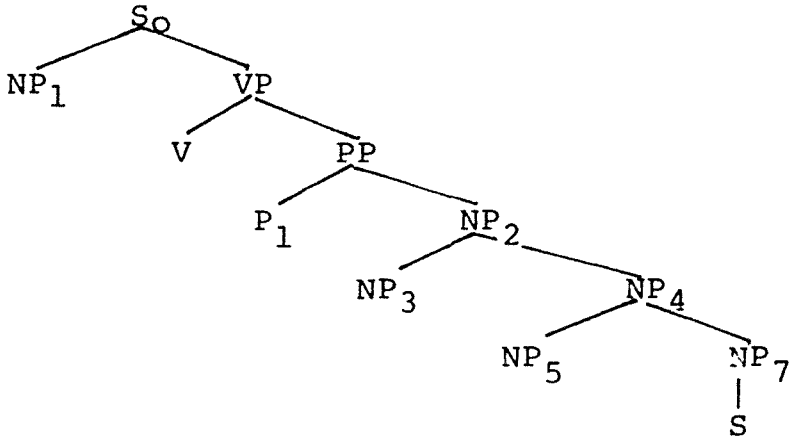
4.5.24



then the fact that NP_2 is the 'same' as NP_4 and NP_7 cannot be explained since neither NP_4 nor NP_7 are in mutual construction with NP_2 and therefore SRC is inapplicable. Furthermore, the fact that PP_2 and PP_3 must have identical prepositions cannot be guaranteed.[4.5.6]

However, in an analysis that incorporates SRC the deep structure of 4.5.23 must be 4.5.25 so that SRn is properly established.

4.5.25



This deep structure in turn predicts that the preposition preceding ze must be derived by a rule of Preposition Copying (PCR)[4.5.7], as in

4.5.26

X	P	NP	NP	Y		
1	2	3	4	5	⟹	obligatory
1	2	3 2	4	5		

The correctness of this account finds support in cases such as 4.5.23, where the preposition that precedes the head NP and the one that precedes ze must always be the same. Unless there is a PCR there is no nonad-hoc way of making this

prediction. PCR is not ad-hoc because the insertion of the preposition before ze by rule rather than in the base follows from the need to capture SRn and not from the fact that a preposition appears in that position. Once such a rule is needed independently, the kinds of operations allowed by transformational rules enables us to state the rule as a copying rule, thus ensuring that in the structure under consideration, the preposition before the noun will always be the same as the one before ze. Under the theory advocated here, neither subcategorization nor a rule of preposition insertion can account for these facts in a simpler way.

Furthermore, consider 4.5.27 - 4.5.28

4.5.27 moše -- oto ha-iš še-raxel dibra alav -- ne'elam
Moses him the-man that-Rachel talked about-him disappeared

4.5.28 moše -- ha-iš še-raxel dibra alav -- ne'elam
Moses the-man that-Rachel talked about-him disappeared

It seems that semantically 4.5.27 and 4.5.28 are very similar to 4.5.9, where the pronoun ze appears, since both oto, ha-iš, and alav in 4.2.27 must be the same as moše and since in 4.5.28 ha-iš, and alav must be the same as moše.

The analysis proposed here provides a natural way to account for these sentences by assigning them various levels of coordinate NP nodes that require the establishment of SRn. On the other hand, an analysis which derives NRCs from sentence conjunction and a RCF rule, one function of which is

pronominalization, would fail on the following grounds:

a. There is no well-formed underlying structure that can be the source for 4.5.27 and 4.5.28 as the ungrammaticality of 4.5.29 and 4.5.30 illustrate.[4.5.8]

4.5.29 * moše ne'elam ve-oto ha-iš še-raxel dibra alav
Moses disappeared and-him the-man that Rachel talked about-him

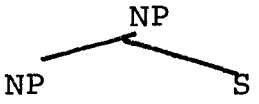
4.5.30 * moše ne'elam ve-ha-iš še-raxel dibra alav
Mose disappeared and-the-man that Rachel talked about-him

b. Since alav is coreferential both with ha-iš and moše, there is no way to recover the underlying form of the pronominalized form alav. (i.e., it is not known whether it is ha-iš or moše).

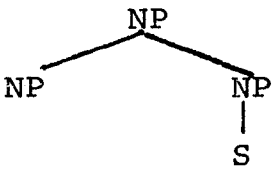
c. There is no way to account for the fact that in this context moše and ha-iš are the same person since neither of them is a pronominal form.[4.5.9]

Let us now reconsider the analysis of SCNPs discussed in 4.3 in light of the new formulation of SCR (4.5.22). In order for SRn to be established in SCNPs their deep structure can no longer be as in 4.5.31 but rather must be as in 4.5.32, since it is only in 4.5.32 that SRn is required.

4.5.31

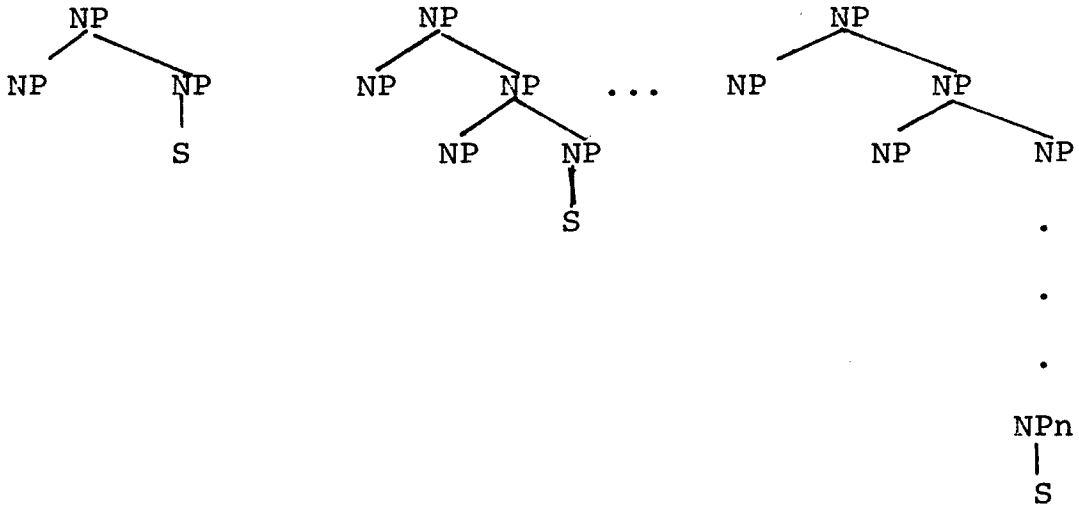


4.5.32



The analysis that is now required for SCNPs does not complicate the grammar since the rules that will generate 4.5.32 are needed independently. The advantage of this analysis is that now all clauses that modify nouns are given deep structures generated by the same subset of PS rules, thus capturing the similarity between these clauses. The difference between these clauses is now reflected only by the number of conjoined NP nodes dominated by the NP that also dominates the head NP. Schematically, then there exist in Hebrew the following possible P-Markers:

4.5.33



4.6 The Analysis of the Subordination Markers ŠE and AŠER

As part of the analysis that distinguishes between RCs and SCs of N, linguists have traditionally also distinguised between the various subordination markers (SM) that introduce these embedded sentences. For example, Peretz (1967:74) claims that:

> In a relative clause, there is only one way of relating it to the head noun - a relative marker which has three forms: aše̊r, še̊, ha. On the other hand, a sentential complement has various ways of subordination and they are of two kinds: a connective word ki or še̊; a question word, ma, 'what' im, 'if' keycad, 'how', etc. (my translation ZM).

Peretz (1967) and Hayon (1973) both agree in categorizing še̊ and aše̊r as RMs except for cases where še̊ appears in a SC. Peretz (1967:78 , 129) points out that both še̊ and aser were demonstrative pronouns at one point in the development of Hebrew but should no longer be considered so. Berman (1973:269), on the other hand, categorizes še̊ and aše̊r as Ns with the features $\begin{bmatrix}+\text{Subordination}\\-\text{Pro}\end{bmatrix}$, thus approximating more than do Peretz and Hayon the analysis presented here.

This section will demonstrate that the only way to account for the pattern of occurrence of a pronoun in the SCNP is to assume that še̊ and aše̊r are NP nodes expanded as pronouns. The occurrence or nonoccurrence of pronouns in the embedded S will be shown to depend on the occurrence or nonoccurrence of še̊ and aše̊r.[4.6.1]

Consider the following sentences:

4.6.1 ani makir et [ha-iš [$_{NP}$ [$_{S}$ {še, aser}] moše ohev oto]
I know OM the-man that Moses loves him

