

A GENERATIVE STUDY
OF PERIPHERAL CATEGORIES
IN MODERN HEBREW

Thesis Submitted For The Degree Of
Doctor Of Philosophy
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1974



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Rabbi Tarphon said... "It is not thy duty to
complete the work, but neither art thou free to
desist from it." THE TALMUD, AVOT 3:21

To my parents

ABSTRACT

We apply generative techniques to Modern Hebrew peripheral categories - a term more accurate, to our mind, than the traditional "adverbial".

We focus on three aspects that we consider particularly suited to three descriptive devices forming part of a uniform theory of syntax: base rules, transformations and rules of semantic interpretation.

First we attempt to state the expansions of peripheral categories in the base, within an interpretive framework as in Jackendoff (1972), testing and modifying the Lexicalist Hypothesis of Chomsky (1970a) so as to assess the similarities of the major nodes.

We then examine the deep structure of the traditional "adverbial clause". Using the interpretive transformationalist technique of, e.g., Hasegawa (1972), we derive certain such clauses from relative structure; and in seeking semantic motivation, we reanalyse derivations proposed for English "adverbial clauses" by Ross (1967a), Huddleston (1968) and Geis (1970), arguing for the existence of 'false ambiguities' of the kind criticised by Stockwell et al. (1973).

Finally, we evaluate rival transformational and pure semantic accounts of some elliptical peripheral structures in Hebrew, tentatively formulating a rule of semantic interpretation for 'before' and 'after' expressions and relating this to interpretive rules for Comparative and Coordinative structures.

ACKNOWLEDGEMENTS

I acknowledge with admiration the efforts of my Israeli informants and friends, who, in patiently mediating between my preconceptions and the reality of their linguistic intuitions, made this thesis possible: Reuven Altner, Ahuva Chasid, Uri Karmzin, Meir and Rachel Lifshitz, Pnina Moses, Mordechai Omer, Shulamit Papkin and Shlomit Tanai.

My thanks go to my supervisor, Professor C.E.Bazell, for deftly guiding me and allowing me to benefit from the breadth of his linguistic experience; to Professor Chaim Rabin, Dr. Ruth Berman, Dr. Meir Gertner and Dr. David Kamhi for their advice on all things Hebrew; and to Dr. Neil Smith and Dr. Roy Harris for the gift of their insight and encouragement.

Perhaps the greatest debt I have amassed is to David Taylor and Jack Linden, from whom I derive my love of Hebrew.

L.H.G.

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PRELIMINARY NOTE

This study, based entirely on the grammaticality judgements of native Hebrew speakers, reflects the formal and colloquial ranges of the language and excludes the stylised and the vulgar.

The Hebrew version of the examples is given in an informal blend of transcription and transliteration. Note that 'X' symbolises the velar fricative and 'C' the alveolar affricate.

The English translations are not literal except where specified.

CHAPTER 1 : THE PREPOSITION PHRASE IN THE BASE

Our aim in this chapter is to characterise the Hebrew preposition phrase at a high level of generality, stating the factors common to all manifestations of this phrase and its degree of similarity to the noun, verb and adjective phrases¹, thus testing the lexicalist hypothesis formulated by Chomsky (1970a).

By 'preposition phrase' we do not mean all the constituents commonly known as adverbials. We shall not discuss the most 'integral'² of all adverbials, the degree adverbial, because in Hebrew it is incapable of the wide range of expansions typical of adverbials at other points in sentence structure. But neither do we mean just the string P + NP, as the term PP is employed in Katz and Postal (1964), Steinitz (1969) and Jackendoff (1972, 1973) int.al. 'Preposition phrase' will signify the adverbial node having the range of expansions we shall come to specify and which occurs at various points on the periphery of the deep structure sentence and NP.

The following is a rough proposal for part of the Hebrew phrase-structure rules³:

-
1. Henceforth NP, VP and AP respectively. When we refer to PP, it is in its traditional sense of P + NP.
 2. For the use of 'integral' to refer to items that are structurally relatively close to the verb, see Hudson (1967:246). We follow Greenbaum (1969:1) in reserving the term 'adverb' for adverbials that are single words.
 3. Henceforth PS rules. Our rules differ somewhat from those proposed for Hebrew by Rubinstein (1968) and Hayon (1973:232), but we shall not justify them as a whole in this study.

- (1) $S \rightarrow \bar{N} - \bar{V}$
 $\bar{V} \rightarrow \bar{V} - (\bar{P})$
 $\bar{V} \rightarrow \bar{V} - (\{\bar{N}, S\}) - (\bar{P})$
 $\bar{V} \rightarrow (\bar{A}\bar{v}) - v$

The preposition phrase \bar{P} ⁴ appears in at least three places in the base: as a sister of \bar{V} , embracing those adverbials that can be preposed in a non-emphatic context, as a sister of \bar{V} and its object, meaning those adverbials - such as directionals and certain manner adverbials - that can only be preposed for emphasis, and within nominal structure. There may well be \bar{P} nodes at yet other points in the base, but this is not our concern; we shall devote this chapter to the traits shared by all \bar{P} , whatever their function.

1.1 : THE PREPOSITION AS DISTINCT FROM THE NOUN

1.1.1. Some contrasts with the 'construct' construction.

We shall first argue for the existence of a string $P + \bar{N}$ in Hebrew. The fact that P have no characteristic form and that they are usually morphologically akin to a noun or verb will make our task a complicated one. Undoubtedly it is the existence of equally complicated situations in many languages other than Hebrew that is to blame for the paucity of prepositional studies in the generative literature.

Most clearly fit to be categorised as P are those items

4. For the use of barred symbols as a simpler and theoretically stronger notational variant of the more traditional node symbols, see Chomsky (1970a). The reason for the use here of triple bars will become apparent in the course of this chapter.

that never, in their particular phonological form, function as verb, adjective or noun. (A sample of such items is offered in (4) below.) They can display neither the vowel patterns characteristic of Hebrew verbs nor the suffixes typical of adjectives. But to prove that they are not really nouns standing in what is traditionally termed a 'construct' relation⁵ to a following NP, it does not suffice to point out that the items concerned never occur elsewhere by themselves as subject or object of a clause; for we do find clear cases of nouns too that are restricted to appearing in just such a 'construct' relation⁶, witness (2) by contrast with the ill-formed (3):

(2) PNEI HAYAM HAŠKETIM HIRGIU ET NAFŠO
The calm surface-of the sea soothed him ⁷

(3) *HAPANIM HAŠKETIM ŠEL HAYAM HIRGIU ET NAFŠO
The calm surface of the sea soothed him

Rather, it is the inability of the items in (4) to serve as the head of such 'construct' constructions - as evidenced by the failure of any adjective or verb to agree with them in the way that HAŠKETIM 'calm' agrees with PNEI 'surface-of' in (2) - that indicates that they are not nouns.

(4) Some prepositions not homonymous with any other category⁸:
AL 'on' AXAREI 'after' BE 'in' BEN 'between' ECEL 'by' IM 'with' KE 'as' LE 'to' ME 'from'

5. For an account of this N + $\overline{\text{N}}$ construction, akin to the Latin genitive, see Gesenius (1910:§ 89) and Hayon (1973:59ff).

6. In particular, 'inalienable' nouns. See Rosen (1958).

7. Hyphen notation will henceforth be used to signify 'construct state' nouns.

8. As is to be expected with prepositions, some of these translations are quite inadequate.

There are prepositions consisting of one of these recognizable P plus an item unknown in any other context, such as LEUMAT 'in contrast to', MIŠUM 'because', AL ŠUM 'because'⁹. Rather than enter the unknown second component of these elements in the lexicon, we shall regard them as lexical items in their own right.

Historically, it may well be, as Gesenius (1910:§ 101a) claims, that in Hebrew "all words, which by usage serve as prepositions, were originally substantives"; and indeed, even from a synchronic point of view, a P such as AXAREI 'after', which never functions as a noun, does bear a formal resemblance to the latter by virtue of its 'plural construct state' suffix EI. Syntactically, however, the items listed hitherto are exclusively prepositions in Modern Hebrew.

There are still other items that do ordinarily serve as nouns but which can occur in several syntactic contexts uncharacteristic of N.

The first of such contexts concerns the complement of the items in question. Consider (5-6):

(5) KANITI ET ZE BIŠVIL HAKAZAN
I bought it for the cantor

(6) HIŠARTI ET ZE BIŠVIL HARABIM
I left it in a public thoroughfare (literally: in a thoroughfare-of the public)

BIŠVIL 'for' in (5) might be regarded as two morphs, BE - a P already listed¹⁰ in (4) - and the noun ŠVIL, which is used

9. Though genetically linked to the determiner ŠUM 'no', these occurrences of ŠUM are too remote semantically and syntactically to be deemed independent lexical items.

10. BI is just an alternant of BE.

literally and metaphorically in the sense of 'path', as in (6).

To be sure, one might contend that, as ŠVIL in (5) has a quite separate metaphorical sense from that displayed by ŠVIL in contexts like ŠVIL HAZAHAV 'the golden mean', we are therefore faced with a single prepositional unit in (5) rather than P + \bar{N} . But this would deprive us of the right to assign special interpretations to lexical items with reference to their syntactic or lexical environment. For instance, if we disallowed the possibility that ŠVIL after BE could be employed in a special sense, as in (5), we should also be unable to assign to the noun KELIM (ordinarily 'vessels, utensils') in (7) a special meaning of a metaphorical sort just in the environment of a governing verb YACA 'leave' or HOCI 'make leave':

(7) HU YACA MEHAKELIM He blew his top (lit.:left the vessels)

Instead, we should have to regard YACA MEHAKELIM as a single syntactic item, perhaps a kind of intransitive verb, even though this would complicate the lexicon once the noun involved were found to have this same special sense in the environment of some other verbs and we were thus compelled to set up still more composite verbs in the lexicon.

So in distinguishing P from N we shall not base ourselves on notions of metaphoricality, but on syntactic evidence.

Returning to BĪŠVIL 'for', consider (8):

(8) ASITI ZOT BĪŠVIL ŠE YEDU ŠE ANI TOMEX BAHEM

I did it so that they should know that I support them

Were ŠVIL and its complement in a 'construct' relationship, one would not expect the complement to take the form of a finite, or infinitival, S as in (8); for it is noteworthy that, for Hebrew verbs that take as their direct object an NP or S, the corresponding derived nominal may stand in a 'construct' relation to a complement NP but not to a complement S. Using the verb KAVA 'determine' as an example, we observe that (9) below has its nominalised counterpart in (11) but that (10) has no acceptable parallel along the lines of (12):

(9) MI KAVA ET HAUVDOT HAELE

Who determined these facts ?

(10) KAVATI ŠE HAPEALIM MIŠTAYEXIM LIŠTEI KVUCOT

I've determined that the verbs belong to two groups

(11) KVIAT HAUVDOT HAELE LO ORERA BAAYOT

The determination-of these facts didn't raise any problems

(12)*TEARTI ET ZE TOX KVIAT ŠE HAPEALIM MIŠTAYEXIM LIŠTEI KVUCOT

I described it (lit. :) in the course of a determination-of that the verbs belong to two groups

The same restriction on complementation holds for a noun like UVDA 'fact' which is not a derived nominal. It can only stand in apposition to S.

Hence we cannot regard BIŠVIL in (8) as embracing a noun in construct relation to S. If, instead, we take BIŠVIL as a single prepositional unit, the presence of a complement S becomes natural¹¹ - as we shall see on p.14, many of the P

*11. As the form ŠVIL happens to serve as both the construct and the absolute state of the noun, it might be held that ŠVIL is the absolute form, and that the S introduced by ŠE is really relative or apposed. This analysis can be discounted however: the S in question fails the crucial 'parenthetic clause' test for relative S that will be elaborated in 2.3, and cannot accommodate the complementiser KI which always alternates with ŠE in apposed clauses.

already established in (4) govern S; and this will ultimately be seen to match the complementation of the verb and adjective.

Let us briefly mention some other P that can be diagnosed in this way. MIPNEI 'because (of)' appears to consist of the P MI 'from', mentioned in (4)¹², and PNEI, the regular construct state form of the noun PANIM 'face, aspect, surface' which was illustrated in (2-3). That MIPNEI in the sense 'because' is a single prepositional unit rather than P + \bar{N} is clear yet again from its ability to introduce S:

(13) ANI MEFAHEK MIPNEI ŠE ANI AYEF

I'm yawning (lit. :) because that I'm tired

The following too will be listed as P on account of their complement S - the first four contain what might appear to be a construct state noun, while the remaining three, though lacking such tell-tale features, can be shown not to be the heads of relative or apposed S:

(14) AL YEDEI 'by means of' LIFNEI 'before'¹³ LEFI 'because'

TOX 'in the course of' AD 'until' BIGLAL 'because' KODEM
(LE) 'before'

The question arises as to whether these complement S are to be generated as an expansion of NP or as a category ranking equally with the latter. This issue, which has bearing on the general comparison of phrasal nodes, will be debated in 1.2.4.

We now mention some P that do not govern lexical N but

12. MI is an alternant of ME.

13. S complements of LIFNEI, KODEM 'before' and AXAREI 'after' will, admittedly, be derived from head-less relative S in 2.5.; but they will also be assigned a non-relative derivation in 2.50.1, in the framework of which the prepositions in question must be identified as such by the arguments elaborated in this section.

only S. (In this respect they match verbs like AMAD 'be about to' and ALUL 'be likely to', which are similarly restricted to taking complement S.)

- (15) AF AL PI 'although' AL MENAT 'in order' KDEI 'in order'¹⁴
 KEXOL 'the more' BIMYUXAD 'especially as' BEYIXUD 'especially as'¹⁵ MEAXAR 'since' KEVAN 'since' LAMA 'since'¹⁶

The following P, already established in (4), lend support to our S-diagnosis, for they too govern sentences: AL 'on'¹⁷ AXAREI 'after' IM 'with'¹⁸ KE 'as' ME 'from'.

1.1.2. Further diagnostics: some contrasts with relative constructions

A more limited diagnostic for prepositions involves the reduction of S. Consider (16):

- (16) BEMIKRE ŠE ESA, ODIA LEXA

In the event that I go, I'll let you know

MIKRE is a noun meaning 'event, case'. Appearing in its absolute state in (16), it could be taken for the head of a relative S (and the absence of a relative pronoun in this S could be explained in the same way as for relative S headed by pronouns like MA 'what' and ZMAN 'time'¹⁹.) But, without wishing:

14. One might prefer to identify this item with the KDEI in expressions like HAMAALIT YEXOLA LAKAXAT AD KDEI ŠISA TON. 'The lift can take up to six tons' and ZE AYOM AD KDEI ŠE.. 'It's terrible to the extent that..', in which case KDEI will be listed as governing lexical N as well as S.

15. BIMYUXAD and BEYIXUD, and three other items, AF 'though', AFILU 'even though' and BILVAD 'provided', not only introduce S (and not lexical N) but also function as focusing adjuncts in the sense of 'especially', 'also', 'even' and 'only' respectively. But in the former role they cannot be deemed focusing adjuncts, for they are then obligatory and must immediately precede their S. They are moreover only a minority of the class of focusing adjuncts.

16. See 2.4.1. 17. Here in the sense 'because'.

18. Here in the sense 'whereas'. 19. See 2.2.1.

to exclude such a derivation in every case, we must offer another analysis if we are to generate (17):

(17) YAXOL LIHYOT ŠE ESA. BEMIKRE ŠE KEN, ODIA LEXA

Maybe I will go. In the event (lit. :) that so, I'll let you know

The reduction of finite S to KEN 'so' or LO 'not' is characteristic of the complements of certain verbs such as KAŠAV 'think' and HIVTIAX 'promise':

(18) ANI BATUAX ŠE HU YAVO, KI HU HIVTIAX ŠE KEN

I'm sure that he'll come, because he promised that so

But it does not occur in apposed clauses accompanying the corresponding derived nominals - hence the unacceptability of

(19) - or in relative S, witness (20):

(19)*HASAR NIŠAL HAIM YEANE LIDRIŠOTEHEM, KI HAVTAXOTAV ŠE KEN
LO ŠIXNEU AF EXAD

The minister was asked if he would grant their requests, for his promises that so convinced no one

(20)*ANI LO YODEA KAMA BAIM. ELE ŠE KEN LO NEHENIM MIZE.

I don't know how many come. Those that so don't enjoy it.

Now the reduction occurs not only after BEMIKRE 'in the event' but also in S introduced by IM 'if' and KEVAN 'since'. The former might be explained by calling IM not a preposition but a complementiser²⁰; but we cannot explain away BEMIKRE ŠE KEN 'in the event that so' by regarding BEMIKRE as a complementiser, for it does cooccur with the complementiser ŠE. Rather, let us list it as a P that allows its complement S to reduce in the same way as the P KEVAN 'since':

(21) HAMAFICICIM LO HAYU NEŠEK MATIM. KEVAN ŠEKAX PUTXU KANEI
ŠIGUR

The bombers were not a suitable weapon. Since that so launching pads were developed.

20. Especially as it does not cooccur with the complementiser SE, unlike other recognised P. See 1.3.3. for a fuller discussion of the term, due to Rosenbaum (1967:24-32).

Another limited indication of P is the presence of a finite S introduced by VE after an item such as BEMIDA 'to the extent':

(22) BEMIDA VE TAAZOR LI, ANI AAZOR LEXA

To the extent VE you help me, I'll help you

This VE is formally identical to the VE that regularly signifies 'and', but in contexts where it substitutes for ŠE, as in (22), it is best regarded as a complementiser²¹. As such, it occurs after just a few P - MEAXAR 'since', BEMIKRE 'in the event', and HEYOT and HOIL 'since' (which will be diagnosed as P in 1.2.1.) - and after the verb YITAXEN 'be possible'. It is unknown in relative and apposed S. Therefore BEMIDA 'to the extent' will be listed as a P.

Now BEMIDA also occurs with the complementiser ŠE, witness:

(23) BEMIDA ŠE (BA) TAAZOR LI, ANI AAZOR LEXA

To the extent that (in which) you help me, I'll help you

If we choose to include the anaphoric BA 'in which', we can only analyse BEMIDA as the preposition BE combined with an ordinary noun MIDA 'extent' that is serving as head of a relative S. But in the framework of Hebrew relativisation we can omit the PP containing the anaphor. Now BEMIDA followed by VE has just been adjudged a preposition; and we have mentioned many clear cases of P that govern an S containing the complementiser ŠE. So it is reasonable for BEMIDA too to be subcategorised for ŠE. The stage is thus set for a structural ambiguity that can scarcely be said to represent true semantic ambiguity: without BA 'in which', the ŠE clause in (23) is either

21. It may be compared to the archaic English 'and', as in 'and it pleases you'. See Jespersen (1927: V p.367) on the conditional and interrogative role of this 'and'.

a complement S of a preposition or a relative S. Rather than regard BEMIDA 'to the extent' as belonging to a new category displaying a mixture of properties possessed by two existing categories, we are placing it in both of the latter; for, putting the matter at its simplest, there are too few items displaying this mixture to justify a new category. (Another item that is both a P and a P + \bar{N} is BEMIKRE 'in the event' on pp. 14-15.) For a fuller discussion of the notion of non-semantic structural ambiguity, see 2.16-7.

1.1.3. Pro-complements of the preposition

A more widespread indicator of P is the presence of the pro-S KAX or KEN. The former serves as the object of verbs that govern S²², for instance:

- (24) HAAŠAN GOREM SARTAN. KAX KAVU XOKRIM BRITIIYIM
Smoke causes cancer. 'So' British researchers have determined

But KAX, unlike other objects of the verb KAVA 'determine', cannot stand in a construct relation to the derived nominal corresponding to KAVA, witness:

- (25)*KVIAT KAX LO GARMA BAAYOT
The determination-of so did not cause any problems

This is scarcely surprising in view of the inability of S itself to participate in a construct construction. (See (12))

As for KEN, it does not even serve as a pro-S in verbal complements, let alone in derived nominal contexts.²³

22. See Rubinstein (1971:3.41)

23. This is to be distinguished from cases where a finite S is reduced to leave a complementiser SE + KEN/KAX, as in (17).

But both KAX and KEN do complement several of the items which have already been depicted as formally resembling a construct state N while not behaving as such:

- (26) AF AL PI XEN²⁴ 'despite that' AL KEN 'because of that'
AL YEDEI XAX 'by means of that' LEFI XAX 'because of that'
LIFNEI XEN 'before that' MIPNEI XEN 'because of that'

This reinforces our decision to list them as P rather than as N that happen to function as adverbials.

Among the additional items that we may now regard as P - as they do not govern S, we cannot regard KAX as exclusively a pro-S²⁵ - are LEŠEM 'for the sake of', where one might have wished to detect an occurrence of the noun ŠEM 'name'; BETOX 'during' and MITOX 'out of', where TOX is identical to a noun meaning 'inside'²⁶; and LECOREX 'for', where COREX might be the N meaning 'need'. Witness the following phrases:

- (27) LEŠEM KAX 'for that purpose' BETOX KAX 'in the course of this'
MITOX KAX 'on the basis of this' LECOREX KAX 'for that purpose'

Which of the P so far established governs KEN, KAX or neither of the two appears to be an idiosyncratic matter.

1.1.4. Pronouns in the complement of the preposition

Moving from complementary S and pro-S to complement nouns, we uncover a further motive for the P node in the behaviour of reflexive pronouns. These do not generally occur in

24. XEN and XAX are alternants of KEN and KAX respectively. Note that the phrases in (26) are but a sample.

25. Of the P listed in (4), BE and LE too govern such a pro-form without governing S.

26. TOX occurs in subject and object position only in the non-relational sense of an inside that can be removed, viz. HATOX SEL HAEGOZ 'the inside of the nut'.

construct constructions, witness (28); the non-reflexive pronoun occurs instead. Perhaps the only type of nouns to govern reflexive pronouns are picture nouns²⁷ and derived nominals,²⁸ as in (29):

(28)*HAMALKA KANTA ET HAMARGARINA BE KESEF ACMA

The Queen bought the margarine with (lit. :) the money-of herself

(29) HI KOL KAX ROCA LIROT ET TMUNOT ACMA

She so wants to see the pictures-of herself

We shall not probe the reasons for the lack of reflexivisation in construct constructions like (28); it may be rooted in the semantics of possession, for a paraphrase of (28) employing the preposition ŠEL 'of'²⁹ is just as unacceptable, while the use of ŠEL in place of the construct construction in (29) is just as acceptable. What concerns us now is that P such as those listed do in the main allow their complement to be reflexivised, e.g.:

(30) HI MEDABERET LEACMA She's talking to herself

(31) HU LO OSE ET ZE LECOREX ACMO ELA BIŠVIL KULAM
He isn't doing it for himself but for everyone

We can use this criterion to identify certain other P. Take BETOX 'within'; in its temporal sense of 'during' it was listed as a P in (27), but in its spatial sense it might be regarded as a combination of the P BE 'in' and the N TOX 'inside', even though, as noted in fn.26, this N never occurs in a relational sense in subject or object position.³⁰ Observe, however,

27. Ross (1967a:4.1.6.) notes the same fact for English.

28. See 3.3.1. for an explanation.

29. If, following Hayon (1973:123f), we derive ŠEL phrases from transformationally reduced relative S, we can automatically explain the lack of reflexivisation in syntactic terms. But we should need a separate derivation to produce reflexivisation in the wake of picture nouns.

30. See Fillmore (1968:61) for the notion 'relational'.

the reflexive pronoun following BETOX 'within' in (32):

(32) HAIŠ RAA MIFLECET BETOX ACOMO

The man saw a monster within himself

We might, in view of our remarks on p.19, try to explain (32) as a case where the relation between the noun TOX 'inside' and the N it governs is semantically not one of 'possession'. Not only is this unconvincing but it also ignores the fact that we already need to sanction reflexivisation across many recognised P. So let us account for (32) by listing BETOX as P. Among the new P we can identify in this way are:

(33) LEGABEI 'concerning' BEENEI 'in the eyes of' MEEENEI 'from the eyes of' AL DAAT 'on behalf of' MEAL 'above' NEGED 'against' KENEDED 'against'³¹

Like the preceding criteria, reflexivisation is a sufficient but not a necessary indicator of P. Some clear cases of prepositions, set up earlier, do not tolerate reflexive pronouns in their complement. AXAREI 'after', for instance, requires the ordinary pronoun suffix -AV rather than ACOMO 'himself' in (34), a phenomenon comparable perhaps to the non-reflexivisation in English examples like 'Near him, Charlie placed a snake'³²:

(34)*RAVINA HIŠIR TALMIDIM RABIM AXAREI ACOMO

Ravina left many students after himself

One test that yields results more in keeping with those of preceding diagnoses is for whether complements in the form

31. AL 'on' was listed in (4) as a P, for we had no evidence that it functioned as a noun. But MEAL 'above' might have been regarded as a preposition ME 'from' plus a noun AL, for it (unlike AL) can occur 'intransitively', viz. HEM XAGU MEAL 'They circled above'; and we shall indeed show in 1.1.5. that MEAL can behave as a P + NP. What we are claiming in this section is that, in matters of reflexivisation, MEAL and AL behave as prepositional units too.

32. See Postal (1971:ch.1).

of pronominal suffixes can be followed by the apposed emphatic pronoun ACM- '-self' (with its own matching pronominal suffix), as in (35)³³:

(35) KOL YECIRA HI DIVUXO ŠEL HAYOCER AL XAVAYA ŠE AVRA ALAV
ACMO
Every creation is the artist's report of an experience
that has come over-him himself

If, instead of a P, we take a noun and try to add a pronoun suffix with an apposed ACM- '-self', we generate ill-formed sentences like (36):

(36)*HI KANTA ET ZE BEKASPA ACMA
She bought it with (lit. :) the money-of-her herself

Before identifying other P in this light, let us briefly consider what a puzzling phenomenon this is. We might have expected P and 'governing nouns'³⁴ to take the same range of complements. After all, both govern nouns with the same full array of attributive adjectives, relative S etc. And where 'governing nouns are prevented³⁵ from taking a coordinated pronoun+ noun, as in (37), P are similarly constrained, witness (38):

(37)*MI ŠOMER AL KASPEXA VE DAVID
Who's looking after the money-of-you and David

(38)*HIZMANTI AVURXA VE DAVID
I've ordered for-you and David

Even if we followed Hayon (1973:59ff) by deriving the construct structure $N + \bar{N}$ from a base structure $[[\bar{N} - Poss] N]$ that is
DET NP
virtually inverted by a T rule, we should have no reason to

33. A hyphen linking a pronoun to the preceding item signifies that there is suffixation in the Hebrew.

34. This is our term for the construct state nomen regens of traditional Hebrew grammar.

35. Doubtless by the Coordinate Structure Constraint (see 4.2.2) which will block any movement out of a coordinate structure (and that includes the process of suffixation) that does not affect all coordinates.

block ill-formed sentences like (36) where the governed pronoun -A '-her' together with ACMA 'herself' can be regarded as a single \bar{N} containing an appositional structure.

What may prove to hold the key to such ill-formedness in construct constructions is the fact that even 'governing N' that are derived nominals, whose object-oriented pronoun suffix we shall later derive from a [Object Marker + pronoun] structure that is in no way a construct phrase³⁶, are unable to govern a suffixed pronoun + ACM- '-self' in surface structure, witness (39):

(39)*ESTER OMERET ŠE MINUYA ACMA LO NIMŠAX ZMAN RAV

Esther says that the appointment-of-her herself didn't take long

But rather than pursue this, let us return to examine possible prepositions in the light of the disparity between (35-6).³⁷ Consider (40) :

(40) AVIR DAXUS HUZRAM LETOXO DEREK CINORIT DAKIKA

Compressed air was passed into it through a thin tube

DEREK 'through' is identical to the N meaning 'way', and in (40) it might have been regarded as an N whose governing P had dropped, in the same way as ŠAA KALA 'a short while' and TXILA 'beginning' exist alongside LEŠAA KALA 'for a short while' and BATXILA 'in the beginning' in the capacity of \bar{N} structures serving as adverbials. But the presence of an apposed ACM- '-self'

36. See 3.3.1.

37. That the constraint on (39) cannot be generalised semantically emerges from the well-formed paraphrase with the P ŠEL HAMINUY SELA ACMA 'the appointment of-her herself'. The same discrimination between suffixation to N and to P affects the apposition of the phrases AF/GAM + Pronoun 'also + Pronoun'; compare ASER LIYEXEZKEL, KOŠVIM OTO AF HU LINEVI GEULA 'As for Ezekiel, they regard him 'also he' as a prophet of redemption' with the ill-formed *MIYUNO AF HU KINEVI GEULA 'The classification-of-him also he as a prophet of redemption'.

in the next example shows DEREX 'through' to be a preposition:

- (41) HU AMAR ŠE HEM YEXOLIM AFILU LEHITKAŠER IM HANASI DARKO
ACMO
He said that they could even contact the president
through-him himself

BEKEREV 'in the midst of' and BEEMCAUT 'by means of' can be identified as P on the same basis.

A surprising case of an item that might intuitively have been deemed a preposition but which, by the apposed ACM- '-self' criterion (and a further criterion still to be proposed), is a [P + N] structure is LEYAD 'next to'. This must be analysed as LE 'to/by' plus YAD, ordinarily 'hand' but in this context probably a homonym in the sense 'side'; for consider (42):

- (42)*AŠER LAMELEX, LO MUTAR LEAF EXAD LAŠEVET LEYADO ACMO

As for the King, no one is permitted to sit next to him himself (lit.: by the side-of-him himself)

Were LEYAD 'next to' a P, (42) would be as acceptable as (41).

Calling YAD in the sense of 'alongside' a noun, and giving it this sense in the lexicon, gives rise to the interesting situation where YAD in this sense is limited to the lexical context of LE 'by'. Thus (43) does not mean that the queen moved away from the king's side; it just sounds absurd:

- (43) HAMALKA NEELCA LAZUZ MIYAD HAMELEX

The queen was forced to move away from the king's hand

Recall in this connection that on p.11 we reserved just this very right to assign special interpretations to lexical items with reference to their lexical or syntactic environment.

1.1.5. A diagnostic for construct constructions: pronoun postposition

Further evidence that LEYAD 'next to' is not a P comes from a test serving an opposing purpose to those used hitherto: to show when an item bearing a suffix is a 'governing N'. Consider (44):

(44) HAMALKA KANTA ET HAMARGARINA BE KASPA HI

The Queen bought the margarine with (lit. :) the money-of-her she

To emphasise the pronoun suffix, we have chosen to follow it immediately with the subject pronoun in the appropriate person. This apparently holds for all N + suffixed pronoun constructions, even those involving derived nominals³⁸, witness:

(45) ESTER OMERET ŠE MINUYA HI LO NIMŠAX ZMAN RAV

Esther says that the appointment-of-her she didn't take long

But no such process may occur when pronouns are suffixed to prepositions. Thus we cannot say:

(46)*BASOF HITXIL HAPSIXOLOG LIROT DMUYOT ELE LEFANAV HU

In the end the psychologist began seeing these forms in-front-of-him he

Now we find that certain items already identified as P do permit such pronoun postposition. MEAL 'above', listed as P on p.20, appears in (47):

(47) HU CIYER YONA MERAXEFET MEAL KOL HAKDOŠIM VEAF MEALAV HU

He painted a hovering dove above all the saints and even above-him he

38. This suggests that, in the course of the transformation from MINUY-x HI 'the appointment-of-x she' (where x is the unspecified 'subject NP' of the derived nominal structure) to the surface form MINUYA 'the appointment-of-her' (see fn.36), the base form of the pronoun - HI 'she' - must be retained at least until the pronoun has been placed in a construct relation to the nominal and the ensuing postposition of the pronoun has taken effect. Only then can HI 'she' be transformed to -A 'her', giving MINUYA HI.

So MEAL 'above' must be deemed constructionally homonymous - both P and P + N. The same is true of BEEMCAUT 'by means of', listed as P on p.23 for tolerating an apposed ACM- '-self': it too permits pronoun postposition, witness (48):

(48) HU HEXLIT ŠE HAKESEF YUAVAR LEIŠTO BEEMCAUTO HU

He decided that the money should be transferred to his wife
by means-of-him he

Two other P that function like their original component parts P + N are MITAXAT 'beneath'³⁹ (MI 'from' plus TAXAT 'bottom') and, for some speakers, BETOX 'within'. As for LEYAD 'next to', which has already failed the apposed ACM- '-self' test for P, it too passes the postposition test for N, witness (49), and thus supports our analysis:

(49) HEN HITYAŠVU LEYAD KOL MUZMAN VEMUZMAN VEAŠ LEYADO HU

They sat down next to every single guest and even next to
him he (lit.: by the side-of-him he)

Great significance attaches to the claim that certain items like MEAL 'above' and BEEMCAUT 'by means of' are structurally ambiguous. It is as difficult to credit them with semantic ambiguity as in the case of BEMIDA 'to the extent' on p.16; but in view of the fact that a large number of P (perhaps the majority) are historically derived from (P)+ N structures even though no longer syntactically behaving as such, it is only to be expected that a few P should still be in the process of changing their identity. (It may well be that in time to come MEAL and BEEMCAUT will no longer participate in constructions like (47-8).) Far

39. The 'noun-hood' of MEAL and MITAXAT cannot be based on their ability to stand intransitively, for another such 'weakly transitive' P, MIMUL 'opposite' - as in SEV MIMULO 'sit opposite-him' - is quite incapable of taking a postposed pronoun and is thus not composed of a true N. Nor is their noun-hood linked to their participation in the structure MEAL LAYAM '(lit.) above to the sea' MITAXAT LAYAM 'beneath to the sea', for another P that participates in such a structure, MISAVIV 'around', does not take a postposed pronoun and thus is not N.

from treating such non-semantic ambiguity as an embarrassing trait of Hebrew, we would suggest, in the present case, that it may be common to many languages.

It is outside the province of this study to actually explain such postpositions in construct phrases or to detail the workings of this rule.⁴⁰ When we come to compare P with V,A and N, it will emerge that all the distinctive traits of P mentioned hitherto are true for V too. But the task of ascertaining whether the complement structure of V and P is essentially different from that of construct state nouns or whether the disparity should merely be regarded as a function of the different categories involved will not be undertaken here. We shall just indicate which way generalisations lie.

1.1.6. A non-diagnostic: dislocation within \bar{N}

Our conclusion that LEYAD 'next to' is not a P reduces the value of another diagnostic we might have used - the possibility of rightward dislocation within \bar{N} ⁴¹. Many N + \bar{N} construct phrases can be paraphrased by a $[[N + \bar{N}] X \bar{P}]$ structure in which \bar{P} is $\check{S}EL$ ('of' plus a copy of the mentioned \bar{N}). For instance, (50) can be paraphrased by (51):

(50) PITRON MOŠE The solution-of Moshe

(51) PITRONO $\check{S}EL$ MOŠE The solution-of-him of Moshe

In (51) the N MOŠE, which in (50) was governed by PITRON, has

40. Such as the extent to which it is subject to the same constraints as Reflexivisation; the fact that only pro-forms can be copied out; the fact that these cannot be postposed across a variable; and the general unusualness for Hebrew of a rule that creates the 'free' form of a pronoun in non-subject position. (For normally, if a N or P is for some reason incapable of bearing a pronominal suffix, the grammar will block the use of the free form of the pronoun; e.g. in the absence of a form *LAMROTAM 'despite-them' corresponding to LAMROT HABAAAYOT 'despite the problems', we are equally precluded from saying *LAMROT HEM 'despite they'.)

~~41. See 4.3.3.~~

been pronominalised to -O 'him', but appears explicitly in the newly-formed PP.

There are certain types of construct construction that possess no such paraphrase, e.g. those expressing notions traditionally dubbed 'appositional genitive' (EREC YISRAEL 'The land of Israel') and 'attributive genitive' (XULCAT MEŠI 'a shirt-of silk').

Now LEYAD MOŠE 'next to Moshe' might have been felt to express a notion of possession typically suited to rightward dislocation. So the fact that the latter does not occur, rendering (52) unacceptable, could be taken to mean that LEYAD 'next to' is a P rather than the P + N LE + YAD:

(52)*HITYAŠAVTI LEYADO ŠEL MOSE

I sat down next-to-him of Moshe (lit. by the side-of-him of Moshe)

But we have already claimed in 1.1.4-5 that LEYAD is indeed P + N. So the unacceptability of (52) must be due to the nature of the noun YAD.

That YAD as it appears in LEYAD is relational explains nothing, for an equally relational noun, CAD 'side', readily undergoes dislocation in (53):

(53) BECIDO ŠEL HAŠULXAN YEŠ KAMA SDAKIM

In the side-of-it of the table are a few cracks

Nor does it suffice to point to the metaphorical nature of YAD (if we do wish to regard the YAD of LEYAD 'next to' as the same item as YAD 'hand'). For the N IKVOT 'heels-of', even in its metaphorical sense of 'after', is quite amenable to rightward dislocation, witness (54):

- (54) BEIKVOTAV ŠEL HANEUM HITXILU RABIM BAKAHAL LEHERADEM
After the speech (lit. on the heels-of-it of the speech)
many in the audience began to doze off

But whatever the exact conditions on such dislocation, we find many other N that resemble LEYAD in not permitting this process. Take PANIM in the sense 'surface' illustrated in (2-3); we cannot transform (55) into (56):

- (55) PNEI HAYAM HAŠKETIM The calm surface-of the sea
(56)*PANAV HAŠKETIM ŠEL HAYAM The calm surface-of-it of the sea

The general conclusion is that rightward 'dislocatability' is no diagnostic for P or N, merely a sufficient and not necessary condition for N. And a readiness to be dislocated does not prove that an item cannot be a P; BEEMCAUT 'by means of' was seen, on p.23, to be a P, but it also acts as P + N, witness:

- (57) BEEMCAUTO ŠEL MANXET ZAAZUIM, NUXAL LEŠAPER ET HATNAIM
By means-of-it of a shock absorber, we shall be able to
improve conditions

1.1.7. An uncertain diagnostic for P : quasi-relative S

Our final diagnostic for P accords but imperfectly with our classification hitherto, and may actually contradict it. It involves a poorly understood construction which we venture to dub a Quasi-Relative Clause.

Consider (58):

- (58) EN LI (HARBE) MA LAASOT I haven't (lit.) (much) what to do
Though MA does not in general serve as a relative pronoun and is usually, for this reason, deemed an interrogative and an indefinite (in the sense of 'something') pronoun only, it appears to be a relative pronoun in (58) owing to (a) the optional presence of a small set of head N such as HARBE 'much' and MASPIK 'enough'

and (b) the lack of certain other members of the interrogative paradigm which one would have expected to appear were MA 'what' in (58) an interrogative pronoun, but whose absence suits a relative S analysis of (58). The following ill-formed example contains one such item:

(59)*EN LI EZO ANIVA LILBOŠ I haven't (lit.) which tie to wear

Now there seems to be a curious constraint on what we shall call the Quasi-Relative Formation rule: it cannot create relative pronouns within a larger NP. Compare (60), where the pronoun is created within a [P \bar{N}] structure, with the ill-formed (61-2), where it stands within [P \bar{N} [P \bar{N}]] and [P \bar{N} [N \bar{N}]] :

(60) LO HAYA LQ LEMA LEHITYAXES

He didn't have (lit.) to what to refer

(61)*LO HAYA LO LASEFER ŠEL MI LEHITYAXES

He didn't have to the book of whom to refer

(62)*LO HAYA LO LAAVODAT MI LEHITYAXES

He didn't have to the work-of whom to refer

We are as yet unable to explain this rule on the basis of what is known about other Hebrew transformations. Thus, any other rule involving leftward chopping⁴², such as Relative Item and Question Movement, does apply readily to items within a larger NP. (There is a surface constraint that stops the visible movement of these items out of a larger NP or PP⁴³, but it does not actually prevent these rules from applying to any variable one fancies and, if necessary, causing the whole of the larger structure to 'pied pipe' in company with the variable concerned.)

42. See 4.3.3. for a fuller presentation of this notion, due to Ross (1967a).

43. See *ibid.*, fn.20. For the term 'pied piping', see Ross (1967a:4.3.).

Thus, compare (61-2) with the well-formed (63-4), which exemplify the operation of Relative and Question Movement respectively across NP boundaries:

(63) HAXOKER HANAL, LAAVODATO ANI MITYAXES KAN, HUSPA MEHAASKOLA
HACEXTT

The above researcher, to the work-of-whom I refer here, was influenced by the Czech school

(64) LASEFER SEL MI ATA MITYAXES

To the book of whom are you referring ?

So whether cases like (60) continue to be regarded as quasi-relatives or are eventually reanalysed as quasi-indirect questions, the fact remains that they contrast oddly with cases of other leftward chopping rules. And we do not know enough about the former or the latter to offer an explanation.

Let us examine which items are seen by the quasi-relative rule as P, in the same way as LE 'to' in (60), and which are seen as comprising nouns.

Among those items already listed as P, most are amenable to quasi-relativisation, witness (65-70):

(65) LO HAYA LA BIŠVIL MI LEVAŠEL, AZ HI AZVA

She didn't have for whom to cook, so she left

(66) LO HAYA LEGOREX MA LEHEAVEK

There wasn't for-the-purpose-of what to struggle

(67) LO HAYA LAHEM MEAXOREI MA LEHITXABE

They didn't have behind what to hide

(68) LO HAYA LI BEEMGALT MA LAACOR ET HATAHALIX

I didn't have by-means-of what to halt the process

(69) BEVADAI ŠEHAYU MITBOLELIM, ILU HAYA LAHEM BEKEREV MI
LEHITBOLEL

They would certainly have assimilated, had they had among whom to assimilate

(70) LO HAYA LI MEENEI MI LEHASTIR ET ZE

I didn't have from-the-eyes-of whom to conceal it

Note that the last of these P might not have been spotted by a

semantic examination, for MEEENEI 'from-the-eyes-of' appears to be used relatively literally and poorly suited to a context like HU LO YUXAL LEHASTIR ET AŠMATO _____ 'He won't be able to conceal his guilt _____'.

Before proposing new P on the basis of quasi-relativisation, we must consider (71), which seems to be generally acceptable:

(71) HAIM YIHYE LA LEYAD MI LAŠEVET BAMESIBA

Will she have next to whom to sit at the party †?

Recall that LEYAD 'next to' was adjudged on two counts in 1.1.4. and 1.1.5. to be P + N and not P. So the relative acceptability of (71) means that a slightly different notion of the preposition, or perhaps an additional factor to that of the preposition, is being reflected by the quasi-relative rule.⁴⁴

So we shall refrain from including as yet unanalysed items like BETOR 'in the capacity of' among P, even in the face of well-formed cases like (72):

(72) EN LANU BETOR MA LEHAASIK OTXA

We haven't in the capacity of what to employ you

It may still be that BETOR consists of the P BE 'in' plus the N TOR, as it occurs in (73):

(73) HAMACAV, BETOR ŠE KAZE, BIXLAL LO NIRE LI

The situation, in (lit.) a capacity such as this, doesn't suit me one bit

That concludes our analysis of the Hebrew preposition, insofar as it contrasts with the construct state N. We are not aware of any other widespread distinguishing features. (Some

44. (71), as an acceptable rather than an ill-formed example, cannot be lightly dismissed as a chance case of a poor example.

speakers do seem to constrain the rule creating asyndetic relative S (lacking a complementiser, witness (63) on p.30) to cases where the fronted relative pronoun, yet again, is within a (P) \bar{N} phrase and not part of a larger [P [\bar{N} [P \bar{N}]]] structure, but this is far from being a widespread phenomenon.)

We have found no evidence that the P is merely a derivation from an underlying N, a prospect that might appeal to those who abhor non-semantic 'ambiguity' of the kind proposed for items like BEMIDA 'to the extent' (p.16) and BEEHCAUT 'by means of ' (p.28) and who would see these, in all their syntactic manifestations, as deriving from the one deep string. Quite apart from the complexity of a rule changing an item's node from (P) N to P under certain conditions (one of which would presumably be the lack of modification of the N involved), we should have to create many new N just in order to change their node-name at an early stage. We shall, admittedly, see in 1.4.3. that the overall status of adverbials is akin to that of nominals; but this will be seen to have nothing to do with the noun-like shape of so many P, for now we shall show that several P are formally and genetically akin to verbs - and these too participate in adverbials displaying an overall kinship to nominals.