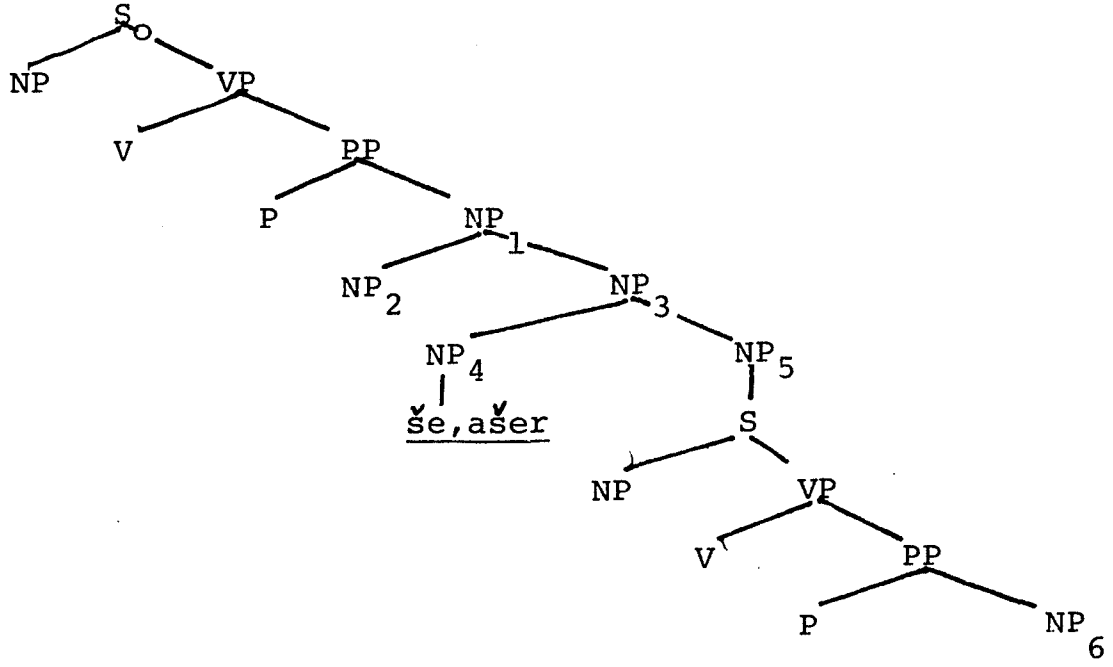
4.6.2 ani makir et [ha-iš [$_{NP}$ [$_{S}$ oto moše ohev]
I know OM the-man him Moses loves

4.6.3 *ani makir et [ha-iš [$_{NP}$ [$_{S}$ moše ohev oto]
I know OM the-man Moses loves him

4.6.4 *ani makir et [ha-iš [$_{NP}$ [$_{S}$ moše ohev]
I know OM the-man Moses loves

The categorization of še and ašer as pronouns requires, first, that they be classified for SRn privileges: I will assume that both can establish SRn with other pronouns. And second, their categorization as pronouns requires them to be generated in the base, the same as any other pronouns except that še and ašer can only be generated in positions where SRns are required. This being the case, 4.6.5 is an appropriate deep structure for 4.6.1 - 4.6.4.

4.6.5



In 4.6.5 NP_4 establishes SRn with NP_6 since NP_6 is the only pronoun in NP_5; NP_2 does so with NP_6 and hence NP_4 too.

Example 4.6.1 is base-generated. Now, if we compare 4.6.2 and 4.6.3 we observe that <u>še</u> and <u>ašer</u> can be deleted if the pronoun with which they have established SRn has been fronted by PPP. The rule that captures this fact is a Pronoun Substitution Rule (PSR), given in 4.6.6[4.6.2]

4.6.6

X	(P) Pron	(P) Pron	Y	
1	2	3	4	
				=====⇒ optional
1	3	ø	4	

As the name indicates, PSR is a substitution rule and as such is subject to the recoverability constraint. It therefore follows that only a pronoun with which <u>se</u> or <u>ašer</u> have established SRn can substitute for them. Further, since the pronoun that substitutes for <u>še</u> and <u>ašer</u> must be adjacent to them, it follows that if the pronoun did not originate in that position PPP must apply if <u>se</u> or <u>aser</u> are to be deleted. (PPP and PSR are therefore intrinsically ordered as PPP - PSR). Thd derivation of 4.6.2 is a result of applying PPP and PSR. One consequence of this is that PDR, whose structural description is <u>X Comp Y (P) Pron</u>, has to be reformulated, since <u>še</u> and <u>ašer</u> are now regarded as NPs and therefore there is no need for a Comp node. A reformulation of PDR is given below.

4.6.7	X	(P)	Pron	Y	(P)	Pron	Z	
	1		2	3		4	5	⟹ optional
	1		2	3		Ø	5	

If we compare 4.6.6 with 4.6.7 we observe that these rules can be collapsed to read[4.6.3; 4.6.4]

4.6.8	X	(P)	Pron		(P)	Pron	Z	
	1		2		3		4	⟹ optional
	1		Ø/2		3/Ø		4	

Again this rule is subject to the recoverability constraint. Given 4.6.8, the ungrammaticality of 4.6.3 is explained by the fact that 4.6.8 has applied inappropriately. The rule has deleted a pronoun even though the pronoun it has established SRn with is not adjacent.

The explanation for 4.6.4 also derives from a misapplication of 4.6.8 and is the following: On the NP_5 cycle PPP has applied moving NP_6 next to NP_4; on the NP_3 cycle PDR has applied deleting either NP_4 or NP_6. In the NP_1 cycle NP_2 is not a pronoun and therefore PDR is inapplicable. The ungrammaticality of 4.6.4 is a result of applying PDR to NP_4 on the NP_1 cycle. One prediction made by 4.6.8 is that in structures where the degree of embedding of conjoined NPs is greater than two, and where there are therefore several pronouns intervening between the first NP node and the right most NP dominating S, PDR can apply more than once. That this prediction is borne out is illustrated in the account of the following sentences.

4.6.9 ani raiti et ha-iš et ze še-yael makira oto

I saw OM the-man OM the-one that-Yael knows him

4.6.10 ani raiti et ha-iš et ze še-yael makira ø

I saw OM the-man OM the-one that-Yael knows

4.6.11 ani raiti et ha-iš et ze ø oto yael makira

I saw OM the-man OM the-one him Yael knows

4.6.12 ani raiti et ha-iš ø še-yael makira oto

I saw OM the-man that-Yael knows him

4.6.13 ani raiti et ha-iš ø oto yael makira

I saw OM the-man him Yael knows

4.6.14 * ani raiti et ha-iš et ze ø yael makira oto

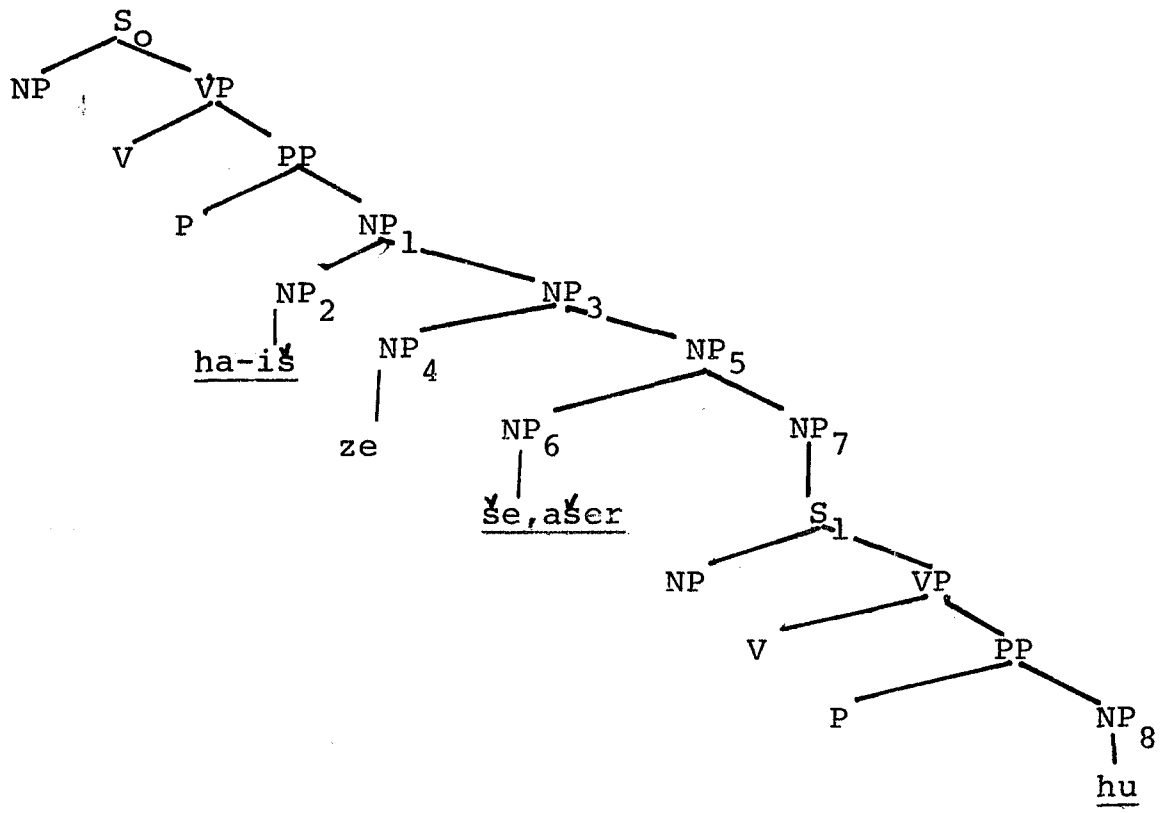
I saw OM the-man OM the-one Yael knows him

4.6.15 * ani raiti et ha-iš et ze ø yael makira

I saw OM the-man OM the-one Yael knows

The underlying structure of 4.6.9 - 4.6.15 is 4.6.16.

4.6.16



4.6.9 is base generated

4.6.10 is derived by the application of PPP to NP_8 in S_1 and PDR in NP_5 to delete NP_8

4.6.11 is derived by the application of PPP to NP_8 in S_1, and PDR in NP_5 to delete NP_6.

In order to account for the grammaticality judgements about 4.6.12 and 4.6.14 we have to modify slightly the BC proposed in 2.5. The reformulation of the BC is given in 4.6.17

4. 6.17 If the application of a rule Z crucially involves X in the structure

$$[_{\alpha}\ldots[_{\alpha'}\ldots X\ldots]\ldots]$$

where α, α' are cyclic nodes, and where the SD of Z is or can be satisfied in α' by either

(1) being base generated or

(2) being the output of T-rules (either optional or

obligatory) and Z does not apply, even though its SD is or can be satisfied, then the application of Z in α cannot crucially involve X.