1.2. : THE PREPOSITION AS DISTINCT FROM THE VERB

That Hebrew possesses some P genetically akin to V is only to be expected, in view of the similarity between the complement structure of noun-like P and verbs. One might even claim that P are derived from V by a transformation that has the suspiciously bizarre effect of giving such underlying V all the trappings of N on the surface. Such a claim has been made by

Becker and Arms (1972) and, for instrumental adverbials in particular, by Lakoff (1968a), for whom (74) derives from something like (75):

(74) Seymour sliced the salami with a knife

(75) Seymour used a knife to slice the salami

Bresnan (1969) attacks this derivation at the decisive level of semantics by observing that it allows no possible derivation for (76):

(76) Seymour used a knife to slice the salami with

We, on the other hand, shall concentrate our criticism on less drastic derivations than those of Lakoff's - on those involving surface P that actually look like V; and we shall offer arguments that appeal to reasonability rather than semantic necessity and which can have little force for those proponents of generative semantics who are quite willing for the T rules to incur the total cost of the passage from the semantic to the phonological level.

Consider the following six items:

(77) LAMROT 'despite' LIKRAT 'towards' HODOT LE- 'thanks to'
HEYOT 'since' HOIL 'since' HAXEL ME- 'commencing from'

The first two do not have a shape characteristic of Modern Hebrew verbs; LAMROT 'despite' is an archaic form of the infinitive of the verb HIMRA 'rebel', and LIKRAT 'towards' is similarly related to the verb KARA 'meet'. We must determine whether their form is just a mask for an essentially verbal element.

The last four items have the regular form of the gerund of the verbs HODA 'thank', HAYA 'be', HOIL 'consent' and HEXEL 'commence' respectively.⁴⁵ Consider their use in (78-81):

45. The infinitive differs from the gerund in having a prefix LE.

- (78) LO NIRTAVTI, HODOT LEMOŠE
I didn't get wet, thanks to Moshe
- (79) HEYOT VE ATA BA, LO ECTAREX LACET
Since you're coming, I won't have to go out
- (80) HOIL VE ATA BA, LO ECTAREX LACET
Since you're coming, I won't have to go out
- (81) HAXEL MEHARIŠON BENISAN NIXNAS LETOKPO HAMEXIRON HAXADAŠ
Commencing from the first of Nisan, the new price-list
comes into effect

We must determine whether the underlined items, despite a certain difference in meaning from the corresponding verbs, should be regarded as gerunds of the latter.

1.2.1. More on the complement structure of P

The first respect in which the items in (77), and, most strikingly, the four apparent gerunds, differ from V is their inability to take a subject NP. A basic requirement of the Modern Hebrew gerund, as noted by Berman (1973:277), is a subject. Thus (82-3) below would be rendered unacceptable were we to remove the subject pronoun suffix -O 'him' and the noun MOŠE respectively, (both of which are in a construct relation to the gerund):

- (82) HU PARAC BEBEXI BEHODOTO LARABANIT
He burst into tears in thanking (lit.: in the thanking-of-him) the Rabbi's wife
- (83) HI LAMDA LENAGEN BIHYOT MOŠE BAMILUIM
She learned to play (lit.) in the being-of Moshe in the reserves

Now not only does HODOT 'thanks' as it appears in (78) not have such a subject but it cannot, witness (84):

- (84)*LO NIRTAVTI, HODOTI LEMOŠE
I didn't get wet, (lit.) thanking-of-me to Moshe

The case of HEYOT in (79) is slightly different: it might be

held that the clause introduced by the complementiser VE (and its alternative ŠE) does constitute a subject, in the same way as it might in sentences like (85):⁴⁶

(85) YAXOL LIHYOT ŠE ATA CODEK
(lit.) may be that you are right

But it is clear at any rate that no lexical N can function as subject in the context of HEYOT in (79).

As for HAXEL in (81), it is quite incapable of taking the infinitive S characteristic of the verb HEXEL 'commence' and is restricted to the ME 'from' complement.⁴⁷ Finally, it is only natural that the first two items in (77) should not take a subject, for infinitives themselves never do.⁴⁸

This general absence of a subject, far from being an accidental trait of a handful of 'idiomatic expressions', will occupy an important place among the prepositional traits to be enumerated in 1.2.6.

For evidence that the four gerund-like and two infinitive-like items are not V at all, consider the next three arguments concerning their complements.

The verb HODA 'thank' can govern a PP - introduced by a P like AL - which indicates what the thanks are for, e.g.:

(86) ANI ROCE LEHODOT LEMOŠE AL HAMITRIYA
I want to thank Moshe for the umbrella

-
46. While the complement of HEYOT 'since', like that of several other P, can take the complementiser VE, the complement of YAXOL LIHYOT in (85) cannot - a further disparity.
47. As regards HOIL in (80), the verb HOIL 'consent' is not followed by a clausal complement anyway, only by an infinitive.
48. This is no tautology, i.e. the definition of infinitive and gerund is not that the latter is merely an infinitive with a subject; for gerunds are further limited to appearing only after lexical P. And on this basis LAMROT and LIKRAT in (77) might already be taken as for infinitives.

HODOT in (78), however, disallows such a second complement:

(87)*LO NIRTAVTI, HODOT LEMOŠE AL HAMITRIYA

I didn't get wet, thanks to Moshe for the umbrella

As for the other five items in (77), we should not have expected any additional complement even if they were true verbs. But among prepositions in general, such as those akin to N, it is noteworthy that not one takes a complement consisting of more than one constituent. Thus TODOT LE 'thanks to', a P identical in form to the N that means 'thanks', cannot take the PP introduced by AL 'for' characteristic of the noun - compare (88-9):

(88) TODA RABA LEXA AL HAMITRIYA

(lit.) thanks a lot to you for the umbrella

(89)*LO NIRTAVTI, TODOT LEMOŠE AL HAMITRIYA

I didn't get wet, thanks to Moshe for the umbrella

Similarly, KODEM LE 'preceding', a P cognate with the V KADAM 'precede', cannot take a complement PP (introduced by BE 'by') expressing measure in the same way as the verb KADAM can, witness (90-1):

(90) HAMISDAR TAMID KODEM LAARUXAT HABOKER BEXACI ŠAA 49

The parade always precedes breakfast by half an hour

(91)*HAMISDAR TAMID NEERAX KODEM LAARUXAT HABOKER BEXACI ŠAA

The parade is always held preceding breakfast by half an hour

It is particularly P expressing 'measurable' time and space that might have been expected to take more than one complement. Note that although our two examples TODOT 'thanks' and KODEM 'preceding' already incorporate a recognisable preposition LE, it should in principle be possible for a non-composite P too to take two complements, just as verbs like LIMED 'teach' and HEEXIL

49. In this instance, the form of the V and P differs only in stress placement.

'feed' take two direct objects. That this does not in fact happen is a significant trait of Hebrew prepositions, to be presented in a list of such traits in 1.2.6. ⁵⁰

The second unverb-like property of the items in (77) is their inability to induce a derived case marker in front of their complements. Thus whereas the verb HIMRA 'rebel', from which LAMROT 'despite' is descended, is subcategorised for inducing the marker ET before +DEF nouns, as in (92), LAMROT itself is not, witness (93):

(92) HU LO RACA LEHAMROT ET PI HAMELEX

He did not want to (lit.) rebel Object Marker the order of the king

(93)*HU GIDEL SAFAM, LAMROT ET PKUDAT HAMEFAKED

He grew a moustache, despite Obj.M. the order of the commander

Similarly, while the verb KARA 'meet', from which LIKRAT 'towards' is genetically derived, can induce ET in front of its complement, LIKRAT itself cannot. HEYOT and HOIL 'since' as they appear in (79-80) do not govern what might have been taken for an object anyway, so they are immaterial. As for HODOT LE 'thanks to' and HAXEL ME 'commencing from', it can be argued that LE and ME here are part of the preposition, just as in KODEM LE 'preceding' on p.36 ⁵¹; it is certainly a fact that LE and ME, even though they do serve sometimes as case markers, have a relatively broad privilege of occurrence, appearing even

50. HAXEL 'commencing' suffers the noteworthy, if structurally unimportant, constraint of being unable to take the range of complements typical of the verb HEXEL 'commence', e.g. the example HABXINOT HEXELU LEAXAR HAXAG 'the exams commenced after the festival' has no prepositional parallel like *HABXINOT YEARXU HAXEL LEAXAR HAXAG 'the exams will be held commencing after the festival'. Had all such variations of the preposition been possible, we might have argued that HAXEL x, HAXEL y...n were separate P; but at any rate the existence of only HAXEL ME 'commencing from' is sufficient, though not necessary, evidence of its preposition-hood.

51. But note that this LE drops before a complement S.

in the prepositional complements of simple derived nominals, e.g.(94), whereas the case marker ET cannot⁵² - hence the unacceptability of (95):

- (94) HATIKVA LE NICAXON The hope for victory
(95)*HASINA ET HABRIYOT The hatred ET people

It is their non-occurrence with ET, an easily deletable marker typically associated with verbs, that sets prepositions apart from the latter.

1.2.2. The exocentricity of prepositions

The third peculiarity of the six items in (77), and indeed of nearly all the P listed earlier as being akin to N or as being unique, is the exocentricity of the phrase they form part of.⁵³

NP are endocentric; that is, they have a similar distribution to their head N, except for NP headed by nouns like PANIM 'surface', which, as noted on p.9, must always stand in construct relationship to another NP rather than stand alone.

Many VP too may be deemed endocentric; the V in (96) has a similar distribution to the whole VP, and so does the underlined derived nominal in (97) with respect to the overall NP including the item in parentheses:

- (96) HU AXAL (ET HAŠAVLULIM)
 He's eaten (the snails)
(97) AXILATO (ET HAŠAVLULIM) ZIZA OTANU
 His eating (Obj.M. the snails) shocked us⁵⁴

52. Unless the derived nominal is in 'full array', accompanied by an explicit 'subject' too. Note that LAMROT 'despite' suffers yet another restriction: it cannot suffix a pronoun complement (see fn.40), an option always open to verbs, e.g. LEHAMROTO '(lit.) to rebel-it'.

53. For the term 'exocentric', see Bloomfield (1934:194f).

54. Despite our translation, this is a derived nominal.

Admittedly, the VP and NP in (96-7) are not endocentric to the same extent as NP that take stacked complements, but the relationship of complement to head in (96-7) is at least comparable to that of determiners or quantifiers to nouns they modify.

. Such endocentricity might best be captured by subcategorising certain items for a 'dummy element' as in Chomsky (1964) rather than providing for the deletion of a 'designated' object as in Chomsky (1965:64)⁵⁵. Be that as it may, it is clear that the PP in Hebrew is exocentric; as will now be illustrated, there is little evidence that P can be weakly transitive, and none that they can be intransitive.

To elaborate the first of these claims, we begin by contrasting the behaviour of those P most akin formally to V with that of their verbal counterparts. HIMRA 'rebel' and HODA 'thank' readily occur intransitively, witness (98-9), but LAMROT 'despite' and HODOT LE 'thanks to' are strongly transitive, hence the unacceptability of (100-1):

(98) HAAM HAZE ATID LEHAMROT

This people will eventually rebel

(99) EN COREX LEHODOT

There's no need to (lit.) thank

(100)*ASU ET ZE LAMROT They did it despite

(101)*GAM ANI HISAGTI DIRA TOVA, HODOT

I also got a nice flat, (lit.) thanking

Two illustrations of the way other P too are incapable of

55. For a discussion of the various kinds of intransitivity in Modern Hebrew, see Rubinstein (1971:3.5.). Note that the existence in Hebrew of a rule deleting an unspecified plural human subject, as in MATXILIM LAZUZ '(lit.) are (=people are) beginning to push off', may lend support to an Object Deletion rule, lexically conditioned though the latter would have to be.

appearing intransitively are (102-3):

(102)*ASITI ET ZE AL MENAT

I did it in order

(103)*ŠIBARTI ET HAKOS MIPNEI

I smashed the glass because.

(102-3) cannot express the notions LEMATARA MESUYEMET 'for a certain purpose' and MISIBA MESUYEMET 'for a reason' respectively.

So as to emphasise the contrast between P and the verb and derived nominal in (96-7), we have given two instances where an unspecific object would have been intended rather than one recoverable from the discourse or the extra-linguistic context. Cases of the latter will in fact be examined in 1.4.3., where we discuss Equi-Complement Deletion as one of the external influences on adverbials.⁵⁶

Three examples that might indeed have been thought to involve the intransitive use of P feature MEAL 'above', MITAXAT 'below' and KENEGED 'against':

(104) HAMASOKIM XAGU MEAL

The helicopters circled above

(105) RAITI ALFEI AYAROT KTANOT AL HAAREC MITAXAT

I saw thousands of tiny towns on the ground below

(106) CIVU ŠELO LEHITYADED IM HACAD ŠE KENEGED

They gave orders not to make friends with the (lit.) side against

Now we have noted in 1.1.5. that MEAL and MITAXAT can function as P + \bar{N} structures, AL and TAXAT acting as nouns; and this

56. 1.4.3. includes instances of this rule as it deletes the complements of P like LIFNEI 'before' that are formally akin to construct state nouns. So, in stating above the inability of a 'construct-like' P like MIPNEI 'because' to drop its complement, we were not stating the obvious.

can be the case in (104-5). KENEGED 'against' too can be analysed as the preposition KE⁵⁷ plus the N NEGED, the latter not commonly found as an N but functioning unmistakably as such in construct NP like HATKAFAT NEGED 'counter-attack (lit.: attack-of against)', where the very presence of a construct state N governing NEGED indicates that the latter is not, at this particular moment, functioning as a P but as an N.⁵⁸

But three cases that cannot reasonably be regarded as featuring a noun are exemplified in (107-9):

- (107) HITYAŠAVTI MIMUL I sat down opposite
(108) HAKOCHANIM AMDU SAVIV The priests stood about
(109) MA AMARTA KODEM What did you say before ?

None of the underlined items, identified as P on p.13 and p.25, fn.39⁵⁹, acts as an independent N; and, as noted in fn.39, MIMUL and (MI)SAVIV do not tolerate the creation of postposed pronouns, a sign that they cannot even be regarded as relatively bound N like MEAL 'above'. (KODEM 'before' never takes a pronoun suffix in any case, so the possibility of a postposed pronoun does not arise for it.) So we must choose, in analysing the underlined items in (107-9), between positing intransitive P and adverbs.

Now intransitive P have been proposed for English by Jespersen (1924:88), Klima (1965) and Emonds (1969). Klima goes so far as to regard items that never take a complement NP - such as 'downstairs' and 'afterwards' - as absolutely intransitive P. We too shall have cause to regard P like

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57. KE means 'like, as' before N, 'when' before S and presumably something semantically akin to this before NEGED.
58. For N complemented by PP are never in construct state, witness HATKAFAT MISMOL 'an attack from the left' but *HATKAFAT MISMOL 'an attack-of from the left'.
59. MISAVIV and MIMUL are in fact probably P + P.

LIFNEI 'before' and BLI 'without' as dropping their complements, in 1.4.3. ; but these will be cases of Equi-Complement Deletion, not of the unspecified complement ellipsis associated with weakly transitive verbs. In fact the kind of prepositional intransitivity proposed for English as a counterpart of the verbal intransitivity arising from unspecified item ellipsis does not seem to occur in Hebrew: (107-9) do not permit the recovery of an item like MAŠEHU 'something', but rather some specific linguistic or extralinguistic complement. Note the contextual strangeness of the question MUL MA HIT-YAŠAVTA 'opposite what did you sit down ?' in response to (107) and so forth; it can only suggest that the questioner had not been listening to the first speaker. The question MA HU AXAL 'what did he eat ?', by contrast, would be a natural response to the use of the intransitive AXAL 'eat' in (96).⁶⁰

Any possible intransitive P in Hebrew would not only differ from intransitive V of the AXAL 'eat' type but would even be unconvincing as a P whose complement had dropped under loose linguistic or extralinguistic identity, for two reasons: (a) in 1.4.3. we shall show that there are items, such as LIFNEI 'before' and BLI 'without', that are allowed to drop their complement NP only under tight syntactic parallel, and not under

60. The same specific deletion would have to underlie some of Klima's 'intransitive' P, such as 'before'. Observe moreover that this kind of deletion is far less widespread among English verbs (examples might be 'Have you taken ?' 'Are you sending ?') and thus less motivated perhaps for P. See Jackendoff (1972:63) and (1973:346f) for remarks on this - ignoring the different nature of the ellipsis, he takes the similar behaviour of PP and adverbs in verb-complementation and various T rules as reason enough for regarding adverbs as P, though he might just as easily have expressed this generalisation in terms of a higher adverbial node, as we shall do in this chapter.

the loose conditions apparently prevailing in (107-9). It would be surprising if MIMUL, SAVIV and KODEM in (107-9) were really functioning as P and being given these extra opportunities to drop their complement. (b) We already need to expand the adverbial node in the PS rules to a singular, as well as a binary, node, viz. Adjective ; this will be substantiated in 1.3.2. So it will not offend the general form of the PS rules if we also expand the adverbial node into the singular ADV, which would have lexical realisations such as AXŠAV 'now', ŠAM 'there' and TAMID 'always'. Such items never take a complement. Now Klima, as noted above, would regard their English counterparts as absolutely intransitive P, because, to quote Jackendoff (1972:63), "they often substitute semantically for prepositional phrases and...many of them are morphologically related to prepositions." But our proposal for such items in Hebrew - one essentially applicable to English - is that, in the absence of any morphological mark of 'preposition-hood', they should be generated under the lexical node ADV; all semantic parallels between them and explicit prepositional phrases can easily be deduced, in view of the equally noteworthy semantic parallel with adjectives derived from these adverbs: AXŠAVI 'present', TMIDI 'continual' and so on.⁶¹

So we shall enter MIMUL 'opposite', SAVIV 'about' and KODEM 'before' of (107-9) as lexical adverbs and as P. The outcome for the PS rules is that no Hebrew P drops its complement in such a way as to tempt us to expand the adverbial node into P (\bar{N}) rather than P \bar{N} .

61. The notion of an intransitive P in English may have derived support from the aversion to a lexical adverb node inherent in the 'Adverbial=PP' hypothesis of Katz and Postal (1964: 132-5). Their view has been criticised by Knowles (1970).

Thus the structure of the adverbial node, be it phrasal or derived, differs yet again from that of \bar{V} . In view of the limitation noted earlier on the number of complements of P and on the presence of case markers within \bar{P} , the picture is emerging of a relatively simple \bar{P} structure. The same impression will be had in 1.2.2., when we illustrate the restrictions on the external transformational influences on \bar{P} .

1.2.3. Modifiers of the preposition

Having considered the complements of P, we now suggest that yet other traits of verbal structure are not shared by prepositional structure; then in 1.2.4. we add a final word on something that V and P do have in common - the ability to govern both NP and S.

The Hebrew verb can be modified by a degree adverbial, which, with certain limitations, can precede and follow its V and even migrate rightwards over a variable⁶², witness (110-112):

- (110) HU KCAT DOME LESABO He (lit.) a bit resembles his grandfather
- (111) HU DOME KCAT LESABO He resembles a bit his grandfather
- (112) HU DOME LEXA KCAT He resembles you a bit

Now though it is unclear whether the preposition too, or just the whole PP, can be modified by a degree adverbial, it is evident that the latter cannot follow a P, let alone migrate rightwards, as shown by (113-5):

- (113) ZE KCAT KMO HAMIKRE HAKODEM
It's a bit like the preceding case

62. This claim that the degree adverbial modifies V rather than \bar{V} or \bar{V} will be substantiated in 1.2.5.

(114)*ZE KMO KCAT HAMIKRE HAKODEM

It's like a bit the preceding case

(115)*ZE KMO ĞAZ KCAT

It's like jazz a bit

Thus, assuming that the internal structure of PP can be as in fig.1, where, following Chomsky (1970a) and Bowers (1969a), we call the degree adverbial a 'specifier' of its sister node, we are saying that the specifier can be neither permuted beneath the \bar{P} node nor adjoined as a daughter of the \bar{P} node, whereas degree adverbials specifying V can, *mutatis mutandis*.

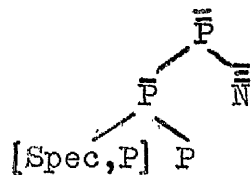


Fig.1

The very existence of specifiers of \bar{P} or \bar{P} does, to be sure, speak for a notable correspondence between P and V structure; and we shall probe the extent of this parallel in 1.4. But let us for the moment continue to note the dissimilarities.

In view of the inability of degree adverbials to come between P and its complement, it is not surprising that two less integral components of verbal and nominal structure - focusing adjuncts⁶³ and non-degree adverbials - do not occur within \bar{P} . Consider (116-7) with interposed occurrences of these two sorts of item respectively:

(116)*HIMCIU ET HAALEFBET LIFNEI GAM HAYERIDA LEMICRAYIM

They invented the alphabet before even the descent to Egypt

(117)*EŠLAX LAX TOXNIT, HEYOT AXŠAV VEAT ROCA LALEXET

I'll send you a programme, since now (lit.) that you want to go

63. For this term, see Quirk et al.(1972:431).

We might have expected (116) to be well-formed, considering the existence of paraphrases like (118):

(118) HAUVDA ŠE HAMCAAT HAALEFBET KADMA GAM LAYERIDA LEMIC-RAYIM...

The fact that the invention of the alphabet preceded even the descent to Egypt...

A similar paraphrase of (117) is feasible, using a finite form of the verb HAYA 'be', akin to the P HEYOT 'since'.

Now while it is easy to show that focusing adjuncts and non-degree adverbials cannot come between P and its complement, it is more difficult to show that they cannot modify P from a position preceding it as in (119):

(119) HIMCIU ET HAALEFBET GAM LIFNEI YECIAT MICRAYIM

They invented the alphabet even before the Exodus

In 1.4. we shall claim that the items concerned are unable not only to modify the lexical node P but even to modify the higher adverbial nodes, and that (119) and suchlike are the result of something like a focusing adjunct movement from outside adverbial structure⁶⁴.

For the moment, let us just anticipate our arguments in the coming sections by proposing that the P node take specifying degree adverbials but not focusing adjuncts or other types of adverbial.

1.2.4. The base structure of sentential complements of the preposition

Having dwelt on the dissimilarities of prepositional, verbal and nominal structure in a bid to establish the very

64. Jackendoff (1972) questions such a movement T rule, but even from his standpoint the generation of focusing adjuncts in P structure must be subject to severe limitation.

existence of the former, we move on to an area in which they coincide. Many P have been mentioned as governing, optionally or exclusively, a finite or infinitival S; let us now consider whether the node \bar{P} is to be expanded into $\bar{P} \bar{N}$ or $P \{ \bar{N}, S \}$, that is, whether complement S should be deemed an expansion of \bar{N} itself or an equal-ranking node. We conclude this subsection with some remarks on the internal structure in the base of the finite S that complement prepositions. (In later chapters we shall deal with some of the transformational incarnations of these S.)

The most immediate problem to arise if we generate S as an expansion of \bar{N} is how to manage the many P that take only lexical N-complements and the few that govern only S. Among the former are KENEGED 'against', LECOREX 'for', ODOT 'concerning', LE 'to', BE 'in'; among the latter, BIMYUXAD 'especially as', KDEI 'in order', AF AL PI 'although'.

To subcategorise these P for a node they do not immediately dominate, i.e. to enter in the lexicon $[\pm S, \bar{N}]$, might not perhaps be to weaken the theory significantly - Bresnan (1970) has proposed just such a kind of subcategorisation to cope with base complementiser selection. But Emonds (1969:31) condemns such a treatment of complement S for English: "A clear-cut indication that infinitives and sentences are not noun phrases is that they never appear in surface structures after those prepositions which ordinarily only take regular noun phrases or gerunds as objects."

The $\{ N, S \}$ analysis is supported by a comparison with the distribution of Hebrew gerunds. These are indeed worth generating from S that are expansions of \bar{N} , for any P that governs

a lexical N may also govern a gerund while those P not governing lexical N may not, witness (120-1):

(120) HIKARTI OTO BIHYOTO BEOKSFORD

I got to know him (lit.) in his being at Oxford

(121)*KIDMU OTØ AF AL PI HEYOTO FILOLOG

They promoted him although his being a philologist

Taking this last case, it would be bizarre if we not only sub-categorised AF AL PI 'although' as taking just \bar{N} that expanded into S but also blocked a Gerund Formation T rule subsequently changing such S into \bar{N} . It is far better to list AF AL PI as taking just S.

Now one argument for the $\{\bar{N}, S\}$ hypothesis that applies to English but not to Hebrew concerns the strange behaviour of sentential complements under passivisation, clefting, question-answer pairing and so on: Emonds (1969:31) claims that they "never occur in object position." Now Hebrew does not turn S into derived subjects (for it is averse to sentential subjects in general); cleft sentences too are unnatural; but from examples of question-answer pairing like (122-3) it appears that S do act like ordinary lexical objects:

(122) MA ATA ROCE - LAVO ITI O LALEXET ITA

What do you want ? - to come with me or to go with her ?

(123) MA ATA ROCE - ŠE AVO ITXA O ŠE ELEX ITA

What do you want ? - that I come with you or that I go with her ?

Nevertheless, we wish to capture the 'object-hood' of S not by expanding \bar{V} into \bar{N} and the latter into S but by rewriting \bar{V} as $\{\bar{N}, S\}$, because of the nature of pied piping and leftward variable movement in Hebrew.

Pied piping was defined by Ross (1967a:4.3.): "Any transformation which is stated in such a way as to effect the

reordering of some specified node NP, where this node is preceded and followed by variables in the structural index of this rule, may apply to this NP or to any non-coordinate NP which dominates it, as long as there are no occurrences of any coordinate node, nor of the node S, on the branch connecting the higher node and the specified node."

We propose formulating the pied piping convention differently for Hebrew. It will be obligatory, and will apply to the highest NP or PP dominating the 'mentioned' NP.⁶⁵ But most important is the need for an added rider blocking the occurrence of the node \bar{V} on the branch connecting the higher node and the specified node - unless we opt to generate infinitives as non-NP altogether. Consider (124-7):

(124) ET HAŠIKUFİYOT ŠEL MI HI ROCA LIROT AXŠAV

(lit.) the slides of whom does she want to see now ?

(125)*LIROT ET HAŠIKUFİYOT ŠEL MI HI ROCA AXŠAV

To see the slides of whom does she want now ?

(126) BASIS ŠENI ŠE AL BNIYATO HUXLAT MILEXATXILA LO YIBANE KAREGA

A second base (lit.) that on the building-of-which was decided from the start will not be built for the moment

(127)*BASIS ŠENI ŠE LIVNOTO HUXLAT MILEXATXILA LO YIBANE KAREGA

A second base that to build-which was decided from the start will not be built for the moment

In (124) the whole dominating NP pied pipes along with the interrogative pronoun, as it must; in (126) it pied pipes with the relativised possessive pronoun. In the two ill-formed examples, however, it is the whole infinitival structure that is being fronted, at a stage in the derivation when any S node

65. This is elaborated in 1.4.3.

that might have dominated the infinitival \bar{V} will possibly have been pruned⁶⁶, if it ever existed at all.⁶⁷ Hence the choice between adding a rider to the Hebrew pied piping convention and resorting to the already well-motivated non-NP analysis of finite and infinitival S deserves to be made. And we shall opt for the second alternative.

The same conclusion can be drawn from the behaviour of leftward variable reordering rules⁶⁸ such as Relative Item and Question Movement. While precluded from operating across lexically-headed NP or across PP, they do operate over sentential objects, witness (128-130):

(128)* \check{S} EL MI ATA LOVE \check{S} ET HATALIT

(lit.) of whom are you wearing the prayer-shawl ?

(129)*MI ATA MEDABER AL

Who are you speaking about ?

(130) MA HICIU LEXA \check{S} E TAASE

What did they suggest that you do ?

If we regard sentential objects as non- \bar{N} , we can limit the reordering constraint to NP and PP. The facts of English have, it is true, been captured in Ross (1967a:4.1.) by a Complex NP Constraint, sentential objects being regarded as NP; but this reflects a language where reordering rules operate even across PP (which Ross regards as non-complex NP) and where sentential objects can be derived from it + S nominal structures, a derivation unsuited to Hebrew.⁶⁹

This, added to the fact that not all P and V that take lexical complements take sentential ones (and vice versa) and

66. For this term, see Ross (1967a:3.1.).

67. Emonds (1970: II, 2) proposes a VP \rightarrow V VP rule.

68. See Ross (1967a).

69. The item ZE 'it' in Hebrew ZE + VP + S structures is best regarded as a pronominalisation of the underlying S.

that infinitival complements of V do not pied pipe, prompts us to assign to both V and P the complement structure { \bar{N} , S}; though, as mentioned, verbal complements permit extra variations such as optionality of the complement and double constituent status.

The internal structure of finite complements of P, especially in derived structure, will be elaborated in chapter 2. Here we shall just make brief mention of one respect in which the base complement S of certain P differs from that of V in general.

Consider (131-3):

- (131) HI AMRA ŠE HI OHEVET BALSANUT VE ŠE HI ROCA LAAVOR
KURSIM BAÑOSE
She said that she likes linguistics and that she wants
to take courses in the subject
- (132) HAYINU CRIXIM LAXAKOT AD ŠE HAREXEVE HAYA MUXAN VE ŠE
HITBARER KAMA XEVRE NOSIM
We had to wait (lit.) until that the vehicle was ready
and that it was clear how many people were going
- (133)*GORMIM ELE XAYAVIM LEHEACER, MIŠUM ŠE HEM OSKIM BE-
XATRANUT VE ŠE HEM MESAKNIM ET HADEMOKRACYA
These elements must be apprehended, because that they're
engaged in subversion and that they're a danger to
democracy

Coordinated finite S complementing V are able to retain their complementiser ŠE rather than let it fall victim to Conjunction Reduction, witness (131); so too for the complements of the preposition AD 'until', as in (132), and most other P. But complements of MIŠUM 'because' and indeed of other P having this sense cannot retain their complementiser, hence (133). There may be some semantic disparity underlying this syntactic one, though one can scarcely tie it in with the non-coordinatability of KI 'for' clauses (and their English counterparts - see Greenbaum(1969:28)) since it is quite acceptable

to coordinate two causal clauses governed by repeated MIŠUM SE 'because that' in (133).

Even more puzzling is the failure of concessive S introduced by the preposition AF 'although' to retain their complementiser - witness (134-5), where the complementisers are ŠE and KI respectively - whereas those introduced by AF AL PI and LAMROT retain it. (AF AL PI, like AF, governs S but not lexical N.)

(134)*GORMIM ELE NEHENIM MEXOFEŠ ŠALEM, AF ŠE HEM OSKIM BEXATRANUT VE SE HEM MESAKNIM ET HADEMOKRACYA
These elements enjoy perfect freedom, although that they're engaged in subversion and that they're a danger to democracy

(135)*HEM NEHENIM MEXOFEŠ ŠALEM, AF KI HEM OSKIM BEXATRANUT VE KI HEM MESAKNIM ET HADEMOKRACYA
They enjoy...(same meaning as in (134))

Not only ŠE but also KI can occur in coordinated V-complements of the type illustrated in (131).

Thus there is a strong possibility that the unacceptability of (133-5) is due to some peculiarity in P-complement structure, different to that of V-complements and as yet unexplained.

1.2.5. Some lexicalist proposals for specifiers and complements

Before summarising our description of the preposition and its complement, in terms of a comparison of P, V and N structure, we offer some proposals for the structure of the higher nodes.⁷⁰

Using \bar{X} to symbolise the set of syntactic features common

70. Lyons (1968:7.6.) outlines the principles of such an approach, tracing them back to Jespersen, Hjelmslev and traditional grammar.

to NP and VP, Chomsky (1970a) offers the following schema as an abbreviation of some base rules:

$$(136) \quad \bar{X} \rightarrow [\text{Spec}, \bar{X}] \bar{X}$$

The specifier of \bar{N} consists of pre-determiners, determiners and post-determiners; that of \bar{V} comprises the auxiliary.

Bowers (1969a) expands the determiner in the specifier of \bar{N} into, e.g., Art + S + \bar{A} ; the specifier of \bar{A} into \bar{Adv} (representing degree adverbials) which dominates Adv + S; and the specifier of \bar{V} into Aux + Manner, the latter in turn dominating \bar{Adv} , which is expanded into [Spec, \bar{Adv}] + Adv.

Jackendoff (1973), identifying \bar{V} with the traditional S, rewrites the specifier of \bar{V} as the subject \bar{N} and Aux. As for the complements of nouns and verbs, Jackendoff (1972:60) expands \bar{X} by the schema:

$$(137) \quad \left[\begin{array}{c} \bar{X} \\ \text{or Verb} \end{array} \right] \rightarrow \left(\left[\begin{array}{c} Y \\ \text{or Adverb} \end{array} \right] \right) \quad - X - \text{Complement}$$

where Y is eventually rewritten as adverb (of manner etc.) or adjective. Prepositional structure too is incorporated into the schema by Jackendoff (1973), who expands \bar{P} into [Spec, \bar{P}] \bar{P} and \bar{P} into P + Complement.

We cannot make a general statement for Hebrew without substantially altering these schemata, in a way that might be apt for English too. We propose changing the position and expansion of both specifier and complement.

Observe first that V, A, N and P in Hebrew take complements:

(138) ANI MABSUT MEHAŠAVLULIM I'm pleased with the snails

(139) HU AXAL ET HAŠAVLULIM He ate (Obj.M.) the snails

(140) AXILATO ET HAŠAVLULIM ZIZA OTANU

His consumption of the snails (lit.: consumption Obj.M. the snails) shocked us

(141) BAU LAMROT HAŠELEG They came despite the snow

Note that the noun in (140) is a 'derived nominal' subject to much the same syntactic, morphological and semantic conditions that led Chomsky (1970a) to generate English derived nominals lexically; and that the nominal structure we are taking as parallel to VP is not the type we have referred to as the construct phrase (N + \bar{N})⁷¹ but rather the derived nominal, which consists of a full NP that can embrace a 'subject-oriented' pronoun or noun (AXILATO '(lit.) the consumption-of-him' in (140)) plus the appropriate case marker and complement.

Consider now the degree adverbials specifying both V and A (of certain semantic types):

(142) ZE MEOD ŠONE It's very different

(143) ZE MEOD HIŠTANA It's (lit.) has very changed

We propose that such specifiers be generated not as sisters of the \bar{X} node that dominates both X and its complement but rather as sisters of the lexical X node; and that complements, conversely, be generated not as sisters of X but as sisters of the \bar{X} that will now dominate [Spec, X] and X:

(144) \bar{X} ---> \bar{X} - [Comp, \bar{X}]
 \bar{X} ---> [Spec, X] - X

That this specifier is more integral than the complement is not apparent from examples like (110-2) on p.44, which show specifiers not only immediately preceding and following the head but also migrating rightwards across the complement. We deduce it instead from two other aspects of specifier placement

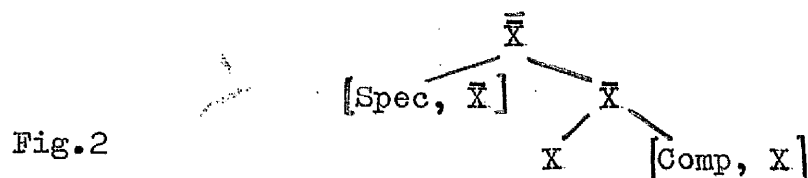
71. It was suggested on p.21 that N + \bar{N} may be a derived phenomenon only.

and thereby motivate ~~an~~ further two aspects of the transformational and lexicalist behaviour of specifiers.

The first clue resides in the fact that verbal and adjectival complements can, for emphasis, be shifted to, e.g., pre-subject and pre-verb position. (145) shows one interposed between adverb and verb:

(145) HI AXŠAV BEXA MEOHEVET She's now (lit.) with you in love

Now were specifiers less integral than complements - a situation represented by fig.2 - we should expect a complement permutation like that in (145) to give rise to sentences like (146). But this is not what happens:



(146)*ADAYIN LO HIZKARTA ET SARA - ATA DAI ITA MEYUDAD, NAXON
 You've still not mentioned Sara - you're (lit.) quite with her friendly, aren't you ?

Rather, it is the complement that stands ahead of the specifier, as in (147):

(147) ATA ITA DAI MEYUDAD, NAXON You're with her quite friendly, aren't you ?

Indeed, nothing can come between degree adverbials on the left of their head and the head itself. (The fact that they can migrate rightwards across a complement is immaterial, for they can even, for that matter, migrate rightwards over peripheral adverbials, which must by any analysis be 'higher' than degree specifiers.)

The second indication that specifiers are more integral than complements comes from degree adverbials specifying NP -

not as part of the nominal structure itself, as we shall see in 1.4.2., but apparently as specifiers of the underlying copula introducing predicative NP, as in (148):

- (148) ZE HAYA MEOD INYAN ŠEL MAZAL
 It (lit.) was very a matter of luck

Now such specifiers are incapable of following the NP:

- (149)*ZE HAYA INYAN ŠEL MAZAL MEOD
 It was a matter of luck very
 (150)*ZE HAYA INYAN ŠEL MAZAL KOL KAX
 It was a matter of luck so

This in spite of their readiness to follow the complements of verbs and adjectives, as in (111-2).

Now if, in accordance with the common view that specifiers are a 'higher' node than complements, we regard the specifier in this particular case as sistering the node dominating Copula + Complement - as in fig.3 - we shall have to explain why the permutation beneath the node (a phenomenon captured by Keyser (1968) in his 'transportability convention') is being blocked in (149-50), i.e. why the specifier is being prevented from following the complement of the copula. We are reluctant to impose limitations on transportability - a process that is probably of importance in Hebrew, a language with relatively free word order - especially as the nodes dominating and sistering the specifier under such an analysis are likely to be barred V nodes of the type positively amenable to permutation in examples like (111-2).

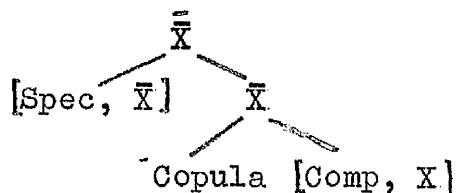
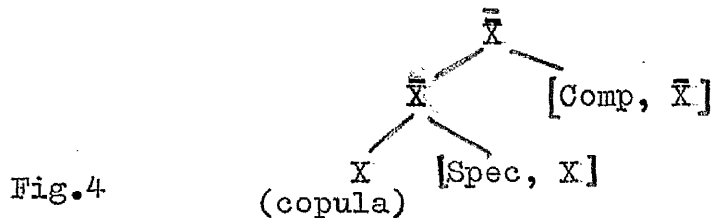


Fig.3

If, instead, we regard the specifier as sistering the copula, as in fig.4, we need merely assume the inhibition of a more restricted phenomenon, rightward migration beyond a dominant node.



The application of fig.4 to verbal and adjectival structure might also explain why degree adverbials, unlike measure adverbials (an open set including, e.g., BEMIDA RABA 'to a large extent'), adverbials in general and complements, are incapable of leftward migration. Compare (151-2), where a complement is moved leftwards, with the ill-formed (153-4), where an adverbial of degree is involved:

- (151) BASOF HEXLATETI ET MOŠE LEMANOT
 In the end (lit.) I've decided Moshe to appoint
- (152) ET MOŠE HEXLATETI LEMANOT
 Moshe I've decided to appoint.
- (153)*HEM MATXILIM MEOD LEHAFRIA LI
 They're (lit.) beginning very to annoy me
- (154)*MEOD ZE ALUL LEHAVIX OTAM
 (lit.) very it's liable to embarrass them

Since the head of verbal structure, V, is itself incapable of leftward movement, witness (155), it is reasonable to claim that the resistance of degree adverbials to such movement is due to their structural cohesion to the head:

- (155)*LEHAVRIK ATA CARIK LEAKIVA
To cable you ought to Akiva

Fig.4 may even explain why degree adverbials are impossible in nominal structure. Consider (156-7), by contrast with

(158) and its more peripheral (manner) adverbial and (159) with its (manner) adverb that, if somewhat forced, is certainly superior to (156-7):

(156)*HITALMUTØ LAXALUTIN MEHAUMDOT HAELE HI ŠE ODEDA OTAM
His disregard completely for these facts is what encouraged them

(157)*GMIŠUTAM MEOD ENA MOXIXA ŠE HEM XAZAKIM
Their (lit.) flexibility very does not prove that they are strong

(158) KTIVATXA ET HAOTIYOT BEOFEN MEDUYAK ASUYA LAASOT ROŠEM
Your writing the letters in a precise manner is likely⁷² to make a good impression

(159)?KTIVATXA YAFE ASUYA LEŠAPER ET SIKUYEKA
Your writing nice is likely to improve your chances

We suggest that it is the cohesion of the degree adverbial and the head of the phrase that prevents the appearance of the former in nominal structure.

That brings us to the second point on which we would differ from the lexicalist schemata for English cited above. Bowers (1969a:5), talking of degree adverbials, claims that "these adverbs with their associated sentences are roughly parallel to the internal structure of the Determiner in Noun Phrases, which likewise consists of a small number of elements (traditionally called Articles) which can optionally have sentences associated with them."

This, to be sure, holds for Hebrew too, for determiners such as OTO 'that' and KAZE 'such' are associated with S (introduced by KMO 'as' and ŠE 'that' respectively) in the same way as degree adverbials like PAXOT 'less' and KOL KAX 'so'

72. 'Your writing' in (158-9) signifies the Hebrew derived nominal.

are associated with S (introduced by ME(AŠER) 'than' and ŠE 'that'.) But this, to our mind, is not enough to justify generating determiners or quantifiers from the Hebrew [Spec, N]. It is true that certain items function as both degree adverbial and quantifier, among them YOTER 'more', PAXOT 'less', MASPIK 'enough' and KCAT 'a bit'; but it is also a fact that certain degree adverbials have morphologically akin adjectival counterparts. For instance, (156) is rendered acceptable once we replace the degree adverb LAXALUTIN 'completely' by the adjective of the same root MUXLAT 'complete':

(160) HITALMUTO HAMUXLETET MEHAUVDOT HAELE HI ŠE ODEDA OTAM
His complete disregard for these facts is what encouraged them

Similarly, the degree adverb YOTER 'more' is matched by the adjective YATER and LEGAMREI 'totally' by GAMUR 'total'; MASPIK 'enough' serves not only as a quantifier but also as an adjective (differing from the former by its concord and its being post-nominal), and the same is true of MEAT 'a little'. Of these adjectives, moreover, YATER 'more' and MASPIK 'enough' are in turn associated with an S, just like degree adverbials and determiners or quantifiers.

Rejecting the 'Degree adverb = Determiner/Quantifier' equation has the syntactic advantage of providing degree adverbials with a counterpart even in 'full array' nominal structures like those in (156-7), viz. a 'degree adjective'; and the semantic advantage of not postulating a parallel that, especially for the determiners, is rather loose. Note especially that quantifiers of concrete nouns, as in EGOZ KAŠE EXAD 'one hard nut', must be generated by the base rules in a more peripheral position in nominal structure than adjectives, which in turn are clearly more peripheral in verbal structure than degree

adverbials (witness their ability to move leftwards). And semantically noteworthy is the fact that, when we take a countable derived nominal, such as GEULA 'redemption', and quantify it - MASPIK GEULOT 'enough redemptions', YOTER GEULOT 'more redemptions' - the function of quantifiers is seen to be quite separate from, rather than complementary to, that of the degree adverbial (of adjectival form) in the derived nominal structures GEULA MASPEKET 'sufficient redemption', GEULA YETERA 'more redemption'. Perhaps quantifiers and determiners do indeed have some counterpart in verbal and adjectival contexts, but it seems that any parallel between nouns on the one hand and V and A on the other will have to involve abstract nouns such as derived nominals capable of being assessed for degree.

This discussion on the placement and content of specifiers was undertaken for its bearing on the impending comparison between prepositional and other structures. We shall also have cause to question the inclusion of English manner adverbs - and their Hebrew equivalents - within the specifier of V; but this must await the discussion on non-prepositional adverbials in 1.3.2.

1.2.6. A summary: \bar{P} , \bar{V} , \bar{A} and \bar{N} structure compared

We now enumerate ten properties of Hebrew prepositional complements mentioned so far, and their counterparts in other major nodes. [Comp, \bar{P}]

- (a) may be \bar{N} or S. The same holds for V, A and N complements.
- (b) must constitute a single constituent. This is not true of V, A and N complements.
- (c) must be filled in every derivation, which entails that individual P cannot be strongly intransitive. Neither of

these is true for V, A and N.

- (d) may have the form KEN or KAX, which is a pro-form. This is true of the complements of V and A but not those of N.
- (e) can, if an S, be reduced to ŠE KEN. This holds for V and A but not for N.
- (f) undergo reflexivisation. This holds for V, A and N.
- (g) permit the apposition of the pronoun ACM- '-self' and certain other items. This holds for V, A and N.
- (h) do not allow postposition of a copy of themselves when a pronoun. Nor do V, A and N complements.
- (i) do not undergo rightward dislocation within their phrase with an induced P ŠE 'of'. Nor do V, A and N complements.
- (j) are not introduced by induced case markers. V, A and N complements are.⁷³

The above are possible, as well as obligatory, properties, several of which were noted for the sake of a contrast with the (probably derived) construct construction rather than with derived-nominal structure. Insofar as they do discriminate between the major nodes, they will probably be expressed by a square-bracketed rule-schema in the base, plus the appropriate specifications in the T rules. If we wish to employ

73. This last property does not entail that what is true for complements of P will automatically be true for complements of the other categories with the inducement of case marker prepositions before the latter. This may well be entailed for A, as all [Comp, A] do seem to require case markers; but as regards N, those taking the marker ET will take it optionally at the very most, and not at all in the context of a -DEF complement. As for V, even those that would normally induce ET - by virtue of a +DEF complement - have the option of suffixing this complement without the mediation of a case preposition at all, e.g. HARAGTIHU 'I killed-him' alongside HARAGTI OTO 'I killed Object Marker him'. (Only pronouns can be suffixed.)

* feature notation for the former, as in Jackendoff (1972:60), we shall have to find some obvious way of assigning values in two systems (say [VERB] and [NOUN]) to the four major categories.

We now enumerate six properties of Hebrew prepositional structure that do not concern the complement (some of which have not been elaborated so far). Prepositions

- (a) do not bear tense. Nor do infinitives, gerunds and perhaps adjectives (unless we take the copula + tense introducing non-present tense A as part of \bar{A} .)
- (b) do not agree for number or gender. Nor do infinitives and gerunds.
- (c) do not have a subject. Nor do infinitives.
- (d) have no morphological identity. Nor do N and A except when they happen to bear inflectional or derivational affixes.
- (e) are not productive by way of derivation from other categories.
- (f) may possibly be sistered by a specifier, like V, A and (with limitations) N.

There may well be a hierarchy in many languages involving some of the above properties - say, a redundancy rule in the grammar precluding a category that can only take single-constituent complements from being associated with a 'subject'. Such a hierarchy might provide for a decision in matters like the possible intransitivity of P in English: were it clear that many languages with a lexical node taking just single-constituent complements also prevented this node from occurring intransitively, one might wish to regard 'in, down' etc. as adverbs rather than intransitive P. We shall expand on the properties of P structure in the coming sections, but without

attempting a hierarchy.

We summarise these two sections with a rule schema:

- (161) $\bar{\bar{X}}$ ----> $\bar{X} - [\text{Comp}, \bar{X}]$
 \bar{X} ----> $[\text{Spec}, X] - X$

where $\bar{\bar{X}}$ will be expanded into \bar{V} , \bar{A} , \bar{N} and \bar{P} ; $[\text{Comp}, \bar{X}]$ into $\{\bar{N}, S\}$ or into a double constituent, except in the context of \bar{P} ; $[\text{Spec}, X]$ into $\overline{\text{Adv}}$ ⁷⁴ or, in the context of N, into A.

1.3. OTHER EXPANSIONS OF THE ADVERBIAL

We now describe adverbial structures other than P + NP, first discussing, in 1.3.1., the category Adv, then in 1.3.2. the relationship between adjective-like adverbials and attributive adjectives, and in 1.3.3. the occurrence of S as adverbials.

1.3.1. The category Adv

Consider (162-4):

(162) ANI AVO TEXEF I'll be along right away

(163) ATA YORDOT HAYETAROT Now the reserves are dropping

(164) HU HAYA ŠAM He was there

The underlined items will be listed as adverbs, for three respective reasons.

TEXEF 'right away' never occurs as subject, object or predicate, and thus there is no reason to regard it as, e.g., a

74. Few of the degree adverbs occurring in degree adverbial structure (i.e. as specifiers) appear in other adverbial positions, so it may be worth positing a special category called, say, Intensifier.

noun functioning as an adverbial; nor is it related by some regular derivational process to any other category, unlike an item like SOFIT 'finally', which we shall identify in 1.3.2. as a regular functional variant of an adjective SOFI 'final'.

ATA 'now' was once derivationally related, by the now obsolete derivational suffix -A, to the noun ET 'time'. But to generate it from, say, a P + NP structure would require not just an otherwise unknown postposed P to be entered in the lexicon⁷⁵ but also an exceptional morphophonological rule changing ET to AT. As we conceive the grammar as having an elaborate interpretive component, we shall not link items like ET and ATA in the deep structure at whatever cost to the transformational and 'spelling' rules.⁷⁶ As we already need the category Adv for the many items akin to TEXEF 'right away', we shall not regard such ad hoc derivations as imperative but instead assess each in the light of the simplest analysis - though there need not be one.

As a contrast, consider (165):

(165) MIŠTAXAVIM LEITIM They bow down sometimes

LEITIM is, like ATA 'now', morphologically related to ET 'time', and on this occasion we shall analyse it as P + NP and not as Adv; for ITIM is the regular plural of ET, and the P LE is frequently used to introduce non-dynamic locative N.

ŠAM 'there' in (164) is, like TEXEF 'right away', unknown at any other point in structure and not related derivationally with a member of any other category. But particular facts must be checked before we can confidently list it as an Adv. Consider:

75. This stressed -A is best not identified with the modern enclitic -A in HAIRA 'townwards', HABAYTA 'homewards' etc.

76. See Jackendoff (1972:8.3-4) for such an approach to the spelling rules of the Some-Any and Neg-Placement rules.

(166) ANI LO AGUR EFO ŠE ATA GAR

I shan't live (lit.) where that you live

The embedded S here, as will be explained in chapter 2, can be generated only by assuming that a noun, heading a relative S, underlies the pro-adverb EFO 'where'. Thus the latter will stem from something like BE + MAKOM 'in + a place' in deep structure, this although relative S cannot refer back just to the underlying N component of an adverb, as will be shown.

The other pro-adverbs that will be analysed as P + NP are MATAI 'when', AZ 'then', EX 'how' and KAMA 'how much'.

Moreover, the items EFO 'where' and EX 'how' can be related morphologically to the pro-adverbs PO 'here' and KAX 'thus' by rules that are mostly regular, and the determiner EZE 'some, which' to ZE 'this'. For by crediting the bound form E with the indefinite or interrogative force it clearly had in Biblical Hebrew (where it was a semi-bound form)⁷⁷, and providing for a late rule to affix it to PO 'here', KAX 'thus' and ZE 'this', we achieve a neat simplification.

The outcome is that the adverbs PO 'here' and KAX 'thus' themselves must be regarded as derivations from a base P + NP rather than lexical adverbs. There is admittedly a counter-argument: unlike EFO 'where' (in (166)) and EX 'how', PO and KAX show no sign of containing a head noun of a relative clause, for we cannot say:

(167)*PO ŠE ATA GAR GAM ANI ROCE LAGUR

Here that you live, I too want to live

77. Gesenius (1910:296) alludes to this. Such an analysis has something in common with the Katz & Postal (1964) analysis of interrogatives into WH + an indefinite pro-form and the claim by Kuroda (1968) that a +DEF feature too may underlie certain items.

(168)*EESE ET ZE KAX ŠE ATA OSE ET ZE

I'll do it thus that you do it

So we must decide between accounting for this ill-formedness and capturing the force of the particle E in EFO 'where' etc. In this study we shall confine ourselves to pointing to possible criteria rather than decide every case.

The implications for ŠAM 'there' of (164) are that, in the absence even of a derived string EŠAM SE + Relative S in the sense of 'where', it is simpler to enter it as an adverb.⁷⁸

Apart from the possibility of a P + NP analysis, it should be borne in mind that items in adverbial contexts, even when unable to inflect like nouns, might nevertheless behave as such. We can rule this out for items like ŠAM 'there' and AXŠAV 'now' by showing their failure to induce subject agreement in, e.g., the negative particle EN (which takes the suffix -O after masculine singular subjects):

(169)*ŠAM ENO MAKOM TOV LEMISXAKEI KADUR

(lit.) there is not-it a good place for ball games⁷⁹

(170)*AXŠAV ENO HIZDAMNUT TOVA

Now is not-it a good opportunity

By contrast, expressions like ŠLOŠA YAMIM 'three days', ZMAN RAV 'a long time' and TXILA 'beginning (=at the beginning)', time expressions modified by KOL 'all' and OTO 'that', HAŠAVUA 'this week' and PAAM 'once' (lit.: time) ought to be regarded as N participating in adverbial structure by virtue of an

78. Steinitz (1969:96,153) analyses all adverbs and adverbials in German as P + Complement, taking 'dort' as either a noun or a morphophonological development of P + NP. Knowles (1970:32), however, attacks the principle behind the "Adverbial=PP" equation, especially over the 'how ← in wh+ some way' derivation advanced by Katz & Postal (1964:132-5); but does not discuss the problems raised for English too by examples along the lines of (166).

79. English 'Where do you prefer?' or 'Now seems as good a time as any' are probably parasitic on true adverbial usage.

underlying preposition BE or LE that can - and in the case of HASAVUA and PAAM ~~must~~ - be deleted. Were we unable to restore a P, or even a small set of P, in such an adverbial context, we might justifiably provide for the adverbial node to be expanded into \bar{N} as well as into $\bar{P} + \bar{N}$ and Adv. But as things are, we can regard all the items just listed as derived from $\bar{P} + \bar{N}$, including even the last two which cannot be introduced by P - for they are too obviously N to be categorised as Adv, and are too few to merit the expansion of the adverbial node into \bar{N} .

We end with a sample of items to be listed as Adv - some of them functioning just as VP-adverbs and some as S-adverbs:

- (171) TAMID 'always' ŠUV 'again' YOTER 'any more' OD 'still'
 AXAT 'once' SAVIV 'around' KODEM 'before' SOF SOF 'finally'
 KVAR 'already' YAXAD 'together' OMNAM 'to be sure'
 AXEN 'indeed' LIXORA 'apparently' HETEV 'well' HALA 'further'

1.3.2. Adjectival adverbials

Consider (172-4):

- (172) ANI OVED KAŠE I'm working hard
 (173) HI LO GARA RAXOK MIPO She (lit.) doesn't live distant
 from here
 (174) ZE PAŠUT LO OVED (lit.) it simple doesn't work

The underlined words occur elsewhere as attributive and predicative adjectives; here they are distinct not only by structural position but also by their non-agreement with the subject. Now it has often been proposed, for other languages where adjectival or de-adjectival forms act adverbially, that these be transformationally derived from some adjectival source that is predicative or attributive, not adverbial. Thus Kuroda (1970) derives examples akin to (172) from relative structures:

- (175) John disappeared elegantly ← The manner in which
 John disappeared was elegant

And Vendler (1963) would be compelled to derive examples akin to (174) from a higher S:

(176) Casablanca, malgré Bogart, est tout simplement un navet

←
Il est tout simple que Casablanca, malgré Bogart,
est un navet

But Ruwet (1968), Knowles (1970) and Jackendoff (1972) reject this. The latter remarks: "The semantic motivation for a transformational source of adverbs is some similarity in co-occurrence restrictions between adverbs and related adjectives. However, the considerable increase in power of transformations necessary to implement the transformational position is compensated only by negligible simplifications in the base component." Invoking the absence of a predicative adjectival counterpart for 'merely, utterly' etc. and the general elegance of a parallel in the base schema between adverbs-of-V and adjectives-of-N, he opts to generate a categorial node Y ahead of the head X, Y having special features according as it modifies V or N.

Now objections can be raised against a transformational derivation of Hebrew adjectival adverbs too. The adverbs in (172-4) being identical to adjectives (without so much as a derivational affix), we might wish to derive (172) from (177):

(177) ANI OVED BEOFEN KAŠE I'm working in a hard fashion

But all well-motivated instances of Head N Deletion in Hebrew leave the NP node intact, so that it can serve as antecedent of a relative S, as in (178):

(178) IM ELIE LO MOCIM XEN BEENEXA, YEŠ LANU GDOLIM YOTER

If these don't appeal to you, we've (lit.) got bigger

The adjectival adverb in (172), by contrast, cannot be treated

as the residue of such deletion; for we cannot say (179) as if it were a transform of a fuller (180):

(179)*HU OVED KAŠE ŠE ENO MATIM LO

He's (lit.) working hard that isn't typical of him

(180) HU OVED BEOFEN KAŠE ŠE ENO MATIM LO

He's working in a hard fashion that isn't typical of him

And it would in any case constitute an extension of the notion of pruning⁸⁰ if we tried to explain (179) by claiming that the NP node dominating the putative underlying structure had been pruned.⁸¹

Any attempt to trace the adverbs in (172-4) back to a separate S runs into the same trouble as in English. (174) cannot be paraphrased by (181), even though (182) can be paraphrased by (183):

(181)*ZE PAŠUT ŠE ZE LO OVED

It's simple that it doesn't work

(182) HU KIMAT BATUAX LO MEVIN ET HAMACAV

He (lit.) almost certain doesn't understand the situation

(183) ZE KIMAT BATUAX ŠE HU LO MEVIN ET HAMACAV

It's almost certain that he doesn't understand the situation

Similarly, though we might like to derive (173) from (184), we cannot paraphrase (185) by (186), for the simple reason that AMOK 'deep' cannot be predicated (in a literal sense) of persons:

(184) HI LO GARA BE-Δ [HI REXOKA MIPO]

She doesn't live at Δ [She is distant from here]

80. See fn.66

81. Knowles (1970:42) too argues against deriving 'furiously' from 'in a manner which is furious'.

(185) ŠAKANU AMOK LETOX HAOKYANOS

We sunk deep into the ocean

(186)*ŠAKANU [HAYINU AMUKIM] LETOX HAOKYANOS

We sunk [we were deep] into the ocean

In order to complement the generation of adjectives in verbal structure, we offer syntactic evidence for the generation of Hebrew adjectives in nominal structure as well as in the predicate of reduced relative S.

We shall not dwell on the many attributive adjectives in Hebrew that fall into the three subclasses of 'reference-modifier' distinguished by Bolinger (1967) and are thus restricted to attributive position in the base. Among modifiers that 'identify the reference of the noun itself', we note IDYOT GAMUR 'a complete idiot' (see p.59); among 'intensifiers of the determiner' (or, in the case of Hebrew, the article), HABALŠAN HAYEXIDI 'the only linguist'; and among 'tense modifiers', MUAMAD EŠARI 'a possible candidate'.

A more intricate indicator that adjectives - and this includes those not falling into the above three classes - can be generated attributively is a comparative sentence like:

(187) DALYA LAVŠA SIMLA YAFI YOTER MEŠER SARA

Dalya was wearing a nicer dress (lit.: a dress nice more) than Sara

The natural reading of (187) is that Dalya's dress is nicer than Sara's, not nicer than Sara. Now, following Bresnan (1973:2.) in her study of English comparative structure, we regard the Complementiser + NP AŠER SARA 'than Sara' in (187) as the residue of a S in which something has been deleted under identity with the head of the comparative S. A rough underlying structure for (187) is (188):

- (188) DALYA LAVŠA SIMLA YAFa YOTER MEAŠER SARA LAVŠA SIMLA
YAFa A
Dalya was wearing a nicer dress than Sara was wearing
a A nice dress

Suppose the adjectival structure YAFa YOTER 'nicer' in (187) has arisen from a Relative Reduction rule. Difficulties are created when we try to order such a rule with respect to Comparative Reduction. If we activate the latter while the relative S is still intact, i.e. at a stage when the underlying structure of (187) is putatively something like (189) or even the earlier (190), the structural analysis of the Comparative Reduction rule will not be met, and we shall not be able to generate the desired (187):

- (189) DALYA LAVŠA SIMLA [ŠE YAFa YOTER MEAŠER SARA LAVŠA
SIMLA YAFa A]
Dalya was wearing a dress [that is nicer than Sara was
wearing a A nice dress]
- (190) DALYA LAVŠA SIMLA [HASIMLA YAFa YOTER MEAŠER SARA
LAVŠA SIMLA YAFa A]
Dalya was wearing a dress [the dress is nicer than Sara
was wearing a A nice dress]

An indication of this is the nonsensical ring of (191), where the adjectival structure is still introduced by the complementiser of a relative S:

- (191) DALYA LAVŠA SIMLA ŠE YAFa YOTER MEAŠER SARA
Dalya was wearing a dress that(was)nicer than Sara

So the derivation of the attributive adjective in (187) from a relative S involves ordering Comparative Reduction after Relative Reduction. Now if we assume the cyclic principle of rule application of Chomsky (1965) rather than the alternative mooted by Grinder (1972), together with the post-cyclical status of Relative Reduction commonly proposed in the literature, Comparative Reduction must itself be post-cyclical.

Were we to adopt the principle of 'strict ordering',

meaning, as Koutsoudas (1972) puts it, that "all rules which are not intrinsically ordered are extrinsically ordered", the order Rel.Red., Comp.Red. just proposed would exclude the reverse order required for the generation of phrases like (192):

(192) YELADIM ŠE ŠOTIM YOTER GAZOZ MEAŠER XALAV
Children that drink more soda water than milk

But even if, in the light of the findings of Koutsoudas (1971) about coordination reduction, we adopt instead a 'partial ordering' that allows for the two rules to be unordered, it still appears that we cannot tolerate the Rel.Red., Comp.Red. ordering required for the transformational derivation of attributive adjectives; for Comparative Reduction must, it seems, apply obligatorily and before Relative Formation (and a fortiori Reduction) if we are to block ill-formed phrases like⁸²

(193)*YELADIM ŠE ŠOTIM YOTER GAZOZ MEAŠER HEM ŠOTIM XALAV
Children that drink more soda water than they drink milk

Thus, if we cannot delay Comparative Reduction until after Relative Reduction, we can generate (187) only by applying the former rule to a string (194) that will have arisen with a base attributive adjective structure:

(194) DALYA LAVŠA SIMLA YAFI YOTER MEAŠER SARA LAVŠA SIMLA
YAFI ▲
Dalya was wearing a nicer dress than Sara was wearing a
▲ nice dress

Having argued a general case for a parallel between base attributive and adverbial adjectives, let us consider the scale of such nodes. Both are at least \bar{A} , witness (195-6) where

82. We thus do not follow Koutsoudas (1973) who denies that "extrinsic order is necessary for the explanation of any facts about natural languages."

both occurrences of A are specified by a degree adverb⁸³:

(195) HI LAVŠA SIMLA YAFĀ YOTER MEAŠER ATA

She was wearing a (lit.) dress nice more than you

(196) ANI OVĒD KĀŠE MEOD I'm (lit.) working hard very

Indeed we must generate \bar{A} if we are to capture (197-8):

(197) HALUVIM YARŠU EREC AŠIRA YOTER BENEFT MEAŠER HAMICRIM

The Lybians inherited (lit.) a land rich more in oil than the Egyptians

(198) HARAKEVET OSA ET HADEREX MAHER YOTER BEXACI ŠAA

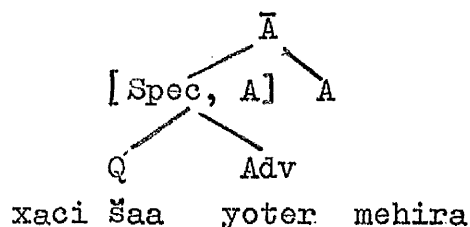
The train does the journey (lit.) quick more by half an hour

The adjectival in (197), clearly attributive in the base by virtue of its interpretation paralleling (187), embraces BENEFIT 'in oil', either a complement introduced by a 'case preposition' or a less integral adverbial altogether. Similarly, BEXACI ŠAA 'by half an hour' in (198) is at least a complement of MAHER 'quick' if not an adverbial of this adverbial adjective. Note that it is not merely a specifier of the specifier YOTER 'more' in the same way as XACI ŠAA 'half an hour' is in (199) - represented by fig.5:⁸⁴

(199)?HARAKEVET XACI ŠAA YOTER MEHIRA MEAŠER HAOTOBUS

The train is half an hour (lit.) more quick than the coach

Fig.5



83. See 1.2.5. for some proposals concerning \bar{X} nodes.

84. In fact measure expressions like XACI ŠAA are less felicitous as specifiers of degree adverbials than are quantifiers like HARBE 'much' and KCAT 'a bit'. Structures like fig.5 appear in Bresnan (1973) - where the English counterpart of YOTER 'more' is deemed a complex Quantifier Phrase.

That it is not clear from its ability to follow YOTER 'more' in (198) - for specifiers of specifiers, such as HARBE 'much', never do. Note also that BEXACI SAA 'by half an hour' in (198) cannot be regarded as specifying the overall adverbial node, for such overall specifiers again cannot follow the phrase, as will be shown in 1.4.2.

The conclusion is that the adjective structure functioning adverbially must be at least \bar{A} , if not greater.

A further instance of such large-scale adverbials is (200), where the adjective is followed by an adverbial PP expressing comparison:⁸⁵

(200) HI ŠARA YA^šFE MIMENI She sings (lit.) nice from (=than)
me

The extent to which adjectives serving adverbially can themselves take complements and adverbials is unclear. For example, the adverbial adjective KAŠE 'hard' of (172) cannot take a PP of comparison, though it can when functioning attributively and predicatively:⁸⁶

(201)*HI OVEDET KAŠE^š MIMXA She works (lit.) hard from you

And among the semi-open set of adverbial adjectives we have not yet found any that can appear with a complement.

To complete the picture of adjectival adverbials, note that, alongside the semi-open set identical to masculine singular adjectives, there is a semi-open set identical to the

85. These PP, which are not derived from full S, are quite independent from comparative clauses and phrases generated in the specifier alongside the degree adverbial, witness this example embracing both types of comparative: HI YOTER MEVUGERET MIMENU ME AŠER IŠTO HAKODEMET 'She is (lit.) more old than him than his previous wife'.

86. The disparity between KAŠE and YA^šFE cannot be put down to their 'orientation' as adverbs, for neither is a 'subject adverb', witness the meaning of DOV HAYA OVED KAŠE 'Dov was a tough worker' and ZAMERET YAFA 'a pretty singer'.

feminine singular form and a closed set having the form of the feminine plural adjective. Among the first are TOV 'good', NAE 'nice', NAXON 'correct'; among the second, AXERET 'differently, otherwise', RIŠMIT 'officially', RIŠONA 'firstly'; and among the third set, ARUKOT 'at length (lit.:long), TXUFOT 'frequently'.

Not only do adverbial adjectives constitute just a small part of the class of A but they themselves are limited in their occurrence at the various adverbial points in sentence structure. AXERET and RIŠMIT, listed above, are probably exceptional in their ability to function both as integral manner adverbs and as sentence adverbs. This second restriction can in part be captured in the semantic component, as proposed by Jackendoff (1972:95), but both it and the first restriction require the assignment of features of subcategorisation to adjectives in the lexicon. Far from being embarrassed by such unproductive subcategorisation of A (and of the class of Adv too), we expect that there is a hierarchy for many languages that relates adverbial properties such as the diversity of expansions of the adverbial node, the low productivity of other categories that happen to function adverbially, and the low 'multi-functionality' of items within the various adverbial nodes themselves by contrast with that of N and A (mutatis mutandis).

Another remarkable restriction on adverbial adjectives is their inability to modify other adjectival structures. Thus alongside (202) there is no phrase (203):

(202) HI ŠARA NAE She sings nice

(203)*BAYIT NAKI NAE A beautifully clean house (lit.: a house clean beautiful)

differently from those that are PP: both follow rather than precede the verbal head⁸⁸, the real disparity, as noted on the previous page, being between adverbial and attributive adjectives.

But in fact the 'integrality' of attributive adjectives and their readiness to undergo Agreement of Definiteness would appear to be a late, not a base, phenomenon, in view of their inability to occur with derived nominals in 'full array' (i.e. with both a subject and an object), witness (207):

(207)*? I-HAVANATO HAMAFTIA ET HABAAYOT HAELE ZIZA ET HAKAHAL
His surprising incomprehension of these problems (lit.: the incomprehension-of-him the surprising Obj.M. these problems) shocked the public

By contrast, those adjectives related to degree adverbials⁸⁹ are felt to be acceptable in such contexts and a 'part' of the nominal itself:

(208) I-HAVANATO HAMUXLETET ET HABAAYOT HAELE ZIZA ET HAKAHAL
His complete incomprehension of these problems (lit.: the incomprehension-of-him the complete Obj.M. these problems) shocked the public

Thus for adjectives as attributives we have sketched a picture similar to that presented on p.57-8 for adverbials, where manner and degree adverbials were contrasted for leftward migration and for co-occurrence with derived nominals.

Let us formulate the base rules to reflect the parallel between adverbial and attributive adjectives. Both, together with $\bar{P} + \bar{N}$ structures and Adv words, should be generated more peripherally than [Spec, X]. So the verbal rewrite rule on p.8 - $\bar{V} \rightarrow V - (\{\bar{N}, S\}) - (\bar{P})$ - can be generalised for

88. Except when they undergo leftward migration.

89. See p.59.

nominal structure too: using X to symbolise V, A and N, we propose a rule (209):

$$(209) \quad \bar{\bar{X}} \rightarrow \bar{X} -([\text{Comp}, \bar{X}]) - (\bar{\bar{P}})$$

$\bar{\bar{P}}$ is expanded into $\bar{P} + \bar{\bar{N}}$, Adv and, as argued in this subsection, $\bar{\bar{A}}$. (A further expansion will be suggested in the next subsection.)

We have differed from Bowers (1969a) - see p.53 - in not generating manner adverbials from the specifier of V; not only do Hebrew degree adverbials specify verbs as well as adjectives but the manner adverbials of adjectival form behave just like those that consist of $\bar{P} + \bar{\bar{N}}$.

1.3.3. Sentential adverbials

The final expansion of the adverbial node is S. Consider (210-5):

(210) LEHAGID ET HAEMET, ZE MEŠAAMEM OTI
To tell the truth, it bores me

(211) ANI HOLEX LAXANUT LIKNOT BAT YAANA
I'm going to the shop to buy an ostrich

(212) IM EHYE KEN, ZE MEŠAAMEM OTI
If I may be frank, it bores me

(213) ELEX LAXANUT IM ATA ROCE
I'll go to the shop if you want.

(214) AL TAMŠIX, KI ZE MEŠAAMEM OTI
Don't go on, Complementiser (=for) it bores me

(215) SANU OTO MIPNEI DRAXAV HAZAROT, ŠE OMNAM HAYA BEN MELEX EDOMI
They hated him for his foreign ways, Complementiser (=for) after all he was the son of an Edomite king.

These exemplify three different realisations of S, at three separate levels in sentence structure.

(210-1) show S in the shape of an infinitive.⁹⁰ To show that such S are indeed the immediate expansion of the adverbial node, we must first eliminate the possibility that the preposition LE introducing the verbs HIGID 'tell' and KANA 'buy' in (210-1) respectively is a lexical P governing the S.

Observe first that the infinitive in (216) below can be paraphrased by the preposition LE plus a derived nominal:

(216) MA HI HADEREX HAXI TOVA LIKNOT MACOT⁹¹

What's the best way to buy unleavened bread ?

(217) MA HI HADEREX HAXI TOVA LIKNIYAT MACOT

What's the best way for (lit.: to) the purchase-of unleavened bread ?

The indispensability of the P LE in (217) suggests that the infinitive in (216) is really functioning as a complement of the P LE, the latter having been deleted.⁹²

(210-1), by contrast, cannot be paraphrased with LE+ Derived Nominal, let alone with a derived nominal standing alone, witness (218-9):

(218)*LEHAGADAT HAEMET, ZE MEŠAAMEM OTI

For the account-of the truth, it bores me

(219)*ANI HOLEX LAXANUT LIKNIYAT BAT YAANA

I'm going to the shop for the purchase-of an ostrich

Not only are the infinitives in (210-1) not the complement of a deleted LE - they are not even composed themselves of LE plus a gerund, for, as noted on p.34, the Hebrew gerund

90. As suggested on p.50, infinitives may possibly be VP.

91. LE and LI are alternants.

92. As it is before finite S (and as it is before English finite and infinitive S too, for many prepositions.)

cannot function without a subject.

We must also eliminate the possibility that the infinitive in (211) is a complement of the verb HALAX 'go' that is being generated as a complement S, in the same way as the infinitive associated with the verb AMAD 'be about' in (220) below, which cannot be paraphrased by a derived nominal, no matter what preposition is chosen to introduce this nominal - for AMAD 'be about' takes only complement S:

(220) ŠAUL AMAD LALEXET Saul was about to go

Indication that the infinitive in (211) is no complement comes from the failure of leftward variable movement rules to chop material from the infinitive, witness (221), which contrasts with the well-formed (222-4) in which RACA 'want', AMAD 'be about' and the 'one-place' HALAX 'go' govern complement S:

(221)*MA HALAXTA LAXANUT LIKNOT

What did you go to the shop to buy ?

(222) MA HU RACA LIKNOT What did he want to buy ?

(223) MA ŠAUL AMAD LIKNOT What was Saul about to buy ?

(224) MA HU HALAX LIKNOT What did he go to buy ?

As we shall see in 1.4.3., one cannot move material out of Hebrew adverbial structure. It is on this basis that we must regard the infinitive in (211), as well as that in (210), as adverbial rather than complementary in function.⁹³

Moving on to (212-3), IM 'if' can reasonably be regarded not as a P governing S but rather as a complementiser⁹⁴ introducing S and thereby taking part in a structure whose

93. The actual circumstances in which an infinitive following HALAX 'go' is adverbial rather than complementary are not known to us. The matter probably hinges on the presence of a directional adverbial like LAXANUT in (221).

94. See p.15.

overall node too is S (as argued for English complementisers by Bresnan (1970)). Three traits of IM 'if' suggest that it is a complementiser: (a) it does not govern N; (b) it is incompatible with the complementiser ŠE, which can accompany all S introduced by recognised prepositions, including recently coined P such as LAMA 'since', and which is thus synchronically a necessary mark of the preposition; (c) the S it introduces can be reduced to KEN 'so' or LO 'not' - IM KEN 'if so', IM LO 'if not' - unlike those associated with any P except BEMIKRE 'in the event'; and even the latter requires a ŠE or VE complementiser before such reduced S, as illustrated in 1.1.2., unlike IM 'if'. This reduction is typical of complement S of verbs like XAŠAV 'think'.

Moreover, it may be more than a coincidence that IM 'if' is identical to the Question Marker IM introducing indirect questions.⁹⁵ The latter can justifiably be assigned to the same form-class as the complementisers ŠE, KI and VE, to which it is in complementary distribution - just as Bresnan (1970) groups 'whether' with 'that' and 'for';⁹⁶ as for 'if' in indirect questions, Jespersen (1927: III,42f) remarks that "this use of 'if'...is a very natural development, as there are many combinations in which it is hardly possible to distinguish between a conditional and an interrogative clause, for instance "I hope you will tell me if you can come"". Noting that Danish, German, Italian and French too use one and the same word in both contexts, he concludes: "How natural is the transition between the two ideas may be seen from the

95. The marker of direct questions (and an alternant of IM in indirect questions) is HAIM, a prefixed form of IM.

96. She does not identify her complementiser WE with 'if' too, for 'if' is barred in certain contexts where 'whether' appears, e.g. 'Whether he'll come is not known.'

fact that the great French lexicographers, Littré and Darne-
steter, do not at all distinguish the two uses."

For Hebrew too it might be argued that the conditional
IM 'if' of (212-3) is not merely a complementiser in the
same class as the interrogative IM 'if' but the very same
word; for (a) the two are in complementary syntactic distri-
bution, the former occurring as a part of an S- and a VP-ad-
verbial and the latter within a complement of a \bar{V} , \bar{A} or \bar{N} .
(and in main S, if we include the direct question marker HA-
IM) ; (b) the complementisers $\bar{S}E$ and KI, as we shall shortly
illustrate, are themselves capable of occurring not only in
complement S, where they may be translated as 'that', but
also in peripheral position - as in (214-5) - where they may
be glossed as 'for'; it would be a curious coincidence if
all complementisers of complement S were deemed to have ho-
monymous counterparts at other points in sentence structure;
(c) in English not only identical words but also identical
arrangements express both complementation and condition or
cause, witness (225-8):

(225) Were they here ?

(226) Were they here, they could complain.⁹⁷

(227) He was decorated after knowing nothing about the plans
for most of the war

(228) Knowing nothing about the plans, he sent the stuff back

Thus the Hebrew IM 'if', and its English counterpart, might
possibly be assigned a meaning covering questions and condi-
tionals.⁹⁸ We are even more convinced that IM in (212-3) is at

97. Jespersen (1927:V,373f) regards conditional inversion as
partly related to interrogative inversion.

98. Bolinger (1968:120) remarks that "there may have been a
little too much eagerness to find differences and to ac-
count for them by positing underlying grammatical con-
trasts when..the sameness in form may have been intention-
al with a meaning so general as to embrace contrary in-
terpretations."

least a complementiser in the same class as ŠE, KI and the interrogative IM 'if'.⁹⁹

While the S embedded in (210-3) behave like any other adverbials generated as S- or VP-modifiers¹⁰⁰, those in (214-5) act as if half subordinate, half coordinate, in that they cannot be focused¹⁰¹ or preposed like any other adverbials but still cannot be reduced like coordinate S introduced by VE 'and', AVAL 'but' and suchlike. On the assumption that they are to be included among adverbials, let us note that they are introduced by KI and ŠE, the complementisers regularly entrusted with introducing complement S¹⁰²; so we shall not regard such S as $\bar{P} + \bar{N}$ structures but rather as sentential expansions of the adverbial node.

One other type of S to be generated from the adverbial node is what Ornan (1969:6.4.) dubs the 'state adverbial'¹⁰³:

(229) HI YAŠVA AL HAGAMAL, KOSESET ET CIPORNEHA

She sat on the camel, biting her nails

That the embedded S¹⁰⁴ in (229) is adverbial is clear from (a) its preposability in (230), and (b) its resistance to unbounded leftward movement of its object, as in (231), which in the case of (211) too was taken as a sign of adverbiality:

99. Rubinstein (1971:3.3.) sets the interrogative IM apart from the ŠE and KI of complement S, on the grounds that it has meaning. But the latter too are meaningful: AMAR KI TAVO means 'He said that you (would) come' but AMAR ŠE TAVO means both this and 'He said that you (should) come'. Bresnan declares: "There is evidence from syntax, semantics and universal grammar that complementisers are far from the semantically empty particles they have been assumed to be in most previous generative work."

100. We shall not elaborate these distinctions.

101. See Greenbaum (1969) for this term.

102. ŠE in adverbial S is usually bolstered by KEN, OMNAM or HAREI, adverbs meaning 'after all'.

103. In Hebrew: teur macav.

104. Like the infinitive, this participle may be a VP.

(230) KOSESET ET CIPORNEHA BERIKUZ RAV, HI YAŠVA AL HASUS
VEHIMPEHA LITSUVATI
Biting her nails with great concentration, she sat on
the horse and awaited my reply

(231)*MA HI YAŠVA AL HAGAMAL OXELET
What did she sit on the camel eating ?

What encourages us to assume a full S in the deep structure
of such embedded phrases is the agreement of the participle
with the matrix subject.

By contrast, consider (232):

(232) RAITI OTAM MATMINIM MAŠEHU BAGAN
I saw them burying something in the garden

This instance of a participial phrase agreeing with the mat-
rix object has been deemed a 'state adverbial' too by Rubin-
stein (1971:4.11.). But observe that it is not preposable
and that it does tolerate unbounded leftward movement, wit-
ness (233-4), and thus differs from the 'state adverbial' of
(229): 105

(233)*MATMINIM MAŠEHU BAGAN, RAITI OTAM
Burying something in the garden, I saw them

(234) MA RAITA OTAM MATMINIM BAGAN
What did you see them burying in the garden ?

So we prefer to regard examples like (232) as comprising a
complementary rather than an adverbial S; indeed they seem
to be dependent on certain matrix verbs.

1.3.4. Summary

The strict limitation on the class of Adv and on adjec-
tives functioning adverbially, as well as on the lexical

105. These differences are in no way linked to the fact that
the participle here agrees with the deep matrix object.
For such agreement is also possible in the case of
'state adverbials' of the (229) kind.

content of sentential S-adverbials like (210,212) on p.78 (whose idiosyncrasy, typical of S-adverbials in general, we have chosen not to discuss, as it does not involve the sub-categorisation of lexical items as this is generally conceived), may well be a complementary phenomenon to the "heterogeneous" nature, as Lyons puts it (1968:326), of the adverbial as a whole in grammar. Admittedly, as noted on p.75, much of the ill-formed adverbial material our rules will generate could be treated in the way Jackendoff (1972:95) suggests: "This analysis in no way requires a syntactic distinction between prepositions that can be generated under VP and those that can be generated under S. As with the adverbs, the distinction is a purely semantic one, based on the appropriateness of the meaning of the PP to the semantic structure into which the projection rule inserts it."¹⁰⁶ But the restrictions on adverbials are largely syntactic.

We would be imposing a significant constraint on the class of possible grammars if we ventured to propose a universal link between the structural heterogeneity of the adverbial and the lexical restrictedness of its constituents.

As a final word on the categories in to which the Hebrew adverbial is not expanded in our account, viz. ~~WN~~ and V, recall that on p.66-7 we found it easy to derive nominal structures functioning adverbially from PP, by means of P-Deletion, especially in view of the probable need for other rules of P-Deletion (in the context of complement S) in Hebrew. It should be noted that it is easier to show that a A like YAFE

106. For a selectional subcategorisation of P in a syntactic framework, see Steinitz (1969:4.3.), who tries to mask both the heterogeneity of adverbials and their lexical deficiency by generating them all from PP by complex and shadowy means.

'nice' is not derived from an endocentric structure (BE) OFEN YAFE '(in) a nice manner' (see p.68-9) than to show that a N like ZMAN RAV 'a long time' is not derived from an exocentric PP structure LIZMAN RAV 'for a long time', for the simple reason that an underlying NP can be expected to take characteristic modifiers (such as relative S) while an underlying PP seems to have no modifiers that are not characteristic of the adverbial node as a whole, as we shall suggest in the next section. Thus we do not wish to make too much of the absence of any intractable nominal structure in the immediate expansion of the adverbial.

More interesting perhaps is the lack of examples like (235-6):

(235)*SIDRU ET ZE MARGIZ ET KOL HASXENIM

They managed to do it (lit.) annoy all the neighbours

(236)*STUDENTIM CRIXIM EZRA MITBAKŠIM LEHIKANES

Students need help are asked to come in

That verbal structures, unlike adjectivals, cannot occur attributively or, with no agreement, adverbially in (235-6) may possibly tie in with the exclusion of verbal structures in favour of adjectivals in the (surface) complement of verbs like HAYA 'be', NIRA 'seem' and HIRGIŠ 'feel'; consider (237-9):

(237)*HI ALULA LIHYOT CRIXA ET ZE

She's (lit.) likely to be need this

(238) HI ALULA LIHYOT ZKUKA LE ZE

She's likely to be dependent on this

(239) HI ALULA LIHYOT PSANTARIT TOVA YOTER MEHAKODEMET

She's likely to be a better pianist than the last one

In these examples where the verb HAYA 'be' is followed by a predicate, the verb CRIX- in (237) is unacceptable while its adjectival synonym ZKUK- in (238) and a noun too in

(239) are quite grammatical. Now we have included an example with a noun because nouns as well as adjectives are permitted attributively in Hebrew, witness (240), which makes for a striking parallel between the content of predicates of the HAYA 'be' type of verb and that of attributive structures:

(240) ANAŠIM TAYASIM XAYAVIM LIHYOT ENERĠETIYIM

Pilot people (lit.:people pilots) must be energetic

This double contrast between adjectives and nouns on the one hand and verbs on the other cannot be condensed into a single phenomenon by deriving attributives from the predicates of relative S, for reasons elaborated on p.70-2. Rather, there may be many such points of contrast, some reminiscent perhaps of the six phenomena adduced by Ross (1969a). Without identifying AP and NP as he does, we at least suggest that general factors may be preventing verbal structures from functioning adverbially in the VP and the NP¹⁰⁷ in the same way as adjectivals; though admittedly the 'partnership' between nouns and adjectives in attributives does not seem to extend to adverbials - examples of adverbials like (241) are inconceivable:

(241)*HI MITNAHEGET IDIOT

She's behaving (lit.) idiot

107. All along we have talked of adjectives and PP, adverbs and S that modify the noun as being 'attributive'. This in our view amounts to being an 'adverbial of the noun'. Since 'adverbial' is already used for functions like 'sentence adverb' that have little to do with the verb, it is reasonable to talk of 'adverbials' in nominal structure.

1.4. GENERAL PROPERTIES OF THE ADVERBIAL

Having described the structures $\bar{P} + \bar{N}$, Adv, \bar{A} and S, as they occur adverbially at various points in sentence structure and nominal structure, we devote the final section in this chapter to a discussion of what overall nodes if any dominate the aforesaid structures and in particular whether some intermediate node, of the type known as PP by linguists such as Knowles and Jackendoff, dominates $\bar{P} + \bar{N}$ to the exclusion of the other adverbial structures. This will involve us in an examination of more specifiers of the adverbial and of adverbial recursion.

1.4.1. The specifier of $\bar{P} + \bar{N}$

Recall (113-5) in 1.2.3., which we repeat for convenience:

- (113) ZE KCAT KMO HAMIKRE HAKODEM
It's a bit like the preceding case
- (114)*ZE KMO KCAT HAMIKRE HAKODEM
It's like a bit the preceding case
- (115)*ZE KMO ĆAZ KCAT
It's like jazz a bit

We mentioned the possibility that the degree adverbial KCAT 'a bit' might be sistering the P node, as [Spec, P]. But now consider (242-4):

- (242) HU NOHEG KCAT BI PRAUT
He drives a bit wildly (lit.: a bit with wildness)
- (243)*HU NOHEG BI KCAT PRAUT
He drives with a bit wildness
- (244) HU NOHEG BI PRAUT KCAT
He drives with wildness a bit

The point of contrast with (113-5) above is that in (244) the

degree adverbial readily follows the $\bar{P} + \bar{N}$ phrase.¹⁰⁸ This is the first of several discordances among specified P structures that we shall discuss in this subsection; they point to an otherwise inconspicuous complexity in the structure of adverbials and their specifiers, one we cannot as yet capture with any confidence.

Note first that we cannot account for the postposability of the specifier in (244) by arguing that BI PRAUT 'with wildness' is not a $\bar{P} + \bar{N}$ like KMO ĞAZ 'like jazz' of (115). BI PRAUT is clearly not a NP with a chomsky-adjoined P¹⁰⁹: not only is BI 'with' not a verb-subcategorising P of the transformationally induced kind but NP - even derived nominals - are quite unable to take a specifier, let alone a postposed one (see p.57-8 and 1.4.2.). Nor is PRAUT 'wildness' a disguised adjective functioning like PARUA KCAT '(lit.) wild a bit' along the lines of English '-ly' adverbs: PRAUT 'wildness' is a regular derived nominal, and as such can appear in contexts typical only of N, e.g. BI PRAUT RABA 'with great wildness'. Yet another indication that PRAUT 'wildness' is no adjective - and the cause of added complications in the account of adverbials and specifiers - is the inability of the degree adverbial MEOD 'very' to follow BI PRAUT or any other BI + Deived Nominal phrase, witness:

(245) HU NOHEG MEOD BI PRAUT

He drives (lit.) very with wildness

(246)*HU NOHEG BI PRAUT MEOD

He drives with wildness very

108. Note that, although (243) has another, more acceptable reading by which KCAT 'a bit' is taken as a quantifier of PRAUT 'wildness', such a reading is impossible in (244) - for quantifiers like KCAT never follow their N. Thus KCAT in (244) must be a degree adverbial.

109. Knowles (1970:80ff) argues against deriving 'with anger' from an A, but posits such a source for '-ness' nouns.

This contrasts with the readiness of MEOD 'very' to follow adjectives, such as PARUA 'wild':

(247) HU NAHAG PARUA MEOD He's (lit.) a driver wild very

Now we know we are dealing in (242-4) with a P + N structure, let us probe the discrepancy between BI + Derived Nominal and KMO 'like' + \bar{N} phrases, and that just alluded to between KCAT 'a bit' and MEOD 'very'.