In other words, there are two situations in which a rule Z that crucially involves a category X can apply in α'. The first one is that the SD of the rule is met already at the level of deep structure and is still met when Z has to apply (i). The second one is that the SD of the rule is not met at the level of deep structure but there is a rule (or rules) that can or should apply before Z and whose output is such that the SD of Z is met when Z is to apply (ii). If either of these possibilities for the SD of Z to be met existed in α' of a particular derivation and Z did not apply, then it cannot apply in crucially involving X.

We return now to the examples under consideration: Example 4.6.12 is derived then as follows: PPP has not applied in S_1, therefore PDR could not have applied in NP_5. However, in NP_3, the SD of PDR is met again. Given the new BC the only pronoun to which it can apply is NP_4 (Since NP_6 has "missed its chance" to delete before). The ungrammaticality of 4.6.14 is a result of violating the BC[4.6.5]

Sentence 4.6.13 is derived by applying PPP in S, PDR which deletes NP_6 in NP_5 and PDR reapplying in NP_3. The only pronoun which can delete in NP_3 is NP_4 since NP_6 did not delete when it could have (i.e., in NP_5). The ungrammaticality of 4.6..5 is therefore a result of violating the BC.

So far I have argued for the categorization of both se and aše̊r as pronouns that establish SRn with other pronouns by showing that this leads to a very simple analysis of structures where PDR has applied. Since this analysis suggests that še̊ and aše̊r have in fact the same distribution, it will be necessary to devote the following discussion to a widely-held notion concerning the difference between še̊ and aše̊r in embedded Ss. (cf. Peretz 1967:74, Hayon 1973:183, Rubinstein 1971:81, and Berman 1973:247).

Consider the following sentences:

4.6.18 hu ko'es [al [aše̊r gilita et ha-sod]
PP S
he angry about that revealed-you OM the-secret

4.6.19 hu ko'es [al [še̊-gilita et ha-sod]
PP S
he angry about that-revealed-you OM the-secret

4.6.20 * hu ko'es [al [ha-uvda [aše̊r gilita et ha-sod]
PP NP S
he angry about the-fact that revealed-you OM the-secret

4.6.21 hu ko'es [al [ha-uvda [še̊-gilita et ha-sod]
PP NP S
he angry about the-fact that-revealed-you OM the-secret

4.6.22 * nire [aše̊r gilita et ha-sod]
S
seems that revealed-you OM the-secret

4.6.23 nire [še̊-gilita et ha-sod]
S
seems that-revealed-you OM the-secret

An examination of 4.6.18 and 4.6.19 reveals that despite the fact that the embedded S does not dominate a pronoun with which še̊ and aše̊r could establish SRn (a relation that

must be established given the structure of the two sentences), the sentences are grammatical. I therefore conclude that the pronouns šᵉ and ašᵉr like ze, can establish SRn both with a pronoun and with a sentence dominated by a NP. The ungrammaticality of 4.6.20, where ašᵉr is immediately preceded by a NP, as opposed to the grammatical 4.6.21, where šᵉ occurs in the same context, suggests that the classification of šᵉ and ašᵉr in terms of what nodes they can establish SRn with is not enough to predict their distribution. It further suggests that the environment preceding šᵉ and ašᵉr has to be taken into account as well. The last observation is supported by examples given in 4.6.22 and 4.6.23, which reveal that if ašᵉr is preceded by a V and followed by a sentence not dominated by a NP, its occurrence is prohibited, whereas that of šᵉ in the same environment is not.

At present I know of no analysis that can account for these facts nor do I have one to offer that would go beyond a mere statement of the facts. Yet it seems to me that the reclassification of šᵉ and ašᵉr proposed here and the notion of SRn, together with the distinction between Ss that are dominated by a NP and Ss that are not, may point the way toward a descriptively adequate account. Furthermore, it seems that an analysis of contextual features (both strict sub-categorization and selectional restriction) of all the traditionally called SMs, including various conjunctions, will provide the proper analysis of these facts.

FOOTNOTES

Chapter Four

4.2.1 Sentence 3.2.4 c is a grammatical sentence if it means 'Yariv handed the news to them that Yael was worried' i.e. if the PP preposed originates in the matrix S. It is ungrammatical if we want to convey the meaning that Yael was worried about them.

4.2.2 Ziv and Cole (1974) have given examples of RRC that do not appear next to their head NP. They point out the different interpretations these clauses have when in the two different positions and make it explicit that they are not interested in the syntactic rule of extraposition (Ft. 1:783).

Two observations concerning their data and claims are interesting for the analysis presented here. The first is that in all of their examples from Hebrew where a RC appears at the end of a sentence the head NP includes the quantifier 'one'. Such structures are different from the ones dealt with here and therefore will not be discussed. Second, their analysis which claims different meaning to the different positions supports the claim that there is no extraposition from NP in Hebrew since such a transformation will be a meaning changing transformation and this is disfavored by the meaning preserving hypothesis.

4.3.1 Chomsky has suggested a convention that "a well formed surface structure cannot contain internal occurrences of #. Such occurrence", Chomsky maintains, "will indicate that certain transformations that should have applied were blocked" (1965:138). However, if we consider Hayon's rule of RCF we see that its application depends upon 2 being equal to 5, (condition 1). In 4.3.2 the condition is not met therefore 4.3.2 is not a case where a rule should have applied and did not, but rather a case where a transformation is inapplicable. The boundaries should therefore be erased and we are faced with the same results: inability to block the generation of ungrammatical sentences of the type represented by 4.3.2.

4.3.2 There are some inadequacies in the rule proposed by Hayon which are not relevant to the present discussion. I will, however, mention one which concerns SCa (i) in Hayon's rule. SCa (i) states that a pronoun must be retained on the surface if there is a verb intervening between the two coreferntial NPs. This condition will predict erroneously that (i) is an ungrammatical sentence, which it is not.

(i) raiti et ha-iš še-ata makir Ø
saw-I the-man that-you know

The cases which the condition is supposed to block such as (ii)

(ii) * šama'ati al ha-iš še-ata siparta la-iša še-raxel nasa'a ø
heard-I about the-man that-you told to-the-woman that-Rachel traveled

will be discussed in connection with the PDR (4.4).

4.3.3 One should notice that there is another way of establishing some sameness relation with a morpheme other than ze or zot, i.e., kax 'so', as in the following examples:

(i) dan meša'er še-ha-olam agol ve-max meša'er kax gam ken
Dan assumes that-the-world round and-Max assumes so too

(ii) dan meša'er še-ha-olam agol ve-še-ha-yareax šatuax ve-max
Dan assumes that-the-world round and-that-the-moon flat and
meša'er kax gam ken
Max assumes so too.

However, it seems that this fact cannot shed light on the peculiar distribution of [+Def.] [+Sing.] in CNPs and is therefore not directly relevant to the problem under consideration.

4.3.4 This argument I owe to Robert Fiengo.

4.3.5 One possibility of having in the first conjunct a head NP which is [+Def.] [+Plur.], and a [+Def.] [+Plur.] pronoun in the second conjunct which is in SRn to the embedded conjoined Ss is demonstrated in the following example.

(i) ha-uvdot ha-ele še-dan halax u-miriam baa yedu'ot le-ran ve-max
The-facts the-these that-Dan left and Miriam came known to-Ran
yode'a otan gam ken
and-Max knows them too.

Such structures, however, where the head NP is modified are not dealt with here since I believe they respresent a different phenomenon in the language. (cf. Ft. 4.2.2).

4.4.1 The cases discussed here are the ones accounted for by SCb in Hayon's RCF rule.

4.4.2 Both the notion of še being a Comp. and the form of the rule will be modified in 4.6.

4.4.3 I have formulated the recoverability constraint to apply only in the domain of a NP despite the fact that there might be other deletion rules which apply to elements not embedded in a NP and which must be recoverable (eg. Gapping, the existence of which has been assumed here). The reason

for doing so is that Gapping and any other deletion rule are still to be argued for Hebrew and therefore I have restricted myself to the domain under investigation and have formulated the constraint in accordance with it.

4.5.1 Peretz (1967:87) makes the same observations. The example he uses is: gefen šu-hi netu'a bexacer, 'vine that she planted in-the-backyard'. Unless we claim that all non-past non-future sentences are verbless predicates, we will have to generalize the observation made by Hayon so that it includes the present tense of the kind presented by Peretz. In this work the question of tenses in Hebrew is not discussed and I therefore avoid taking any position on this matter.

4.5.2 Ross (1967:240-241) has rejected his proposal for deriving NRC from sentence conjunction.

4.5.3 One disadvantage of assuming that the node Conj. is an optional constituent if the coordinated nodes are NPs is that this might be the only case where a Conj. is optional, thus preventing the generalization that all conjunctions are obligatory. However, at present I know of no analysis that can caputre the generalizations made possible by assuming that the Conj. node is optional.

4.5.4 I will cite here the version given by Stockwell, Schachter and Partee (1973:238) to the notion of 'in construction with' proposed by Klima (1964:297). "A constituent is in construction with another constituent if the former is dominated by the first branching node that dominates the latter."

4.5.5 The case accounted for by the previous version of SRn (4.5.17) is now accounted for by the fact that NP_6 and NP_7 are not in mutual construction and therefore no SRn has to be established between them.

4.5.6 Notice that in the cases for which conjoined PP were proposed, it is not necessary for both prepositions to be the same, as the following example illustrates.