Other specifiers to follow as well as precede BI PRAUT 'with wildness' are YOTER 'more' and KOL KAX 'so'; others that only precede are DAI 'quite' and YOTER MIDAI 'too'. What might appear to be mere idiosyncrasy on the part of the adverbs concerned can in fact be correlated with the limitations on the very co-occurrence of such specifiers with KMO 'like' phrases in particular: while all specifiers are alike in not following KMO 'like' phrases - as exemplified for KCAT 'a bit' in (115) on p.88 - they differ among themselves again in their very cooccurrence with such phrases. Compare (113) with (248):

(113) ZE KCAT KMO HAMIKRE HAKODEM

It's a bit like the preceding case

(248)*ZE MEOD KMO HAMIKRE HAKODEM

It's very like the preceding case

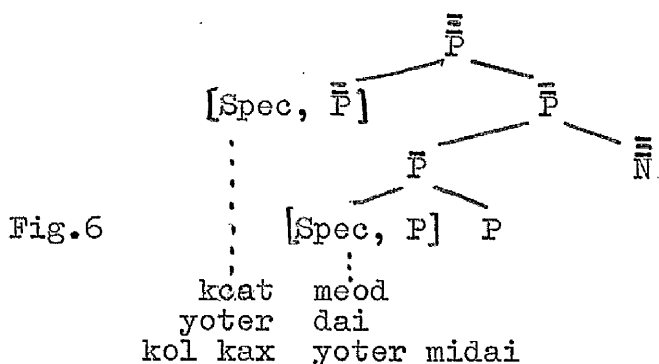
DAI 'quite' and YOTER MIDAI 'too' are impossible and doubtful respectively in such a context. By contrast, YOTER 'more' and KOL KAX 'so' are as admissible as KCAT 'a bit'.

If, as seems probable, just those specifiers - and we have taken but a sample - that co-occur with KMO 'like' phrases are capable of both preceding and following BI + Derived Nominal phrases, while those not occurring with the former can merely precede the latter, we can expect there to be a

structural reason for this.

One possible account involves several levels of specifier and a single lexical P node only. We first capture the readiness of the specifiers MEOD 'very', DAI 'quite', YOTER MIDAI 'too' etc. to co-occur with BI + Derived Nominal phrases but not with KMO 'like' phrases (see (245,248)) by generating such specifiers at a special point in structure and subcategorising prepositions as to whether they take this particular specifying node. Let us suppose, for the moment, that this node will sister the P itself, such that BI 'with' (and other P still to be illustrated) will be subcategorised as [+Spec ____]. KMO 'like', conversely, will not be allowed a [Spec, P]; the only opening for specifiers will be higher up, perhaps sistering $\bar{\bar{P}}$ (the node dominating $\bar{P} + \bar{N}$ phrases), and will be realised as KCAT 'a bit', YOTER 'more', KOL KAX 'so' etc. but not by MEOD 'very' etc. So the degree adverbs in turn must be subcategorised for the functions they fulfil: MEOD 'very' etc. will only specify, say, P itself, while KCAT 'a bit' and suchlike will be able to specify higher nodes and - since KCAT 'a bit' as well as MEOD 'very' co-occurs with BI PRAUT 'with wildness' in (242) - the lower Pnode too.

We represent this tentative account by fig.6:



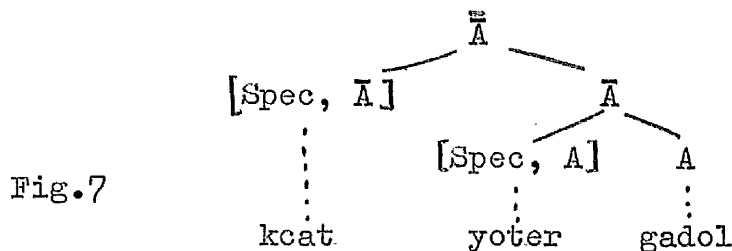
The reason for capturing the co-occurrence relations of PP and specifiers by subdividing the latter structurally rather than just listing them in the subcategorisation entry of P is that we can thus explain many aspects of the movement of specifiers.

First, as we have noted, only KCAT 'a bit' and suchlike can follow PP at all. We suggest that, as 'higher' specifiers, they are capable of permuting within $\bar{\bar{P}}$ (while not being allowed to violate the $\bar{\bar{P}}$ structure itself), and that MEOD 'very' etc., as 'lower' specifiers, cannot permute within, or move outside, $\bar{\bar{P}}$.

Second, the notion that 'higher' specifiers enjoy more freedom of movement receives support from the behaviour of KCAT 'a bit' as a specifier in adjectival structure. Consider (249-51):

- (249) ZE KCAT YOTER GADOL It's (lit.) a bit more big
- (250) ZE KCAT GADOL YOTER It's (lit.) a bit big more
- (251)*ZE YOTER GADOL KCAT It's more big a bit

Here KCAT 'a bit' is specifying the whole node containing the [Spec, A] YOTER 'more' and A itself, viz. \bar{A} - represented by fig.7:



It is from (250) that we know that KCAT 'a bit' is specifying the whole structure rather than just a specifier of a specifier; for in (250) the 'inner' specifier YOTER 'more' has actually permuted with the A, a move impossible for a

structure like (252) below in which there is a real specifier of a specifier - in the shape of the quantifier HARBE 'much', which, as mentioned in fn.84, p.73, can fill the QUANT node specifying specifiers:

(252) ZE [HARBE YOTER] GADOL It's (lit.) [much more] big.

We cannot permute to produce (253):

(253)*ZE HARBE GADOL YOTER It's much big more

So the permutation in (250) is taken as evidence that KCAT 'a bit' is a [Spec, \bar{A}].

Now recall that KCAT itself in (251) cannot migrate across the node it specifies. But when we take a different type of structure - (254) below, where the degree adverb specifies the whole of the \bar{A} containing A and its complement 'comparative phrase'¹¹⁰ - we find the degree adverb quite ready to migrate across the node it specifies, hence (255):

(254) HI KCAT MEVUGERET MIMENU She's a bit (lit.) old
than him

(255) HI MEVUGERET MIMENU KCAT She's (lit.) old than him
a bit

We suggest that KCAT 'a bit' is able to permute in this case in its capacity as a 'higher' specifier, of \bar{A} .

Third, observe that while members of the KCAT 'a bit' class of specifier can occur in the two contexts ((249,254)) adverbs like MEOD 'very' and DAI 'quite' again differ - by not appearing at all, witness (256-7) :

(256)*HI MEOD MEVUGERET MIMENU She's very old than him

(257)*HI MEOD YOTER MEVUGERET She's very more old

110. There is intricate evidence that the degree adverb here does specify the whole phrase, as may intuitively be felt. For comparative phrases, see p.74; for the status of complements in general, see p.54ff.

What we have already suggested on p.91 regarding the restriction of MEOD 'very' etc. to certain PP and their non-permutability is backed up by their absence from the relatively 'high' [Spec, \bar{A}] and [Spec, $\bar{\bar{A}}$] nodes just illustrated.¹¹¹

While we have endeavoured to explain why MEOD 'very' etc. cannot follow BI PRAUT 'with wildness' and KCAT 'a bit' etc. can, we have still to explain why KCAT cannot follow a KMO 'like' phrase (p.88). We believe there is evidence of yet another level of 'specification' in adverbial structure and that KMO 'like' phrases permit just such a level, at which - as on the lowest level - there is a block against permutation.

Thus consider (258-9) and (260-1):

(258) AL TASIM ET ZE KOL KAX LEMAALA

Don't put it (lit.) so above

(259) AL TASIM ET ZE LEMAALA KOL KAX

Don't put it (lit.) above so

(260) HAXALON HAŠAVUR KEESRIM METER LEMAALA

The broken window is some twenty metres above

(261)*HAXALON HAŠAVUR LEMAALA KEESRIM METER

The broken window is above some twenty metres

While degree adverbs of the KOL KAX 'so' type can follow P + N phrases like LEMAALA '(lit.) at above', the open set of measure adverbials cannot, witness (261). That these measure adverbials are part of the overall adverbial structure

111. Another case of non-permutability of specifiers (at a relatively low level of structure) involves negated V and A. In ZE BA MIMAKOM BILTI CAFUI KOL KAX 'It came from a (lit.) place unexpected so', we use the particle BILTI 'un-', which is bound to the predicator; and the specifier KOL KAX 'so' follows the NEG+A as readily as if it were following a simple A. But if we opt to use the free particle LO 'not', the specifier is limited to preceding the NEG+A phrase: ZE BA MIMAKOM KOL KAX LO CAFUI 'It came from a (lit.) place so not expected'. No doubt BILTI CAFUI 'unexpected' is just dominated by the node A - as a result of chomsky-adjunction.

rather than a separate adverbial in the VP itself is not in doubt, in view of their inability to follow LEMAALA 'above' in (261). But that they do occupy a distinct place in the overall adverbial structure emerges from (a) their inability to follow LEMAALA 'above' and suchlike, (b) their readiness to be preposed to the front of the clause and (c) their occurrence in a context where mere degree adverbials are impossible.

Point (b) is illustrated by (262-4):

- (262)*ZE BEDIYUK MARE KAMA HABAXURA HAZOT MUZARA
That just shows (lit.) how this girl is strange
- (263) ZE MARE AD KAMA HABAXURA HAZOT MUZARA
That shows (lit.) to how this girl is strange
- (264) KAMA METER HEM GARIM MITAXAT PNEI HAMAYIM
How many metres do they live below sea-level ?

KAMA 'how', which can be shown to be the interrogative form of the degree adverb, cannot be parted from the A it specifies, hence (262). But the underlined measure adverbials in (263-4) can.¹¹²

Point (c) involves the specification of the locative phrase ME 'from' + N, as illustrated in (265-7):

- (265) HEM NIMCAIM KEXACI KILOMETER MIPO
They are some half a kilometre from here
- (266)*HEM NIMCAIM KEXACI KILOMETER
They are some half a kilometre
- (267)*HEM NIMCAIM KOL KAX MIPO
They are (lit.) so from here

That the measure adverbial underlined is specifying something is evident from (266). We suggest it specifies the PP

112. (264) is especially colloquial.

MIPO 'from here' - though such a PP cannot function without this specifier, a trait common to English too and which might entitle us to derive (265) from ..KEXACT KILOMETER RAXOK MIPO '..some half a kilometre far from here', in line with the proposals of Ross (1964). Be that as it may, the ability of measure adverbials to specify MI 'from' phrases (or to tolerate the deletion of RAXOK 'far') speaks for a structural distinctiveness vis-à-vis degree adverbs altogether.¹¹³

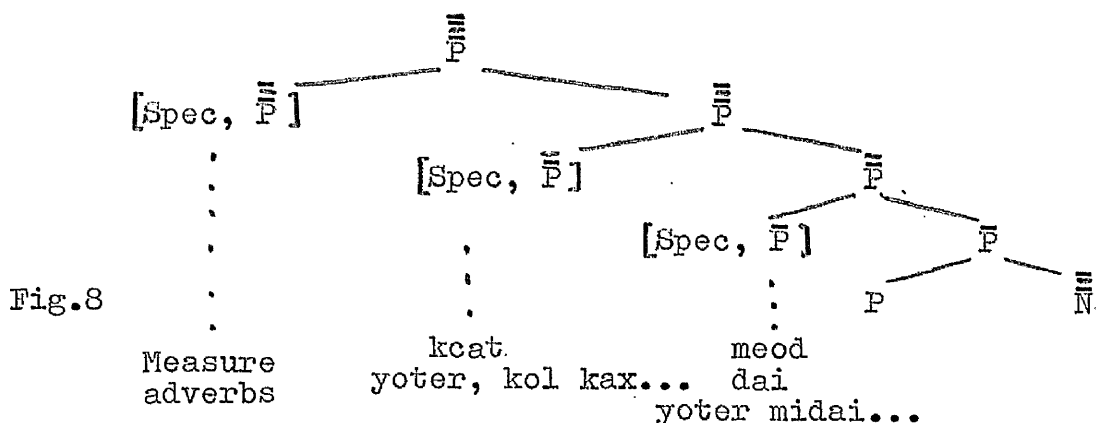
That brings us back to the problem of why the degree adverb KCAT 'a bit' cannot follow KMO 'like' phrases, as on p.88. We suggest that, while BE + Derived Nominal phrases allow specifiers at all three levels so far proposed, KMO 'like' phrases allow only the highest level. Moreover, it seems that certain phrases such as LEMAALA 'above' may permit the two higher levels only in that they do allow specifier permutation while precluding the appearance of certain degree adverbs; but we do not yet have a clear picture.

In providing for three levels of specifier, we demur at having a specifier of the lexical node P itself in line with those of A, V and N, a suggestion we made in 1.2.3. and again on p.91. For this would not only mean that the syntactically bound - and semantically weak - P would be specified¹¹⁴, but also that freer and semantically fuller P would not be. This generalisation itself springs from the

¹¹³. Interestingly, measure adverbials are precluded from specifying A and V; thus we cannot say *HU XACI METER GAVOA 'He's half a metre tall' or *ZE XACI ŠAA KADAM LE-ZE 'It half an hour preceded it', by contrast to ZE XACI ŠAA KODEM LAXEN 'It's half an hour preceding it'.

¹¹⁴. BI/BE and LE are 'bound' in that they must contract with a following Article and must not be divorced from their complement as in *BE UMISAVIV LE.. 'In and around..'.
.

readiness of P + N strings such as BESEDER 'all right (lit.: in order)', BIFNIM 'inside (lit.: in interior)', PNIMA 'inwards (lit.: interior-wards)', LEMAALA 'above (lit.: at above)',¹¹⁵ to take 'lower' specifiers on the whole, while phrases involving freer and semantically more regular P - such as LIFNEI 'before' and AXAREI 'after' - do not. The latter aspect of the situation would not itself be unthinkable, even though the verbal counterparts of KMO 'like' and LIFNEI 'before' - DAMA 'resemble' and KADAM 'precede' respectively - do take [Spec, X] such as MEOD 'very', i.e. 'lower' specifiers. It is, rather, the thought of P like BI - as in BI PRAUT 'with wildness', BI FNIM 'inside' - taking such specifiers, despite the lack of any conceivable verb corresponding to BI that might itself be specified¹¹⁶, that prompts us to revise fig.6 on p.91 and our tentative point (f) on p.61. We propose fig.8 as our tentative picture of the specifiers of preposition structure; it implies that Hebrew P will be subcategorised for various levels of specifier that do not sister them, just as the "Aspects" model subcategorises V for their subject.



115. As noted on p.96, some P+N may fall between the two classes we have so far been able to distinguish.

116. And despite its a fortiori standing vis-à-vis 'fuller' prepositions such as KMO 'like'.

Jackendoff (1973) has, for English, proposed [Spec, \bar{P}] + \bar{P} as an expansion of \bar{P} - a much simpler picture than that we have proposed for Hebrew, but one based on scanty explicit data.

Moreover, he does not intend [Spec, \bar{P}] as a specifier of the adverbial structure as a whole, but only of his PP (which subsumes the traditional PP, directional adverbs and particles but excludes adjectival adverbs). In the next subsection we shall argue that the system of specifiers set up is good not just for P + N strings but for all expansions of the Hebrew adverbial node.

1.4.2. The specifiers of the adverbial as a whole

In section 3 we proposed expanding the adverbial into Adv, \bar{A} and S as well as into P + \bar{N} . We now argue that Adv and \bar{A} take the same range of specifiers as P + \bar{N} and that all four expansions of the adverbial should be subsumed under a general node for the purpose of taking this range of specifiers.

Consider (268-270), featuring two adverbs listed in (171) on p.67:117

(268) HI ŠARA DAI HETEVI She sings quite well

(269) HIMŠIXU LALEXET KCAT HALA They continued a bit farther

(270) ŠNEI KILOMETER HALA HEM NITKELU BEMAXSOM

Two kilometres further on they ran into a road block

They contain the three levels of specifier as proposed in

117. (269-70) are colloquial.

1.4.1. for P + \bar{N} structures.

Now consider (271-2), featuring an adjective shown on p.67 to function adverbially:

(271) IYE HABAHAMA NIMCAIM DAI RAXOK MIPO

The Bahamas are situated quite (lit.) distant from here

(272) IYE HABAHAMA NIMCAIM KEELEF KILOMETER RAXOK MIPO

The Bahamas are situated some thousand kilometres (lit.) distant from here

Recall that we inferred from (196) on p.73 that the adjectival structures functioning adverbially can embrace [Spec, A] such as DAI 'quite' and indeed even higher nodes; hence our reference to double-barred A on the preceding page. So (271) need not be construed as a case of a specifier of an adverbial. But (272) must be; for when RAXOK functions as an adjective rather than an adverbial it does not readily take a preceding measure adverbial, witness (273) by contrast with (272):

(273)?IYE HABAHAMA KEELEF KILOMETER REXOKIM MIPO

The Bahamas are some thousand kilometres (lit.) distant from here

We shall not try to explain the fact that the adjective RAXOK 'distant', unlike any other A we know, does take a measure adverbial - following it¹¹⁸. What concerns us is that a measure adverbial preceding predicative or attributive RAXOK 'distant' is dubious, whereas it is perfectly normal preceding an adverbial RAXOK, as illustrated by (272).

A further indication that we must provide for specifiers of the adverbial to go with adjectival adverbials comes

118. See fn.113, p.96, for the unacceptability of measure specifiers with A and V.

from (274), where the measure adverbial is quite acceptable, which it is not when the [Degree adverb + A] phrase functions predicatively, as in (199)¹¹⁹, repeated for convenience:

(274) HARAKEVET OSA ET HADEREX XACTI ŠAA YOTER MAHER MEAŠER
HAOTOBUS

The train does the trip half an hour (lit.) more quick than the coach

(199)?HARAKEVET XACTI ŠAA YOTER MEHTRA MEAŠER HAOTOBUS

The train is half an hour (lit.) more quick than the coach

So we have positive evidence that three levels of adverbial specify $P + \bar{N}$ and Adv and that an extra, high specifier goes with adverbial adjectives besides the [Spec, A] such adjectives ordinarily have.

One statement of the situation would be as follows:

(275)	\bar{P}	--->	[Spec] - { \bar{P} , \bar{Adv} , \bar{A} }
	\bar{P}	--->	[Spec] - \bar{P}
	\bar{P}	--->	[Spec] - \bar{P}
	\bar{P}	--->	P - \bar{N}
	\bar{Adv}	--->	[Spec] - \bar{Adv}
	\bar{Adv}	--->	[Spec] - \bar{Adv}
	\bar{Adv}	--->	[Spec] - Adv

But this can be reduced to the schema (276):

(276)	\bar{P}	--->	[Spec] - { \bar{P} , \bar{A} }
	\bar{P}	--->	[Spec] - \bar{P}
	\bar{P}	--->	[Spec] - \bar{P}
	\bar{P}	--->	{ P - \bar{N} }
			{ Adv }

Now even this misses a significant generalisation about the

119. Instead of (199) speakers prefer a more peripheral type of adverbial altogether - BEXACTI ŠAA 'by half an hour' - as illustrated in (198) on p.73.

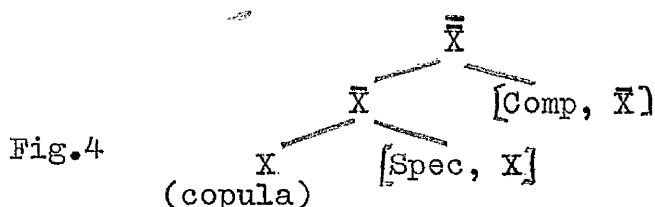
role of the higher specifier, [Spec, \bar{X} or \bar{X}] in the base: occurring as it does in prepositional but not in nominal, verbal or adjectival structure, it should likewise be regarded as sistering a prepositional but not a nominal, verbal or adjectival node - inasmuch as we refer to it notationally as the specifier of some sister. This impression will not be given if, as in (276), we expand \bar{P} into [Spec] + \bar{A} .

Let us back up this generalisation with some arguments for there being no higher specifiers in N, V or A structure.

Recall that on p.56-7 we noted that specifiers are capable of preceding, though not of following, certain predicative NP, tentatively regarding MEOD 'very' in (148) not as a higher specifier of NP alongside the lower, adjective-shaped specifier of N (mentioned on p.59) but as a sister of the copula - represented by fig.4, repeated here:¹²⁰

(148) ZE HAYA MEOD INYAN ŠEL MAZAL

It (lit.) was very a matter of luck



120. Another striking indication that degree adverbs are not part of the nominal itself is the case where the N is adjective-shaped. (Perhaps most Hebrew A can function as N.) Thus: TEN LI ŠTEI GDOLOT 'Give me two big ones (lit.: two big)'. But we cannot say *TEN LI ŠTEI YOTER GDOLOT 'Give me two bigger ones (lit.: two more big)'; this despite the fact that adjectives actually functioning as A do take specifiers such as YOTER 'more' and MEOD 'very'.

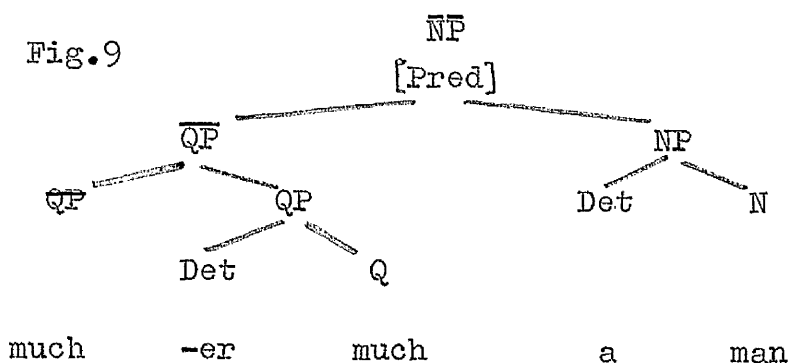
Whether the degree adverb is indeed specifying the copula or instead sistering the overall node that dominates the nominal, adjectival and prepositional structures that can all complement the copula¹²¹ is unclear. The first alternative is not semantically inconceivable, in view of examples like (277) where the preposed (peripheral) adverbial, which in this case happens to express degree in a way that must be related to the role of specifiers like MEOD 'very', may relate semantically to the copula:

(277) BEMIDA RABA ZE KEN INYAN ŠEL MAZAL
To a large extent it is indeed a matter of luck

Furthermore, other V complemented by predicates, such as NI-RA 'seem' and HAFAX 'become', do not tolerate MEOD 'very' etc. with their predicative NP as readily as the copula does, a fact that may well stem from the inherent properties of these V rather than from those of their complements.

Be that as it may, we are not inclined to analyse MEOD 'very' in (148) as part of NP as does Bresnan (1973:297ff) in the case of an English construction "isomorphic to the partitive construction" and equally limited to predicative position, viz. that underlined in (278), which she represents by fig.9:

(278) Bruce is much more of a man



121. See p.86.

Bresnan appeals to the structural similarity of NP resulting from what Bowers (1969a:7) dubs "Adjectival Fronting", as in (279):

(279) Bruce is too good a man

Quite apart from the possibility of such ^{NP}[AP - NP] in non-predicative positions too, witness (280), it is the lack of these fronted adjectivals in Hebrew altogether that dissuades us from generating the degree adverb in (148) on p.101 as part of a special large predicative NP:

(280) Who'd have thought that so good a man as Sid would grass ?

As for the possibility of higher specifiers in V and A structure, in addition to the [Spec,V/A] proposed on p.55-8, one might care to regard the underlined items in (281-3) as such:

(281) YOTER MI BEKOL SERET KODEM, OMANUTAM MUCEGET KAN KE-MASEHU MENUTAK ME HAXAYIM
More than in any previous film, their art is presented here as something divorced from life

(282) ZE INYAN ŠEL MAZAL YOTER MEŠER INYAN ŠEL ŠIPUT
It's a matter of luck more than a matter of judgement

(283) ZE YOTER HAFTAA MEŠER ZAAZUA
It's more a surprise than a shock

The ability of the degree adverb in (281) to migrate leftwards from its V; an option not open to degree adverbs as a whole, as argued on p.57; the readiness of the degree adverb to cross the NP INYAN ŠEL MAZAL 'a matter of luck' in (282), an option yet again not open to the range of degree adverbs as shown by (149-50) on p.56 (and not even to YOTER 'more' when unaccompanied by some 'complement'); and finally the acceptability of YOTER in (283) with a noun of the kind that, for reasons we do not understand, does not take degree adverbs at all (even unaccompanied YOTER), witness (284-5),

all suggest that YOTER 'more' as it appears in (281-3) is 'higher' in sentence structure than the specifier of V or Copula having the same shape:

(284)*ZE KOL KAX HAFTAA It's (lit.) so a surprise

(285)*ZE HAYA KCAT HAFTAA It was (lit.) a bit a surprise

Now two such 'higher' degree adverbs, 'more', have been distinguished for English by Bresnan (1973:325ff), one (suppletively) in sentences like (286) - a VP modifier - and the other in (287-8) - tentatively deemed a S modifier - to which she ascribes the sense "It is truer to say of me that.. than that.." :

(286) I'm sadder than I am angry

(287) I'm sad, more than I'm angry

(288) I'm worrying, more than I'm thinking

The three Hebrew degree adverbs in (281-3), of which the first may be a VP modifier and the other two S modifiers, are, however, best regarded not as higher specifiers of V structure but as members of the set of peripheral adverbials that can express 'degree' as readily as they express anything else - adverbials such as BEMIDA RABA 'to a large extent' in (277) and YOTER 'more' in its temporal sense with the non-gradable V in (289):

(289) YENTE NOXERET YOTER ME AVIHA

Yente snores more than her father

It is also the fact that just YOTER 'more' and PAXOT 'less' behave as in (281-3) that deters us from positing a higher specifier node for degree adverbs in V and A structure.

It should be pointed out that on p.92-3 we detailed what we called higher specifiers of adjectival structure! (250) was taken to exemplify [Spec, \bar{A}] and (255) [Spec, $\bar{\bar{A}}$]:

- (250) ZE KCAT GADOL YOTER It's (lit.) a bit big more
(255) HI MEVUGERET MIMENU KCAT She's (lit.) old than him
a bit

This involves having [Spec, \bar{A}] in the base rules. Now when we declared on p.101 that P structures were unlike all others in having higher specifiers, we in fact delayed making mention of a serious problem: the higher specifiers of V and A described on p.92-3 seem to be limited to just those 'comparative' contexts featured in our examples (250,255) above; that is, the phenomena given on p.55-8, where we eliminated the possibility of specifiers sistering any but the lowest node, are counter-balanced - though not contradicted - just here, as far as can be seen. Thus, when the degree adverb KCAT 'a bit' appears in any other context than (250,255), such as (290) below, it shows every sign of being just a lower specifier:

- (290) HU KCAT MEVUGAR He's a bit old.

It is hard to believe that of a number of base specifier nodes one should be the 'unmarked' node; this would probably give the base rules undue power theoretically. And if a way is found for generating (250,255) without positing higher specifiers in A and V structure at all, it will cause no damage to our claims for adverbial structure specifiers (in whose context they were mentioned.)

So the prospect that the so-called higher specifiers of verbals and adjectivals are illusory or associated with unknown constraints on the base is what led us to generalise for the specifiers of all structures but P.

The generalisation prompts us to generate the \bar{A} in the adverbial rules of (276) not as a daughter of \bar{P} but together

with P + \bar{N} and Adv as a daughter of \bar{P} .

Before reformulating rule schema (276), let us complete the picture of \bar{P} expansion by arguing against there being specifiers of sentential adverbials or any peripheral material in P structure.

Of the sentential adverbials, mentioned in 1.3.3. as expressing condition, purpose and cause, only the last two might be expected to take specifiers. The absence of sentences like (291-2) does not, nevertheless, entail changes in the base rules, for even expressions of purpose and cause introduced by explicit P such as KDEI 'in order' and BIGLAL 'because' do not tolerate specifiers like KCAT 'a bit' - witness (293) for instance - and moreover the very syntactic (and perhaps the semantic) status of sentential adverbials of cause, precluding focused clause-negation and interrogation¹²² as it does, may be at the root of the ill-formedness of (292):

(291)*YACANU KCAT LEHAALIV OTAM

We went out a bit to insult them

(292)*LO YACATI BIXLAL, KCAT KI MEZEG HAAVIR HAYA GARUA

I didn't go out, a bit for the weather was bad

(293)*YACANU KCAT KDEI LEHAALIV OTAM

We went out a bit in order to insult them

Thus sentential adverbial specification need not be blocked syntactically¹²³.

As for the absence in P structure of peripheral matter, recall that on p.46 we noted the block on focusing adjuncts

122. See Greenbaum (1969:20) for these terms.

123. Admittedly, (293) can be paraphrased by YECIATENU NOADA BEMIKCAT... 'Our departure was partly intended...', so the exact nature of any semantic restriction is far from obvious.

between a P like LIFNEI 'before' and its complement N. This in itself is not evidence that focusing adjuncts are not generated in adverbial structure, for specifiers of P + \bar{N} are themselves unable to stand between P and its complement. Rather, it is the ill-formedness of examples like (294) that shows that focusing adjuncts do not 'belong' to P structure¹²⁴ like specifiers, which do precede the adverbial-within-the-adverbial in (295):¹²⁵

(294)*ZE ALUL LEHIMASĖX AD AFILU LEAXAR ŠABAT

It's likely to last until even after the Sabbath

(295) ZE ALUL DEHIMASĖX AD KCAT LEAXAR KNISAT HAŠABAT

It's likely to last until a bit after the beginning of the Sabbath

Nor is there any evidence that VP or S adverbials participate in P structure. We saw from (90-1) on p.36 that, while the verb KODEM 'precedes' tolerates the complement (or perhaps integral adverbial) BEXACI ŠAA 'by half an hour', the P 'KODEM 'preceding' does not. This would seem to apply a fortiori to peripheral adverbials within adverbial structure.

We reformulate (276) as (296); we anticipate our arguments in 1.4.3. for naming these higher nodes P rather than \bar{N} .

(296)	\bar{P}	---->	[Spec]	-	\bar{P}	
	\bar{P}	---->	[Spec]	-	\bar{P}	
	\bar{P}	---->	[Spec]	-	\bar{P}	
	\bar{P}	---	$\left\{ \begin{array}{l} P - \bar{N} \\ Adv \\ \bar{A} \\ S \end{array} \right\}$			

124. (294) would be acceptable were AFILU to precede AD 'until'

125. Adverbial recursion will be discussed in 1.4.4. Jackendoff (1973:355) misleadingly lumps together focusing adjuncts and degree adverbs preceding FP, e.g. 'Even in the kitchen' and 'More out of that movie than in it'.

We have seen fit to have the same three P nodes mediate between the highest adverbial node and the various expansions Adv, \bar{A} , S as between it and P + \bar{N} . In more traditional terms, this amounts to expanding PP into Adv, AP, S and P + NP. Our approach has not been employed by Jackendoff (1972) in his comprehensive study of adverbial structure, perhaps out of reluctance to expand a phrasal node into a differently named lexical node¹²⁶. It seems, however, that, with all these diverse expansions, this is unavoidable at some level.

We are also in a position to reformulate the X rule schema (161) on p.63: it now appears that the lexical node P is not itself specified (see p.96-7) and that, consequently, the complement in P structure can be deemed [Comp, P] rather than [Comp, \bar{P}]. This impairs the 'barred' generalisations between nodes proposed on p.63, and so, since the evidence against specifiers of lexical P is negative rather than positive, we shall reserve judgement on this part of the X rule schema.

But we do wish to incorporate our proposals for higher specifiers. Let the \bar{X} rewrite rule in (161) be preceded by a (less general) rule expanding \bar{X} into [Spec, \bar{X}] + \bar{X} and X into Spec, X + X, when X is P; and, in the event that adverbials occur not only as sisters of complements and of the next node up - as initially mooted in (1) - but also as sisters of a triple-barred node¹²⁷, let a rule expand \bar{X} into \bar{X} plus \bar{P} nodes and \bar{X} into \bar{X} plus \bar{P} nodes, when X is V, A or N.

126. Lyons (1968:331) makes the expansion of phrasal nodes into similarly named lexical nodes an important property of a generative grammar.

127. Steinitz (1969:61f) assigns separate structural levels to PP like the following: 'Er reiste nach Bitterfeld', 'Er arbeitet in der Universität', 'Er arbeitet am Montag', the last two groups differing in accent, negation and relative order int.al..

We are not, however, suggesting that there is any correlation between the number of bars on P nodes and V,A and N nodes and between the 'depth' of specifiers in P structure and that of adverbials in other structures. There is no intuitive reason for regarding these mutually incompatible additions as contextual variants of a single general node; nor, apparently, is there a semantic reason for this diversion in the expansion of the adverbial and the three other major structures - it seems to be a purely syntactic trait of the categorial structure of Hebrew that we cannot employ adverbials in a prepositional context such as (91) and higher specifiers in verbal and nominal contexts like (297,284):

(91)*HAMISDAR TAMID NEERAX 'KODEM LAARUXAT HABOKER BEXACI ŠAA
The parade is always held preceding breakfast by half
an hour

(297)*HAMISDAR TAMID XACI ŠAA KODEM LAARUXAT HABOKER
The parade always half an hour precedes breakfast

(284)*ZE KOL KAX HAFTAA
It's so a surprise

What we do suggest is that the absence of peripheral nodes such as adverbials and focusing adjuncts in P structure is hierarchically linked somehow to other traits of adverbials mentioned on p.61-2 and 85, such as the absence of multi-constituent [Comp, P] and of intransitivity.

1.4.3. The higher adverbial node-names

We now attempt to justify the node-names P on the left-hand side of the schema (296); for it has been proposed by Ross (1967a) and Postal (1971) that PP in English and perhaps other languages are really NP that have a prepositional expansion.

Ross (1967a:116) regards as NP not just adjectives, degree adverbs and manner adverbs but also PP, particularly as the latter allow the preposition to pied pipe¹²⁸ when only the N it governs is regarded as being operated on by a leftward movement rule¹²⁹: "Another environment in which pied piping is obligatory in German, French, Italian, Russian, Finnish, and in many other languages, is that stated in (4.200): No NP may be moved out of the environment [P]_{NP}."

Postal (1971:99) calls pied piping of P "one of the most striking arguments for an NP analysis of traditional prepositional phrases", and precedes to employ pied piping as an explanation for the 'crossing constraint' phenomenon, as he sees it, concluding (p.204): "The cross-over principle turns out to yield very strong, surprising evidence in favour of the notion of pied piping." He regards any statement of pied piping that refers not only to NP (within which stands the item to be operated on) but also to PP as "totally ad hoc" (p. 194). Furthermore, referring to phrases with 'grammatical' prepositions such as 'agree on x', he says: "NP structure for such phrases follows automatically from the desirable assumption that prepositions are transformationally inserted. The highest NP node is then a function of the general principle of derived constituent-structure for what has been called Chomsky-adjunction." (p.205)

Now it matters little that Hebrew does not in fact impose a cross-over constraint. Assuming for the sake of argument that Hebrew does employ pied piping¹³⁰, we must establish if there

128. This term is explained on p.48-9.

129. See p.50 and fn.68.

130. We have in fact invoked this notion on p.49ff..

are further reasons for regarding adverbial structure as N structure or for not doing so.

We first demonstrate that we cannot move NP out of adverbials as a whole. (298) involves a P + \bar{N} adverbial, (299) a sentential adverbial:

(298)*MI HALAXTA IM (lit.) who did you go with?

(299)*MA HALAXTA LAXANUT LIKNOT (lit.) what did you go to the shop to buy?

The same constraint affects the leftward variable movements Topicalisation and Relativisation¹³¹; and Passivisation, witness (300):

(300)*MOŠE LO HUMLAC AL (lit.) Moshe wasn't recommended on

Nor may we introduce extraneous matter into the adverbial. (301-3) exemplify the unfortunate result of moving parenthetical items, focusing adjuncts and degree adverbs into P + \bar{N} structure:

(301)*HICBATI BEAD LECAARI HANIFLAGA HALO NEXONA

I voted for unfortunately the wrong party

(302)*HICBATI BEAD GAM HAMUAMAD HAŠENI

I voted for also the second candidate

(303)*HU MEYUDAD IM MEOD DVORA

He's friendly with very Deborah¹³²

Now all these reorderings do apply across verbal and adjectival structure (except, of course, when this in turn incorporates prepositional structure); but they do not operate over nominal structure. For instance, we cannot move the \check{S} EL 'of' phrase out of the larger NP in (304) or the governed NP out of the construct phrase in (305):

131. Both when the relative NP is deleted and when it is pronominalised.

132. We showed on p.44 that specifiers of V and A can in principle migrate rightwards.

(304)*ŠEL MI ŠAALTA ET HAKOVA

Of whom did you borrow the hat ?

(305)*MA HI XAZTA HAMCAAT

What did she predict the invention-of ? ¹³³

As a further illustration, consider (306-7), where the introduction of focusing adjuncts between NP and PP in the structure [NP PP]_{NP} gives unacceptable results¹³⁴:

(306)*ANI YODEA ET HAŠEMOT RAK ŠEL MALXEI YEHUDA

I know the names only of the kings of Judah

(307)*HAMEXONIT AFILU ŠEL HAMANKAL KLULA BAHAGBALOT

The car even of the manager is included in the restrictions

These similarities in the constraints on adverbials and nominals make the equal ability of P + NP and nominal structure to pied pipe (and the inability of V and A structure to do this) seem anything but coincidental.

Adverbial structure, admittedly, is not entirely inviolate. Note first that, although - as mentioned on p.42-3 - there is little justification for weakly transitive P, we can apply Equi-Complement Deletion to certain PP. This rule optionally deletes the objects of V and A when identical to another deep structure object in the utterance or when referring to a specific extralinguistic entity¹³⁵, thus:

(308) AL TOCI Don't take out

133. Note that construct phrases are not in principle inviolate: the governed NP can be 'chopped' by Conjunction Reduction, e.g. KNIYAT O MEXIRAT XAMEC 'The buying-of or the selling-of leaven.' In the event that (305) is inconceivable because Q-Movement precedes the formation of construct phrases, it is equally germane to note the unacceptability of *MA HI XAZTA (ET HA) HAMCAA 'what did she predict (Obj.M. the) invention ?'

134. But HAHITANYENUT RAK BEMIN VEBESAMIM HU DAVAR MESUKAN 'The interest only in sex and drugs is a dangerous thing' is acceptable because RAK is generated within the nominal.

135. Many P and a few V - 'modals' like MUXRAX, CARIK 'be bound' AMUR 'be supposed' - do not drop their complement.

An indication that (308) is a case of Equi-Complement Deletion rather than the deletion of an unspecified object is the inappropriateness in this context of the question MA LO OGI 'What shouldn't I take out?'. (See p.42 for this test.) Now the same kind of deletion is at work in adverbial examples such as (309-10):¹³⁶

(309) KOL PAAM ŠE AVIV YOCE BLI MEIL GEŠEM, GAM HU YOCE BLI
Every time his father goes out without a raincoat, he
also goes out without.

(310) OMRIM ET HABRAXA HARIŠONA LIFNET HAAXILA VE ET HAŠNIYA
AXAREI
They say the first blessing before eating and the second
one after

But in fact such deletion has no bearing on the generalisation we made concerning reordering rules and adverbial structure, for it involves the chopping of a constant¹³⁷ without any movement; and similar rules operate across nominal structure too, such as Modified Head N Deletion, which in (311) deletes the N KLAVIM 'dogs' and leaves the underlined modifier¹³⁸:

(311) IM KLAVIM ELE LO MOCIM XEN BEENEXA, YEŠ LANU YOTER
GDOLIM
If these dogs don't appeal to you, we've bigger

Earlier in this subsection, we ventured to posit pied piping for Hebrew and to spare the transformation rules much complication. It is now evident from our constraint against reordering across adverbials that the convention by which we move whole P + NP like IM MI 'with whom' rather than just the 'mentioned' NP MI 'whom' must refer to the highest adverbial

136. AXAREI 'after', it should be noted, never has the loosely anaphoric sense of 'afterwards', and is thus eminently worthy of a deletion analysis.

137. For 'constant movement', see Postal (1971:83).

138. Contrast this occurrence of a head-less adjective with that in fn.120; it is the specifier in (311) that has us posit a deleted head rather than deem the A a lexical N.

node; otherwise we should find ourselves moving items out of adverbials, i.e. breaking the constraint just established. Thus both pied piping and what we shall call the Adverbial Crashing Constraint refer to the same node - the highest adverbial node.

Before considering whether this entitles us to identify adverbials with nominals, observe that the combination of the Adverbial Crashing Constraint and the Pied Piping Convention has important bearing on our discussion of infinitival complements in 1.2.4. and of infinitival sentential adverbials on p.78-80 and 106. It was mooted in 1.2.4. that infinitival complements should not be dominated by NP; for one thing, they could not, under such circumstances, be prevented from pied piping unless we took the bold step of regarding them as unpruned S at this post-cyclical stage in the derivation or else chose to prevent VP nodes too from pied piping.

We can now be more specific about such options. Consider this unacceptable instance of an infinitival adverbial:

(312)*LIKNOT MA HALAXTA LAXANUT

To buy what did you go to the shop ?

We already have noted that the interrogative pronoun by itself cannot be moved out of the infinitival adverbial, witness (221) on p.80. Now we see that pied piping of the whole infinitival is equally impossible, despite the fact that the highest adverbial node has been shown to pied pipe. We cannot reasonably claim, as in the case of infinitival complements, that the infinitival is not dominated by the pied piping node (as yet not definitively named) and that two disjunctive nodes instead are to be generated at adverbial

points in structure; for the Adverbial Crashing Constraint can only plausibly be stated with reference to a common node for all four expansions of the adverbial, infinitivals included - to refer to function rather than node-name would not be satisfactory. (For infinitival complements, by contrast, no such constraints need capturing.) So we must block (312) either by appealing to an unpruned S between the VP and the higher adverbial node at the stage of Q-Movement¹³⁹ or by having the Pied Piping Convention refer to VP itself.

Returning to the question of adverbials and nominals, we offer two arguments, one positive and the other negative, against identifying the two structures: (a) the fact that adverbials but not nominals take a range of higher specifiers and that the latter but not the former take adverbials themselves would involve a clear-cut subclassification by function that would make a mockery of the notion of category functions. At a lower level of structure, too, we have seen that P complement structure differs sharply from that of N. (b) To identify adverbials and nominals because they share two operational properties would logically oblige us to identify verbals and adjectivals for sharing the opposite properties, an a fortiori more attractive prospect since the latter pair

139. To generate AP attributively in the base (as we suggested on p.70-2) affords many more options in pruning. Thus we can generate NAXALA ASIRA BEEZE MIN PEROT HUANAK LE-NAFTALI 'a territory rich in what kind of fruit was awarded to Naphtali?' without having to S-prune a reduced relative S so as to facilitate the pied piping of the overall fronted NP. In fact the constraint against pied piping of S provides us with another strong argument for base attributives: as Relative S Reduction (see Hayon (1973:110)) - and hence Relative S Pruning - is intrinsically ordered after Relativisation, we cannot generate the following example with its pied piping without a base AP: ANI MEDABER AL GOLDA MEIR, ISA XAZAKA MIMENA MEOLAM LO HIKARTI 'I'm talking about Golda Meir, a stronger woman than whom I've never known'. Interestingly, we cannot substitute IS XAZAK 'a stronger man', despite the acceptable YES IS XAZAK MIMENA 'Is there a stronger man than her?'

share more distributional properties; but we may well be equally entitled to group adverbials and nominals with adjectivals and to set verbals apart as a 'super-category' by themselves, in view of the readiness of the first three alone to complement V like HAYA 'be' and HIRGIŠ 'feel' and to function attributively (as illustrated in 1.3.4.). Thus we consider it presumptuous to identify adverbials and nominals as a single category or, adopting the procedure of Lakoff (1971), as having some feature of their categorial feature-bundle in common. One such general subclassification of categories for English has been deemed¹⁴⁰ to mask even more general properties; so let such schemes await the discovery of further general categorial tendencies in Hebrew.

Note, though, that Hebrew may, like English¹⁴¹, favour an NP analysis for those P + NP phrases that involve a P which subcategorises the V, A or derived nominal it follows (and which can be syntactically distinguished from 'lexical' P in many other ways, such as its non-occurrence before complement S and before gerundive NP¹⁴²). For such P are undoubtedly transformationally induced, seeing as they fail to appear in the sentence at all when the NP whose object status they might otherwise have indicated serves as a derived subject; furthermore, the +DEF Object Marker ET has been shown by

140. See Chomsky (1970a:198f) on the lexical status of derived nominals and the \pm stativeness of N as well as V, A.

141. Postal (1971:205f) assumes a transformational source for P as in 'agree on x' and proposes a chomsky adjunction changing $[X...Y]_{NP}$ into $[P - [X...Y]_{NP}]_{NP}$.

142. Berman (1973) discusses this property. See our analysis of gerunds on p.47-8. The distinction between the two types of PP in general is discussed in a non-transformational framework by Ben-Asher (1973:54-71).

Hayon (1973:63-4) to be a later derivation than the (probably post-cyclical) Relativisation rule which can affect the \pm DEF status of a relativised NP. So, since this P is induced, and doubtless chomsky adjoined¹⁴³, the dominating node will remain NP. But it will of course be the N, not the P, that serves in the role of X schematically.

Having argued against calling adverbials N, we opt to refer to them as P rather than by a name bound up with any of the other expansions of the adverbial; for, of all these, it is only P that takes a complement like the other major lexical categories.

To conclude this subsection, we compare our proposals for Hebrew adverbials and other major structures with those offered briefly for English by Jackendoff (1973). He likens PP (i.e. P (NP) phrases) to AP because of their measure adverbs (i.e. specifiers), to NP because they undergo clefting, to AdvP (i.e. the de-adjectival adverb phrase) in view of their preposability, and to S because they involve governed NP.

Taking the last point first, it would be more apt to liken PP to VP¹⁴⁴, since neither features a 'subject'; and the other major categories, AP and NP, as much as VP, involve a complement (i.e. a governed NP). As for the first point, one might well regard modifiers like 'complete', 'ten foot' as "measure adverbs" of the NP in English deep structure; for Hebrew, we have seen that degree adverbials are associated with VP as well as AP. Jackendoff's two remaining points of

143. For a brief account of chomsky adjunction, see Stockwell et al.(1973:14).

144. Jackendoff regards the whole S, rather than VP, as ranking equally with NP and PP.

comparison need to be related to different levels of structure: English PP are indeed like NP by virtue of clefting and all sorts of movement for which they pied pipe (there being no Adverbial Crashing Constraint in English, we probably need not posit pied piping for the adverbial as a whole); but to compare PP to AdvP for preposing is to mask the fact that not only AdvP but also S - and adverb particles too, if they are regarded as a separate category - turn up at that point in the S from which adverbials in general can be proposed; moreover, it might be argued that any hypothetical node at such a position in structure could be proposed.

For Hebrew, we prefer to say that the adverbial, at a high level, differs from other structures by its specifiers signifying degree and measure and by its lack of a broad semantic range of adverbials. At an intermediate level, it is again unique in its diverse expansions. As for the internal make-up of $P + \bar{N}$ (the only expansion comparable to the lower levels of other structures, by virtue of its complement), the complement structure is so limited as to set it apart again from V, A, and N structure - but still far more varied than the complement of transformationally derived construct phrases, which it sometimes resembles formally. The whole adverbial resembles the nominal in its resistance to the migration of material and its readiness to pied pipe.

Without suggesting a hierarchy of traits on the basis of an account so different from those frequently proposed for English, we expect, for instance, that languages that preclude migration out of adverbials will preclude migration in the opposite direction. One remarkable difference between Hebrew and English is that the former has maximum freedom of

movement across and within V and A structure (with, e.g., no bar on interposing between verb and object) and minimum freedom in P and N structure, whereas English is apparently moderately free in both cases. So the question - and we leave it as such - arises as to whether Hebrew and English are keeping a 'balance' between freedom of movement and restriction.

1.4.4. Adverbial recursion

We now turn briefly to two larger adverbial structures with recursive properties, the one involving complementation and the other apposition.

Consider (313-4):

(313) HIGIU AD KEESRIM KILOMETER MI PO

They got to about twenty kilometres from here

(314) TEARTI ET ZE BI MEDUYAK

I described it accurately (lit.: with accurate)

PO 'here' in (313) was deemed a base P + \bar{N} in 1.3.1. Here it is introduced in turn by the P MI 'from', the whole adverbial being specified by the measure adverbial KEESRIM KILOMETER (see p.95); the specified adverbial in turn is introduced by the P AD 'until; to'. We follow Jackendoff (1973) by having a recursive rule of the type $PP \rightarrow P (PP)^{145}$; as the Hebrew version must provide for P governing not only P + \bar{N} but also Adv such as those listed on p.67 and adjectives such as RAXOK 'distant' and KAROV 'near', plus the degree and measure specifiers of these expansions (as exemplified in (313)), we propose the following expansion of the adverbial \bar{P} :

145. His recursive PP is optional, in accordance with his notion of intransitive prepositions.

$$(315) \quad \bar{P} \rightarrow \left\{ P - \left\{ \begin{array}{l} \bar{N} \\ \bar{P} \end{array} \right\} \right. \\ \left. \begin{array}{l} \text{Adv} \\ \bar{A} \\ S \end{array} \right\}$$

We thus modify (296) on p.107 to the extent of including a recursive \bar{P} as an alternative obligatory complement of P.

Further to (313), we shall just hint at the restrictions on the P that are allowed to govern adverbials and on the adverbials that are amenable to government. The Adv AXŠAV 'now', for instance, appears in ME AXŠAV 'from ___', AD AXŠAV 'till ___' but not *LIFNEI AXŠAV 'before ___'. The Adv KAN 'here' appears after MI 'from' and LE 'to' but not after DEREK 'through' or LEEVER 'towards'. Yet LIFNEI 'before' does govern the adverb MAXAR 'tomorrow'¹⁴⁶, which suggests the need to subcategorise P for particular lexical complements - unless semantic constraints can be proven.¹⁴⁷

As for (314), it exemplifies the semi-productive construction in which the P BI 'with' governs a non-agreeing A or AP, forming S adverbials such as BE VADAI 'certainly (lit.: with certain)', BE MAFTIA '(lit.) with astonishing' and more integral adverbials like BI MEURPAL '(lit.) with vague', BE XAŠAI '(lit.) with clandestine'. Although certain such A do take complements, witness DOME 'similar' in (316) below and MAKBIL 'parallel', NOSAF 'added', most of such adjectives are incapable even of taking a mere specifier, witness (317) :

(316) BE DOME LAHEM, HASINIM AF HEM MEURIM

Like them (lit.: with similar to them), the Chinese too are involved

146. Being an Adv, MAXAR does not serve as object in *HICTU (ET) MAXAR LAPTIKA 'They suggested (Obj.M.) tomorrow for the opening' - where YOM GIMEL 'Tuesday' is acceptable.

147. Jackendoff (1973) too subcategorises P for complement PP.

(317)*TEARTI ET ZE BI MEDUYAK MEOD

I described it (lit.) with accurate very

Such A are thus even more limited than those functioning adverbially, which, as illustrated on p.73, can at least appear with their specifiers. That we regard the A in BI 'with' + A phrases as adjectives at all is due to their being identical to other occurrences of A.

A thornier problem is the function of this A. To generate it as the immediate complement of P, by a rule $\bar{P} \rightarrow P - \{ \bar{N}, \bar{P}, \bar{A} \}$, would be to ignore the absence of complementary adjectives after V and A and would require us to account for the absence of verbs as [Comp, P].¹⁴⁸ The most economical solution would be to regard this function of A as an expansion of the recursive \bar{P} already serving as a [Comp, P], i.e. to analyse MEDUYAK 'accurate' in (314) as an adverbial adjective embedded in a larger adverbial, roughly $[P [A]_{\bar{P}}]_{\bar{P}}$. The drawback is a lexical one: few adjectives that function as expansions of \bar{P} function in [Comp, P] as well, and vice versa - thus we cannot take the A KASE 'hard' of (172) and embed it as part of a larger adverbial or take the embedded A MEDUYAK 'accurate' of (314) and use it as a direct expansion of \bar{P} , witness (318-9):

(318)*ANI OVED BE KASE I'm working (lit.) with hard

(319)*TEARTI ET ZE MEDUYAK I described it accurate

These lexical restrictions, while capable of being captured by subcategorisation just like those between P and Adv on p. 120, are untidy, even for adverbials. But we can offer no alternative.

148. Admittedly, it will be recalled that N, P and A patterned together as attributives and as complements of the HAYA 'be', HIRGIS 'feel' group of verbs, in 1.3.4., but we are entitled to question such patterning in principle.

On a more general level, there is something odd about this ability of P to govern not only \bar{N} (and S) but also a recursive \bar{P} : other categories governing complements take \bar{N} and S but not \bar{P} (in the base), and, not surprisingly in view of this, \bar{P} again differs in not functioning as subject - a fact invoked when we set up the class of Adv in 1.3.1.

Now one might try to mask the eccentricity of [Comp, P] by a lexicalist generalisation of this recursion. For observe that among the complements of \bar{V} are infinitivals that might be deemed \bar{V} in deep structure¹⁴⁹; so too for A structure, mutatis mutandis; and among the complements of \bar{N} (i.e. derived nominals) is \bar{N} . So, ignoring the problem of whether prepositional complements are [Comp, P] or [Comp, \bar{P}] (see p.96-7), one might capture all this recursion by the general schema $\bar{X} \rightarrow \bar{X} - (\bar{X})$. But this is intuitively perverse, and leaves a greater residue than a $\bar{X} \rightarrow \bar{X} - ([Comp, \bar{X}])$ generalisation. So we prefer to see the recursive \bar{P} in the \bar{P} rewrite rule as a puzzling eccentricity in Hebrew (and perhaps many other languages).

The second type of adverbial recursion, appositional in nature, has been captured for German by Steinitz (1969:135) and for English by Jackendoff (1973) in the rule $PP \rightarrow P (NP) (PP)$ ¹⁵⁰. We expect that a similar rule might account for Hebrew adverbial apposition as in (320):

149. See p.50, fn.67. To call infinitivals featuring an adjective \bar{A} , we should have to cease regarding adjectives as complements of HAYA 'be' and generate them disjunctively with VP, introducing a copula transformationally. Hayon (1973:III) generates them disjunctively with $V+NP$, in line with Bach (1967).

150. The two differ over the optionality of NP.

(320) HADUXIFAT YAŠVA BAGINA MITAXAT LADEKEL

The hoopoe sat in the garden under the palm-tree

As we do not believe that the Hebrew rule diverges from its German and English counterparts, we shall not elaborate on it here. Note though that it will involve \bar{P} , not just $P + \bar{N}$.¹⁵¹

1.4.5. Summary

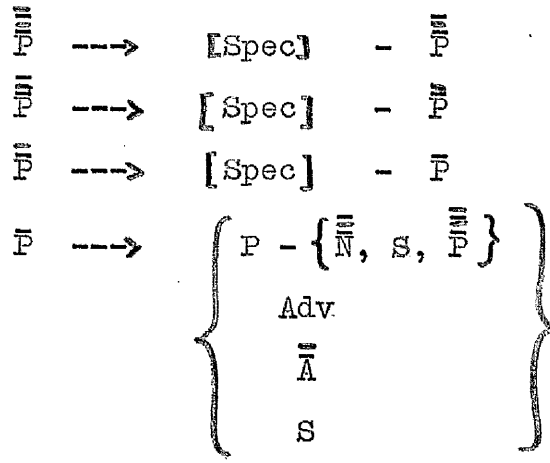
In this chapter we have endeavoured to describe base adverbial structure, comparing it with other major structures in the base while employing various lexicalist notions.

In this, we have not followed what Knowles (1970) has termed the "Primitive Adverbial Theory", according to which adverbials are disjunctively expanded from variously named nodes (as in, e.g., Lees (1957)), but have instead derived all functionally identical adverbials from the same deep structure category, the 'Preposition Phrase', which we have called \bar{P} . This we have taken as occurring at several points in sentence structure, but without trying to determine these points.

In conclusion, we restate the base rule for adverbials; it includes information on complementary but not appositional recursion, in accordance with fn.151 :

151. We are not convinced in principle that such a rule should generate P , its complement and the recursive apposed PP as sisters rather than generating the PP themselves as sisters in line with the node recursions proposed in Lakoff & Peters (1966) and Dougherty (1970a). So we shall not suggest a rule for Hebrew, though confident that it will be similar to that in English or German.

(321)



CHAPTER 2 : "ADVERBIAL CLAUSES" - A TRANSFORMATIONALIST
ACCOUNT

The sentential [Comp, P]¹⁵² and sentential adverbials generated by the base rules proposed in 1.2.4. and 1.3.3. respectively do not represent the sum total of Hebrew "adverbial clauses"¹⁵³. By means of recursion, we can expand NP within adverbial structure into further clauses of many syntactic kinds, all having as much or as little right as the two kinds mentioned above to be regarded as "adverbial clauses" in deep structure.

But we shall argue in this chapter that transformational processes take place in Hebrew to invest many such clauses with all the trappings of sentential [Comp, P]. These processes are the dismantling of "hidden relative" structures - as we shall call them - by deletion of relative items and head NP; and the incorporation of head nouns of relative and apposed S into derived pro-adverbials that might easily be mistaken for prepositions. The resultant clauses, while not to be regarded as [Comp, P] or sentential adverbials even in surface structure, have traditionally been felt to merit the epithet "adverbial clause".

We endeavour to diagnose such clauses by analysing the parenthetical S¹⁵⁴ that appear in relative and adverbial structure, the concomitant option of [Comp, V] Clause Deletion, and the Derived Nominal, while refraining from drawing

152. We shall continue to refer in this way to the complements of prepositions.

153. We shall only use this traditional term in a loose way.

154. This term is used by Emonds (1969:1.10).

any inferences from the behaviour of factive verbs and tense. Finally, we offer some counter-proposals to possible objections based on Coordination and on the more general problem of "syntactic ambiguity" that our account raises.

In the course of this chapter, we show that our account of the deep structure of Hebrew "adverbial clauses", as well as our proposals for English based on roughly the same diagnostics, differs markedly from analyses set in a syntactic framework for English by Ross (1967a), Huddleston et al. (1968) and Geis (1970), and for Hebrew by Hayon (1973) ; and those in a logical framework by Leech (1969) and König (1974). We also seek tentative semantic motivation for the disparate reactions among temporal and causal structures to the transformations we are proposing.

2.1. : PARENTHETICAL S

2.1.1. Parenthetical S and Relative Movement.

Consider the following example of a relative clause:

(322) HAKEDER HAKATAN ŠE BO HISKIMU LAXTOM AL XOZE HAŠALOM
MUCA AXŠAV LIMKIRA

The tiny room CMP in which they agreed to sign the¹⁵⁵
peace treaty is now up for sale

155. Complementisers will henceforth be written CMP. Hayon (1973:43 and V) treats such items as Relative Markers, despite the fact that ŠE in particular introduces [Comp, V], [Comp, N] and [Comp, P] clauses too. We, in accordance with our discussion in 1.3.3., shall call ŠE and other members of the category Complementisers.

This is ambiguous: perhaps just the signing or perhaps just the agreement to sign took place in the room. To capture this in deep structure, let the relative pro-form BO 'in which' originate in the embedded infinitival and in the top relative S respectively. Thus (322) derives from deep structure strings looking something like (323) and (324):

(323) HAXEDER HAKATAN [ŠE HISKIMU [LAXTOM AL XOZE HAŠALOM BAXEDER HAKATAN]] MUCA AXŠAV LIMXIRA

The tiny room [CMP they agreed [to sign the peace treaty in the tiny room]] is now up for sale

(324) HAXEDER HAKATAN [ŠE HISKIMU BAXEDER HAKATAN [LAXTOM AL XOZE HAŠALOM]] MUCA AXŠAV LIMXIRA

The tiny room [CMP they agreed in the tiny room [to sign the peace treaty]] is now up for sale

We base this derivation on two facts of syntax. Firstly, the relative pro-form is quite capable of making a surface appearance in the same positions as in our proposed deep strings, witness (325-6)¹⁵⁶:

(325) HAXEDER HAKATAN ŠE HISKIMU LAXTOM BO AL XOZE HAŠALOM MUCA AXŠAV LIMXIRA

The tiny room CMP (lit.) they agreed to sign in which the peace treaty is now up for sale

(326) HAXEDER HAKATAN ŠE HISKIMU BO LAXTOM AL XOZE HAŠALOM MUCA AXŠAV LIMXIRA

The tiny room CMP (lit.) they agreed in which to sign the peace treaty is now up for sale

Now the notion that just the signing takes place in the room can be expressed by the surface sentence (325) but not by (326); and vice versa for the notion that just the agreement takes place in the room. Both notions can be expressed by having the relative pro-form stand at the head of the relative

156. In (325) we have let the pro-form precede the complement of the infinitive, for purely prosodic reasons (as described in Hayon (1973:VI,3)).

clause as in (322). So it is simplest to capture the two notions by (323) and (324) respectively and to posit an optional rule of Relative Item Preposing¹⁵⁷, which has the effect of giving the S over which "hopping" takes place a parenthetical quality.

The second reason for our analysis of (322) concerns V such as GAR 'dwell', which take an obligatory Place adverbial and thus disqualify sentences like (327):

(327)*ANI LO ROCE LAGUR I don't want to dwell

The acceptability of (328), where the infinitival containing GUR 'dwell' is again devoid of any Place adverbial, confirms that the complement of GUR has been moved to the head of the relative structure:

(328) BIKARNU BAMAKOM SE BO ANI ROCE LAGUR

We visited the place CMP in which I want to dwell

It is noteworthy that certain V impede such "hopping" of relative items out of their complement S. We wish to argue that this constraint is capable of easy syntactic description and thereby contrasts with a broader, more "semantic" constraint on parenthetical S in adverbial structures, which consequently is not, as we shall see in 2.2.1., to be taken as decisive evidence of leftward movement in adverbial structure.

157. We have made passing reference to this rule on, e.g., p.49-50. Hayon (1973) regards Relative Preposing, optional as it is, as just a case of stylistic fronting (i.e. Topicalisation). But we are opposed to such identification, not only because Relative Preposing does not have the emphatic effect of Topicalisation but also because sentences involving VP-preposing - ANI BEXEFEC LEV ECE IM SOS AVAL LACET IM EDNA ANI LO ROCE 'I'll willingly go out with Shosh but (lit.) to go out with Edna I don't want - are well-nigh impossible in a relative context: *?KOL HAFSARIM SE RACITI LEAYEN BAHAM NIMCAIM BASIFRIYA AVAL HAFSARIM SE LEHASIL OTAM RACITI NEEDARIM 'All the books that I wished to consult are in the library but the books that to borrow I wanted are missing'.

First observe that Relative Preposing does in principle operate across finite parenthetical S:

(329) ANI ROE ŠE HI LO NAKTA BACEADIM ŠE BAHM XAŠAVTI ŠE HI
TINKOT
I see that she hasn't taken the steps CMP which I
thought she'd take

Now among the V that impede such preposing is HICTAER 're-
gret'. We cannot say:

(330)*KIVITI ŠE HI LO TINKOT BACEADIM BAHM ANI MICTAER¹⁵⁸
ŠE HI NAKTA
I hoped that she wouldn't take the steps which I regret
that she's taken

In the next subsection we shall be able to show with greater ease that the V causing the impediment are probably to be identified as factives. For the moment, what concerns us is that the constraint need not be stated in broad semantic terms, in view of the acceptability of a sentence like (330) above once the offending V is replaced by the S-adverbial LECAARI 'to my regret' (derivationally akin to HICTAER 'regret'):

(331) KIVITI ŠE HI LO TINKOT BACEADIM BAHM HI NAKTA LECAARI
I hoped that she wouldn't take the steps which she has
taken to my regret.

2.1.2. Parenthetical S and Adverbial Preposing.

Another leftward movement rule that serves to explain parentheticality is Adverbial Preposing. Consider (332):

(332) ANI XOŠEV AXSAV ŠE MEZEG HAAVIR YIHYE DAI NAIM MAXAR
I think now that the weather will be quite nice tomorrow

MAXAR 'tomorrow' is incompatible as an adverb of the matrix

158. We take up the option of dropping the Relative complementiser ŠE, so as to render the sentence as uncomplicated as possible.

V, XOŠEV 'think', as shown by its inability to substitute for AXŠAV 'now', in (333):

(333)*ANI XOŠEV MAXAR ŠE MEZEG HAAVIR YIHYE DAI NAIM

I think tomorrow that the weather will be quite nice

And yet MAXAR 'tomorrow' does appear at the head of the matrix S, witness (334):

(334) MAXAR ANI XOŠEV ŠE MEZEG HAAVIR YIHYE DAI NAIM

Tomorrow I think that the weather will be quite nice

This reminds us of the behaviour of relative pro-forms in 2.1.1.; we are thus entitled to regard the adverbial in (334) as having undergone unbounded preposing across the parenthetical matrix S.¹⁵⁹

In this context it is simple to conduct controlled tests to establish which predicators impede leftward movement in the same way as HICTAER 'regret' in (335):

(335)*MAXAR ANI MICTAER ŠE MEZEG HAAVIR YIHYE MEUNAN

Tomorrow I regret that the weather will be cloudy

The offending predicators appear to include MABSUT 'glad', MEANYEN 'it is interesting', MEAXZEV 'it is disappointing' and generally predicators semantically akin to the factives distinguished for English by Kiparsky & Kiparsky (1971)¹⁶⁰; but

159. Adverbial Preposing, while unable to apply to the same range of adverbials as the emphatic preposing rule (Topicalisation), let alone to other syntactic categories, may be identifiable with Topicalisation, for the latter, unlike its English counterpart, occurs as readily over the domain of embedded S as Adverb Preposing.

160. Possible syntactic criteria for factives are the presence of HAUVDA/KAX ŠE 'the fact that' before their complement; the reduction of the complement to ŠE KEN 'que oui' or the pro-S KAX; the readiness of 'subject-less' predicators (e.g. MEANYEN 'it is interesting') to allow their complement S to precede them, in normal subject position; and the acceptance of derived nominals - e.g. XIVARON 'paleness' - as substitutes for (stative) complement S.

again S-adverbials like LECAARI 'to my regret' allow preposing.

2.1.3. Parenthetical S and Sentential [Comp, P] .

Having captured the ambiguity of matrix S by separate derivations in the case of both Relative Fronting and Adverbial Preposing, we turn to the central theme of this chapter, apparent and real sentential [Comp, P].

Consider (336):

- (336) HAKNAANIM ARXU HATKAFAT PETA XACI ŠAA LIFNEI ŠE ANAXNU
KAVANU LEHATKIF
The Canaanites launched a surprise attack half an hour
before CMP we determined to attack

The adverbial clause in (336) is ambiguous: it can specify that the attack preceded either the very decision or just the projected attack. Similar ambiguity accompanies verbs like HEXLIT 'decide', TIXNEN 'plan', XAŠAV 'think'.

Now the interpretation could be said to vary with the nature of the V itself: when the V does not participate in the time relationship, i.e. when attack precedes attack, the V might be deemed stative; when it does participate, it might be considered non-stative. But in any event there may be no formal grounds for a syntactic feature \pm STATIVE in Hebrew¹⁶¹; and rather than capture the ambiguity of the adverbial clause in (336) purely semantically, we shall try to find substantial syntactic reflexes in the structure of the adverbial clause.

There are no immediate indications that S introduced by LIFNEI 'before' are anything other than simple S, structurally

161. Hebrew has no equivalent to the English continuous tense; and verbs like YADA 'know' and RAA 'see' appear in the imperative (in the sense of 'I want you to know/see'). But see fn.160.

represented as (337)¹⁶²:

(337) HAKNAANIM HITKIFU [XACI ŠAA [LIFNEI ŠE ANAXNU KAVANU
LEHATKIF]]]

The Canaanites attacked [half an hour [before [CMP we
determined to attack]]]

To capture the ambiguity in deep structure rather than by an interpretive semantic rule of the type proposed in general by, int. al., Jackendoff and Hasegawa, we must either posit a difference in the matrix V or else assume some underlying element variously generated at either level of embedding within the [Comp, P] clause. In favour of the latter, note that (a) we can paraphrase (336) by (338) and (339):

(338) HAKNAANIM HITKIFU XACI ŠAA LIFNEI HAZMAN ŠE ANAXNU
KAVANU LEHATKIF BO
The Canaanites attacked half an hour before the time
CMP (lit.) we determined to attack at which

(339) HAKNAANIM HITKIFU XACI ŠAA LIFNEI HAZMAN ŠE ANAXNU
KAVANU BO LEHATKIF
The Canaanites attacked half an hour before the time
CMP (lit.) we determined at which to attack

And (b) such occurrence of items in various S was held to be at the root of ambiguity of parenthetical S in the case of relatives and adverbial preposing in 2.1.1.-2.

Geis (1970), in "Time Prepositions as Underlying Verbs", goes so far as to derive "John arrived before Bill was fired" from "John arrived at a time that was earlier than the time at which Bill was fired", i.e. he derives the English P 'before, after' from the comparative predicates 'earlier, later', and then dismantles the two relative structures in his source sentence, head and relative pronoun included. 'Since' and

162. We simplify (336); we also give a simplified version of the X bar notation proposed in Chapter 1.

'until' expressions are also traced back to "All during the time that began at the time at which.." and "All during a time that ended at the time at which.." respectively.

Let us turn our attention to the inner and outer relative structures he posits in these deep strings.

Geis gives not a single indication as to how to dismantle such relative structures, let alone the degree of motivation for this process in English. His arguments for these structures are that (a) 'until, since' govern the adverb pro-form 'then', in what is "superficially a noun phrase position"; 'then' can thus be explained as a pro-form representing "at the time at which". (b) this inner relative structure saves us from having an undesirable underlying "John arrived at a time that was earlier than Bill was fired". (This argument is only implicit.) (c) There are well-formed paraphrases involving such relative structures.

One thing Geis does not mention in support is the ambiguity arising in English, as in Hebrew, from parenthetical S, which we are taking as prima facie evidence for a more complicated deep structure ourselves.

Our objections to Geis' argument are that (a) English and Hebrew P, as illustrated in 1.4.4., do govern adverbials as well as NP, so examples like "until then" are no evidence for underlying relatives; furthermore, Hebrew, as noted on p.120, does not allow expressions like LIFNEI/AXAREI AZ 'before/after then' at all. (b) We shall argue in chapter 3 that the P LIFNEI, AXAREI 'before, after' are not transformationally related to MUKDAM YOTER, MEUXAR YOTER 'earlier, later', for reasons relevant to English too. (c) Geis himself, stressing the tentative nature of his proposals, concedes, *int.al.*, that his

"earlier than" source for "before" is incompatible with the principle of deep structure lexical insertion, and that, moreover, he is unable to block "*John arrived earlier than Bill was fired" and "*John will leave after anyone else does". (d) The economy of generating time adverbials and predicates from the same source is perhaps one of the weakest reasons for such a tortuous and problematic derivation. When one compares the derivation of (328) BIKARNU BAMAKOM SE BO ANI ROCE LAGUR 'We visited the place CMP in which I want to dwell' by relative pro-form fronting from ..LAGUR BO '..to dwell in which' - which explains the surface occurrence of GUR 'dwell' without a place adverbial - with Geis' derivation of 'since + S' from 'all during the time that began at the time at which S' - which explains the use of the past tense in 'since' clauses - one might argue that the former phenomenon, by its exceptionality, is much more in need of a transformational source than the latter, which can no doubt be stated within a broader semantic framework and should not be regarded as a syntactic aberration.

One is also reminded that recent work has tended to overrule many earlier derivations based on economy in the statement of cooccurrence restrictions, such as the derivation of attributive from predicative A, of derived nominals from V and of adverbs from higher predicates.

To return to the ambiguity of parenthetical S within adverbial clauses, such ambiguity is not, in our view, sufficient grounds for a dual source. A rule of interpretation at the level of deep structure, along the lines of Hasegawa (1972) who provides in this way for the identification of the assertor of any clause, might prove simpler and more applicable

to a broad spectrum of cases¹⁶³. We support Hasegawa's suggestion that "no cases of 'absolute neutralisation' should be allowed in syntax" - by which he means that separate deep sources should not be provided for ambiguous sentences unless they have formal justification, i.e. something approaching a maximal realisation along other derivational paths, so that a host of deep sources is not fated to be reduced to a single surface string.

The practice Hasegawa condemns is an extreme case, where there exists not even a simple paraphrase that the posited deep source might be said to feed.

Our case is milder: as noted, there is a ready paraphrase for (336) that supports a dual source and constitutes another 'derivational path'. Yet the existence of even a simple paraphrase cannot, in our view, justify a rule dismantling a relative structure; the rule should be independently motivated, or else we might transformationally relate any so-called paraphrases.

Perhaps even more important than alternative derivational paths are tell-tale syntactic phenomena that speak for the presence of underlying elements. Together with an independent motivation for the proposed rule, they are, to our mind, an ample justification for a transformationalist rather than an interpretive account of the ambiguity of parenthetical S¹⁶⁴.

163. Such an interpretive rule would apply before a [Comp, V] Deletion rule (to be discussed) reduces AVI HIGIA LIFNEI SE CIPITI SE HU YAGIA 'My father arrived before I expected that he'd arrive' to AVI HIGIA LIFNEI SE CIPITI 'My father arrived before I expected', which is just as ambiguous.

164. Ross (1972) has proposed a Principle of Semantic Relevance in addition. Our derivation for (336) does satisfy this; but the independent syntactic motivations we shall soon adduce are, for us, more essential than the former.

2.2. : THE CASE FOR A "HIDDEN RELATIVE"

2.2.1. Modified Head Deletion.

Recall (336) and the two paraphrases (338-9). Consider now a further paraphrase that might be taken as an intermediate derivation between (338-9) and (336), insofar as it contains no relative item:

- (340) HAKNAANIM HITKIFU XACI ŠAA LIFNEI HAZMAN ŠE ANAXNU
KAVANU LEHATKIF
The Canaanites attacked half an hour before the time
CMP we determined to attack

We first wish to present the motivation for a rule converting deep strings approximating to (340) into (336). We can point to a major rule in Hebrew that deletes head NP when they are modified in certain ways. Consider (341-4):

- (341) HAYU ŠE TAVU BXIRA MIYADIT
There (lit.) were CMP demanded an immediate election
(= there were those that demanded..)
- (342) ATA HU ŠE RACAXTA ET HARAKDANIT¹⁶⁵
You are CMP murdered the dancer (=the one that..)
- (343) NIRE LI ŠE HA MECADEDIM IM BEGIN MERUCIM MEHATOCAOT
It seems to me that CMP side with Begin are pleased with
the results (=those that side with..)
- (344) ANI MAXZIR ET AŠER LAKAXTI
I'm returning CMP I took (=what I took)

(341-4) illustrate the deletion of the head of a relative S in the context of three different complementisers, ŠE, HA and AŠER. That the embedded S concerned are indeed relative S can easily be established; in (341) in particular, the matrix and the embedded V agree for number (with the deleted

165. This example, and (344), are culled from Hayon (1973:136).

head NP), while in (343) the morph HA can be shown to be functioning as a complementiser rather than in its second role of definite article¹⁶⁶ from the fact that MECADEDIM IM BEGIN can be understood as a VP 'side with Begin' but not as a NP 'sympathisers with Begin'¹⁶⁷ (for when present tense V function as agent nouns they do not take the same range of complement PP as the corresponding V).

Now we wish to suggest that the rule deleting the head of such relative S is a relatively restricted rule, quite unlike that deleting the head of [N + A] phrases under identity with a preceding N, illustrated in (311) on p.113. The restrictions concern the nature of the head and the context of deletion.

The head of a relative S of the SE type can be deleted only when the whole NP in question functions as subject of the existential verb HAYA 'be'¹⁶⁸, or possibly as predicate of the present tense copula¹⁶⁹, as in (341-2); but certainly not when the NP fulfils any other function. The deleted head itself can be anaphoric (note that RACAXTA 'murdered' in (342) agrees for person with ATA 'you') or, in the case of the subject of existential HAYA 'be', a 'designated' indefinite human noun too¹⁷⁰; but whatever type of NP is deleted in subject-of-'be' position, it must be plural, i.e. (345) is acceptable but not (346):

166. Hayon (1973:189) analyses the functions of HA.

167. Present tense V regularly serve as agent N.

168. As opposed to the copula HAYA 'be', introduced transformationally by Hayon (1973:117).

169. In taking (342) as a case of head deletion, Hayon ignores such thorny problems as the absence of deletion after the past or future copula or the negative copula. The deleted head may in fact be subject of the copula.

170. See 2.5.2. for a different deleted -DEF human NP.

- (345) IM ATA MEDABER AL HAANIVOT, ANI BATUAX ŠE YEŠ ŠE
MATIMOT LI
If you're talking about the ties, I'm sure that (lit.)
there are CMP suit me
- (346)*IM ATA MEDABER AL HAANIVOT, ANI BATUAX ŠE YEŠ ŠE
MATIMA LI
If you're talking about the ties, I'm sure that there
is CMP suits me

By contrast, head deletion in the context of HA relative S is not restricted contextually, nor need the head NP be plural. But that occurring in the context of AŠER-type relative S involves the deletion of just a 'designated' masculine singular NP equivalent to MI 'someone' or MA 'something'¹⁷¹, and is highly literary except in oblique position.

Having argued for the restricted nature of S-Modified Head Deletion, let us discuss the motivation for a rule deleting an abstract head NP of Time and thus converting (340) into (336).

Had S-Modified Head Deletion taken place for all heads and in all structural positions, it might have appeared odd that an abstract NP of Time should be deleted just after certain P - including LIFNET 'before' and AXAREI 'after' for instance but not BE 'at', so that (347) cannot be deprived of ZMAN 'time' and reduced to the ill-formed (348):

- (347) HIKARTI OTA BI ZMAN ŠE HAYITI BE SIDKUP
I got to know her (lit.) at time CMP I was in Sidcup
- (348)*HIKARTI OTA BE ŠE HAYITI BESIDKUP
I got to know her at CMP I was in Sidcup

(Details as to which P permit the deletion of a governed head NP of Time will be given in 2.3.) Nor does such deletion occur in subject or object position to transform (349) into (350):

171. See Hayon (1973:169f.) for explicit formulation of this aspect of S-Modified Head Deletion.

(349) BESIPUR ZE HU MEŠAXZER ET HAZMAN ŠE HU HAYA BEAFULA

In this story he reconstructs the time he was in Afula

(350)*BESIPUR ZE HU MEŠAXZER ET ŠE HU HAYA BEAFULA

In this story he reconstructs (lit.) CMP he was in Afula

Such restricted deletion of an abstract NP of Time does not seem odd, however, in the light of the contextual restrictions on general S-Modified Head Deletion, particularly that involving the complementiser ŠE. It is ŠE, moreover, that is featured in all cases of NP of Time deletion to be mentioned in 2.3.¹⁷² Without suggesting that this is our only evidence for a dual source for (336), we would propose that a rule involving items in restricted grammatical or lexical contexts is better motivated by the existence of a similar rule that is itself restricted in some such way than by that of a rule not subject to such limitations in its structural analysis. Put another way, an irregular rule is more highly valued against a background of kindred irregularities.

Before turning to our central source of evidence for 'hidden relatives', [Comp, V] Deletion, let us conclude this subsection by drawing inferences from the inability of factive predicates of the kind already described in 2.1.1.-2. to occur ambiguously in adverbial clauses, witness (351), which we have deemed ill-formed since its non-parenthetical reading is nonsensical too:

(351)*AFILU IM HAMILXAMA HAYTA PORECET ŠNATAYIM LIFNEI ŠE ANI MICTAER ŠE HI PARCA, ZE LO HAYA MEŠANE

Even if the war had broken out 2 years before I regret that it broke out, it wouldn't have made any difference

172. Hayon (1973:171-2) mentions that an abstract NP of Place also deletes, in the context of AŠER-type relative S. He fails to note that it happens only within PP of a restricted kind, just like NP of Time deletion.

Were we certain that this constraint on ambiguity in adverbial clauses matched that in relative structures and preposed adverbial contexts, we could reasonably prefer to posit a movement rule in the derivational history of adverbial clauses rather than set up an accordingly more complex rule of interpretation. But in fact (351) may be ill-formed for reasons more general than the presence of a factive predicate - consider (352):

(352)*AFILU IM HAMILXAMA HAYTA PORĚCET ŠNATAYIM LIFNEI ŠE HI PARCA LECAARI, ZE LO HAYA MESANE
 Even if the war had broken out two years before it broke out to my regret, it wouldn't have made any difference

This contrasts with the acceptability of LECAARI 'to my regret' in the context of Relative Preposing in (331) on p.129. Though the matter would seem to require much fuller research, we shall not set much store by the general unacceptability of factives in parenthetical adverbial S - another example of which is (353) - and instead proceed to [Comp, V] Deletion.

(353)*HAYITI BATUAX ŠE HI TAGIA LEFAXOT XACI ŠAA LIFNEI ŠE HI LECAARI HIGIA
 I was sure that it would arrive at least half an hour before it to my regret arrived

2.2.2. [Comp, V] Clause Deletion in Relative Structure

For another case of ambiguity, consider (354):

(354) HI LO YOŠEVET BAMAKOM SE KAŠAVTI
 She's not sitting in the place CMP I thought

It is our claim that (354) can be¹⁷³ the outcome of the deletion of a complement clause under identity, its source being:

173. It is nominally ambiguous because the act of thinking itself may have taken place in the location, as in YAŠAVNU LEEKOL ET HASENDVICIM BAMAKOM SE BO APLATON HAYA XOŠEV VE-LOMED 'We sat down to eat sandwiches in the place in which Plato used to think and study'.

- (355) HI LO YOŠEVET BAMAKOM [ŠE XAŠAVTI [ŠE HI YOŠEVET BAMA-
KOM]]
She's not sitting in the place [CMP I thought [CMP
she's sitting in the place]]

We shall argue from the optional appearance of relative pro-
forms in surface structure that [Comp, V] Clause Deletion is
a rule of Hebrew.

Observe first that the relative item to be recovered
in (354) cannot be MAKOM 'place' functioning as object of
XAŠAVTI 'thought': the object relative pronoun, normally cap-
able of putting in a surface appearance, witness (356), is
inconceivable in the context of (354), witness (357):

- (356) HI LO YOŠEVET BAMAKOM ŠE OTO HEXANTI LA
She's not sitting in the place CMP which I made ready
for her

- (357)*HI LO YOŠEVET BAMAKOM ŠE OTO XAŠAVTI
She's not sitting in the place CMP which I thought

This is scarcely surprising, as one cannot 'think' places in
Hebrew.

Nor is there any chance of deriving both readings of
(354) from (358) and putting the ambiguity down to a surface
rule of semantic interpretation:

- (358) HI LO YOŠEVET BAMAKOM [ŠE XAŠAVTI BAMAKOM]
She's not sitting in the place CMP I thought in the
place

For we cannot paraphrase (354) in its more obvious sense with
a version in which the relative pro-form comes to the surface:

- (359)*HI LO YOŠEVET BAMAKOM ŠE BO XAŠAVTI
She's not sitting in the place CMP in which I thought

Another interesting indication that the relative item to
be recovered in (354) is no object pronoun involves cases in
which the head of the relative S is incorporated in a pro-

adverbial - pro-adverbials are anaphoric islands¹⁷⁴ in the sense that anaphora is prevented from applying to just the NP component of the adverbials.

Consider first (360), where one might be in doubt as to whether the embedded S itself harbours a relative anaphor or another, hidden S is involved:

(360) ATA TEŠEV EFO ŠE ANI OMER
You'll sit where CMP I say

That EFO 'where' is indeed the head of a relative S and not a preposition is evident from (361), where the ability of the V GAR 'dwell' to occur without its obligatory Place adverbial¹⁷⁵ points to the deletion of the adverbial as a relative pro-form under identity with the entire head adverbial EFO 'where'¹⁷⁶:

(361) ANI LO ROCE LAGUR EFO ŠE HI GARA
I don't want to dwell where CMP she dwells

Now the evidence that EFO 'where' is an anaphoric island stems from the unacceptability of examples like (362), contrasting with the well-formed (363) which approximates to the deep structure at a stage preceding the incorporation of NP into the pro-adverbial:

(362)*BILINU KAMA ŠAOT EFO ŠE MEXANIM UŠA
We spent a few hours where CMP they call Usha

(363) BILINU KAMA ŠAOT BAMAKOM ŠE MEXANIM UŠA
We spent a few hours in the place CMP they call Usha

Thus the relative anaphor in (360) must be in a hidden

174. For this term, see Postal (1969). Steinitz (1971:152) deals with the same phenomenon for German.

175. See p.128.

176. We shall elaborate on this phenomenon in 2.2.3..

clause: and (355) represents the most likely deep structure of sentences like (354) and (360) in their more obvious readings, especially as it underlies an alternative derivative:

(364) HI LO YOŠEVET BAMAKOM ŠE BO XAŠAVTI ŠE HI YOŠEVET
She's not sitting in the place CMP in which I thought
CMP she's sitting

Let us formulate the rule that thus deletes the sentential complement of parenthetical V (i.e. [Comp, V] S); it will be crucial to our discussion of [Comp, V] S Deletion in adverbial clauses.

First, the subject of the complement S, as well as the verb, must be identical to that of the matrix of the parenthetical S. Thus the deep string (365), but not (366), can be transformed into (367):

(365) HI YAŠVA EFO [ŠE ANI RACITI [ŠE HI TEŠEV]]
She sat where [CMP I wanted [CMP she will sit]]



(366) HI YAŠVA EFO [ŠE ANI RACITI [ŠE ANI EŠEV]]
She sat where [CMP I wanted [CMP I shall sit]]

(367) HI YAŠVA EFO ŠE ANI RACITI
She sat where CMP I wanted

The deletion rule will probably have ignored the tense of the respective V to an extent, but we shall not go into this.

Second, the deleted complement must be structurally akin to the matrix S of the parenthetical S. Thus, if the matrix S contains an adverbial, such as that serving as antecedent to the relative S in (367), the [Comp, V] to be deleted must itself embrace an adverbial - such as the anaphoric BAMAKOM 'in the place' in the deep string (355). This will ensure that deep strings approximating to (368), where the adverbial BA 'in which' originates in the top S of the

relative structure rather than in the complement S, will not be transformed by [Comp, V] S Deletion into (369):

(368) LEMAASE ANI BIXLAL LO HITKADAMTI BATKUFA BA KAŠAVTI
SE ANI MITKADEM

In fact I made no progress at all in the period in which I thought that I was making progress

(369) LEMAASE ANI BIXLAL LO HITKADAMTI BATKUFA BA KAŠAVTI

In fact I made no progress at all in the period in¹⁷⁷ which I thought

It is the particular constraint on [Comp, V] S Deletion exemplified by (368-9) that allows us to draw the crucial inference concerning the structure of the deleted [Comp, V]: the adverbial corresponding to a matrix adverbial must be lexically identical - otherwise sentences like (368), suitably equipped in deep structure with some other adverbial in the complement S, might still come to undergo [Comp, V] Deletion, thus giving rise to the nonsensical (369). The type of deep string we are referring to is (370):

(370) LEMAASE ANI BIXLAL LO HITKADAMTI BATKUFA BA KAŠAVTI
SE ANI MITKADEM BALELOT

In fact I made no progress at all in the period in which I thought that I was making progress at night

We shall not dwell on residual aspects of this deletion rule, such as whether it is restricted to relative structures. Just note that it is not to be confused with the more general Equi-Complement Deletion illustrated on p.112; this rule can transform (371) into (372), but not (373) into (374) - the latter kind of transformation can take place only in a context amenable to [Comp, V] S Deletion: as in (375):

177. This is grammatical only in the nonsensical sense that progress coincides with thinking. This discussion provides an explanation for the unacceptability of (359) on p.141 in the more obvious sense.

- (371) YAXOL LIHYOT ŠE HU MECAPE LIGMOR ET HASUGYA AVAL ANI
LO MECAPE LIGMOR OTA
Maybe he expects to finish the problem but I don't expect to finish it
- (372) YAXOL LIHYOT ŠE HU MECAPE LIGMOR ET HASUGYA AVAL ANI
LO MECAPE
Maybe he expects to finish the problem but I don't expect
- (373) HALAVYAN HOFIA EMEŠ, IM KI LO CIPITI ŠE HU YOFIA
The satellite appeared last night, though I did not expect that it would appear
- (374)*HALAVYAN HOFIA EMEŠ, IM KI LO CIPITI
The satellite appeared last night, though I did not expect
- (375) HALAVYAN LO HOFIA EMEŠ EFO ŠE CIPITI
The satellite did not appear last night where CMP I expected

2.2.3. [Comp, V] Clause Deletion in Adverbial Structure:
Evidence for a "Hidden Relative".

Returning to apparent [Comp, P] clauses, we shall argue for [Comp, V] Clause Deletion in this context too, and draw conclusions about an underlying relative structure therein.