(i) hu tas lo ba-avir ki-im al ha-yabašа
he flies not in-the-air but on-the-ground

4.5.7 It should be pointed out however, that if a NP is a cyclic node, as assumed here, and if the Insertion Prohibition (Chomsky 1973) is part of the general properties of grammars, this rule violates it since it inserts a preposition into a cyclic node. At present I know no other way which can explain the similarity between the prepositions in any better way.

4.5.8 The only possible reading of 4.5.29 and 4.5.30 is that there is no SRn between moše and hi-iš.

4.5.9 There is a similar problem that the analysis advocated here cannot solve, namely how to block.

(i) * ha-iš zo se-hi dibra alav
the man- the-one that-she talked about him

where despite the fact that SRn is established properly the sentence is ungrammatical. One way of solving the problem is to impose an ad-hoc condition by which all the head NPs must establish SRn. I have, however, preferred to leave it as an open question until more investigation is done. It seems to me at present that one plausible direction for further investigation is to look for a principle that will determine the possible sequences of adjacent NPs. Such a principle might be part of the lexicon if we are to avoid overclassification of morphemes which seem necessary if the sequence of NPs is accounted for by PS rules. (cf. 4.6)

4.6.1 The discussion presented here is extremely limited since it does not take into consideration all the various SM mentioned by Peretz and the many more not mentioned by him. The reason for restricting it in such a way is that a complete analysis would involve analysing conjunctions, on the one hand, to account for še when it occurs with Ss not dominated by a NP, and the morpheme ha on the other hand. This task has been felt to be beyond the scope of the present work. I do however hope that the suggestions made here with respect to še and ašer will provide a worthwhile direction for further research.

4.6.2 This rule has been suggested to me by D.T. Langendoen.

4.6.3 The way 4.6.8 should be understood is that if 2 deletes then 3 remains and if 3 deletes 2 remains.

4.6.4 It seems to me that some independent evidence for the rule of PD as formulated in 4.6.8 can be found in the oddness, if not ungrammaticality of (i) where PPP has applied to a pronoun other than the one with which SRn has been established and then the pronoun deletes

(i) karati et ha-sefer še-ata natata la oto
read -I OM the-book that-you gave to-her it

(ii) ?* karati et ha-sefer še-la natata
read-I OM the-book that-to-her you-gave

4.6.5 Hayon (1973:183) points out the fact that še and ašer, despite the fact that in most cases they are in free variation, there are some cases in which they are not, even though the structures are RCs. (in Hayon's analysis). The explanation Hayon provides for this phenomenon is that it is an artifact of the revival of Hebrew (1973:185-188) and the rule he provides to predicts the various occurrences of še and ašer is

given on page 191. Rubinstein (1971:81) writes as follows: "The sentential object is subordinated in the following ways: a. By the subordination markers še and ki. The subordination of sentential object by ašer, which was common in Biblical Hebrew does not exist anymore in Modern Hebrew." (my translation,ZM) See also Gesenius (1909:485-506) for the use of ašer in Biblical Hebrew.

CHAPTER FIVE

5.1 Introduction

There exist in Hebrew sentences with surface structures of the form

5.1.1 [moše ha-melex]
S
Moses the-king

5.1.2 [moše hu ha-melex]
S
Moses he the-king

5.1.3 [moše hu hu ha-melex]
S
Moses he he the-king

Traditional grammarians have classified sentences like 5.1.1 - 5.1.3 as 'nominal sentences' (or clauses) since they include no verbal form. Gesenius, for example, claims that in sentences such as 5.1.1

> The syntactical relation existing between the subject and predicate of a noun clause is as a rule expressed by simple juxtaposition without a copula of any kind. To what period of time the statement applies must be inferred from the context (1909:453)

As for sentences such as 5.1.2 Gesenius claims that

> Not infrequently, however, a connexion is established between subject and predicate

> (a) by adding the separate pronoun of 3rd person singular or plural, expressly resuming and therefore strengthening the subject, or (b) (especially for the sake of a more exact specification of time) by the help of the verb h.y.y. The first of these will be a compound sentence, since the predicate to the main subject consists of an independent clause. (1909:453)

Transformational grammarians, on the other hand, have taken the position that analyses such as the one provided by Gesenius are valid for Biblical Hebrew but cannot account for Modern Hebrew which has undergone a considerable change since its revival in the 19th century.

In relation to the structure under consideration, the consensus among linguists is that at least some occurrences of hu should be dominated by a Copula node. The implication of such an analysis is that the lexicon in Hebrew includes a verbal form analogous to forms such as be, etre, etc. in other languages. Furthermore, if the second NP of a [NP NP]$_S$ surface structure is associated with an optional copulative verb, it was considered preferable to derive this second NP under a predicate or a VP node, instead of having S expand as NP NP to account for surface NP NP sentences. Thus, the PS rule S --→ NP Predicate/VP (cf. Ft. 5.3.2) can remain as the only expansion of the initial symbol S and it is the predicate or the VP which are expanded, among other possibilities as NP. (cf. the PS rules in Hayon, (1973:232) and Rubinstein (1968:54,) among others.)

The main argument advanced for an analysis of hu as the present form of a copula verb h.y.y., 'to be', is that

unless hu is considered a verb the semantic similarity between 5.1.2 and 5.1.3, which are translated as 'is' and 5.1.4 and 5.1.5 which are translated as 'was', and 'will be', cannot be captured.

5.1.4 a. mošᵛe haya ha-melex
Moses was the-king

b. mošᵛe yihiye ha-melex
Moses will-be the-king

5.1.5 a. mošᵛe hu haya ha-melex
Moses he was the-king

b. mošᵛe hu yihiye ha-melex
Moses he will-be the-king

Related to the main argument is the observation that in Hebrew there is a form yešᵛ that translates into English as either 'have', 'there is', or 'is + [Locative]'. In order to express the English 'had', 'will have', 'there was', 'there will be', and 'was + [Locative]', and 'will be + [Locative]' Hebrew speakers use the same forms of h.y.y. as the ones translated before as 'was', and 'will be'. The following examples illustrates the various distribution of yešᵛ and one form of h.y.y.

5.1.6 a. yeš li sefer

have to-me book

b. haya li sefer

was to-me book

5.1.7 a. yeš xalav ba-bayit

there-is milk at-home

b. haya xalav ba-bayit

there-was milk at-home

5.1.8 a. moše yeš-no ba-bayit

Moses is-he at-home

b. moše haya ba-bayit

Moses was-he at-home

In 5.2 of this chapter I will present syntatic evidence against considering hu a copula verb. Also, in the same section I will illustrate the complexity involved in relating both hu and yeš to the triconsonantal root h.y.y. On the basis of these demonstrations I arrive at the conclusion that hu, yeš and h.y.y. should not be related syntactically. The similarity in meaning, I suggest, should be accounted for by semantic rather than syntactic principles. In 5.3

I will present an analysis of hu which assumes that in all cases it is a demonstrative pronoun, which when occurring in mutual construction with another NP is subject to SRC. The analysis in 5.3 will serve as motivation for having the rule

5.1.9 S ----→ NP NP

in the grammar of Hebrew, i.e., it will provide evidence supporting the traditional notion of "nominal sentence" rather than the transformational notion of "an S having a non-verbal predicate." In 5.4 I will discuss the derivation of sentences which have the surface form NP PP and their interaction with SRC. (In this structure too the PP has often been derived under the node predicate as in the case of NP NP sentences (cf. Hayon, 1973:232). In this same section some examples of the way in which SRC determines the deep structure of particular strings will also be discussed.

The conclusion which I will draw from this presentation is that at least with respect to SRC, the relation between an SCNP and its head NP is similar to that existing between two contiguous NPs, and that therefore any semantic similarities between these two seemingly unrelated structures are in effect not accidental at all.

5.2 Syntactic Arguments Against HU being a Copula Verb

In order to show that hu is not a copula verb it is necessary to show that rules which apply to verbs or mention V in their SD do not apply to hu. Furthermore, in order to show that hu, on the one hand, and haya and yihiye on the other hand, are not related forms (the difference beween them being only tense) it is necessary to show that the same rules which could not have applied when hu is present can apply with haya and yihiye. In the following demonstration I will present examples to illustrate both points at the same time. (in order to illustrate the difference between hu and haya, yihiye I will provide only examples with haya unless yihiye is crucial for illustrating the point.)

With respect to the application of LMR, consider the following sentences.

5.2.1 a. moše hu lo ha-ganav ki-im ha-šoded
Moses he not the-thief but the-robber

b. * moše lo hu ha-ganav ki-im ha-šoded
Moses not he the-thief but the-robber

5.2.2 a. moše haya lo ha-ganav ki-im ha-šoded
Moses was not the-thief but the-robber

b. moše lo haya ha-ganav ki-im ha-šoded
Moses not was the-thief but the-robber

LMR can apply if the verb is haya (5.2.2b) but cannot do so if hu is present (5.2.1b).

With respect to VFR, consider 5.2.3 - 5.2.4.

5.2.3 a. hayom ha-yeled hu ha-more
today the-child he the-teacher

b. *hayom hu ha-yeled ha-more
today he the-child the-teacher

5.2.4 a. lifney šanim ha-yeled haya ha-more
before years the-child was the-teacher

b. lifney šanim haya ha-yeled ha-more
before years was the-child the-teacher

Again, VFR can apply if the verb is haya but cannot do so if hu is present.

Consider now cases involving NP hu PP where hu is analysed as copula verb too and PPP has applied.

5.2.5 a. moše hu ba-bayit hayom
Moses he at-home today

b. * ba-bayit moše hu hayom
At-home Moses he today

5.2.6 a. moše haya ba-bayit hayom

Moses was at-home today

b. ba-bayit moše haya hayom

At-home Moses was today

Examples 5.2.5 and 5.2.6 illustrate the fact that, other things being equal, PPP cannot apply if hu is present but can do so if haya appears.