Consider an example with the parenthetical V CIPA 'expect', (376), and the simpler paraphrase (377):

- (376) IMA ŠELI HIGIA LIFNEI ŠE CIPITI ŠE HI TAGIA
My mum arrived before CMP I expected that she'd arrive
- (377) IMA ŠELI HIGIA LIFNEI ŠE CIPITI
My mum arrived before CMP I expected

In the light of the inability of CIPA 'expect' to occur without a complement (except in the event of Equi-Complement Deletion), as exemplified by (374), we have no hesitation in identifying (377) as the output of [Comp, V] S Deletion.

Recall our conclusion in 2.2.2. that this rule requires the deleted [Comp, V] S to be structurally and lexically

identical to the matrix S. Now the matrix S in (376) consists of NP - V - PP; so the deleted complement of CIPA 'expect' in (377) must itself have contained an adverbial. At first sight this adverbial cannot easily be treated as identical to the matrix adverbial, since the latter appears to contain the former¹⁷⁸; but if we regard the matrix adverbial as P - NP - S, i.e. as embracing a relative S, the problem of identity is resolved into one of rival analyses of relative structure and their divergent approaches to the issue of NP identity. Naturally, in such a relative S framework we can posit 'fuller' sources for (376) as well as for (377).

To sum up our argument so far, the parenthetical (376) does not go against the grain of subcategorisational rules and force us to generate it from a substantially different deep source, but (377), with its curious use of the verb CIPA 'expect', speaks for a rule of [Comp, V] Deletion, which, in the light of its behaviour in relative S contexts, is to be regarded as involving strict identity and thus favours a relative S analysis of apparent [Comp, P] clauses.

But an apparent difficulty arises: surely it is counter-intuitive to derive (376) from (378) below:

- (378) IMA ŠELI HIGIA LIFNEI HAZMAN ŠE CIPITX ŠE HI TAGIA
LIFNEI HAZMAN
My mum arrived before the time CMP I expected CMP she'd
arrive before the time

For (376) means that the arrival preceded the time at which, I had hoped, it would occur - to say it with (378) in mind would be tautologous! Luckily, though, we are spared the choice between a counter-intuitive deep structure and an ad hoc rule.

¹⁷⁸. See Stockwell et al. (1973:423ff) for the problems of identity under the ART-S analysis of relative structure.

For we can point to many head N, especially those involving time and place, that permit the deletion of a partly identical relative anaphor. ZMAN 'time', for example, provides for the deletion of BI ZMAN 'at the time' in (379):

(379) HEM AMDU ŠAM MI ZMAN ŠE HAŠEMEŠ ZARXA¹⁷⁹

They had been standing there from the time CMP the sun rose

This entitles us to derive (376) not from (378) but from

(380) - where we have represented the underlying N of Time by ZMAN rather than by HAZMAN 'the time', for reasons that will become apparent in the next stage of our argument:

(380) IMA ŠELI HIGIA LIFNEI ZMAN ŠE CIPITI ŠE HI TAGIA BI ZMAN

My mum arrived before time CMP I expected CMP she'd arrive at time

Having suggested how the underlying relative Time adverbial in adverbial clauses can be deleted, let us show why it must be deleted, and conclude the subsection by recalling the motivation for deletion of the abstract head NP.

We cannot transform the deep string (380) into (381):

(381)* IMA ŠELI HIGIA LIFNEI ŠE CIPITI ŠE HI TAGIA BO

My mum arrived before CMP I expected CMP she'd arrive at which

This despite the presence of a surface adverbial BO 'at which' in explicit relative structures such as (338), repeated here:

(338) HAKNAANIM HITKIFU XACI ŠAA LIFNEI HAZMAN ŠE ANAXNU. KAVANU LEHATKIF BO

The Canaanites attacked half an hour before the time CMP (lit.) we determined to attack at which

179. This example is due to Hayon (1973:219-22), who mentions such partly-identical deletion but refrains from including it in his syntax because "it should be dealt with on the stylistic level". Kuroda (1968) describes a kindred phenomenon in English.

But in fact there are a number of pro-forms that resist relative pronominalisation (or rather pro-adverbialisation), such as EFO 'where' and MATAI 'when'. Recall (361):

(361) ANI LO ROCE LAGUR EFO ŠE HI GARA
I don't want to dwell where CMP she dwells

The underlying adverbial of place in the relative S here can only delete - it has no chance of undergoing the change to a relative pro-form, hence the unacceptability of (382):

(382)*ANI LO ROCE LAGUR EFO ŠE HI GARA BO / ŠAM¹⁸⁰
I don't want to dwell where CMP she dwells in which/
where

Similarly an underlying pro-adverbial of Time identical to MATAI 'when' cannot be relativised - it must be deleted:

(383)*MATAI ŠE ATA POTEAX BO / AZ ET HARADYO, ZE MITKALKEL
Whenever CMP you switch on at which / when the radio,
it goes wrong

Now although (338) on p.147 demonstrates that the head noun ZMAN 'time' does take the pro-form BO 'in which', the same ZMAN does not accommodate a relative pro-form in the contexts BI ZMAN ŠE '(lit.) at time CMP' and MI ZMAN ŠE '(lit.) 'from time CMP', witness (384-5):

(384)*HIKARTI OTA BI ZMAN ŠE BO HAYITI BE SIDKUP
I got to know her (lit.) at time CMP in which I was in
Sidecup

(385)*HEM AMDU ŠAM MI ZMAN ŠE BO HAŠEMES ZARXA
They had been standing there (lit.) from time CMP at
which the sun rose

The same constraint holds in the context KOL ZMAN ŠE 'all the time (lit.: all time) CMP'.

180. There is in fact no formal difference between relative and non-relative pronouns and other pro-forms. But we have persistently translated relative pro-forms by WH-words because, as we shall see, the Time and Manner pro-forms AZ 'then' and KAX 'thus' do not serve as relative pro-forms, suggesting there are two separate rules.

We propose that (384-5) differ in pro-formation from (338) because ZMAN 'time' in the former occurs without the definite article that one might have expected and, as such, is a pronoun, distinct from HAZMAN 'the time' in (338) which, like any ordinary noun, takes a pronoun. We further suggest that the abstract N of Time underlying adverbial clauses as in (376) is the pronoun ZMAN and thus not amenable to pro-formation in its relative S. So the deep string (380), which we put forward as the source for (376), contains the explanation for the unacceptability of the relative pro-form in (381).¹⁸¹

Let us now discuss S-Modified Head Deletion in the light of the conclusions in this subsection. Given that the intermediate derivation of (376) is (380), provided below, it appears that the Head Deletion rule, whose irregularity was highlighted in 2.2.1., is even more irregular than was suggested; for LIFNEI ZMAN '(lit.) before time' in (386) cannot come to the surface at all - it has to be deleted:

(380) IMA ŠELI HIGIA LIFNEI ZMAN ŠE CIPITI ŠE HI TAGIA

My mum arrived before time CMP I expected she'd arrive

This is in complete contrast with two other instances of the pronoun of Time, BI ZMAN ŠE 'at time CMP' and KOL ZMAN ŠE 'all time CMP', both of which are quite unable to delete. (See (347-8) on p.138.) As for the remaining surface instance, MI ZMAN ŠE 'from time CMP', it is so literary that we cannot be sure, when we come to test all Time clauses for

181. Hayon (1973:221) claims that, in cases where the relative pro-form must delete, "the P in the relative clause is always BE 'at'. This fact makes the content of the embedded PP redundant and it is deleted." This is wrong in view of cases like MIZMAN ŠE ANI KAN LO RAITI IŠ '(lit.) from time CMP I'm here, I've seen no one' - in which the relative item can only be MIMENU 'from it'.

'hidden relatives' in 2.3., whether Time clauses introduced by MI 'since' are really the result of the deletion of the head in MI ZMAN SE 'from time CMP'.

It is, to our mind, unpleasant to posit a head NP, as in (386), that has to be deleted, especially when other occurrences of it are quite unable to delete. But note first that we are not suggesting a Positive Absolute Exception of the type proposed by Lakoff (1971), since the Modified Head Deletion is not the kind of rule liable to be blocked by any operational constraint. Secondly, this rule, where it involves head NP in general, has been described in all its irregularity in 2.2.1., where we mooted that "an irregular rule is more highly valued against a background of kindred irregularities."

Nevertheless, before testing adverbial clauses in general for 'hidden relatives', let us devote the next subsection to the basic problems of analysis.

2.2.4. Some observations on syntactic analysis

Paraphrase relations were shown, on p.133-4, to be the mainspring of Geis' 'hidden relative' analysis of 'before, after, since' and 'until' clauses. Hayon's treatment of Hebrew adverbial clauses (1973:171-4), by contrast, does relate a 'hidden relative' derivation to rules for Relative Proform Deletion and Modified Head Deletion; but he neither acknowledges the irregularity of S-Modified Head Deletion in general¹⁸² nor broaches the equally attractive possibility of generating adverbial S as simple [Comp, P] in the same way

182. By contrast with the regular Adjective-modified Head Deletion (see p.113 and 137), which Hayon identifies with S-modified Head Deletion.

as one generates [Comp, V] without regarding the SE complementiser of the latter as a relative marker. Ross (1967a) and Huddleston et al.(1968) offer an analysis for English that goes beyond Geis' generalities without, however, embracing persuasive factors such as [Comp, V] Clause Deletion; we shall say more about this in 2.6.1..

Let us outline our priorities in analysis as expressed in our approach to the problem of 'hidden relatives'.

One target is a statement of the grammatical - all and only the sentences of Hebrew. A more limited aim is a statement of paraphrase. But this is probably logically posterior to the statement of grammaticality in a sense and perhaps more appropriate to the semantic component. As an example of posteriority, observe that, although active and passive may be felt to be paraphrases, recent work on English¹⁸³ has stressed the simplicity and the consistency - in the light of general transformational operations - of deriving active and passive from separate deep sources, which encourages one to query if they are indeed paraphrases. Secondly, as noted on p.134, it may be preferable to state paraphrase relations (in as far as there are any) between attribution and predication in the semantics.

Our own approach to paraphrase relations between [P + S] and [P + NP + Relative S] has been to look beyond them; and we shall go so far as to argue, in 2.6.2., that there are cases of these two structures existing side by side in deep structure without the two-way entailment one might have assumed.

Another limited aim of syntax is an account of ambiguity.

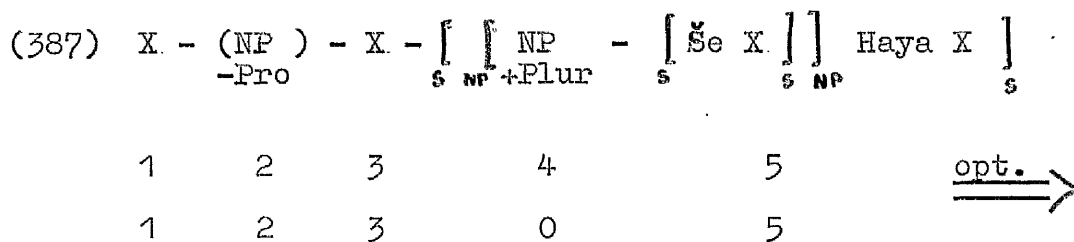
183. See Hasegawa (1968) and

We have determined, on p.135, to give deep structure recognition to just those ambiguities with reflexes in other syntactic phenomena, i.e. those that are indeed a chance intersection of distinct structures. Putting it another way, where two structurally distinct sets of sentences - A and B - happen to undergo an occasional modification in structure (or maybe in morphology or lexical content), so that a few cases of A develop traits typical of B, we are entitled to claim that these few instances of A are basically cases of B. But even such considerations do not suffice - other factors may affect the balance.

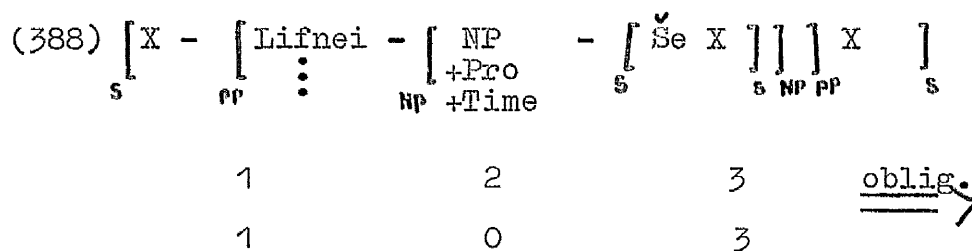
This approach was used for relative S (set B) and [Comp, P] S (set A). [Comp, V] Clause Deletion is typical of B, while in set A only a few of the [Comp, P] clauses (we have so far mentioned only LIFNEI 'before' clauses) delete their [Comp, V] clause. Similarly, ambiguity in the interpretation of certain potentially parenthetical verbs is typical of B as a whole, though displayed by a few A. Now such a numerical imbalance between B and A was not enough in our eyes to justify reanalysing the few A as B and thus representing the ambiguity in parentheticals as a chance intersection of distinct relative structures: rather than make the S-Modified Head Deletion rule even more complicated than it already was, we might have preferred to complicate the structural analysis of [Comp, V] Clause Deletion - by having it occur in some [Comp, P] S as well as in relative S - and to add a rule of semantic interpretation for the ambiguity of parenthetical S within adverbial structure.

The factor that tipped the balance was that the structural identity required for the erased terms in [Comp, V] Deletion in an adverbial context was problematic.

At this stage, and before revealing other features of particular Time clauses and of nominalisation (in 2.3.3. and 2.5.1. respectively) that reinforce the 'hidden relative' hypothesis, let us state S-Modified Head Deletion - in (387) as independently required, in (388) as required for adverbials¹⁸⁴:



Condition: If and only if 4 is -Pro, include 2.
2=4



2.2.5. Tense in adverbial clauses: inadmissible evidence

The choice of an analysis being on occasion a delicately balanced affair in which new data can swiftly tilt the balance, we now propose eliminating one more argument that one might have used in favour of our 'hidden relative' hypothesis. It concerns tense.

At first sight, it might have been fitting to grant

184. We are not directly concerned with Head Deletion in the context of ASER and HA, for only ŠE occurs in 'hidden relatives', pace Hayon (as will be seen in 2.3.2-3.). In connection with (387), recall fn.169, where it was mooted that such Head Deletion also affects the subject or perhaps the predicate of copulas; we have not formulated this.

syntactic recognition to the ability of LIFNEI 'before' clauses embracing parenthetical S to take a past tense verb in future contexts, witness (389-390):

(389) BARUR ŠE HEM LO YAXZERU LAAVODA LIFNEI ŠE KAVU

It's clear that they won't go back to work before CMP they arranged

(390) IM AXLIT LAVO LIFNEI ŠE AMARTI, ACALCEL KODEM

If I decide to come over before I said, I'll ring first

That the underlined tense is not normal in the context of a future tense matrix V of LIFNEI 'before' is shown by the well- and ill-formed versions of (391)¹⁸⁵:

(391) ACALCEL LIFNEI ŠE ECE / ..ANI YOCE / .*YACATI

I'll ring before CMP (lit.) I'll leave / ..I leave / ..
I left

But in actual fact we cannot easily impose co-occurrence restrictions on the tense of S governed by Time P - for the tense sometimes reflects not the standpoint of the 'assertor' of the matrix S¹⁸⁶ but that of the 'assertor' of an even higher S. Take (392):

(392) KŠE KIBALTI ET HAMIIVRAK, HITBARER LI ŠE LO ASPIK LI-
ROTXA LIFNEI SE NASATA

When I received the cable, I realised that I wouldn't
(lit.: will not) manage to see you before CMP you went

Here, if the LIFNEI 'before' S were to reflect the viewpoint of the person doing the 'realising', its tense would be present or future. But as it represents the standpoint of the speaker, it is in the past tense.

It is the same 'interpolation' of the speaker's standpoint into lower S that gives rise to 'temporally deictic'¹⁸⁷

185. The past tense in (391) is found in very substandard speech.

186. See Hasegawa (1972) for interpretive rules of Assertor-assignment.

187. The term is Huddleston's (1969:799). He discusses co-occurrence relations between deictic specifiers and tenses.

(i.e. speaker-oriented) adverbs in complement S, for instance
ETMOL 'yesterday' in the future tense complement clause in
(393):

- (393) KOL EXAD BEBET HASEFER BEYOM HE AMAR ŠE HI TIHYE ŠAM
 ETMOL
 Everyone in school on Thursday said that (lit.) she'll
 be there yesterday

Here again we see the difficulty in framing selectional res-
trictions in deep structure between tenses and time adverbs.

Our conclusion is that the tense in parenthetical S go-
verned by Time prepositions, as in (389-90), is not amenable
to special syntactic treatment.

2.3. : TIME CLAUSES

In the next two sections we seek to determine the full
range of adverbial clauses that are to be regarded as Prepo-
sition Phrases embracing relative S. We precede by semantic
subclass.

2.3.1. Time clauses as relative structures

We can detect 'hidden relatives' within the complements
of the Time prepositions LIFNEI, KODEM, BETEREM¹⁸⁸ 'before';
AXAREI, LEAXAR 'after'; and MEAZ¹⁸⁹ 'since' - witness the fol-
lowing examples of [Comp, V] Clause Deletion:

- (394) HIGANU KODEM ŠE TIXNANNU
 We arrived before CMP we planned
- (395) XANA GAMRA BETEREM ŠE TIXNENA
 Hanna finished before CMP she planned

188. KODEM and BETEREM are more literary; and KODEM govern-
ing an NP is particularly so.

189. In 2.3.2. we shall argue that MEAZ is both a P and a
P + Adverbial phrase, strange though it may seem.

- (396) HATUMTUM HOFIA XACI ŠAA AXAREI ŠE KAVANU
The burk turned up half an hour after CMP we arranged
- (397) HAXATIXA HOFIA XACI ŠAA LEAXAR ŠE KAVANU
The bird turned up half an hour after CMP we arranged
- (398) IM ATA MEXAKE PO MEAZ ŠE ANI MENIAX ŠE ATA MEXAKE, ATA
BEEMET RAUI LERAXAMIM
If you've been waiting here since CMP I imagine CMP
you've been waiting, you really deserve sympathy

This diagnostic also confirms what one might have expected - that the expressions BI ZMAN ŠE, BE ŠAA ŠE, MATAI ŠE 'when' do contain a head NP of Time (ZMAN, ŠAA and a pronoun incorporated into the adverbial MATAI respectively), witness:

- (399) GAMARNU BEDIYUK BI ZMAN ŠE TIXNANNU
We finished exactly when we planned
- (400) HU LO YAVO BE ŠAA ŠE ATA XOŠEV
He won't come when you think
- (401) ELIYAHU LO YAVO MATAI ŠE ATA XOŠEV¹⁹⁰
Elijah won't come when you think

Two glaring exceptions to the 'hidden relative' analysis of Time clauses are those introduced by the prepositions AD 'until' and KE 'when'. BETEREM 'before' too displays some exceptional traits. As we can partly explain these exceptions, in such a way as to lend further support to the 'hidden relative' approach, we devote 2.3.2-3. to them.

2.3.2. AD 'until' clauses as non-relative structures

Consider the well-formed (402), the unacceptable (403) with its parenthetical-type S, and (404), a well-formed realisation of what was intended by (403):

- (402) EŠAER KAN AD ŠE HEM YITXATNU
I'll stay here until CMP they get married

190. See 3.2.2. for evidence that the pronoun in BI ZMAN and MATAI embraces a morph or feature equivalent to the determiner OTO 'the same'. Note that we have been unable to provide a case of a parenthetical MI ŠE 'since' clause.

(403)*UXAL LEHIŠAER AD ŠE HEM METAXNENIM LEHITXATEN

I shall be able to stay until CMP they plan to get married

(404) UXAL LEHIŠAER AD HATAARIX ŠE HEM METAXNENIM LEHITXATEN

I shall be able to stay until the date CMP they plan to get married

The absence of AD 'until' clauses with parenthetical S, witness (403), let alone with parenthetical S deprived of their [Comp, V] Clause, immediately suggests that AD clauses are not derived from relative structure; for if they were, there would seem to be no principled way of precluding the relative item hopping that gives rise to parenthetical S.

We thus take issue with the analysis of 'until' clauses by Geis (see p.133) and Ross (see 2.6.1.) - we shall apply our diagnostics to English later in this subsection - and in particular with that of Hayon (1973:173), who takes no account of the parenthetical phenomenon.

However, one - possibly two - irksome side effects arise: (a) we might have hoped to subcategorise P such as appear in (394-8) as governing NP alone, and not complement S. AD 'until' will now have to be entered as governing both NP and S. (b) We shall, it appears¹⁹¹, have positively to prevent AD 'until' from ever governing the Time pronoun ZMAN (posited for 'hidden relatives' of Time on p.149); otherwise parenthetical AD clauses will automatically arise by the Head Deletion rule (388)¹⁹¹. Such a co-occurrence restriction is ad hoc.

Furthermore, it might be argued that the unacceptability of the parenthetical (403) is due to some surface

191. We cannot hope to block the rule in this instance, for surface AD ZMAN SE '(lit.) until time CMP' expressions are as unacceptable as parenthetical AD clauses. (Hebrew instead says AD HAZMAN ŠE, using the +DEF non-pronominal noun ZMAN 'time'.)

constraint against the appearance of a V like TIXNEN 'plan' in the S immediately governed by AD 'until' (though since Hebrew has nothing like the English progressive aspect, it is difficult to imagine what the constraint would look like).

But we believe we can offer an alternative account of the unacceptability of (403), which, while not explaining all, at least avoids both surface constraints and ad hoc co-occurrence restrictions, and lends a certain credibility to a non-relative analysis of AD 'until' clauses.

Let us first offer a further two examples:

(405)*ANI EŠAER AL HAXAMOR AD ŠE AT TIŠAARI

I'll stay on the donkey until CMP you stay

(406)*ANI MUXAN LEHIŠAER AD ŠE AT MITKAVENET LEHIŠAER

I'm willing to stay until CMP you intend to stay

The first of these is ill-formed (on the more obvious, durative interpretation of TIŠAARI 'you stay') because the AD clause cannot specify the end point of the 'you stay' action, i.e. is not equivalent to KOL ZMAN ŠE..'all the time that..'. The second example compounds the ungrammaticality by featuring a parenthetical S.

The imaginary base string (407) serves as the point of departure in our account: a natural output of the PS Rules, it has somehow to be filtered out to forestall (405):

(407) ANI EŠAER AL HAXAMOR AD [LA ZMAN [ŠE AT TIŠAARI AL HAXAMOR AD LA ZMAN]_S]_{NP} NP S
I'll stay on the donkey until [time [CMP you stay on the donkey until time]_S]_{NP} NP S

We cannot put the ill-formed (405) down to the presence of the directional relative item AD ZMAN 'until time' in (407), claiming that Obligatory Pro-form Deletion applies only to items like BI ZMAN 'at time'. For, as illustrated in fn.181, clauses

introduced by the P + NP MI ZMAN 'from the time' (as well as those governed by the preposition MEAZ 'since' exemplified in (398)) do contain a directional relative item - MI ZMAN or MEAZ ZMAN 'from the time' respectively - and yet readily undergo the relativisation process without being filtered out.

Instead, let the unacceptability of (405) be put down to a constraint involving only AD 'until' phrases, in their resistance to Relative Item Deletion. Consider (408):

(408)*NIMXE NEGED MILXAMA ZOT AD HAYOM ŠE HI TIMAŠEX

We shall protest at this war until the day CMP it lasts

In this instance too let us imagine a base string arising naturally by the PS rules:

(409) NIMXE NEGED MILXAMA ZOT AD HAYOM _s[ŠE HI TIMAŠEX AD HAYOM]_s

We shall protest at this war until the day _s[CMP it lasts until the day]_s

The only way to prevent deep structure (409) from surfacing as (408) is to impose a constraint on the deletion of AD 'until' phrases in the capacity of Relative Item Deletion; as the relativisation process will thus have been impeded for the deep string (407), in which, it will be recalled, the relative S - headed by the pronoun ZMAN - can only be processed by Obligatory Pro-Form Deletion (in that particular case, AD ZMAN), we have some sort of principled filter forestalling the unacceptable (405).

We wish to stress that there is no objection to deleting another directional P + NP - ME HAYOM 'since the day' - in a context equivalent to (408), witness (410), derived from the deep string (411):

(410) ME HAYOM ŠE ANI GAR KAN, LO ASITI AF SIXA

Since the day CMP I've lived here, I haven't made a call

(411) ME HAYOM [ŠE ANI GAR KAN MEHAYOM] LO ASITI AF SIXA
From the day [CMP I've lived here from the day]
I haven't made a call

In the light of the resistance of AD 'until' phrases to Relative Item Deletion, the equally exceptional inability of AD to govern a Time pronoun ZMAN becomes just a little less ad hoc. We cannot explain either phenomenon; but we expect that in other ways too 'goal' and 'source' expressions (as Bennett (1972) calls 'to, until, into' and 'from, since, out of' phrases respectively) will differ in Hebrew.

As for the existence of a constraint involving Relative Item Deletion of all things, we can offer one small item of information suggesting a certain proneness of the Hebrew relativisation process to constraints: the regular pro-adverb of Time fails to serve as a relative pro-form, despite the readiness of pronouns and most pro-adverbs to do so. Consider (412):

(412) TXILA GARTI BE NISDEN, ŠAM HIKARTI ET DAVID ŠNAIDER
First I lived in Neasden, where (lit.: there) I met David
Schneider

The underlined pro-adverb of Place is serving as a relative pro-form, just as it acts as a non-relative one. Now compare (413-5) with (416-8); the former illustrate the acceptable use of AZ 'then' as a pro-form whereas in the latter it functions ungrammatically as a relative pro-form:

(413) HU GAR KAN EŠTAKAD, AVAL LO HIKARTI OTO AZ

He lived here last year, but I didn't know him then

(414) HU HIZKIR EZE TAARIX, AVAL HU BETAX LO YOCE ITA MEAZ

He mentioned some date, but he's certainly not been going out with her since then

(415) TIHYE MESIBA, AVAL LO UXAL LEHIŠAER AD AZ

There's a party, but I won't be able to stay till then

(416)*HU GAR KAN BIŠNOT HAESRIM, (SE) AZ SARERA HAAVTALA

He lived here in the twenties, (CMP) when (lit.: then) unemployment prevailed

(417)*MEHAYOM ŠE MEAZ ANI GAR KAN, LO ASITI AF SIXA¹⁹²

Since the day CMP since when (lit.: then) I've lived here, I haven't made a call

(418)*NIMXE NEGED MILXAMA ZOT AD HAYOM ŠE AD AZ HI TIMAŠEX

We shall protest at this war until the day CMP till when (lit.: then) it lasts

To sum up the argument so far, the failure of AD 'until' clauses to display any sign of a 'hidden relative S' might not have been regarded as abnormal were it not for the natural manner in which such relative S can be expected to arise in the base and T-rules. We have invoked the constraints on the deletion of relative AD 'until' phrases and on the formation of relative pro-adverbs in general in our quest for faint motivation for a block on AD ZMAN SE 'until time CMP' strings.

One final indication that AD 'until' clauses are not AD + NP + S concerns the use of AD to mean 'by'. For many speakers it is restricted to cases where AD governs a NP, be it a Time expression or a derived nominal, witness (419-20); where AD governs the clausal equivalent of the derived nominal, as in (421), it only has the (absurd) sense of 'until':

(419) ATA MUXRAX LESAYEM ET ZE AD EMCA OKTOBER

You've got to finish it by mid October

(420) ATA MUXRAX LESAYEM ET ZE AD NESIATXA ARCA

You've got to finish it by your departure for Israel

(421)*ATA MUXRAX LESAYEM ET ZE AD ŠE TISA ARCA

You've got to finish it until you depart for Israel

Were even AD clauses, as in (421), to be derived from NP + S, we could not reasonably assert that AD governing the pronoun of Time (heading the 'hidden relative') means just 'until',

192. Here we can regard ME as the familiar P 'from' and AZ as its complement adverb 'then'. But phrases like MEAZ ETMOL '(lit.) since then yesterday' suggest that MEAZ too, as a whole, functions as P governing NP and adverbs.

while AD governing a noun of Time like HAZMAN 'the time' or HAAŠAA 'the time' means both 'until' and 'by'. So by deriving AD clauses from S we predict the 'until/by' distinction more plausibly (especially if it should turn out that the difference between sentential and phrasal complements is at the root of yet other semantic distinctions in P or V).¹⁹³

For a comparative account of English 'until, since' along the lines adopted in this section, see 2.6.1.

2.3.3. KE 'when' and BETEREM 'before' clauses as non-relative structures.

KE 'when' clauses, incapable as they are of a parenthetical interpretation and of [Comp, V] Clause Deletion, lend particular support to the 'hidden relative' hypothesis, as we shall see in this subsection.

Consider the ill-formed (422-3); the former, under its non-parenthetical interpretation, is absurd, as is the latter as it does not allow the recovery of a complement of XOSEV:

(422)*LO YIHYU ŠUM TAYARIM BAMAKOM KEŠE ANAXNU METAXNENIM
LIHYOT ŠAM
There won't be any tourists in the place when CMP we
plan to be there

(423)*HU. LO YAVO KA AŠER ATA XOSEV¹⁹⁴
He won't come when CMP you think

That this ill-formedness is not due to a general semantic constraint involving 'time when' is clear from (399-401) on p.156

193. König (1974:553), discussing 'by' and 'until' in several languages, fails to mention that in German (as well as Hebrew) the 'by' sense is restricted to phrasal complements: 'Du musst das bis deiner Abfahrt erledigen' but not '*Du musst das erledigen, bis du abfährst'.

194. KE/KA and ŠE/AŠER are alternants. We shall say something about AŠER later in this subsection.

in which BE ŠAA ŠE '(lit.) at time CMP' etc. permit parenthetical S and [Comp, V] Deletion.

Rather, we propose that (422-3) are ill-formed for the simple reason that KE does not govern NP but only S, witness (424-6):¹⁹⁵

(424)*HIKARTI OTA KE ZMAN / HAZMAN ŠE HAYITI BE NISDEN

I met her when time / the time CMP I was in Neasden

(425)*YACANU KE XOŠEX We left when darkness

(426)*YACANU KE HATXALAT HATFILA

We left when the start of the service

Thus a KE + ZMAN + Relative S structure will never arise and hence the unacceptability of (422-3).

Hayon (1973:173f.) proposes the same 'hidden relative' account for KE 'when' clauses as for AD 'until' S. Ignoring the parenthetical and [Comp, V] Deletion phenomenon, he blocks KE + ZMAN 'when + time' strings from surfacing by an ad hoc rule, although such strings are, as we have seen, the exception rather than the rule.

An incidental matter for which we have no explanation is the (optional) occurrence of the alternant complementiser AŠER after KE 'when' and AD 'until' but not after any of the P listed on p.155 as governing 'hidden relatives'. Were the latter P to govern only NP and not S, their non-occurrence with AŠER would come as no surprise - relative S headed by the pronoun ZMAN 'time' are never introduced by the alternant AŠER. But we have reason to believe that the P concerned do govern S (see 2.5.1.), so the marked absence of AŠER is an odd coincidence.¹⁹⁶

195. There are a handful of exceptions: KA YOM 'as of (lit.: when) today', KAET 'as of now' KA REGA 'as of this moment'.

196. Not that any other [Comp, P] S take AŠER; but the fact that just AD 'until' and KE 'when', and no other Time P, govern AŠER does seem odd.

The third preposition of Time to which we can assign with assurance a non-relative clausal complement is BETEREM 'before'. Now on p.155 we gave an example of BETEREM governing a parenthetical S; but there the S contained a complementiser ŠE. BETEREM happens to be one of a small subset of P that optionally dispense with a CMP altogether¹⁹⁷; and when it does, as in (427), a parenthetical interpretation is quite impossible:

(427)*XANA GAMRA BETEREM HI TIXNENA

Hanna finished before she planned

This is neatly predicted by the 'hidden relative' hypothesis: as relative S never dispense with their CMP, except when an oblique relative pro-form is preposed so that it immediately follows the CMP, (427) without its CMP cannot be derived from a relative structure - for, as proposed in 2.2.2. (and especially (359)), [Comp, V] Deletion of the kind displayed in (427) above cannot occur once a relative pro-form has been preposed¹⁹⁸.

That concludes our account of non-relative clauses of Time. It is doubtful whether a purely interpretive statement of the ambiguity in parenthetical S could explain why KE 'when' clauses should not be parenthetical while synonymous BI ZMAN ŠE.. 'at time CMP' structures are; nor why BETEREM clauses introduced by a complementiser are in principle ambiguous while those lacking one are not. Indeed the behaviour of KE and BETEREM clauses is a major argument for our transformationalist hypothesis.

197. Other such P are MEAZ 'since' (of which more in chapter 3), BEOD 'while' and KEILU 'as if'.

198. For CMP-less relative S, see p.32 and p.129 ((330)).

2.4. : SOME OTHER "ADVERBIAL CLAUSES"

2.4.1. Cause clauses as non-relative structures.

Cause clauses provide no evidence of a deleted head NP except possibly in the case of LAMA 'because', where an appositional rather than relative structure may be involved.

Compare (428-9), where an explicit head NP HASIBA 'the reason' and relative S entertain a parenthetical clause and [Comp, V] Deletion, with (430-1), which feature just P + clause - the latter are totally different in sense and ill-formed respectively:

- (428) LO KIBALTI ET HACALAŠ MEHASIBA ŠE CIPITEM ŠE AKABEL
I didn't get the citation for the reason CMP you expected CMP I'd get it
- (429) LO KIBALTI ET HACALAŠ MEHASIBA ŠE CIPITEM
I didn't get the citation for the reason CMP you expected
- (430) LO KIBALTI ET HACALAŠ BIGLAL ŠE CIPITEM ŠE AKABEL
I didn't get the citation because CMP you expected CMP I'd get it
- (431)*LO KIBALTI ET HACALAŠ BIGLAL ŠE CIPITEM
I didn't get the citation because CMP you expected

The same unacceptability of [Comp, V] Clause Deletion displayed by (431) is true for all other Cause prepositions, such as MIŠUM, MIPNEI and MIKEVAN. So it seems that Cause clauses are not derived from 'hidden relatives'. We shall seek syntactic reasons for this. But first let us examine the item LAMA 'because'.

LAMA, which features in colloquial though not in formal speech, seems to belong to a paradigm of subordinative items that are really pro-adverbials incorporating a P + NP phrase; they are formally identical to the regular interrogative pro-adverbials. Thus LAMA also means 'why?', MATAI both 'when?'

and subordinative 'when' (see (401) on p.156), EFO both 'where?' and subordinative 'where' (see (360) on p.142), and so forth.

But LAMA 'because' does not at first sight act as if it were a P + NP and related to the interrogative LAMA 'why?' - for LAMA 'because' clauses do not permit a parenthetical interpretation and hence do not conceal a 'hidden relative' NP + S, witness (432) by contrast to the well-formed (429):

(432)*LO KIBALTI ET HACALAS LAMA SE CIPITEM

I didn't get the citation because CMP you expected

A further indication that LAMA 'because' does not contain a NP and is rather a simple P governing complement S involves Quasi-relative S of the type described in 1.1.7.. These S are infinitival and feature relative pro-forms identical to interrogative pro-forms; thus the infinitival question in (433), involving the interrogative pro-adverbial EFO 'where?', is paralleled by the infinitival relative S in (434), involving EFO as a relative pro-form:

(433) EFO LAGUR (lit.) Where to live ?

(434) EN LI EFO LAGUR (lit.) I haven't where to live

In the case of LAMA, though, the interrogative LAMA in (435) is not paralleled by a relative LAMA - witness (436) - which suggests, yet again, that LAMA does not incorporate the NP necessary for the NP-identity processing of relative structures:

(435) LAMA LEHASTIR ET ZE MIMENA

(lit.) Why to conceal it from her ?

(436)*LO HAYA LO LAMA LEHASTIR ET ZE MIMENA

(lit.) He didn't have why to conceal it from her

The only syntactic way we can relate the two senses of LAMA without invoking relative structure is by regarding LAMA

as incorporating the head of an appositional S, perhaps something like LE + MA + S 'for something + S' corresponding to the actual surface expression ME HASIBA ŠE.. 'for the reason CMP.. + Appositional S'¹⁹⁹. Such an analysis of LAMA is particularly desirable in view of its etymological derivation from LE MA 'for what/something' and the existence in Tunisian Arabic of the form 'ALAS meaning both 'why?' and 'because' and genetically derived from a P + NP meaning 'on what'²⁰⁰.

If we do regard LAMA as incorporating P + NP, we must explain why this NP serves as head of appositional S (in its sense of 'because') but not as head of relative S (witness (432)) or as a relative pronoun (witness (436)). We go a little way towards explaining this, and the lack of parenthetical Cause clauses in general, in the next subsection.

2.4.2. Time and Cause clauses: syntax and semantics compared.

We conclude our discussion of Time and Cause clauses by comparing the proposed Hebrew deep structure with some current semantic analyses; offering very tentative syntactic motivation for the absence of 'hidden relatives' in Cause and AD 'until' clauses; and finally seeking semantic reasons for the syntactic phenomena just mentioned.

199. Gesenius (1910:134;299) notes that LAMA was related to LE MA 'for what' by a Biblical phonological rule now obsolete. (The same rule once linked the pro-adverbial KAMA 'how much/so much' to the P + NP KE MA 'like what', as will be mentioned in 2.4.3.) It is doubtful whether we can identify an incorporated head NP in LAMA with the surface form MA 'what/something', for the latter does not serve as the head of appositional S (with the possible exception of MA in comparative examples like LOMDIM YOTER MI MA ŠE MITPALELIM 'They study more than what CMP they pray'.)

200. Personal communication from Hilary Wise.

The semantics of Time adverbials have been described by Leech (1969) and, more briefly, by König (1974). (A more impressionistic generative semantic account by Geis (1970) has been discussed on p.132-4.) The evidence suggests that Hebrew Time clause deep structure differs considerably from the above semantic structures.

For Leech 'predications of time' consist of a 'Rank-shifted predication' plus a 'Medial cluster' signifying either Time or Duration plus a 'Terminal cluster' specifying a point in time or a period. This is equivalent to a Sentential Subject + Verb + Object.

He regards "I came at two o'clock" as $(x) \rightarrow \text{TIM}(y)$, i.e. (x) is at time (y) . All initial clusters (x) in Time predications are themselves predications (symbolised X); and all terminal clusters express 'period of time' or 'point in time' (symbolised as the system $\{\text{PERI}\}$). Thus our example would be analysed as $(X) \rightarrow \text{TIM} \{-\text{PERI}\}$.

Now Leech does not analyse "I left when she left" as simply $(X_1) \rightarrow \text{TIM}(X_2)$, with two rankshifted propositions; it would not be in line with his general basic formula $(X) \rightarrow \text{TIM} \{\text{PERI}\}$. Rather, he proposes $(X) \rightarrow \text{TIM} \cdot \theta' \leftarrow \theta' \leftarrow \text{TIM} \cdot (Y) \gg$ where θ' symbolises a definite point or period in time and the second predication (Y) "she left" - in other words: "I left at the time at which she left".

"I left before he left" he analyses as $(X) \rightarrow \text{TIM} \cdot \theta' \leftarrow \theta' \rightarrow \text{BEF} \cdot \theta' \leftarrow \theta' \leftarrow \text{TIM} \cdot (Y) \gg$, i.e. "I Left at a time before the time at which he left". For he does not see 'before' as linking a predication and a point in time, but only one point in time to another. Thus, even "I came before midnight" is analysed as "I came at a time before midnight". (We have

simplified this slightly.)²⁰¹

Leech analyses "I've grown since I've been living here" as (X) $\cdot \rightarrow$ DUR $\cdot \theta$ +PERI' $\langle \theta' \cdot \leftarrow$ EXT -END $\cdot \theta$ -PERI" $\langle \theta'' \cdot$ EXT -END $\rightarrow \theta$ +PERI" $\langle \theta'' \leftarrow$ DUR $\cdot (Y) \gg \rangle \langle \theta' \cdot \leftarrow$ EXT +END $\cdot \theta \rangle$ where EXT -END signifies the 'beginning extremity', i.e. "I've grown for the duration of the period beginning at a point in time at which began a period for the duration of which I've been living here, and ending now". Similarly, "I'll stay until you leave" is treated to an analysis amounting to "I'll stay for the period beginning now, and ending at the point in time at which you will leave".

Now in 2.3. we produced surface sentences deriving from all four types of structure just listed; in the case of LIFNEI 'before' and AXAREI 'after', and their synonyms, the semantic structure had already been 'hidden' by transformational processes.

What interests us is that (a) we have found no syntactic reasons not to generate Time PP adverbially, i.e. we do not feel obliged to derive all (X) before (y) sentences from (X) at a time [the time is before (y)]. And (b) for every one of the semantic structures formalised above, there would seem to be a P + S deep syntactic structure not containing a head NP and relative structure at all: KE 'when', in that it governs only S; AD 'until'; BETEREM 'before' and MEAZ 'since' when appearing without complementisers all govern non-relative complements. (In 2.5.1. we mention the possibility that even those P that do govern a 'hidden relative' are also complemented by simple S.)

201. See König for a slightly different notation, of the form $(\text{It})_{t, s} \text{AT} (S, t)$, where the two-place predicate AT corresponds to Leech's TIM.

We are prompted to ask whether, just as semantic notions have often influenced syntactic analysis, so syntactic phenomena such as the (sometimes exclusively) non-relative complement structure of certain P might influence our semantic conceptions of them. We shall not undertake an examination of other languages apart from noting the slightly different relative and non-relative derivations of some English adverbials in 2.6.; but such an examination might yield stimulating results.

Turning to Cause clauses, it may well be that semantically they are best analysed as $(X) \cdot \longrightarrow \text{CAUSE} \cdot (Y)$, where X and Y are rankshifted predications. Our primary concern, though, is with the means of blocking transformational processes that might have created 'hidden relatives' within Cause S. Thus, assuming that LAMA 'why?/because' (see p.166f.) incorporates P + NP - say LE MA 'for what/something' - how can we prevent a string like (437) from being processed into the ill-formed (432):

(437) LO KIBALTI ET HACALAŠ LE MA [ŠE CIPITEM [ŠE KIBALTI ET
HACALAŠ LE MA]]
I didn't get the citation for something. CMP you expected
CMP I got the citation for something

(432)*LO KIBALTI ET HACALAŠ LAMA ŠE CIPITEM
I didn't get the citation because CMP you expected

We believe the answer lies in the resistance of Cause phrases to relativisation. Consider first relative pro-formation; despite the existence of ordinary pronominalisations of the complements of Cause prepositions - BIGLALO 'because of it' - there is a remarkable absence of corresponding relative pronominalisations. Thus (438) is extremely clumsy, indeed ill-formed:

(438)*HU GAM HIZKIR ET HAGORMIM ŠE BIGLALAM HU NEELAC LIFROŠ
He also mentioned the factors CMP because of which he
was forced to retire

It is no doubt for this reason that the quasi-relative S featuring LAMA in (436) is ill-formed: a Cause phrase cannot contain a relative pronoun. Secondly, we suggest that this constraint affects not only relative pro-formation but also relative item deletion, that is, the relativisation process in general - after all, seeing as BIGLALO 'because of it' as a non-relative pronominalisation is well-formed, it would be odd were the relativisation constraint to affect just pronouns. By thus constraining relative item deletion, we can stop the deep (437) from materialising as (432).

A support for this generalisation of a constraint on Cause phrase relativisation comes from AD 'until' phrases. We argued on p.159 that the latter fail to undergo relative item deletion. We might add that they do not allow relative pro-formation either, witness (439):

(439)*NIMXE NEGED HAMILXAMA AD HAYOM ŠE ADAV HI TIMAŠEX

We shall protest at the war until the day CMP until which it lasts

Having offered some tentative reasons for the lack of 'hidden relatives' in Cause S, we return briefly to AD 'until' S as the facts of pronominalisation may possibly hold the key to the failure of deep strings like (440) to give rise to parenthetical examples like (403) on p.157:

(440) UXAL LEHIŠAER AD ZMAN [ŠE HEM METAXNENIM LEHITXATEN BI ZMAN]

I shall be able to stay until time CMP they plan to get married at time

As we have decided to take the head NP of Time in 'hidden relatives' as a pronoun - perhaps ZMAN 'time' - the fact that AD 'until' does not govern pronouns altogether, witness (441), would at first sight appear to explain why it does not govern a Time pronoun either, thus sparing us an ad hoc cooccurrence

restriction on AD 'until' and ZMAN 'time':

(441)*IM HASERET MATXIL RAK BETEŠA, MA TAASE ADAV

If the film only starts at nine, what will you do until it ?

But in actual fact ME 'since' phrases, which do not readily pronominalise in non-relative contexts as shown by (442), and BETEREM 'before' phrases, which never feature a pronominal suffix altogether as shown by (443), have both been found to take a Time pronoun (on the surface and obligatorily deleted respectively) in fn.181 and (395), repeated below:

(442)*HEM HOFTU BESOF MAI VEHEM GARIM KAN MIMENU

They appeared at the end of May and they've been living here since it

(443)*HURSA LANU LAAZOV IM ŠAXAR VELO BETARMO

We were permitted to leave at dawn and not before it

MIZMAN ŠE ANI KAN LO RAITI IŠ

Since time CMP I've been here I've seen no one

(395) XANA GANRA BETEREM ŠE TIXNENA

Hanna finished before CMP she planned

So we can as yet draw no conclusions about the exact constraint on AD 'until' phrases, except to say that intriguing restrictions on pro-formation and relativisation are at work among prepositions.

Returning to Cause phrases, where the constraints do seem simpler, we cannot suggest a reason for them in semantic terms. But we are confident there is one. For, firstly, the constraints extend even to interrogative pronominalisation, witness (444-5):

(444)*SERVU LI. - BIGLAL MA

They turned me down. - Because of what ?

(445)*ANI LO YODEA BIGLAL MA OXEL ET HA GARINIM

I don't know because of what he eats the pips

In both these cases, incidentally, LAMA 'why' and BİŠVIL MA 'what for' are acceptable. Secondly, English too disallows

relative and interrogative pronominalisation in Cause phrases containing 'because' (except for non-restrictives and echo questions). Perhaps many languages possess Cause prepositions subject to such constraints.

That concludes our account of Cause clauses. In the final subsection on specific subclasses, we shall examine two more examples of 'hidden relatives', and one of non-relativisation similar to the case of Cause phrases.

2.4.3. The structure of Manner, Degree and Purpose clauses

The chief Manner P²⁰² governing a clause are KMO and KFI 'as, like'. Both entertain a parenthetical S and [Comp, V] S Deletion, witness (446)²⁰³:

(446) HAXOMER LO MITNAHEG KMO ŠE CIPITI

The substance doesn't behave as CMP I expected

This testifies to an underlying relative structure. This can be confirmed in a way that was not possible with Time adverbials: some Hebrew V take an obligatory adverbial of manner (just as some take an obligatory Place adverbial, as shown on p. 128), among them HITNAHEG 'behave' as used in a parameter sense. Thus when we come to account for a sentence like (447), we must explain the unusual absence of a Manner adverbial with YITNAHEG 'behave' by positing deletion under identity (partial) with the head of the relative S containing YITNAHEG:

(447) HAXOMER LO MITNAHEG KMO ŠE CIPITI ŠE HU YITNAHEG

The substance doesn't behave as CMP I expected CMP it would behave.

202. We shall note the possibility that KMO and KEFI are not P but derived Pro-adverbials, like EFO 'where' - even in contexts like HU KMO DOV 'He's like a bear' (see Ch.3).

203. We shall illustrate from KMO.

Naturally, had we known of a V taking an obligatory Time adverbial, we would have adduced it in our discussion of Time clauses.

The fact that the posited underlying relative pro-form in (447) is obligatorily deleted can be put down to the resistance of numerous pro-adverbials to relative pro-adverbialisation (as demonstrated on p.148); for instance, the pro-adverbial of Manner, EX 'how', clearly must have been obligatorily deleted in (448) below, where the embedded V ETNAHEG 'behave' again speaks for the presence of an underlying Manner adverbial:

(448) ETNAHEG EX ŠE (*BO) TIRCE ŠE ETNAHEG
I'll behave (lit.) how CMP (*in which) you want me to behave

As for the identity of KMO 'as' itself, it is best to regard it not as a P (in the deep structure, at any rate) but as an adverbial incorporating the preposition KE and a pronoun²⁰⁴, not necessarily a pronoun amounting to MA 'what, something' even though KE is most commonly used to mean 'like' or 'as (=in the capacity of)', but rather a Manner pronoun amounting to DEREK 'way'. For KE also appears in the expression KE DEREK ŠE... 'in the way that...'. No doubt the same derivation befits KEFT and KESEM, which also mean 'as'.

Turning to Degree clauses, we posit a 'hidden relative' in those introduced by (AD) KAMA ŠE 'to the extent CMP'²⁰⁵, as in (449) where [Comp, V] Clause Deletion has taken effect:

204. Gesenius (1910:303) derives KMO genetically from KE MA 'according to what'. (KE is distinct from KE meaning 'when')

205. The addition of the P AD 'until, up to' is not, it seems, de rigueur with non-gradable predicators such as do not take specifiers like MEOD 'very'.

(449) ZE LO HIŠTANA AD KAMA ŠE CIPINU

It didn't change as much as we expected

When one comes to say anything more specific about the identity of the head NP of such a relative structure, one is initially embarrassed by the fact that KAMA, in that it serves as a quantifier meaning 'how much, some' and as a Degree/Measure adverbial, appears to be a lexical unit. But in fact we have good reasons for regarding KAMA as incorporating a P + NP, KE MA 'like what': firstly, there exist two other quantifiers that are formally identical to Manner Adverbs, KAX and KEN, witness (450-1, 452-3), the first in each of which features a Manner adverb:

(450) GAM HI MEDABERET KAX

She too talks like that

(451) YEŠ LO ŠLOŠIM MEXONIYOT VE KIFLAYIM MI KAX XAYALIM

He's got thirty cars and (lit.) double thus (=that number of) soldiers

(452) KEXOL ŠE DIBRU, KEN HITRAGAZTI

The more (Lit.: as all) they spoke, the more (lit.: thus) I got angry

(453) YEŠ LO ŠLOŠIM MEXONIYOT VE KIFLAYIM MI KEN XAYALIM

He's got thirty cars and (lit.) double thus soldiers

Secondly, as with LAMA 'why, because' on p.167, KAMA is related to KE MA 'like what' by a Biblical phonological rule now obsolete²⁰⁶.

Note that in thus deriving KAMA from a P + NP we are just adding to the many phrasal expressions generated under the Quantifier Phrase or the Degree Adverbial node²⁰⁷.

206. See Gesenius (1910:134,299). Note that in English and German the same word denotes Degree (of adjectives) and Manner: how, wie; so, so.

207. See Bresnan (1973) for such nodes.

Concluding with Purpose clauses, observe first that P such as KDEI, AL MENAT 'in order' and BIŠVIL 'for' do not tolerate complement S with parenthetical clauses or [Comp, V] S Deletion, as illustrated by (454-6):

- (454)*HI LO HITXATNA KDEI ŠE CIPITI ŠE HI TITXATEN
She didn't marry in order CMP I expected CMP she'd marry
- (455)*HI LO HITXATNA AL MENAT ŠE CIPITI
She didn't marry in order CMP I expected
- (456)*HI LO HITXATNA BIŠVIL ŠE CIPITI ŠE HI TITXATEN
She didn't marry (lit.) for that I expected CMP she'd marry

The first two cases are simple to explain: neither KDEI nor AL MENAT take complement NP²⁰⁸, so there is no reason why they should govern a relative structure; nor is there reason to regard them as incorporating an NP, as there was in the case of LAMA 'because, why'.

BIŠVIL 'for' does govern NP; recall BIŠVIL MA 'what for' on p.172. So, if we are to account for (456), we must find a reasoned way of blocking the derivation of a deep string (457):

- (457) HI LO HITXATNA BIŠVIL 'MA' [CIPITI [ŠE HI TITXATEN
BIŠVIL 'MA']]
She didn't marry for what [I expected [she'd marry
for what]]

In order to block the relativisation process and the deletion under identity of the embedded BIŠVIL MA 'for what'²⁰⁹, we can invoke the same resistance to relativisation in general already noted in the case of Cause phrases, witness this example of a Quasi-relative structure:

- (458)*EN LI BIŠVIL MA LIŠMOR ET ZE
(lit.) I haven't got for what to keep it

208. On p.14, fn.14 it was mooted that KDEI may take NP, but certainly not in the sense of 'for the purpose of'.

209. MA in (457) just represents some abstract head pronoun.

As with Cause phrases, the semantic mainspring of this constraint is unknown to us.

We have now argued that several "adverbial clauses", of Time, Manner and Degree, contain 'hidden relative structures'; sometimes the head NP is deleted, sometimes it is incorporated into a pro-adverbial. Now we have not thereby meant to suggest that the P introducing such "adverbial clauses" are now to be regarded as exclusively governing NP and not S. In the next subsection we broach the possibility that P like LIFNEI 'before' govern both S and 'hidden relatives'; and 2.6. is devoted largely to the even more compelling case for such ambiguity in English.

2.5. : FURTHER IMPLICATIONS OF THE 'HIDDEN RELATIVE HYPOTHESIS'

2.5.1. Derived Nominals: more evidence for 'hidden relatives'.

We now compare the nominalisation of parenthetical and non-parenthetical S, and deem the resistance of the former to this process to be an indication of their syntactic - rather than just 'interpreted' - distinctiveness.

Recall that on p.54 we argued briefly for a lexicalist approach to derived nominals in Hebrew in line with Chomsky (1970a), rather than adopting the transformationalist analysis for Hebrew by Berman (1973). We shall nevertheless first conduct our case from a transformationalist standpoint, to show that it is not dependent on either approach.

Consider the ambiguous (459):

- (459) HAOYEV HITKIF ŠAA LIFNEI ŠE ANAXNU HEXLATNU LEHATKIF
The enemy attacked an hour before GMP we decided to
attack

The meaning is that the enemy's attack may have preceded just our attack or even our decision to attack. Now once the embedded V is nominalised into HAXLATA 'decision' (which is an action N as well as a picture N), the example is no longer ambiguous - it must mean that the enemy attack preceded our decision:

(460) HAOYEV HITKIF ŠAA LIFNEI HAXLATATENU LEHATKIF

The enemy attacked an hour before our decision to attack

If we insist on capturing the ambiguity of (459) by a rule of semantic interpretation, we shall have the task of explaining the non-ambiguity of the derived nominal in (460)- a hard task, given the fact that other types of ambiguity involving V, such as 'two-time' V like TAVA 'demand' and CI-PA 'expect', are not affected by nominalisation; for instance, the ambiguous orientation of the adverbial in (461) below to either the verb TAVA 'demanded' or to HAFUGA 'truce' is maintained when the V is nominalised in (462):

(461) HAUM TAVA HAFUGA LEMOXORAT BETEŠA

The U.N. demanded a truce at nine the following day

(462) TVIAT HAHAFUGA LEMOXORAT BETEŠA HI ŠE HIRGIZA ET HAKREML

The demand for a truce at nine the following day is what angered the Kremlin

If the ambiguity of (461) - which might be suited to an interpretive rule - is preserved under nominalisation, why is it that that of (459) is not? So let us capture the non-ambiguity of the nominalised (460) by sketching out the interaction of a 'hidden relative' structure and nominalisation.

Obviously, the latter T rule would occur at a stage when the two senses of (459) are still structurally distinct. Thus if (459) is actually derived in both its senses from 'hidden relative' structure, Nominalisation will have had to occur

before the deletion of the variously positioned relative pro-forms which gives rise to the ambiguity of (459); i.e. nominalisation will have applied to the deep strings (463-4):

(463) HAOYEV HITKIF ŠAA LIFNEI ZMAN ŠE ANAXNU HEXLATNU BI ZMAN LEHATKIF

The enemy attacked an hour before time CMP we decided at time to attack

(464) HAOYEV HITKIF ŠAA LIFNEI ZMAN ŠE ANAXNU HEXLATNU LEHATKIF BI ZMAN

The enemy attacked an hour before time CMP we decided to attack at time

But this is an unacceptable derivation! Nowhere in Hebrew do we know of relative S being nominalised. Note moreover that such a derivation for (459) would involve nominalising a relative S while the relative pro-forms and, a fortiori, the head NP are still present, i.e. a non-reduced relative S.

Let us instead derive the "adverbial clause" in (459) in its non-parenthetical sense from a complement S as well as from a NP + Relative S²¹⁰. The former structure, being amenable to a rule of nominalisation, will give rise to (460); and as (459) in its parenthetical sense can only have arisen from a 'hidden relative', it will have no nominalised counterpart at all²¹¹. Thus a transformationalist account of derived nominals means that the "adverbial clause" in (459) is structurally not two-ways but three-ways ambiguous: two types of relative configuration and a simple complement S.

A lexicalist account of the derived nominal in (460) offers an even easier explanation for the non-ambiguity of (460):

210. There is no reasonable way of blocking the 'hidden relative' derivation in non-parenthetical cases, even though it leads to a meaningless syntactic ambiguity. But see 2.7. for a defence of such an approach.

211. Even were T_{nom} deemed to follow Relative head Deletion, we would still block (460) in an unacceptable parenthetical sense: that a headless relative S resists nominalisation is clear from YESNAM SE ANI MASKIM ITAM 'There are that I agree with them' \rightarrow *YESNAM HASKAMATI ITAM 'There are my agreement with them'.

the NP HAXLATATENU 'our decision' cannot be derived from a 'hidden relative' structure - looking something like ZMAN[ŠE HAXLATATENU[LEHATKIF] HAYTA BI ZMAN] 'time CMP our decision to attack was at time' or ZMAN[ŠE HAXLATATENU[LEHATKIF BI ZMAN] HAYTA] 'time CMP our decision to attack at time was' - for the simple reason that there is no principled way of collapsing a relative clause into a NP (whereas the reduction of a headed to a headless relative S outlined earlier for Time, Manner and Degree clauses was motivated to an extent). Hence (460) with its derived nominal can only be read as non-parenthetical.

Thus the behaviour of derived nominals favours a 'hidden relative' hypothesis, whether we espouse a transformationalist or a lexicalist view of such nominals.

2.5.2. Coordination: counter-proposals concerning an objection to the 'hidden relative' hypothesis.

One possible objection to the 'hidden relative' hypothesis concerns coordination. Recall first that in 2.2.1. we exemplified cases of Modified Head Deletion involving NP in general. There is no reason to believe that, following Head NP Deletion, the overall NP node can have been pruned to leave the S node that dominates the relative S (as is the case, apparently, with non-branching S nodes); especially as headless relative S coordinate readily with clear cases of NP, an unlikely occurrence were the former really S and not NP:

- (465) YEŠ ŠE MITPALELIM BENUSAX ARI VE KAELE ŠE DVEKIM ADAYIN
LENUSAX AŠKENAZ
There are (lit.) that pray in the Ari formula and those
that stick to the Ashkenazi formula

So we are entitled to regard Time relative structures, following the deletion of the head pronoun of Time, as NP rather

than just as S.

We are thus initially embarrassed by the unacceptability of coordinations involving a lexical noun and an "adverbial clause" of the type that can - so we have argued - derive from a NP + Relative S structure:

- (466)*LO NAHAGU LEHATXIL MAARIV LIFNEI HAŠKIA O ŠE HAKOHANIM NIXNESU LAMIKDAŠ
 They didn't use to start the Evening Prayer before sunset or CMP the priests entered the Temple

Note that a coordination involving a relative S headed by an undeleted Time noun is perfectly well-formed, witness (467):

- (467) LO NAHAGU LEHATXIL MAARIV LIFNEI HAŠKIA O HAŠAA ŠE HAKOHANIM NIXNESU LAMIKDAŠ
 They didn't use to start the Evening Prayer before sunset or the time CMP the priests entered the Temple

We can provide some sort of explanation for the unacceptability of (466) and uphold the 'hidden relative' analysis by considering the constraints on the coordination of the pronoun ZE 'it', when it serves as head of apposed S.

First consider (468):

- (468) LAMA LO HIZKARTA ET ZE ŠE ATA MAUIST
 Why didn't you mention (lit.) it that you're a Maoist ?

The object NP in (468), by intonational Constituent Analysis, is as underlined²¹². But we cannot coordinate it with even a simple NP, witness (469-470):

- (469)*LAMA LO HIZKARTA ET LEUMIYUTXA O ZE ŠE ATA MAUIST
 Why didn't you mention your nationality or it that you're a Maoist ?
- (470)*LO HIZKARTI ET XOSER HANISAYON ŠELI VE ZE ŠE ANI ROMANI
 I didn't mention my lack of experience and it that I'm Romanian

212. By contrast with English, where the sequence 'it that' is invariably split intonationally, e.g. 'Who suggested it - that you should come ?'. (See Rosenbaum (1967:4.1.1.))

We can pinpoint the unacceptability in (469-70) by noting the improvement when we replace ZE + S by the noun HAUVDA 'the fact' + an apposed S:

(471) LAMA LO HIZKARTA ET LEUMIYUTXA O HAUVDA ŠE ATA MAUIST
Why didn't you mention your nationality or the fact
that you're a Maoist ?

There is a similar improvement when the second coordinate in (469) is not just ZE + S but Obj.Marker + ZE + S²¹³:

(472) LAMA LO HIZKARTA ET LEUMIYUTXA O ET ZE ŠE ATA MAUIST
Why didn't you mention your nationality or Obj.M. it
that you're a Maoist ?

So it seems that ZE heading an apposed S must be assigned some feature - say [-COORDINATING] - that constrains the Conjunction Reduction rule. We shall shortly mention two other rules that appear to be constrained in the presence of this ZE and that justify the assignment of some sort of special feature to it. But first we wish to draw from the non-coordinatibility of the pronoun ZE the conclusion that the underlying head pronoun of Time in the LIFNEI 'before' clause in (466) bears the same feature of non-coordinatibility. The same can be assumed for the head pronoun underlying all such Time clauses.

Lest this be deemed totally ad hoc (in view of the patent ability of pronouns like MA 'what, something' and MI 'who, someone' to coordinate with other NP), recall that we remarked on the resistance of a number of pro-forms to relative pro-adverbialisation, among them ZMAN - which we tentatively identified with the underlying Time pronoun in "adverbial S"-

213. Hebrew generally affords the option of repeating Object Markers before all coordinate NP.

and the underlying pro-adverbials of Place and Time in EFO 'where' and MATAI 'when' clauses respectively (see p.148). Now here too the pronouns MA 'what, something' and MI 'who, someone' do permit relative pronominalisation²¹⁴; so it is possible that the resistance to relative pro-formation and coordination²¹⁵ are part of some more general phenomenon.

To return to ZE as the head of apposed structures, it might cast further, indirect light on the relativisation and coordination constraints we are positing if we described another constraint, to which ZE though not underlying Time pronouns are subjected. Consider (473):

- (473) LO ROCIM LEHAŠLIM IM HAUUDA ŠE HEM ROXIM, AŠER BAA
LEBITUI BE KOL MAASEHEM
They don't want to come to terms with the fact that they're murderers, which finds expression in their every deed

The NP underlined above heads a relative clause, introduced by the CMP AŠER. But where the head NP itself embraces ZE as an appositional head rather than HAUUDA 'the fact', the relativisation process is blocked altogether - not just pro-formation but even Relative Item Deletion (which was perfectly in order in the case of underlying Time pronouns) is impeded, witness the ill-formed (474):

- (474)*LO ROCIM LEHAŠLIM IM ZE ŠE HEM ROXIM, AŠER BA LEBITUI
BE KOL MAASEHEM
They don't want to come to terms with it that they're murderers, which finds expression in their every deed

In fact clauses and infinitivals too are unable to head

214. See Hayon (1973:142ff.).

215. Coordination cannot be tested for the pronouns incorporated into EFO 'where' etc. as they thus form a P + NP structure.

a relative structure or to coordinate with lexical NP, but this can be explained easily in terms of our proposal in 1.2.4. that clauses and infinitivals be generated as non-NP S.

Yet another rule to be impeded by ZE 'it' serving as head of an apposed S or even as an expletive is Reflexivisation,²¹⁶ witness the unacceptability of (475-6):

- (475)*ZE ŠE HAREXEV MEZAHEM ET HAAVIR MAMXIŠ ET ACO BIDRAXIM
SONOT UMEGUVANOT
It that vehicles pollute the air manifests itself in
many different ways
- (476)*ZE LO MACDIK ET ACO LEHAŠKIA SXUM KAZE
It doesn't (lit.) justify itself to invest such a sum

A better idea of the exact nature of this ZE can be gained from noting the very same resistance to any form of Relativisation or Reflexivisation on the part of the indefinite plural human NP that can be inferred in 'subject-less' sentences like:

- (477) BEHAMBURG ŠOTIM HARBE BIRA
In Hamburg (lit.) drink a lot of beer

Thus we cannot delete such an indefinite NP in the context

(478), where it is denoted by \emptyset :

- (478)* \emptyset ŠE GARIM BE HAMBURG ŠOTIM HARBE BIRA
 \emptyset that live in Hamburg drink a lot of beer

Nor can we refer back to it by a reflexive pronoun, or, for that matter, by a non-reflexive pronoun²¹⁷, witness (479-80):

- (479)*BEHAMBURG KORIM LE ACMAM HAMBURGERIM
In Hamburg (lit.) call themselves Hamburgers
- (480)*MAKXIŠIM KAMUVAN ŠE HEM ŠOTIM HARBE BIRA
Deny, of course, that they drink a lot of beer

216. How we are to prevent the anaphors of ZE + S from undergoing 'ordinary' pronominalisation (the regular fate of unreflexivised anaphors) is unclear.

217. As for its behaviour under coordination, it is probably a semantic rule that prevents it coordinating with a lexical N, just as 'people and even Sid..' is curious.

Observe finally that the ZE that is subject to such constraints is not to be identified with the ordinary anaphoric ZE 'it', as is evident from (481) below, where the latter ZE reflexivises readily, by contrast with (476):

(481) LISBOT RAAV ZE KEDAI, AVAL ZÉ LO MACDIK ET ACOMO

To go on hunger strike is worthwhile, but this doesn't (lit.) justify itself

The general conclusion then is that non-anaphoric or expletive ZE 'it' and the obligatorily deleted -DEF plural human pronoun have sufficient traits in common with our 'hidden relative head pronoun' to account for the problems of "adverbial clause" coordination.²¹⁸

2.6. : SOME KINDRED PROBLEMS IN ENGLISH

2.6.1. The 'hidden relative' in English

In this subsection we wish to elaborate and modify the view on the 'hidden relative' enunciated by Ross (1967a) and Huddleston (1968), giving special consideration to the workings of the rules dismantling such relative S and the problem of 'since', 'until' and Cause clauses. There are remarkable similarities to the situation outlined for Hebrew. Then the remainder of this chapter is devoted to a problem so far only touched on (in the transformationalist account of derived nominals in 2.5.1.) but which may prove to be central to the

218. We have not mentioned the fact that two parenthetical "adverbial S" (i.e. derived from relative structures) can indeed be coordinated - for this can be the result of a NP + s_1 S + S_2 structure, with just the one head pronoun. One conceivable explanation for (466) that we can definitely discount is that there is any constraint on a coordinated relative S retaining its CMP SE and not letting it fall victim to Conjunct Reduction. Witness SEV EFO SE YES MAKOM VE SE YIHYE NOAX LEXA 'Sit where CMP there's room and CMP it's comfortable'.

analysis of 'hidden relatives' in many languages besides English - non-semantic structural ambiguity.

Ross (1967a:211) writes: "The first constructions which exhibit relative clause-like structures are clauses introduced by 'where, when, after, before, since, until and while'", and goes on to deduce the movement of an underlying relative item from the absence of any parenthetical interpretation in just those contexts where the Complex NP Movement Constraint ordinarily operates - where the verb introduces a complex NP:

- (6.13a) *Bill left when I am looking at a girl who vomited
(6.13b) Bill left when I believe (*the claim) (?that) the bomb had just exploded

Huddleston et al. (1968:11.2, 11.4.1), besides referring to this phenomenon, distinguish those adverbial clauses that are subject to Subject + Copula Deletion (those introduced by 'when, while, where, if, whether, unless, (al)though, however + adjective...'); and conclude that these items are not P but rather constituents of the embedded S itself. In particular, 'when, while, where' are deemed some sort of relative item.

It seems to us that an English rule of Head NP Deletion may defy a simple formulation. It operates in subject and object position (482-3)²¹⁹ and within some PP but not within others (484, 485-6):

- (482) When he's in the middle of his lunch doesn't seem to be the best time to ring him
(483) Do you remember when we used to go to Westcliff in the thirties ?
(484) Try and think back to when you were a baby
(485) *She's been on the phone since when I've been here

219. We did, however, suggest on p.66, fn.79 that examples like (482), even with the Subject Raising associated with the verb 'seem', may be parasitic on the adverbial use of 'when' clauses. Nevertheless, cases like (483) may make this a debatable point.

(486)*Stay till when I get an answer²²⁰

The absence of a sequence 'at when..' suggests we should derive (487) below by Head Deletion from something like (488), by assuming that the head Time noun, like 'the moment it set', 'the minute he comes', 'the first time I spoke', permits the prior deletion of a preposition like 'at':

(487) I wrote this when I was keen on Buber

(488) I wrote this the time I was keen on Buber

Note too that Head Deletion will usually be blocked where the relative S has the complementiser 'that' or is a syndetic:

(489)*What about ~~the time~~ that you turned up an hour late ?

(490)*What about ~~the time~~ you turned up on time ?

But where a Time NP + asyndetic relative is governed by 'before, after' the Time NP is deleted, hence parenthetical S and [Comp, V] S Deletion in English as in Hebrew.

Now doubt may be felt about the well-formedness of parenthetical 'since' and 'until' S, pace Ross. The (a) examples below allow an inferred 'since' or 'until' relative phrase, and the (b) examples an inferred 'at' relative phrase:

(491a)?If you've really been waiting here since you say you have, you're a nut

(491b)*I don't believe he's been at it since he says he began 221

(492a)?If the Bronze Age really lasted till they say it did, Stonehenge must be pretty recent.

(492b)?They certainly didn't leave until they'd planned (to)

220. There is a remote chance that this is linked to the resistance of 'since, until' to 'when' as a complement adverb, witness '?When exactly are you staying till?' and '*When has he been here since?'

221. A particularly acceptable example is 'She's been here ever since I can remember'.

Whatever the general verdict on (491-2), there certainly seems to be no distinction between 'since' and 'until' structures, by contrast with Hebrew. And in the event that (491-2) are deemed ill-formed, it is no coincidence that neither 'since' nor 'until' phrases seem to undergo the deletion or pronominalisation processes involved in relativisation, as illustrated by (493-6):

(493)*Have you really been living here since we've been living here ?

(494a)*Can you be more specific about the exact day since when you've been living here ?

(494b)*Can you be more specific about the exact day you've been living here since ?

(495)*I'm staying here until the Monday you're staying here

(496a)*Can you tell me the exact day until which you're staying?

(496b)*Don't tell me the exact day you're staying till .

In this respect, too, English differs from Hebrew, which was shown to allow Relative Item Deletion in the case of ME 'since' phrases but not in the case of AD 'until' phrases.

Interestingly, English, pace Ross and Huddleston, does not treat 'while' like a relative pro-form, witness the non-parenthetical nature of (497) and the doubtfulness of (498) by comparison with (499):

(497) The male grebe guarded the nest while we expected that the female would

(498)?*The period while Britain stood alone was a crucial one

(499) Do you remember the time when we stood alone ?

Furthermore, temporal 'as' clauses too preclude a parenthetical reading (by contrast, as we shall see, with Manner 'as' S), witness (500-1), to which we have added corresponding examples with 'when' instead of 'as' - (502-3):

(500)*Another firm made a bid for them just as we'd hoped to move into the market

(501)*They made the bid just as you said - after the Dissolution

- (502) Another firm made a bid for them just when we'd hoped to move into the market
- (503) They made the bid just when you said - after the Dissolution

Now on p.169 we mentioned the diverse Hebrew prepositions that appear to govern a simple S in Deep Structure, among them KE 'when'. The apparent ability of English 'while, as' to do the same thing prompts us to speculate as to which semantic notions are apt to be expressed by a P governing a non-relative S in Deep Structure in languages in general.

We expect, accordingly, that the absence of a P of Place governing simple S in Deep Structure in both Hebrew (where EFO 'where' incorporates a P + NP string) and English (in which 'where' is patently a relative pro-adverbial) is part of a cross-linguistic phenomenon.

Further to Place clauses, English may offer a clue to the nature of the constraint on Head NP Deletion after Place P in Hebrew²²². English Place expressions differ from those of Time by (a) the ready deletability of their Head NP of Place after all prepositions (cf. (485)); (b) the non-deletability of this Head NP in front of an asyndetic relative S; (c) the non-deletability in asyndetic relative S of Place of a stranded P that once governed the deleted relative item. These three properties are exemplified by the following three sentences, in contrast to which we supply three Time examples (507-9):

- (504) It's not far from ~~the Place~~ where we were before
- (505)*It's not far from ~~the Place~~ we were at before

222. Admittedly, Hayon (1973:172) illustrates (very literary) headless Place S, introduced by the CMP ASER, but a P like LIFNEI, which means both 'before' and 'in front of', cannot allow its governed head to be deleted in a Place context: *ZE YARAD ŠNEI METER LIFNEI ŠE AMADTI 'It came down 2 metres in front of (Lit.) CMP I was standing'.

(506)*The place I stayed was a right hole

(507)*He's been on the phone since when I've been here

(508) He came after I left

(509) The day he died proved to be a turning point

We expect that these three disparities between Time and Place expressions in English are part of a more general disparity and one which is at work in Hebrew too.

English Cause expressions seem to be as averse to relativisation as their Hebrew counterparts. 'Why', unlike most WH words²²³, is not a relative pro-form, witness (510):

(510)*Bruce didn't quit for the reason why I quit²²⁴

And, as in Hebrew, 'because' clauses are not open to parenthetical interpretation and nor do 'because' phrases serve as relative items.

We have no explanation, however, for the inability of 'how' to serve as a relative pro-form in examples like (511):

(511)*The way how the anteaters do it is yet to be described

For English does have parenthetical Manner clauses, witness:

(512) The stuff behaved just as/like I expected it would²²⁵

In this subsection we have found much that appears to correspond to the situation in Hebrew, and certain things - such as the parallel between 'since' and 'until' clauses and the behaviour of 'how' - that do not. But our analysis for English is at variance with both Ross (1967a) and Huddleston et al.(1968).

223. 'What' is only a relative in non-standard English.

224. 'The reason why' seems to be a NP + Indirect Question.

225. Ross (1967a:52) would derive 'like' by a late rule from 'the way that'.

2.6.2. A structural ambiguity: relative S and Sentential
Adverbials

Apparently meaningless syntactic ambiguity has been proposed more than once in this study; in 1.1.2. we argued the existence of separate P + S and P + NP + S structures having an identical realisation as BE MIDA ŠE.. 'to the extent that..' and BE MIKRE ŠE.. 'in the event that..', and on p.179 (fn.210) we mooted coexistent P + S and P + NP + S analyses of Hebrew Time clauses in the event of a non-lexicalist theory of nominalisation. We now make a stronger case for the latter type of syntactic ambiguity in English 'when' clauses.

The problem is how 'when' clauses permit Subject + Copula Deletion if they are really just dismantled relative clauses.

At first glance, of course, relative S themselves permit such deletion; but this specifically involves a subject relative pronoun. Thus one cannot reduce the relative S in (513) to generate (514):

(513) I left the row which I was weeding to take a drink

(514)*I left the row which weeding to take a drink

Nor can one reduce the relative S in (515) to (516):

(515) I always say such things at times when I'm depressed

(516)*I always say such things at times when depressed

So the rule generating such reduced 'when' structures as in (517) below might be felt to be ad hoc and to be delayed until the total dissolution of the NP structure (however this might be engineered) and the creation of a clausal structure not governed by any P - similar to that of 'although' and 'if' S (which Huddleston (1968) describes as undergoing a Subject + Copula Deletion identical to that of 'when' clauses):

(517) I always say such things when depressed

But in fact the reduced S in (517) does not appear to derive from a relative S at all. Consider (518-9), the first of which can be interpreted parenthetically but hardly the second:

- (518) I didn't get my call-up papers when I was told I would
(519) I didn't flinch when I was told I would be getting
call-up papers

Now the second example can undergo Subject + Copula Deletion but not the first (in its natural interpretation). Hence

(520) is ungrammatical, unlike (521):

- (520)*I didn't get my call-up papers when told I would
(521) I didn't flinch when told I would be getting call-up
papers

If reduced 'when' clauses are not to be derived from relative S, they are best grouped with other reducible clauses, introduced by 'although, if, unless..'; 'when' will accordingly be entered in the base as a Complementiser (if this is how we are to categorise 'although' etc.). In support of this, observe that clauses introduced by 'while' - which was deemed on p.188 not to be a relative pro-form and which does not govern NP either - are subject to Subject + Copula Deletion just like 'when' clauses; so we are entitled to regard 'when', just like the WH word 'while', as a non-relative:

(522) Tapirs do not breed while in captivity

The outcome of this analysis is that example (523), which is neither parenthetical nor reduced (which would have made it a 'hidden relative' or a specifically $s[CMP - S]_s$ structure respectively), is structurally ambiguous:

- (523) I'll ring you up when I get back

That is, (523) can be assigned deep structures approximating

to (524) and (525):

- (524) I'll ring you up _{PP} [at _{NP} [the Time _S [when I get back]]]
 (525) I'll ring you up _S [when I get back]_S

In general this structural ambiguity will not reflect any semantic distinction. But in the next subsection we argue that this is not always the case in Time clauses.

2.6.3. A further structural ambiguity: relative S and sentential [Comp, P]

Yet another kind of structural ambiguity is displayed by (526):

- (526) He left before I was ready

We propose that 'before' can be regarded as introducing a relative structure or a S in deep structure, (526) deriving from (527) and (528):

- (527) He left _{PP} [before _{NP} [the Time _S [that I was ready at the Time]]]]
 (528) He left before _S [I was ready]_S

We are prompted by two considerations. Firstly, 'before' (and 'after') take both gerunds and parenthetical clauses. Now it is odd to find gerunds in what are supposed to be transforms of relative S²²⁶. But on taking a clearer case of a 'hidden relative', (532), and turning its finite V into a gerund, we lose the parenthetical reading - (533) can only mean that the birth occurred two days after the act of prediction!

226. Gerunds do, admittedly, occur in relative S where the subject is correferent, witness two examples from Stockwell et al. (1973:498ff):

- (529) People owning large houses pay large taxes
 (530) Anyone not having read more than one book...
 but not where the anaphor is within an adverbial, hence:
 (531)*It was built before the time the Romans arriving.

(532) The fortune-teller's a marvel! I gave birth just two days after I was told I would

(533) I gave birth just two days after being told I would

So the gerundive Time S does not seem to be derived from a relative S after all; it is a simple case of a S complementing a P²²⁷.

Now this by itself need not mean that (526) is structurally ambiguous, for it might be argued that S governed by 'before' and 'after' always surface as gerundives rather than as clauses and thus that (526) features just a relative structure. But this brings us to our second point.

In 2.6.1. we noted the doubtful acceptability of parenthetical S introduced by 'since' and 'until', and the complete unacceptability in the case of 'because' clauses. The same may be said for English clauses of Purpose. For all these clauses, the governing P will take S in deep structure (or perhaps bear a rule feature providing for a sentential expansion of a complement NP). So it is plausible - though not inescapable - that the clausal complement of 'before' in (526) is itself generated from a S complement. After all, 'before' already takes a S so as to generate gerundive complements (by contrast with Hebrew, where there is no equivalent to this non-~~g~~active gerundive and thus no obvious reason for such P to govern S).

Taken together with the impossibility of preventing the regular process of relative structure dismantling in non-parenthetical cases like (527), these two considerations lead us to deem (526) structurally ambiguous.

227. This represents Emonds' (1969) account of complements, already referred to on p.47. But it is not crucial to our analysis.

Let us endeavour to explain the initially puzzling behaviour of 'hidden relative' clauses in English under coordination. It will prove to be similar to the parallel phenomenon in Hebrew, discussed in 2.5.2.

While English coordinates lexical NP (as well as factive gerunds) of all sorts, it is incapable of coordinating a lexical NP with a 'before' clause, or any other clause, despite the fact that the latter can be analysed as a nominal containing a relative S. Hence the unacceptability of (534-5):

(534)*Why wasn't this done before the passengers boarded and the loading of the luggage ?

(535)*This happened before the development of the turbines and the frame was strengthened

But in fact we cannot even coordinate N with N in the case of the pleonastic 'it': a string like 'it that you've tried', which, as a result of the Extraposition rule proposed by Rosenbaum (1967:4.1.1.), counts as two constituents - NP + S - cannot be coordinated with another such string, witness (536). By contrast, other kinds of two-constituent strings can be coordinated, as illustrated by (537):

(536)*I don't deny it that you've tried and it that you've had some exceptionally bad luck

(537) She told Bruce that I'd ditched her and Kevin that I was crazy about her

Admittedly, if the Extraposition has the effect of chomsky-adjointing the 'it' to the node of the governing V, it is obvious why a second 'it that..' should not be coordinated with the first. But if we do regard 'it that..' as NP + S in derived structure, we shall have somehow to constrain Conjunction Reduction from applying to 'expletive' nouns. And this opens the way to crediting the head NP of

of Time underlying many adverbial clauses with just such a 'weakness' that renders it non-conjoinable²²⁸. Indeed, under the view that finite and infinitival predicate complements are NP rather than just S²²⁹, and that their head 'it' has been deleted by the time Conjunction Reduction applies on a higher cycle, one might wish to explain the refusal of such predicate complements to coordinate with lexical NP by crediting the former with the same 'weakness' - let it be assigned the feature [-COORDINATING] in the absence of any other motivation for this distinction.

Another aspect of coordination, for which we have an explanation, is the ability of $[_{pp} P + S]_{pp}$ strings to coordinate with strings we have seen fit to analyse as $[_s [CMP + S]]_s$: the adverbial underlined in (538) has been deemed $[_{pp} P + S]$, and that in (539), by virtue of its missing Subject + Copula, is $[_s [CMP + S]]_s$:

- (538) Bruce usually has his kitkat before setting off home
(539) Bruce usually has his kitkat when sitting in the tube

The two coordinate to give (540):

- (540) Bruce usually has his kitkat before setting off home or when sitting in the tube

Now (540) embarrasses the principle that only like constituents coordinate - which is infringed only by the presence of additional items that have not been generated in the particular position in the base, witness (541):

228. Stockwell et al. (1973:322) talk of "...a general condition on the non-conjoinability of unstressed articles (similar to the condition on the non-conjoinability of inflectional affixes.)" Note that our constraint would stop two head NP of Time with their attendant relative S from conjoining; but we can in fact still correctly generate coordinate sentences like the following from a structure with one head modified by a coordinate relative structure NP + $[_s [S+S]]_s$: 'Things changed after I left and he came'.

229. See Rosenbaum (1967).

(541) Mike and, I think, Kenny too are willing to have a go
To (540) we might add examples like (542-3), which also fea-
ture [P + NP] coordinated with [CMP + S]; and (544)²³⁰, fea-
turing a bare clause with not a hint of a preposition and
not even allowing us to reanalyse a complementiser as a P:

(542) I think that Sid, despite what's said about him and al-
though he's a bit slow on the uptake, is good N.C.O.
material

(543) In the event of trouble or if you're feeling a bit
browned off, you can always ring me up here

(544) The data being what they are and in view of the length
of the chapter, it'd be best to drop the whole matter

But in fact the analysis of adverbials of diverse kinds
in terms of overall adverbial nodes, which we argued for in
chapter 1, would serve here, too, to explain the problems
of coordination in English: both [P + S/NP] and [CMP + S]
would be dominated by an adverbial node.²³¹ We shall explore
the matter no further.

2.7. : THE NOTION OF STRUCTURAL AMBIGUITY

We expect that the 'hidden relative' phenomenon we have
outlined for Hebrew and English exists in many other langua-
ges, and so, too, the phenomenon of structural ambiguity
devoid of any apparent semantic reflex. We wish to make a
few theoretical observations about the latter phenomenon.

At first sight, it does seem that the two sources pro-
posed on p.193 for (523) have the same meaning, witness the
pair of surface sentences (523) and (545):

230. This type of example was suggested by Ruth Kempson.

231. Schane (1966) claims that only the conjunction of con-
stituents that correspond to major categories that are
not also lexical categories is fully systematic, all
other conjunction being idiosyncratic; but we are in-
deed dealing with major non-lexical categories!

(523) I'll ring you up when I get back

(545) I'll ring you up at the time when I get back

But when we treat time as a recurring, rather than a unique, phenomenon, it is our view that a deep structure like (546), but not one like (547), can capture our intentions. So too for the deep structures (548) and (549) respectively:

(546) Come _{pp} [at _{np} [the Time _s [you usually come at the Time]]]

(547) Come _s [when you usually come],

(548) Why Friday ? Because I get off _{pp} [at least an hour before _{np} [the Time _s [I finish on other days of the week at the Time]]]

(549) Because I get off _{pp} [at least an hour before _s [I finish on other days of the week]]

To substantiate this, we hark back to the conditions on the use of subject-less 'when' clauses and gerundive 'before' S proposed on p.192 and 194. We argued that neither of these constructions could be derived from relative structures. Now consider two sentences (550-1) that express time as a recurring rather than a unique phenomenon; we cannot delete the Subject + Copula and introduce a gerundive (respectively) without rendering the two examples ill-formed, witness (552-3):

(550) Today I finish when I finished yesterday

(551) Why Friday ? Because I get off at least an hour before I finish on other days of the week

(552)*Today I finish when finishing yesterday²³³

(553)*Why Friday ? Because I get off at least an hour before finishing on other days of the week

232. The deep strings (547) and (549) - which we consider the most accurate source for sentences expressing time as a unique event - should not be confused with the surface strings like 'Come when you usually do', which can certainly be read as using time in a recurring sense.

233. Contrast (550,552) with the pair 'You know what I thought when I finished yesterday ?' 'You know what I thought when finishing yesterday ?', where the latter is well-formed.

Thus the relative structure headed by a NP of Time does serve a semantic purpose of which the simple S structure is incapable and we are thereby justified in having two such structures in our base output, even though they frequently fulfil the same function.

We now give some examples from linguistic literature of criticisms of this approach to analysis.

Stockwell et al.(1973:465ff.) discuss the proposal of Chomsky (1970) that NP be expanded into, int.al., NP + P + NP, saying "...by way of REL-BE Deletion, we can generate such sentences as (94) from (93):

(93) The boy who is from Chicago hit me

(94) The boy from Chicago hit me

while at the same time.the case-grammar framework [NP-P-NP] provides structures for such expressions as (95-7)

(95) The back of the room

(96) The author of the book

(97) The introduction of output conditions

as cases on nouns, obviously not the result of REL-BE Deletion. The problem is, of course, to be able to tell one type from the other, and, more seriously, to avoid, in a well-motivated way, predicting false ambiguities by generating the same result by both relative clause reduction and cases on nouns...". They go on to adjudge this "false ambiguity" to be a strong argument against their own general theory (which happens to be based on case-grammar).

Again, Stockwell (1973:302) discusses the idea of not permitting the non-erasure of internal boundaries on some cycle block the entire derivation if, on some later cycle, the conditions for boundary-erasure are met; e.g. allowing an intermediate string ~~That~~ man ~~a~~ man and a woman got married

yesterday ~~is~~ is erudite ~~to~~ to be operated on in a later cycle by a rule of Conjunction Reduction: "...While such a change in the model, although curious, might be feasible, to allow it would seem to permit alternative Deep Structures for certain unambiguous sentences such as 'That man and woman who smoke too much are both erudite..'".

But in our opinion Stockwell et al. should, if at all, be worried about something more basic than 'false ambiguities' caused by the chance intersection of semantically disparate structures after the operation of REL-BE Deletion: specifically, do we allow separate semantically identical deep structures? If we do, we can hardly prevent occasional 'syntactic blends'²³⁴, transforms which coincide to create 'false ambiguities'.

Now two kinds of semantically identical pairs of deep structures have been given prominence in this study: attributive and predicative adjectivals, and nouns/verbs and prepositions. The first of these pairs cannot be ruled out as long as the theory permits both simplex and complex methods of modification (and surely both are major aspects of language). As for the actual occurrence of ambiguity, it may be an important and well-motivated trait of language that we reduce generalised modifiers and recategorise nouns/verbs diachronically as prepositions.

Whether diverse deep structures can be semantically identical may depend on non-semantic factors: the decision on

234. Bolinger (1961:366ff) speaks of "...the existence of syntactic blends which makes it difficult if not impossible to single out 'the' transformational origin of certain constructions."

whether to relate two structures transformationally rests ultimately, for us, not on a prior decision as to their semantic relationship but on the general motivation for the particular T rule(s). Thus English passives, which had been transformationally linked to the active in Chomsky (1957), were re-analysed by Hasegawa (1968) as a generalised structure distinct from and incorporating the active; this need not mean that the semantic relation between the two is felt to be any different.