The last piece of syntactic evidence against hu being a copula verb (or even a copulative pronoun either base generated or derived by a transformation) is the impossibility of stating the rule for its occurrence in a form that is anything beyond a statement of the facts. And even attempts at writing this kind of a rule, as for instance Hayon's rule of Copulative Pronoun Insertion, fail to generate the grammatical string

5.2.7 ha-yeled hu more

the-child he teacher

In order for hu to be inserted, Hayon's rule [5.2.1] requires both NPs to be either definite or indefinite and in 5.2.7, according to Hayon, ha-yeled is definite and more is indefinite.

Let us now turn to the evidence that suggests that even the forms haya and yihiye do not necessarily have the

same status in Hebrew as the verb 'to be' does in English. In order to express in Hebrew what the verb 'to have' expresses in English, one uses the form yeš+l+pronominal inflection. Thus the set

5.2.8 a. I have a book

b. You have a book

is expressed in Hebrew as in 5.2.9 5.2.2

5.2.9 a. yeš li sefer
? to-me book

b. yeš lexa sefer
? to-you book

If one wants to express the notion of 'will have', the form used in Hebrew is the triconsonantal root h.y.y.+l+pronominal inflection, as in 5.2.10

5.2.10 a. yihiye li sefer
? to-me book

b. yihiye lexa sefer
? to-you book

If we compare 5.2.10 with the examples given in 5.1.4 and 5.1.5 we observe that the difference between the two sets is that in the former, but not the latter, h.y.y. is followed by l+pronominal inflection. Hayon (1973:117) has pointed out that even though the most common form to express possession in Hebrew in the nonpast, nonfuture is 5.2.9, it is not always necessary for yes to be present, i.e., 5.2.11 is closely related to 5.2.9.

5.2.11 li sefer
to-me book

The examples that follow show that not all occurrences of h.y.y.+l+pronominal inflection can be translated into English as 'have' but rather mean the same as 'to be'.

5.2.12 be-od zman kacar ani eheye li almana aliza ve-ata tihiye lexa ba-kever
in-more time short I will-be to-me widow gay and-you will-be to-you in-the-grave

5.2.13 ulay tihiye li kvar be-šeket
maybe you-will be to-me already in quiet

5.2.14 ulay tihiye lexa kvar be-šeket
maybe you-will-be to-you in quiet

5.2.15 ulay tafsik kvar lihiyot li kaze nudnik
maybe you-will-stop to-be to-me such nag

The conclusion one must draw from 5.2.12 - 5.2.15 is that it cannot be the presence of 1+pronominal inflection which is responsible for the change in meaning from 'to be' to 'to have', nor can the presence of yeš be the sole factor in inferring the meaning 'to have' (cf. 5.2.11 and 5.1.6 - 5.1.8.). As I mentioned in the introduction this confused situation is a strong motivation to look for an explanation of h.y.y. which does not involve either the notion 'to have' or 'to be' and from which both can be inferred given the proper context. Since at present I have no idea of where the answer should come from, I will therefore try to further motivate a search for a new explanation by showing that there is another analysis that accounts for the distribution of hu in nominal sentences and that does not involve postulating that hu is a copulative verb.

5.3 HU as a Demonstrative Pronoun

The claim that hu is a demonstrative pronoun implies that it is dominated by a NP. It therefore follows that in order to substantiate this claim it is necessary to show that hu obeys some of the restrictions imposed on NPs. As shown in 4.3., one restriction imposed on NP nodes at the level of deep structure is SRC. In this section I will demonstrate that the same condition that must be true of all nouns if they are not to violate SRC are also true for all occurrences of hu. Thus in all cases where hu must establish SRn, it must be - at the level of deep structure - in mutual construction with another NP with no other nodes in mutual construction with these two NPs. Since, as will be shown, in all $[_{S}$ NP NP] surface structures SRn must be established, it follows that the surface structure of a sentence which is NP NP is base generated and hence the grammar of Hebrew requires the rule

5.3.1 S ----→ NP NP

As for the generation of the surface structure $[_{S}$ NP hu NP], where SRn is also required, the two rules, 5.3.1 and 5.3.2

5.3.2 NP ----→ NP NP

are sufficient to account for all the grammatical judgements without having to categorize hu as a copula. Further, if hu

were a copula the fact that the two NPs surrounding hu are in SRn cannot be explained.

As the reader must have observed the notion "sameness relation" has not been explicitly defined so that it is not absolutely clear in all cases why I claim that SRn has been established between two elements. However, implicit in each such statement is that the minimal conditions that have to be satisfied are that both NPs be not of different gender and number. In what follows, it is the criterion of gender that will be used to indicate where SRn are properly established or not.

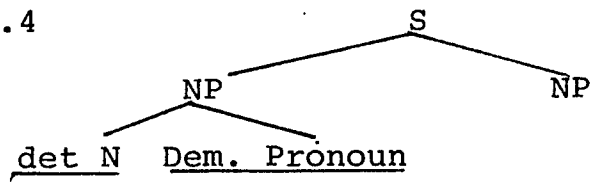
Consider the following sentences:

5.3.3 a. ha-yeled ha-hu neelam
the-boy the-this disappeared

b. *ha-yeled ha-hi neelam
the-boy the-she disappeared

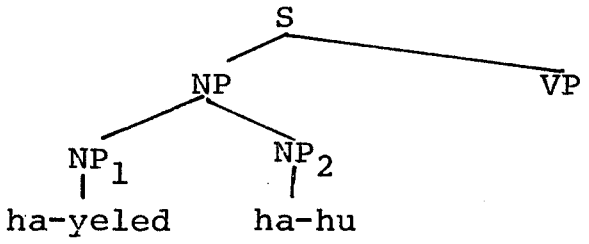
In 5.3.3a hu and ha-yeled are both [+Masc.]. If ha-yeled is followed by ha-hi (the feminine form of hu) the sentence is ungrammatical. (5.3.3b). If we are to derive 5.3.3a from the deep structure 5.3.4

5.3.4



there is no principled reason for the N and the pronoun to agree in gender, and we are therefore forced to postulate an obligatory agreement rule that will ensure the proper generation of 5.3.3a and block 5.3.3b. However, if we are to derive 5.3.3a from the deep structure 5.3.5.

5.3.5



where NP_1 and NP_2 are in mutual construction with no other node in mutual construction with them, SRC is applicable. Therefore, unless ha-yeled and ha-hu are of the same gender, the derivation is blocked. Notice that this analysis eliminates the need to postulate agreement rules in the domain of a NP, rules that are unmotivated independently of the phenomenon they are postulated to account for and do not capture any generalization in Hebrew beyond a mere statement of facts.[5.3.3]

Consider the following sentences

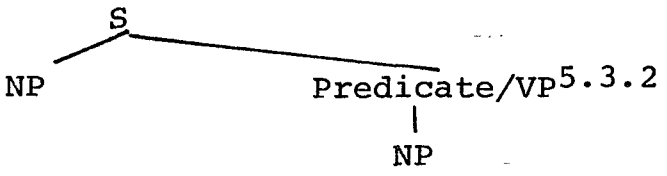
5.3.6 a. hu ha-aba
he-the-father

b. *hi ha-aba
she the-father

Example 5.3.6 illustrates the fact that, as in the case of 5.3.3, if hu does not agree in gender with the NP adjacent to

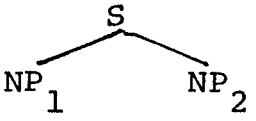
it, the result is an ungrammatical sentence (cf. 5.3.6b where hi, 'she' replaces hu, 'he' in 5.3.6a). If we assume, like most transformational grammarians do, that the deep structure of 5.3.6 is 5.3.7

5.3.7



then again an unmotivated rule of agreement is required to ensure the proper derivation of 5.3.6a and the blocking of 5.3.6b. However, if the deep structure of 5.3.6 is 5.3.8

5.3.8



and since NP_1 and NP_2 are in mutual construction with no other node in mutual construction with them, SRC is applicable. Failure to establish SRn between the two NPs, as is the case with 5.3.6b, results in an ungrammatical sentence, as predicted by SRC. Thus by assuming that S expands as NP NP, there is no need to postulate an agreement rule between a NP-of-S and a NP-of-Predicate/VP.

Consider now the following sentences, where the hu intervenes between the two NPs.

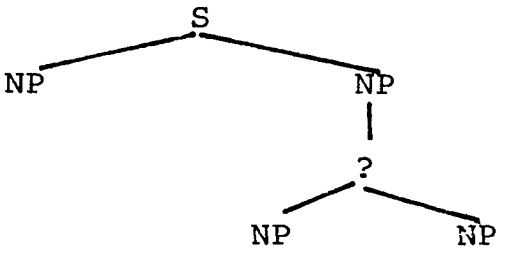
5.3.9 a. ha-iš ha-ze hu ha-more
the-man the-this he the-teacher

b. *ha-iš ha-ze hi ha-more
the-man the-this she the-teacher

c. *ha-iš ha-ze hu ha-mora

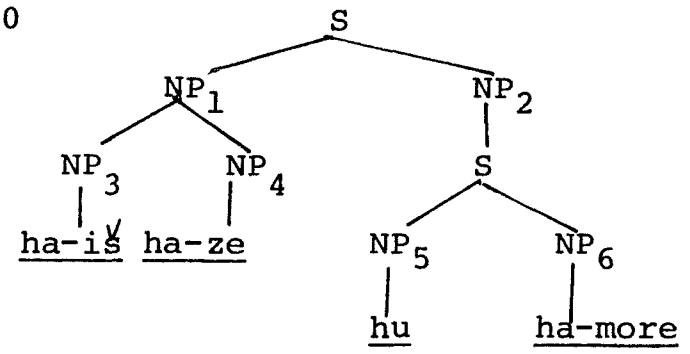
the-man the-this he the-teacher (F)

In 5.3.9a all the nouns are [+Masc.]. In (b) and (c), however, one of the nouns is [+Fem.] and the result is an ungrammatical sentence. It seems, then, that structures such as 5.3.9 requires SRn among all the NPs present in the string. The ungrammaticality of (b) and (c) can, therefore, be explained if the deep structure of 5.3.9 is such that the NPs are all in mutual construction with each other, i.e., NP NP NP or are hierarchically arranged in such a way that requires SRn between each pair of NPs, i.e.,



The first alternative where all the NPs are in mutual construction would require another expansion of S i.e., S ----→ NP NP NP. Such an additional rule, however, is not necessary given that there are already two rules in the grammar that require SRn and hence produce the desired results: S --→ NP NP and NP --→ NP NP. Furthermore, the fact that hu ha-more is itself a grammatical sentence whereas ha-iš ha-ze hu is neither a well formed sentence nor a well formed NP, and the fact that NP can exhaustively dominate S suggests that the deep structure of 5.3.9 is 5.3.10

5.3.10



In 5.3.10 NP_5 must be in SRn to NP_6

NP_3 must be in SRn to NP_4

NP_1 must be in SRn to NP_2

Therefore, NP_3 must be in SRn to NP_4 must be in SRn to NP_5 must be in SRn to NP_6. Any violation of SRC, therefore, results in an ungrammatical sentence. Again, as in the previous examples there is no need to postulate any agreement rules since the agreement is predicted by the SRC.[5.3.4]

We turn now to examples which involve two occurrences of hu surrounded by NPs. Consider the sentences in 5.3.11

5.3.11 a. ha-yeled hu hu ha-more
the-child he he the-teacher

b. *ha-yeled hi hu ha-more
the-child she he the-teacher

c. *ha-yeled hu hi ha-more
the-child he she the-teacher

d. *ha-yeled hu hu ha-mora
the-child he he the-teacher (F)

The exact same conditions which hold true in 5.3.9 for the sentences to be grammatical are also true in 5.3.11. That is, in a string of NPs adjacent to each other with no other nodes intervening all the NPs must obey SRC. With respect to the syntactic derivation of these sentences (as well as for those in 5.3.9) it has often been proposed that they derive by a Left Dislocation Rule (LDR) (Ornan, 1972:115). If formulated LDR reads as follows:

5.3.12

	#	X	NP	Y	
	1	2	3	4	
3	1	2	Pro	4	======⇒ optional

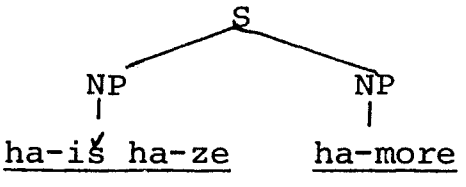
This rule, if adopted, can account for the relation between 5.3.13 and 5.3.14.

5.3.13 ani ohev et moše
I love OM Moses

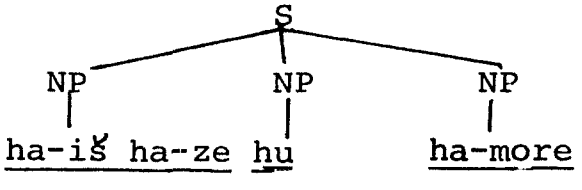
5.3.14 moše ani ohev oto
Moses I love him

If we assume that LDR has applied in the derivation of 5.3.9, its derivation is as in 5.3.15. (irrelevant details omitted).

5.3.15



Application of LDR



The first objection to such an alysis of 5.3.9 is that in order to account for 5.3.11 LDR has to apply twice (or iteratively) on the same cycle.[5.3.5] That is, if every occurrence of hu in between two NPs is to be transformationally derived, two such occurrences are derived by two application of the rule in the same cycle, an operation prohibited by the condition on application of rules in cyclic nodes that allows rules to apply only once per cycle.

The second objection to an analysis of Hebrew that postulated LDR comes from considering the interaction of LDR with NP in embedded Ss.

Consider the following sentences:

5.3.16 ani makir et [$_{NP}$ ha-iša [$_{S}$ še-moše ohev]
I know OM the-woman that-Moses loves

5.3.17 moše ani makir et [$_{NP}$ ha-iša [$_{S}$ še-hu ohev]
Moses I know OM the-woman that-he loves

Sentence 5.3.17 can be conceived of as derived by applying LDR to moše leaving a pronominal copy hu in its place. The recoverability constraint, which is a constraint on movement and deletion rules, is inapplicable in this case since LDR is a copying rule. Furthermore, the grammaticality of 5.3.18 where LDR has applied in the embedded sentence of 5.3.16 suggests that the grammaticality of 5.3.17 is predicted by the BC as well since LDR which is an optional rule can be conceived of as applying first on the lower cycle and then on the top one.

5.3.18 ani makir et [$_{NP}$ ha-iša [$_{S}$ še-moše hu ohev ota

I know OM the-woman that-Moses he loves her

There are, however, two facts that have to be explained, examples of which are provided below.

5.3.19 *ani makir et [$_{NP}$ ha-iša [$_{S}$ še-moše hu ohev]

I know OM the-woman that-Moses he loves

5.3.20 *ha-iša ani makir [$_{NP}$ ota [$_{S}$ še-moše ohev]

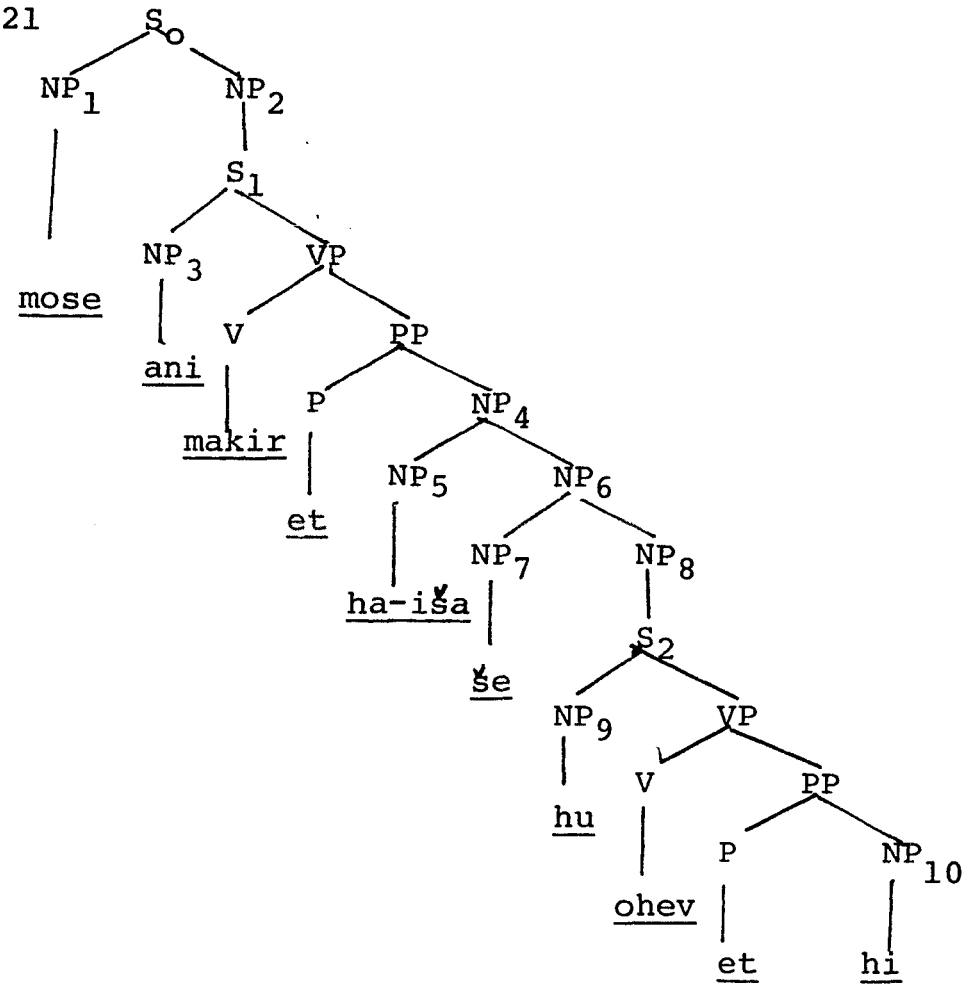
the-woman I know her that-Moses loves

In 5.3.19 the application of both LDR and PDR on the same cycle renders the sentence ungrammatical. However, assuming that in 5.3.17 the application of LDR on the top most cycle is preceded by its application on the lower cycle (required by BC), and given that PDR has applied on the same cycle as well, we observe that the sentence is grammatical. In other words in 5.3.19 the application of both LDR and PDR on the lower cycle results in an ungrammatical sentence, whereas the application of the same two rules on the same cycle in 5.3.17 results in a grammatical one. This fact suggests that even ordering the rules in a particular way cannot predict the conflicting grammaticality judgements of 5.3.17 and 5.3.19. The ungrammaticality of 5.3.20 is a result of applying LDR to the head NP of a NP dominating an S node. There is, however, no principled reason for which LDR should apply to all NP nodes except for those that are head NPs of the kind described above. One should notice that even the Left Branch Condition proposed by Ross

(1967:114), which prohibits the movement of a NP which is the left most constituent of a larger NP, cannot be invoked here since LDR is not a movement rule. (This constraint, one may observe, is also unprincipled and serves only as an ad-hoc device for blocking the derivation of a very small set of ungrammatical sentences).

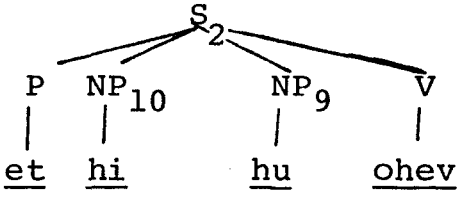
The conclusion that suggests itself is that LDR may very well not be a rule in Hebrew. This conclusion is further supported by the fact that it is possible to derive all the grammatical sentences derived by LDR, and block all the ungrammatical ones, if we assume that the left dislocated element in sentences such as 5.3.17 and 5.3.18 is base-generated and if we assume that 5.3.1 is a rule of Hebrew. Diagram 5.3.21 shows the deep structure of 5.3.17 followed by details of its derivation. Diagram 5.3.24 shows the deep structure of 5.3.18, followed by the details of its derivation.

5.3.21



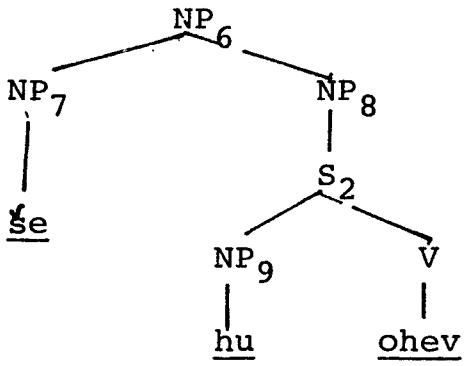
In 5.3.21, SRn have to be established for NP_1 with NP_2 or an element in NP_2. This SRn is established with NP_{10} and the relation between the first NP and the pronoun in the embedded S that are captured by LDR can be captured by SRC and the proper deep structure. As for the deletion of the pronoun, PPP applies in S_2 generating 5.3.22

5.3.22



PDR applies in NP_6 deleting NP_{10} under identity with NP_7 generating

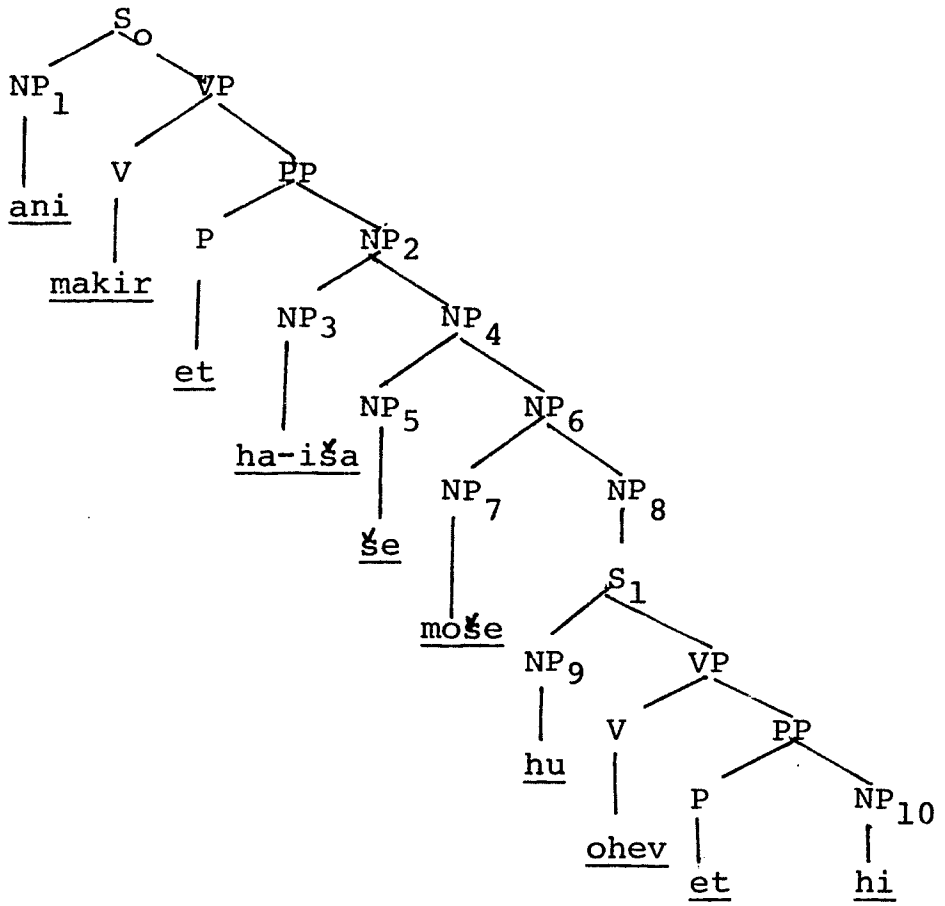
5.3.23



Thus 5.3.17 is properly derived, since SRC is satisfied and the SD of PDR, which allows deletion of one pronoun when its sameness partner is adjacent, was met when PDR applied.

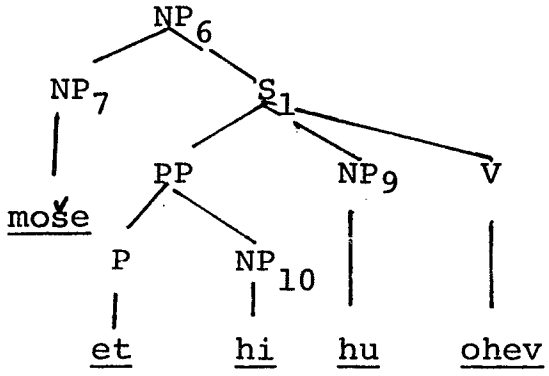
Consider now 5.3.24, which in this analysis is the deep structure of 5.3.19.

5.3.24



In 5.3.24 NP_7 establishes SRn with NP_{10} thus accounting for the facts captured by an LDR. However, when PPP applies in S_1 the structure it generates is 5.3.25

5.3.25



Since hi is not next to a pronoun with which it has established SRn, the deletion of hi is blocked. The explanation, then, for the ungrammaticality of 5.3.19 is that PDR has applied inappropriately.

Consider now the following sentences.

5.3.26 a. ani hu ha-melex
I he the-king

b. ata hu ha-melex
you he the-king

In both 5.3.26 a & b if hu is considered a personal pronoun, then SRC is violated since hu would be III person where as ani and ata are first and second person respectively. On the other hand, if hu is a demonstrative pronoun, there is no requirement for it to establish SRn with respect to person but only gender and number and, therefore, SRC is not violated. Supporting evidence for the assumption that hu is a demonstrative

pronoun whenever it occurs comes from 5.3.27 a & b which could be an answer to the question "who are you?" or "who am I?" respectively.

5.3.27 a. ani ha-hu še-tamid coreax ba-rexov
I the-he that-always screams in-the street

b. ata ha-hu še-tamid coreax ba-rexov
you the-he that-always screams in-the-street

In 5.3.27, as in 5.3.26 we cannot explain why ha-hu is not the same in person as ani or ata unless we consider hu a demonstrative pronoun not specified for person. The conclusion is, therefore, that if hu in all of its occurrences is a demonstrative pronoun, not marked for person, some of the 'peculiar' occurrences of hu with I and II person NPs can be explained. Also if hu is a demonstrative pronoun in all of its occurrences, then it is possible to explain why it is that in sentences such as 5.3.28

5.3.28 moše hu ha-melex šel ha-kita
Moses he the-king of the-class

hu can be replaced by the other demonstrative pronoun - ze - as in 5.3.29

5.3.29 moše ze ha-melex šel ha-kita
Moses it the-king of the-class

To sum up this point, then, I have demonstrated that the same condition for grammaticality imposed upon the deep structure

of SCNP is also imposed upon nominal sentences. In order to account in the same way for the same restriction in both sets of data a rule expanding S as NP NP has been proposed. I have then illustrated how this rule can account for structures previously derived by LDR and can explain the ungrammaticality of structures involving preposed NPs which the postulation of LDR could not account for. And finally, I have given evidence for hu being a demonstrative pronoun in all of its occurrences. The conclusion then is that the rule S--→ NP NP should be incorporated into the grammar of Hebrew.

5.4 Other Implications of SRC

In addition to the consequences that SRC has on the derivation of nominal sentences, there are also cases where despite the inapplicability of SRC, its effects are seen in the presence of special morphemes that indicate that establishing SRn is possible and sometimes even necessary. Consider the following cases where there is the option of establishing or not establishing SRn, and note the effect such an option has upon the structure of the language.

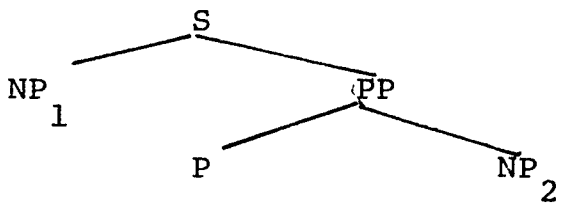
5.4.1 a. ani ba-bayit
I in-home

b. ani be-beyti
I in-home my

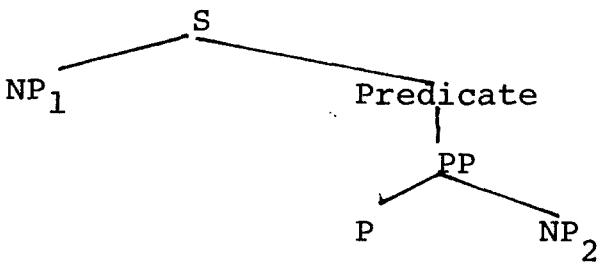
In 5.4.1a the NP ani and the NP bayit are not in SRn. In 5.4.1b the form beyti includes the morpheme i which is the same as ani.

If the structure of 5.4.1 is 5.4.2 or 5.4.3, then both facts can be explained in terms of SRC.

5.4.2



5.4.3



In both 5.4.2 and 5.4.3 NP_1 and NP_2 are not in mutual construction and therefore SRC is inapplicable. In those cases, then, even if SRn is not established, the sentences are still grammatical (5.4.1a). On the other hand SRC does not exclude the possibility of establishing SRn outside the domain specified by the condition and therefore when such relation is established the sentences are also grammatical (5.4.1b). One interesting point to mention with respect to 5.4.1b is that whereas there is no special morpheme to correlate two NPs that are in mutual construction, there is a morpheme that does so when two NPs are meant to be related and this relatedness cannot be predicted from their hierarchical structure and the SRC.

The last set of examples illustrate the way in which given two or more related strings, SRC determines which one of them is base generated and which are transformationally derived.

5.4.4 a. ha-bayit šel ha-is
the-house of the-man

b. beyto šel ha-iš
house-his of the-man

c. beyt ha-iš
house the-man

All the phrases in 5.4.4 mean 'the house of the man'. The difference between them is that in b, the o of beyto is the same as the ha-iš, and the relation between beyto and ha-is is overtly expressed by šel, whereas in a o does not appear and in c šel is missing.[5.4.1]

We observe then, that even though it is possible to have a morpheme attached to ha-bayit which is the same as ha-iš (5.4.4b) there exist no SRn between ha-bayit and ha-iš.

If the deep structure of 5.4.4 were similar to (c), where both NPs are in mutual construction, i.e., [NP NP], SRC would erroneously predict that ha-bayit and ha-iš are in SRn. On the other hand, if the deep structure of 5.4.4 is similar to (a), i.e. it is either [NP Prep NP] or [NP PP], then at the level of deep structure SRN is inapplicable. This fact means that unless otherwise specified (i.e., by a special morpheme) there is no relation of sameness between the two NP nodes.

In summary, then, SRC not only accounts for strings where it is applicable, but it also determines what are possible deep structures of strings where SRn should not be established. In addition, the existence of a configuration that requires SRn and which therefore has no overt morpheme to indicate the SRn, explains why overt morphemes are necessary if we are to establish SRn in configurations where SRC is inapplicable.

5.5 Summary

In this chapter I have dealt with surface strings of the form ha-N ha-N and variants of it with the morpheme hu. I have shown that if hu is dominated by a NP and is classified only as a demonstrative pronoun and not as a Copula verb or III person personal pronoun, all peculiarities of its occurrence are explained. That is, hu being a demonstrative pronoun accounts for the fact that (a) rules which either apply to V or involve V cannot apply when hu is present. (b) Whenever hu occurs in a configuration where SRC is applicable, it must obey the conditions like any other NP. (c) Despite the fact that hu establishes SRn with NPs where there is no sameness in person, the sentences are grammatical. In addition, the possibility of explaining these varied facts by postulating that hu is a demonstrative pronoun eliminates the need to postulate three homophonous morphemes hu, thus simplifying the lexicon.

The fact that in nominal sentences where hu occurs optionally SRn had to be established necessitated the rule S ---→ NP NP which, when combined with previous expansion of S, yields the following rule:

5.5.1 $$S \longrightarrow \left\{ \begin{matrix} VP & S \\ & \left\{ \begin{matrix} NP \\ VP \end{matrix} \right\} \\ NP & \end{matrix} \right\}$$

Furthermore, this new expansion of S eliminated the need for a LDR and also accounted for data the LDR could not have done so. The operation of SRC in nominal sentences accounts also for the syntactic similarity between these sentences and the NP in which there is an SCNP.

5.1.1 Following Ornan (1972) and Hayon (1973) I have previously used the phrase "sentences with non-verbal predicates." However the analysis presented here suggests that the more traditional term "nominal sentences" is a more appropriate one.

5.1.2 I have only used the form hu, 'he', in the examples, but depending upon the number and gender of the NPs, the form hu will change.

5.1.3 See Ornan (1972:106-120) for a survey of the various grammarians expressing similar views.

5.1.4 Berman (1975:5) writes: "The sentences listed above (some of which are similar to 5.1.1-5.1.3,ZM) are all of the type defined as "nominal sentences' in traditional Hebrew grammars. This notion seems of little if any value in the characterization of contemporary Hebrew structure (though it may explain certain aspects of Biblical syntax)." Ornan (1972:113) claims that originally the form of hu in sentences such as the ones under consideration were anaphoric pronouns, used to emphasize the subject, (among other functions such as clarity etc.) However, nowadays in sentences such as 5.1.2 for example, the form hu has lost its power to emphasize the subject and it is more of a copula (more of a be). 5.1.3, where there is a double mention of hu is now the necessary way for emphasizing the subject. See also Rubinstein (1968:52-67), Hayon (1973:74-85).

5.2.1 Hayon's rule of Copulative Pronoun Insertion is

[X	NP	[Y	[NP,Adj.] Predicate		] s
1	2	3	4	5	
1	2	3+Pro	4	5	

Conditions (i) 3 does not contain tense
(ii) either 2 or 4 contain S or 2 & 4 are ∝ Definite

5.2.2 The reason for not providing any gloss for the morpheme yeš is that this form needs a reanalysis and therefore any approximate translation I may give will, in my opinion, obscure the facts.

5.3.1 Even though I think that this claim can be easily substantiated for cases where hu occurs preceding an "adjective" or a noun not preceded by ha, I will only deal with those cases where the two NPs are preceded by ha. An account of all other cases, in my view, requires a complete analysis of adjectives and the morpheme ha, a task which is beyond the

scope of this work.

5.3.2 The reason for expanding the second node in 5.3.7 as either Predicate or VP is that there are analyses where the second NP of a nominal sentence is dominated by a predicate node (Rubinstein 1968;Hayon 1973) or a VP node (Berman 1975). Neither of these analyses is adopted here.

5.3.3 One question which may seem somewhat puzzling is how to account for ha in 5.3.3. In reference to the classification of ha Gesenius writes (1909:404) "The article (by which he refers to ha,ZM) was originally, as in other languages (...) a demonstrative pronoun, (my emphasis ZM). The demonstrative force of the article, apart from its occasional use as a relative pronoun appears now, however only (a) in a few standing phrase, and (b) in certain class of statements or exclamations." I suggest that if we consider ha a demonstrative pronoun rather than an article, we may be able to explain in a more insightful way its occurrence in various other functions. Until such an analysis is performed, I will assume that the properties of ha are such that they do not affect the property of gender in the nouns with which it is associated.

5.3.4 One possible objection to the analysis proposed here relates to examples of the type presented in 5.3.5, where, if ye'alem 'will disappear' is replaced by the feminine from te'alem, the result is also an ungrammatical sentence. That is, not only must there be sameness of gender within the domain of the NP (or in nominal sentences), but also such sameness must exist between NP-of-S and the verb. This fact, it might be claimed cannot be captured by SRC and therefore obligatory agreement rules are necessary in the grammar. There are various problems of agreement rules that the SRC does not solve. In the following discussion I will point to two areas that I think are problematic with respect to agreement rules.

(a) It is generally assumed that in Hebrew, the subject and the verb agree with respect to person, number and gender. Thus in (i)

(i) ani halaxti habayta
I went-I home

ti is analysed as being the same as ani and is derived by an agreement rule. Furthermore, it is generally believed that when the subject is I or II person and the verb is in the past or future, it is possible to delete the subject pronoun (implied for example in Berman 1973:241). What is not generally discussed is that this rule which deletes I and II person pronoun, cannot delete the pronoun when it is III person singular. (For more exceptions see Gesenius (1909:462), Berman (1973:241)). I suspect that any attempts to formulate such a rule will require numerous conditions

on its application. These conditions will make the rule a mere statement of observations rather than a description of a significant generalization in Hebrew.

(b) There are other structures where the NP-of-VP has to be the same in person number and gender as NP-of-S as well as the verb. For example:

(ii) a. hu ohev et acmo
he loves OM himself

b.*hu ohev et acma
he loves OM herself

This fact will have to be described by a different rule than the one proposed for the NP-V agreement, thus failing to relate the facts just described with facts about agreements with verbs. On the other hand, the incorporation of SRC into the grammar does not exclude the possibility of having NPs that are not in mutual construction related by some notion similar or even the same as the one assumed by SRC. All that the principle predicts is that such relations are not necessary in any construction other than when two NPs are in mutual construction. Thus, for example, (iii), which is similar in structure to (ii) is grammatical despite the fact that the two NPs in (iii) are not of the same gender.

(iii) hu ohev ota
he loves her

5.3.5 It was pointed out by R. Fiengo that if we consider hu a copula then the objection raised here concerning the iterative application of LDR in the derivation of 5.3.9 is invalid. It seems to me however, that as was pointed out in 5.2 , postulating that hu is a copula verb does not capture any generalizations on the one hand and makes it almost impossible to state the rule of copula deletion (or insertion), in cases where hu does not appear. In addition, if we assume that hu is a copulative verb then the invalidity of LDR pointed out below, forces us to look for another source for the second occurrence of hu in 5.3.9. These problems do not exist if the analysis presented here is adopted.
There is however, one problem which the present analysis raises, namely, the order in which the various NPs can occur. Even though at present I have no precise answer to this question, it seems to me that the cooccurrence restrictions relevant to strings of nouns can and should be stated in the lexicon.

5.4.1 The facts are somewhat more complicated than I am describing, given the mophophonemic changes which occur in the morpheme 'house'. I believe, however, that the morphological facts will not make a difference with respect to the point discussed here. If anything, I think it might explain them, but such a statement needs further research to substantiate it.

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