One discussion that implicitly condones 'false ambiguities' is that of syntactic blends by Bolinger (1961). He looks upon Tough Movement, which transforms 'It is hard to convince him' into 'He is hard to convince', as a syntactic blend with the separate 'Passive Infinitive' construction of 'The food is ready to eat', 'She's homely to look at'; and finds it natural that, at a certain point, the two sources should have a semantically almost unambiguous output. Thus, for example, 'This place is dangerous/Exploring this place is dangerous' gives rise to 'This place is dangerous to explore'.

It seems that Stockwell's fear of purely structural ambiguity and a concomitant lack of economy in the case of 'That man and woman who spoke too much are both erudite' can be allayed by the 'maximal realisation' evaluation method proposed by Hasegawa (1972)²³⁵ to prevent too many semantic ambiguities being represented in deep structure. Unlike the rival 'before+S' and 'before+NP+S' or the NP+P+NP and NP+S analyses, all of which are realised along separate derivational paths, the intermediate string mentioned on p.199-200 can only be realised

235. See p,135.

by means of the complex derivation involving Conjunction Reduction and the doubtful waiving of the boundary non-erasure filter on the expected cycle. A 'maximal realisation' device would safely preclude this.

With this brief discussion of the semantic status of separate deep structures, we conclude our transformationalist account of a major aspect of "adverbial clauses" in Hebrew and English. The third and final chapter is devoted to an aspect of the Hebrew Preposition Phrase that requires a totally different analysis, involving interpretive rules as well as T rules and positing single deep sources for semantically ambiguous sentences. In this way we endeavour to illustrate the diverse devices that an analysis of the Hebrew peripheral categories demands.

CHAPTER 3 : TRANSFORMATIONAL AND INTERPRETIVE ASPECTS OF
"ADVERBIAL CLAUSE" REDUCTION

Having analysed aspects of Hebrew peripheral categories in terms of Phrase Structure and Transformational rules in chapters 1 and 2 respectively, we now turn to an area which requires, to our mind, a blend of transformational and interpretive devices - elliptic peripheral phrases.

Working according to the analytical principles of high motivation and 'maximal realisation' expounded by, int.al., Hasegawa (1972) and Jackendoff (1972), we examine several types of adverbial construction that may be felt to be elliptic and assess the evidence for a transformational derivation from a full "adverbial clause"²³⁶. In elliptic Concessive constructions we find a paradigm case of transformational clause-reduction; then we examine a less drastic kind of reduction in various 'hidden relative'²³⁷ adverbial strings, and an extreme form of reduction in a Manner clause that has cross-linguistic implications. In section 3 we argue, and formulate, a rule of semantic interpretation for Preposition Phrases of Precedence and Subsequence such as feature LIFNEI 'before' and BEIKVOT 'in the wake of'. We then seek support for this rule in the shape of a similar, and closely related, rule of interpretation for Comparative phrases involving DOME 'similar' and ŠONE 'different'. Finally, a further link is suggested with the interpretive properties of some 'Coordinative' phrases featuring IM 'with', BLI 'without' and various Replacives.

236. See fn.153, p.125.

237. For this term, see chapter 2, particularly 2.2.3.

3.1. : THE REDUCTION TRANSFORMATION IN CONCESSIVE S

3.1.1. IM 'if' Reduction.

We begin by examining the reduction of sentential adverbials²³⁸ introduced by IM 'if'. Consider (554) and its paraphrase (555-6):

(554) IM ATA LO TAVO, AZ AXOTXA TAVO, NAXON

If you won't come, then your sister will come, won't she ?

(555) IM ATA LO, AZ AXOTXA TAVO, NAXON

(lit.) If you not, then your sister will come, won't she ?

(556) IM LO ATA, AZ AXOTXA TAVO, NAXON

If not you, then your sister will come, won't she ?

Let us not immediately assume that (555-6) are transformationally related to (554); it might be argued that IM 'if' in (555-6) is a lexical P governing NP and bears no relation to the complementiser IM 'if', which is incapable of governing NP in such contexts as (557):

(557)*MA NAASE IM MEHUMA (✓ BE MIKRE ŠEL MEHUMA)

What shall we do if a riot (in the event of a riot)

Now that the two occurrences of IM 'if' are indeed distinct is suggested, firstly, by the fact that verbless pro-tases like that in (555-6) are invariably introduced by IM LO 'if not' rather than merely by IM 'if'; thus (558) below has no paraphrase in (559):

(558) IM MOŠE YAVO, AZ AXOTO LO TAVO

If Moshe comes, then his sister won't come

238. This term was elaborated in 1.3.3. That we are indeed dealing with an "adverbial clause", and not a reduced conjoined clause, is clear from, int.al., the preposability of IM 'if' clauses, and the readiness of their apodosis to permit movement rules (e.g. Question Movement) of the kind constrained from operating within single coordinate clauses.

(559)*IM MOŠE, AZ AXOTO LO TAVO

If Moshe, then his sister won't come

Secondly, even examples with a negative protasis have no verbless paraphrase in cases where the apodosis itself is negative:

(560) IM ATA LO TAVO, AZ AXOTXA LO TAVO

If you won't come, then your sister won't come

(561)*IM ATA LO, AZ AXOTXA LO TAVO

If you not, then your sister won't come

Clearly, then, IM in (555-6) has a force unlike that of the conditional IM - a concessive force.

But we are not inclined to regard this concessive IM 'if' as basically a preposition governing NP (such as ATA 'you' in (555)). For consider (562):

(562) IM LO ET RONI, AZ ANI LEFAXOT AZMIN ET ŠIMON

If not Obj.Marker Roni, then I shall at least ask Shimon

Not only semantically but syntactically too, we must regard RONI as object of an inferred V in the protasis, for the shape of the Object Marker in the protasis is dependent on the identity of the matrix V (HIZMIN 'ask' takes ET, while BAXAR 'vote' takes BE etc.), witness (563):

(563) IM LO BE LIKUD, ANI LEFAXOT EVXAR BE MAFDAL

If not for Likud, I shall at least vote for Mafdal

So the deep protasis must have contained a V identical to the matrix V²³⁹.

Let us go into more detail concerning IM Reduction, for it will prove crucial when we come to compare the reducibility of Time clauses.

239. We are not entitled to posit, instead, a T rule copying the Case Marker into the adverbial structure, for Hebrew knows no other instance of this in clear cases of P + NP structure.

IM Reduction can leave a residue of two object NP, forming two constituents; or an adverbial residue - witness (564-5):

- (564) IM LO ET HAGOLAN LESURYA, HEM LEFAXOT YAXZIRU ET SINAI LEMICRAYIM
If not the Golan to Syria, they'll at least return Sinai to Egypt
- (565) NITRAE MOXRATAYIM, IM LO MAXAR
We'll meet the day after tomorrow, if not tomorrow

The residue may also involve a gapped verb:

- (566) ANI MITGAE BAKOLEG ŠELI, IM ATA LO BE ŠELXA
I'm proud of my college, if you not of yours

But one constituent that cannot serve as residue is VP, hence:

- (567)*IM LO MEVIN ET HEŠEL, ANI LEFAXOT MAARIC OTO
If don't understand Heschel, I at least admire him

Why (567) is ill-formed is a mystery to us. IM clauses are thus less reducible than Comparative clauses, which readily leave a residual VP, witness (568):

- (568) ANI MISTAKEL BATELEVIZYA YOTER ME AŠER KORE BI SFARIM
I watch T.V. more than read books

One limitation that IM 'if' and Comparative clauses share is a refusal to delete material that forms part of NP or PP. Thus (569) cannot reduce to (570), nor (571) to (572):

- (569) IM LO ANAŠIM IM DOKTORAT, ANU LEFAXOT MAASIKIM ANAŠIM BAALEI TOAR SENI
If not people with a doctorate, we at least employ people with a second degree
- (570)*IM LO IM DOKTORAT, ANU LEFAXOT MAASIKIM ANAŠIM BAALEI TOAR SENI
If not with a doctorate, we at least employ people with a second degree
- (571) ANI MEXABEV YOTER ET HASTUDENTIM ME HAKFAR ME AŠER ET ELE ME HAKRAXIM
I'm fonder of the students from the country than of those from the big cities
- (572)*ANI MEXABEV YOTER ET HASTUDENTIM ME HAKFAR ME AŠER ME HA KRAXIM
I'm fonder of the students from the country than from the big cities

Now there is no such limitation on Conjunction Reduction. And the existence of a similar dichotomy between 'if' and Comparative S on the one hand and Conjoined S on the other in English persuades us not to mention the reduction-restriction illustrated by (570) in the IM Reduction rule itself, but rather in a Conditions Box²⁴⁰ for a certain subclass of Hebrew T rule (if not in a cross-linguistic Conditions Box).

In 3.4.-5. we shall have cause to refer to Comparative and Conjoined constructions again, in the context of general rules of semantic interpretation for Hebrew and English.

3.1.2. The reduction of IM KI 'though' and other Concessive S.

Before formulating IM Reduction, let us consider the similar behaviour of IM KI 'though'²⁴¹ and certain other Concessive S.

Observe the paraphrase pair (573-4); yet again it is the Object Marker in (574), selected by the matrix V, that brands KULAM 'all of them' as a deep structure object of HIZMIN 'ask' rather than a semantically inferred object of the sort that we shall exemplify in 3.3.1.:

- (573) HISPAKTI LEHAZMIN ET ROV XAVERAI, IM KI LO HISPAKTI LEHAZMIN ET KULAM
I've managed to ask most of my friends, though I've not managed to ask all of them
- (574) HISPAKTI LEHAZMIN ET ROV XAVERAI, IM KI LO ET KULAM
I've managed to ask most of my friends, though not Obj.Marker all of them

240. See Ross (1967a:132) for this term.

241. IM 'if' and IM KI 'though' do not seem to be synchronically related, for the KI is idiomatic in this context and best regarded as an integral part of the morph. Rabin (personal communication) links the two genetically.

As with IM 'if' clause reduction, the residue can be adverbial or composed of two constituent NP, and there is a restriction on residual VP and the deletion of part of an NP or PP.

(574) featured a negative, postposed IM KI 'though' S. Most speakers are reluctant to reduce the clause in preposed position for some reason; but there is nothing to stop us reducing a positive IM KI clause, or a negative clause whose apodosis too is negative, witness (575-6) respectively:²⁴²

(575) SURYA LO HISKIMA, IM KI MICRAYIM KEN

Syria didn't accede, though (lit.) Egypt so

(576) CARIX LIHYOT SVA RACON ŠE HAFASISTIM LO NICKU, IM KI MUAMADENU AF HU LO

We should be thankful that the Fascists didn't win, though our candidate too not

In the case of other Concessive clauses, the extent of Reduction is not so clear. LAMROT and AL AF clauses appear to leave a subject NP as residue but, perplexingly, not an object, witness (577-8), while AFILU clauses seem to undergo Reduction in popular speech only, witness (579), which we have deemed semi-acceptable:

(577) ROV HAYEHUDIM OXLIM KAŠER, LAMROT/AL AF ŠE LO KULAM

Most Jews eat kosher, though CMP not all of them

(578)*HISPAKTI LEHAZMIN ET ROV XAVERAI, LAMROT/AL AF ŠE LO ET KULAM

I've managed to ask most of my friends, though CMP not Obj.Marker all of them

(579)?ROV HAYEHUDIM OXLIM KAŠER, AFILU ŠE LO KULAM

Most Jews eat kosher, though CMP not all of them

As this disparity in clause reduction has been observed in one and the same speaker, it may have to be put down to the fact

242. This is not the place to give a full account of the more general constraints on reduction in the context of LO 'not' and KEN 'so', which apply even in Conjoined S, witness ANI LO BA AVAL IMI KEN 'I'm not coming but my mother so' but *ANI LO BA AVAL IMI 'I'm not coming, but my mother'; ANI OHEV ET MALER AVAL LO ET RAVEL 'I like Mahler but not Ravel' but *ANI LO OHEV ET M. AVAL KEN ET R. 'I don't like M. but so R.'

that the items concerned, LAMROT, AL AF, AFILU, are not complementisers like IM²⁴³ (and, presumably, IM KI) but rather, in the case of the first two, govern NP as well as clauses:

(580) RABI MEIR HOSIF LILMOD, AL AF/LAMROT CAROTAV
 Rabbi Meir went on studying, despite his troubles

It is possible that such P, in sympathy with the semantically kindred complementisers, accommodate a 'half-hearted' clause-reduction in (577,579).

The rule of Concessive Reduction is as follows (omitting those S governed by P because of their idiosyncrasy):

(581) $\underset{9}{S} [X - [Z]_{\Lambda} - X - \underset{5}{S} [\{IM/IM KI\} - X - [Z]_{\Lambda} - X]_{\underset{6}{S}}]_{\underset{7}{S}}$
 1 2 3 4 5 6 7 $\xrightarrow{\text{Optional}}$
 1 2 3 4 0 6 7

Conditions: 1=5, 3=7 ; 2 ≠ VP.

Note that the IM concerned is the concessive, not the conditional, morpheme. The concessive sense concerned is possibly a very particular one too: LAMROT, AL AF, AFILU - omitted from (581) - have a much broader concessive force than IM and IM KI, so that in (582) below, for instance, where the LAMROT clause signifies 'despite the fact that..' rather than 'but I hasten to add that..', IM KI would be quite inappropriate:

(582) ZAIR LO MISTATEFET BAMISXAKIM, LAMROT SE DROM AFRIKA
 LO TISTATEF
 Zaire is not participating in the games, although S.Africa is not going to take part

It is hard to be sure whether LAMROT clauses with such broader concessive force are reducible, but we do expect that if we reduce the adverbial S in (583) to LAMROT SE LO HARUSIM 'though

243. For a diagnostic of Hebrew complementisers, see p.81-2.

CMP not the Russians', it might only have a 'I hasten to add' sense:

- (583) HABULGARIM HIŠTATFU, LAMROT ŠE HARUSIM LO HIŠTATFU
The Bulgarians took part, although the Russians didn't take part

A further clue as to the nature of such reducible Concessives is their non-conjoinability. Compare first the response of conditional and concessive IM 'if' to coordination: the coordinated conditional structure in (584) below can be paraphrased by - and indeed derived from - two coordinated IM 'if' clauses, witness (585); but, on making slight adjustments so as to produce a concessive force instead, we find that the coordinate structure in (586) cannot be paraphrased by a coordination of two concessive IM 'if' clauses, witness (587):

- (584) YEŠAXRERU OTAM, IM LO YITLUM O YIXRETU ET ROŠAM
They'll let them go if they don't hang them or cut off their heads
- (585) YEŠAXRERU OTAM, IM LO YITLUM VE IM LO YIXRETU ET ROŠAM
They'll let them go if they don't hang them and if they don't cut off their heads
- (586) LEFAXOT YAXLIU OTAM LITKUFA ARUKA, IM LO YITLUM O YIXRETU ET ROŠAM
They'll at least gaol them for a good length of time, if they don't hang them or cut off their heads
- (587)*LEFAXOT YAXLIU OTAM LITKUFA ARUKA, IM LO YITLUM VE (O) IM LO YIXRETU ET ROŠAM
They'll at least gaol them for a good length of time, if they don't hang them and (or) if they don't cut off their heads

Now compare the coordination of LAMROT and IM KI clauses; the latter fails, as illustrated by (589) - which is acceptable of course when we do not repeat the complementiser IM KI, witness (590)²⁴⁴:

244. (590) does not have to be derived by way of the offending IM KI coordination - let IM KI, instead, introduce a coordinate $s[S + S]_c$ instead of just a single clause.

- (588) HEM NISU BASOF, LAMROT ŠE HOREHEM HITNAGDU LEZE VE
LAMROT ŠE HAYU KŠAYIM KASPIYIM
They married in the end, although CMP their parents ob-
jected and although CMP there were financial problems
- (589)*ANI VE HU YEDIDIM TOVIM, IM KI ANAXNU LO NIFGAŠIM LEIT-
IM KROVOT VE IM KI HU LO MECALCEL LI AF PAAM
He and I are good friends, although (=I hasten to add)
we don't meet very often and although he never phones me
- (590) ANI VE HU YEDIDIM TOVIM, IM KI ANAXNU LO NIFGAŠIM LEIT-
IM KROVOT VE HU LO MECALCEL LI AF PAAM
He and I are good friends, although we don't meet very
often and he never phones me

The particular type of Concession that is prone to S-
Reduction thus seems to have semantic properties similar to
those that preclude semi-subordinate clauses introduced by
the complementiser KI 'for' from being coordinated, as illus-
trated in (591):

- (591)*HU LO YOCE, KI HU KOTEV ET HADOKTORAT VE KI HU IBED ET
HAMEXONIT SELO
He doesn't go out, for he's writing his doctorate and
for he's lost his car

Without being specific about these semantic properties, we
suggest that they involve the most general of statements of
Cause or Concession, incapable of being split up.

Now it is remarkable that English too seems to allow
just this type of Concessive clause to be reduced and to re-
fuse coordination. Furthermore the apparent lack of clause
reduction among any other Hebrew [Comp, P] S - as we shall
argue in the coming sections - may well have a parallel as
far as English [Comp, P] S are concerned. This points to a
possible semantic reason for clause reduction such as has been
formulated in this section.

This is as far as we can go in motivating what will
prove to be a paradigm case of transformational reduction
in Hebrew.

3.2. : REDUCTION TRANSFORMATIONS IN OTHER "ADVERBIAL CLAUSES"

3.2.1. The non-reducibility of Cause and Purpose clauses.

To show that no other Sentential Adverbial or [Comp, P] clause can be reduced, in full detail, is not our main intention in this chapter. So we shall confine ourselves to arguing that Cause and Purpose clauses - which were shown not to derive from hidden relative S in chapter 2 - cannot be reduced.²⁴⁵

Consider the ill-formed Cause construction in (592):

(592)*ŠAALTI ŠEELOT MIŠUM ŠE AF EXAD ME HAAKERIM LO

I asked questions because CMP none of the others

This ill-formedness can be generalised for all P of Cause, such as BIGLAL, MEAXAR, MIPNEI, as well as for the semi-subordinative CMP of Cause, KI and ŠE, as in (593-4)²⁴⁶:

(593)*RACITI RAK LADAA' IM ATA NOSEA, KI ANI LO

I only wanted to know if you're going, for I not

(594)*HAANGLIM HEXLITU LO LINHOG BECAD SMOL, ŠE KEN HAŠVEDIM LO

The English have decided not to drive on the left, for after all the Swedes not

So too for Purpose S, such as those introduced by BIXDEI:

(595)*ANI MUXAN LEHISTAKEN BIXDEI ŠE ATA LO

I'm willing to endanger myself in order CMP you not

3.2.2. Reduction in 'hidden relative' "adverbial clauses".

Certain "adverbial clauses" of Time, Place, Degree and Manner were deemed in chapter 2 to derive from relative structures; and we could expect them to reduce in a way characteristic of relative S. To show that this is indeed the case,

245. The reduction of clauses in general is in fact a trait of vulgar speech: ATA BA - HU LO 'You coming? He not'. But on the level being described, it is deemed to jar.

246. See p.83 for a discussion of such clauses.

let us first describe the extent of reduction in relative S in general.

Consider (596); it cannot be reduced to (597):

(596) ANI EŠTAMEŠ BE ŠITAT HALIMUD ŠE ATA MIŠTAMEŠ

I shall use the study method that you use

(597)*ANI EŠTAMEŠ BE ŠITAT HALIMUD ŠE ATA

I shall use the study method that you

But when the head NP embraces the determiner OTO 'same', we can, at a pinch, effect such reduction, notably in popular speech²⁴⁷:

(598) ANI EŠTAMEŠ BE OTA ŠITAT LIMUD ŠE ATA

I shall use the same study method that you

247. This has bearing on the derivation of relative S in Hebrew. Hayon (1973:2.1.) prefers an NP(S) to an ART(S) derivation in view of the problems of 'identity' created by 'stacking'. But the link we have just illustrated between relative S reduction and the presence of OTO 'same' is worth capturing by generating such a relative S as a sister of the determiner OTO, and then reducing the relative S while still structurally distinct from other relative S (be they generated as NP(S) or as ART(S)); especially as this would reflect the striking parallel (in terms of both operation and constraints) between the determiner OTO 'same' and its relative S, on the one hand, and numerous other pairs such as YOTER 'more' and its associated ME ASER 'than' clause, the determiner KAZE 'such' and its associated finite S, MASPIK 'enough' and its Purpose S, and (significantly) OTO 'same' and its alternative associated clause - introduced by KMO 'like'. In all these cases, we stress, the S is contextually dependent on the specifier. So it is best regarded as sistering the specifier in the base (see Bresnan (1973) for this particular point.)

Such a generalisation involving relative S has been made for English by Bowers (1969a:4).

A possible indication that other relative S in Hebrew (i.e. those not associated with OTO 'same') are indeed derived from NP(S) is the fact that, just in the case of these OTO 'same'+ S relative structures, no embarrassing 'stacking' seems to occur.

Now the same happens, in popular speech, with head pro-forms:

(599) ANI ELEX MATAI ŠE ATA

I'll go when CMP you

(600) EESE ET ZE EX ŠE ATA

I'll do it (lit.) how CMP you

(601) ANI OXAL MA ŠE ATA

I'll eat what CMP you

So, rather than tie relative clause reduction to two separate phenomena, viz. the presence of the determiner OTO 'same' and that of a head pro-form, let us assume that the pro-forms themselves are - or incorporate²⁴⁸ - a combination of OTO 'same' and a pronoun. For instance, let MATAI 'when' be analysed as OTO + [+N,+TIME,+PRO].

The same reduction, and the same derivation, seems to be true of certain pronouns such as ZMAN 'time' and MIDA 'extent', which do occur as lexical N, but which also - as indicated on p.148-9 - display traits uncharacteristic of N in general. Significantly, LAMA, which introduces Cause clauses in popular speech, does not have its S reduced, witness:

(602)*ASITI ET ZE LAMA ŠE ATA

I did it because CMP you

This goes to support our claim in 2.4.1. that LAMA 'because' is not to be analysed as P + NP + relative S - despite the fact that it also means 'why ?' - but rather as P + NP + appositive S ; as such, the head NP it incorporates could not be expected to embrace OTO 'same'.

, Now Manner clauses introduced by KMO 'as, like' appear initially to behave just like other 'hidden relatives'. In (603-5) they reduce to leave a residual subject, object, and

248. We argued for such incorporation in 2.2.3. and 2.3.1..

an adverbial²⁴⁹ respectively:

- (603) HI MITLABEŠET MAMAŠ KMO ŠE ATA
She dresses just like CMP you
- (604) LAMA HAMORA LO MITYAXESET ELAI KMO ŠE ELEXA
Why doesn't the teacher treat Obj.M. me like CMP Obj.M.
you
- (605) HI HEGIVA KMO ŠE BAPAAM HAKODEMET
She reacted like CMP on the last occasion

But (603-5) are paralleled by sentences with no complementiser at all, (606-9):

- (606) ANI LO MITYAXES LAXAVERIM SELI KAMOXA
I don't treat Obj.M. my friends like-you²⁵⁰
- (607) COLIM BARVAZ KMO TARNGOLET, NIDME LI
One roasts duck like chicken, I think
- (608) HU MITYAXES LA YESIVA BE MISADA KMO LE BILUI
He treats Obj.M. sitting in a restaurant like Obj.M.
a pastime
- (609) HEM ADAYIN MITLABŠIM KMO LIFNEI MEA ŠANA
They still dress like a hundred years ago

None of the 'hidden relatives' exemplified in (599-601), or any others, seems to drop its complementiser SE and undergo reduction like this.

The question we wish to pose is whether (606-9) are indeed the result of a dropping of the complementiser or are to be generated from a different kind of clause altogether or are perhaps a curious instance of base KMO 'like' phrases. In the course of answering it in the next two subsections, we shall seek further diagnostics for transformational reduction - as opposed to semantic interpretation of ellipsis - and shall argue that Manner S are in some (perhaps cross-linguistic) sense exceptional.

249. It is of incidental interest that, for reasons unknown to us, relative S associated with OTO 'same'+ an ordinary noun, do not reduce to leave adverbial residue.

250. A hyphen signifies suffixation in the Hebrew.

3.2.3. CMP-less clauses as components of the 'Construct Phrase'?

We first wish to argue against deriving the KMO 'like' constructions in (606-9) from base KMO phrases. The spur to such a derivation involving $[_p \text{KMO}]_p + \{ \text{NP, PP} \}$ might come from examples like (610-11), where KMO 'like' at first sight governs NP or PP in the deep structure:

(610) ANI KAMOXÁ I'm like-you

(611) ZE KMO BA PAAM HAKODEMET It's like on the last occasion

After all, we have argued for P governing PP in chapter 1.

But, as with elliptic IM 'if' expressions in 3.1.1., it is the presence of Object Markers selected by the matrix V (in (608)) within the KMO construction that speaks for an underlying full S. Furthermore, cases like (612) below, where V-gapping has left a two-constituent residue, could never arise in the case of a base PP - as noted on p.36 - for Hebrew P do not govern more than a single constituent:

(612) ANI BEVADAI LO MITYAXES LAXAVERIM ŠELI KMO ATA LA
XAVERIM ŠELXA
I certainly don't treat my friends like you your friends

These two phenomena are particularly important as a full KMO 'like' clause without complementiser is, perplexingly, slightly ill-formed, witness (613). While unable to explain this fact, we feel that we can safely disregard it:

(613)?ANI LO MITYAXES LA XAVERIM ŠELI KMO ATA MITYAXES LE
ŠELXA
I don't treat my friends like you treat yours

Turning now to the actual absence of the CMP ŠE in such Manner S, note first that a clear case of a relative S expressing Manner, (614), cannot drop its CMP, witness (615):

- (614) ANI LO MITYAXES LA IZIM ŠELI BE OFEN ŠE ATA MITYAXES
LE ŠELXA
I don't treat my goats in the way CMP you treat yours
- (615)*ANI LO MITYAXES LA IZIM ŠELI BE OFEN ATA MITYAXES LE
ŠELXA
I don't treat my goats in the way you treat yours

Now recall that in chapter 2 the absence of a parenthetical interpretation of the matrix S in "adverbial clauses" was taken as a sign of a non-relative underlying structure. In particular, we discussed the non-parentheticality of BETEREM 'before' clauses from which the CMP ŠE was optionally omitted (see p.164), and which were consequently deemed to be simple S complementing the P BETEREM 'before'.

Now this same non-parentheticality is found in KMO 'like' clauses lacking a CMP; and in a construction not mentioned hitherto - relative S headed by the noun ET 'time'²⁵¹ and which are also disposed to drop their CMP ŠE. We shall examine the latter and come to ~~reject the possibility~~ that CMP-less clauses introduced by the noun ET 'time' and KMO 'like' are both cases of a 'Construct Phrase' clause, and not instances of a relative S or of an S complementing a preposition.

Compare first two sentences which can only reasonably be interpreted parenthetically; the first, featuring a CMP, is well-formed, but the second, lacking one, is quite unacceptable²⁵²:

- (616) TEVATE ET HAMILA KMO ŠE ANI OMER
Pronounce the word like CMP I say
- (617)*TEVATE ET HAMILA KMO ANI OMER
Pronounce the word like I say

251. Not to be confused with the Object Marker ET.

252. It is far less acceptable than the (non-parenthetical) full CMP-less S in (613).

From this we can infer that CMP-less KMO 'like' clauses are not relative structures; and they are thus not derived from clauses containing a CMP, for the deletion of a CMP would not have had the effect of annulling the relative status of such clauses.

Consider now two temporal relative structures, (618-9), featuring the near-synonymous nouns ET and ŠAA 'time'; the former permits the CMP to drop, but not the latter, witness (620-1):

(618) ET ŠE HIGIU LAXOF, HEXEL LAREDET GEŠEM

At the time (lit.: time) CMP they reached the shore,
rain began falling

(619) ŠAA ŠE HIGIU LAXOF, HEXEL LAREDET GEŠEM

(identical meaning)

(620) ET HIGIU LAXOF, HEXEL LAREDET GEŠEM

(lit.) Time they reached the shore, rain began falling

(621)*ŠAA HIGIU LAXOF, HEXEL LAREDET GEŠEM

(identical meaning)

What compels us to regard (620) as something other than a relative structure is the lack of a parenthetical reading for a CMP-less sentence like (622) below, by contrast with (623):

(622)*ET CIPITI ŠE YAGIA, HU ADAYIN YAŠAV BAMISADA

(lit.) Time I expected that he would arrive, he was still
sitting in the restaurant

(623) ET ŠE CIPITI ŠE YAGIA, HU ADAYIN XIKA LAOTOBUS

Time CMP I expected that he'd arrive, he was still wait-
ing for the bus

To argue this point more fully, consider that if we were to try and stem the deletion of a complementiser just in the case of a parenthetical S, the rule would need to predate the leftward movement rule lifting a relative pro-form across the parenthetical S (or deleting it where it stands); for once such Relative chopping had occurred, there would be no structural reflex for parentheticality.

But even were we to declare ŠE Deletion to be limited relative structures in which the ŠE complementiser and the relative item were clause-mates (i.e. in which only a non-parenthetical reading is possible), we would be proposing a highly ad hoc T rule: not only is it quite unlike the (lexically regular) rule that creates asyndetic relative S by deleting the CMP ŠE when this is immediately followed by a preposed relative item - witness (624-5) - but it would seem to apply only in the case of the noun ET:

(624) HU HITGAYER BA TKUFA ŠE BA HAYA BE XEVRON

He converted at the period CMP at which he was in Hebron

(625) HU HITGAYER BA TKUFA BA HAYA BE XEVRON

He converted at the period at which he was in Hebron

One possible solution would be to regard ET in CMP-less contexts as a Preposition, governing S both with and without a CMP, like BETEREM 'before', MEAZ 'since' and certain other prepositions (see p.164). After all, as noted on p.161, fn. 192, MEAZ 'since' appears to serve both as a pro-adverbial (incorporating ME 'from'+ AZ 'then') and as a preposition. Furthermore, ET in CMP-less contexts, such as (620), cannot appear with the expected preposition such as BE ET.. 'at time..', despite the fact that this option is open in other contexts like (618), witness (626):

(626) BE ET ŠE HIGIU LA XOF, HEXEL LAREDET GEŠEM

(lit.) at time CMP they reached the shore, rain began falling

A less appealing solution would be to take (620) as a structure common in Biblical Hebrew but unknown in modern prose: a 'Construct Phrase' [N + S]. Recall our mention of it on p.9, fn.5., where we only dealt with [N + NP]. Now besides N + NP phrases such as ET KACIR 'Harvest time (lit.: time-harvest)' - perfectly normal in Modern Hebrew - the Biblical

language allows, e.g., (627), from Lev.14:46 (in which the N YEMEI 'days-of' is in 'construct state'):

(627) VE HABA EL HABAYIT KOL YEMEI HISGIR OTO YITMA AD HAAREV
And anyone entering the house (lit.) all the days-of
they locked him up will be impure till the evening

Gesenius (1910:§130d) mentions numerous such cases involving the noun ET 'time' too, which, by a morphological coincidence, has the same form in construct as in absolute state.

An example of the absence of such a general construction nowadays is the unacceptability of construct phrases involving a Derived Nominal + Complement S (which we might have expected to exist alongside Construct Phrases involving Derived Nominal + lexical NP), witness (11-2), repeated here:

(11) KVIAT HAUVDOT HAELE LO ORERA BAAYOT

The determination-of these facts didn't raise any problems

(12)*TEARTI ET ZE TOX KVIAT ŠE HAPEALIM MIŠTAYAXIM LI ŠTEI
KVUCOT

I described it (lit.) in the course of a determination-of
CMP the verbs belong to two groups

In fact, to drop the CMP in (12), as we have done in (620), would render (12) even less comprehensible.

Thus, to explain (620) in terms of a special [N + S] construction in the PS rules would be a far less appropriate way of capturing the irregularity of (620) than to posit a new P in the lexicon, ET. Note too that the inability of such an ET to govern lexical NP - witness (628) - is in line with that of the P KE, as illustrated on p.163:

(628)*HAKAHAL CIFCEF. ET KNISATO LAULAM

The audience whistled (lit.) time his entry to the hall

In the case of CMP-less KMO 'like' clauses, too, we shall not posit an underlying N + S structure for (612) such as (629):

(629) ANI LO MITYAXES LAXAVERIM ŠELI [KE [DEREX] [ATA...LAXAV-
 ERIM ŠELXA]_S]_{PP}
 I don't treat my friends [in [the way-of]] [you...your
 friends]]

So, in view of the impossibility of a 'hidden relative' derivation for CMP-less KMO 'like' clauses - as we have just argued - we must assume that KMO 'like', like ET, is also entered as a P, besides being a late conflation of KE 'like' + a Manner pronoun (as proposed on p.174). It is the latest in a long list of Hebrew prepositions that appear to fulfil a double syntactic function.

The only cases of clause reduction we have found involve Concessives and relative S associated with OTO 'same'. Our tentative decision to regard CMP-less KMO 'like' clauses as simple [Comp, P] S will, in view of the reduction already argued on p.216, mean a third type of clause reduction, and one that is specific to KMO 'like' - thus, [Comp, P] S governed by MEAZ 'since' or KE 'when', for example, are incapable of reduction, witness (630-1):

(630)*LO RAITI OTA MEAZ ATA
 I haven't seen her since you
 (631)*ANI ARPE KE ŠE ATA
 I'll let go when CMP you

We shall elaborate on the special nature of KMO in the next subsection. But first let us say something more about the drastic nature of KMO clause reduction, and the apparent absence of Manner phrases altogether in Hebrew deep structure.

3.2.4. The case for exclusively sentential Manner structure

Recall that (606) illustrated a residual subject ATA 'you' suffixed to the P KMO 'like', forming KAMOXÁ (in which -XA is the regular suffix that obligatorily suppletes the pronoun

ATA 'you' when governed by a V, P or N). Such suffixation involves nothing less than the dismantling of the NP concerned and its apparent chomsky adjunction to the governing node, as evidenced by the inability of just one member of a coordinate structure to be suffixed in (632), due no doubt to the Coordinate Structure Constraint:

(632)*HU NIRA KAMOXÁ VE AXIXA

He looks like-you and your brother

That this should be the fate of a subject NP residue of a reduced KMO 'like' clause is perhaps surprising: not because there is anything theoretically wrong in suffixing an NP that is the sole residue (there being no CMP and the S node having thus presumably been pruned)²⁵³, but because Hebrew so frequently blocks suffixation altogether in the case of certain governing P and N²⁵⁴ such as MEAZ 'since' - witness (633), where a lexical NP would be quite acceptable in the sense of 'since the time of ___' - that we might have expected such a blockage in the case of a residual NP like that in (606) which only comes to complement the P KMO in derived structure:

(633)*VE MA KARA MEAZO

And what's been happening since-him ?

But in fact there are strong reasons for deriving KAMOXÁ 'like-you' in (606) exclusively from a reduced S and not from a base phrase.

Firstly, KAMOXÁ 'like-you', far from existing side by

253. Note that such suffixation could not be expected to arise in reduced Concessive structures, for we have argued that these always leave a residue containing LO 'not' or KEN 'so'.

254. See p.26, fn.40.

side with a non-suffixed form KMO ATA 'like you', suppletes the latter. So, short of hideously complicating the Reduction rule²⁵⁵ by blocking the creation of a solitary pronoun residue, we can only rule out KMO ATA 'like you' by having it automatically converted into KAMOXA 'like-you' in the course of the Reduction. So for a start the generation of KAMOXA 'like-you' in the base will be a duplication.

Secondly, observe that the synonyms of KMO - KFI and KESEM - fail both to introduce a CMP-less clause and to govern a simple NP²⁵⁶, as illustrated by (634-6) for KFI:

(634)*ANI LO MITYAXES LA CABIM ŠELI KFI ATA LE ŠELXA

I don't treat my tortoises like you yours

(635)*ANI LO MITYAXES LA CABIM ŠELI KFI AXI

I don't treat the tortoises like my brother

(636)*ANI KFI HAAXERIM

I'm like the others

KFI and KESEM are only found with clauses embracing a CMP. Now if we go so far as to regard all KMO + NP phrases as resulting from clause reduction, and extrapolate from this to KFI and KESEM, the above restrictions on these would cease to be unrelated facts: the failure to govern a simple NP in (636) would follow from the unacceptability of (634).

Thirdly, the exclusive derivation of phrasal complements of KMO 'like' from S is implied by the interpretive qualities of KMO phrases by comparison with, int.al., IM 'with'²⁵⁷ and BLI 'without', LIFNEI 'before' and AXAREI 'after', and ME 'than' phrases. We shall now anticipate our fuller analysis of these phrases for the sake of a comparison with KMO 'like'.

255. This rule is substantially the same for KMO clauses, Concessives and relative S, so we shall not repeat it.

256. The genetically related P LEFI 'according to, because' and LESEM 'for the sake of' do govern simple NP, so the absence of base KFI/KESEM + NP is perhaps of significance.

257. Not to be confused with IM 'if'.

Consider (608), which we repeat:

(608) HU MITYAXES LAYEŠIVA BE MISADA KMO LE BILUI

He treats Obj.M. sitting in a restaurant like Obj.M.
a pastime

We cannot express the same thought if we include the second Object Marker in the deleted material, leaving a residual KMO BILUI 'like a pastime'; this could only mean that the pastime too sits in restaurants!

Now if KMO + NP phrases were generated in the base, we should expect to be able to interpret KMO phrases like KMO BILUI 'like a pastime' as containing both a subject and an object NP. Thus, the P IM 'with' and BLI 'without' in (637-38) and (639-40) will be naturally interpreted as introducing a logical subject and object respectively; it is in principle even possible to interpret them in the converse sense. (That they are clearly P+NP phrases is shown by the impossibility of introducing Case Markers etc. into the phrase.):

(637) KANITI ET ZE ITXA I bought it with-you

(638) KANITI ET ZE BILADEXA I bought it without-you in the
BASOF end

(639) TAMID KANITI OTAM IM HACICIT

I always bought them with the fringe

(640) TAMID KANITI OTAM BLI CICIT

I always bought them without a fringe

The same seems to be true for LIFNEI 'before' and AXAREI 'after' phrases: (641-2) can be interpreted as comprising a logical object, and the total unacceptability of (643-4) argues for these phrases' being exclusively base products²⁵⁸:

(641) LE MI NATATA ET ZE LIFNEI MENAŠKE

To whom did you give it before Menashke ?

258. This will be discussed at length in 3.3.

(642) LEMI ANI CARIX LATET ET ZE AXAREI MENAŠKE

To whom should I give it after Menashke ?

(643)*LE MI NATATA ET ZE LIFNEI LE MENAŠKE

To whom did you give it before to Menashke

(644)*LE MI ANI CARIX LATET ET ZE AXAREI LE MENAŠKE

To whom should I give it after to Menashke ?

The most striking indication of the non-phrasal nature of base complements of KMO 'like' comes from a comparison with ME 'than'²⁵⁹ phrases. At first sight they resemble the former in that they do feature Object Markers, a sure sign of clause reduction, witness (645)²⁶⁰:

(645) HU MITYAXES TOV YOTER LE AXOTO MI LI ŠEAR BNEI MIŠPAXTO

He treats Obj.M. his sister better than Obj.M. the rest of his family

But ME 'than' phrases do differ from KMO 'like' phrases by allowing ambiguous orientation of the complement NP. Rather than illustrate this in a context like (645) - where a string MI ŠEAR BNEI MIŠPAXTO 'than the rest of his family' is bound to be interpreted as a logical subject alone, doubtless because of speakers' abhorrence of ambiguity²⁶¹ in such cases - let us take a case where an object but no subject is expressed; and then one where an object orientation²⁶² is perhaps the more natural as the V concerned, HAYA 'be', is treated (in colloquial speech, at least) as taking two objects - one signifying the thing that exists and the other, indirect, object signifying the possessor of the thing. These two cases are illustrated in (646-7):

(646) KAŠE LEHASBIR LAMA LI YOTER KAL MIMXA

It's hard to explain why (lit.) is easier for me than you

259. Lit.: 'from'. 260. Comparative phrases are probably derived from full S by way of CMP Deletion (AŠER/ŠE)
261. Our debate on LIFNEI 'before' phrases will highlight the (possibly unpredictable) abhorrence of ambiguity.
262. This term is due to Jackendoff (1972)

(647) LI YEŠ KEEVEI ROŠ BE YETER TXIFUT MIMXA
 (lit.) are to me headaches more frequently than-you²⁶³

In both the above cases, the predicator ordinarily takes the Object Marker LE (and, accordingly, the Object Marker with a first person suffix in the matrix S is LI). But in the ME 'than' phrase the Object Marker need not appear; hence MIMXA 'than-you' in (646-7), which is the preposition ME/MI plus a suffix pronoun.

That such object-oriented ME 'than' phrases are generated as base phrases and not as the output of a particularly drastic clause reduction that has deleted identical Object Markers and left bare NP as its residue is evident from two phenomena: first, ME, which we have indicated to be the simple P meaning 'from', is found in several contexts where a full clausal paraphrase would be impossible, among them (648), where there is no comparative specifier such as YOTER 'more' at all; and (649), where there is an inner and an outer Comparative expression, the outer (YOTER ... ME AŠER 'more...than CMP') alone being capable of a full clausal paraphrase:

(648) HU GAVOA MIMENI He's (lit.) tall than-me

(649) HI YOTER MEVUGERET MIMXA ME AŠER IŠTEXA HAKODEMET

She's more (lit.) old than-you than CMP your former wife

Second, Comparative Clause Reduction - or at any rate the reduction in Comparative clauses containing a CMP, which we have no reason to regard as different from the reduction that occurs following the removal of the CMP - is palpably unable to delete identical Object Markers such as those in question, witness the unacceptability of (651) by contrast with (650):

263. KEEVEI ROŠ 'headaches' is the direct object of YEŠ 'are', for a +DEF NP in this position will be able to bear the direct object Marker ET.

- (650) LI YEŠ^ˇ YOTER SEXEL ME AŠER LE KULAM
 (lit.) is to me more sense than CMP to all of them
- (651)*LI YEŠ^ˇ YOTER SEXEL ME AŠER KULAM
 (lit.) is to me more sense than CMP all of them

In the light of this, the well-formed (652) below featuring a ME 'than' phrase without any Object Marker is reasonably to be generated as it is in the base:

- (652) LI YEŠ^ˇ YOTER SEXEL MI KULAM
 (lit.) is to me more sense than all of them

We conclude this excursus on the interpretation and derivation of ME 'than' phrases by giving an example of an alternative 'orientation' of the ME 'than' complement NP; compare (647) with (653) below:

- (653) LI YEŠ^ˇ KEEVEI ROŠ^ˇ BE YETER TXIFUT MI KEEVEI BBTEN
 (lit.) are to me headaches more frequently than stomach-aches

KMO 'like' phrases, by contrast, are not, as we have argued on p.224, susceptible to such diverse interpretation. To further emphasise this point, we give two examples involving the verb HAYA 'be' again; not, to be sure, of KMO as used to signify Manner but in the broader sense of 'equivalence':

- (654) LI YEŠ^ˇ OTA MEXONIT KMO LEXA
 (lit.) is to me the same car like to-you
- (655)*LI YEŠ^ˇ OTA MEXONIT KAMOXA
 (lit.) is to me the same car like-you

The second sentence, lacking the appropriate Object Marker in the KMO phrase, is ill-formed (under any natural interpretation) in total contrast with the parallel (652). This, added to our two previous points, argues for exclusively sentential complements of KMO 'like' in deep structure.

One brief final point involves interpretation in derived

nominals. When we express comparison with a derived nominal, we could expect to use a ME 'than' phrase in the same way as with a verb, seeing as this phrase is generated from a P + NP base structure and as such structures regularly modify Hebrew N; and so it is:

- (656) PIKXUTA MI ŠEAR HABANOT ALULA LIGROM LA BAAYOT
(lit.) Her cleverness than the rest of the girls is liable to cause her trouble

Now let us test this on KMO 'like' phrases. Note first that in an example with a verb rather than a nominal, such as (657) below, the KMO phrase can express both comparison of degree and a broader 'equivalence', in which the adjective has a 'polar' rather than a 'parameter' sense:

- (657) UVDAT HEYOTA PIKXIT KMO ŠEAR HABANOT TAAZOR LA LEGAŠER ET HAPAAR
The fact of her being (lit.) clever like the other girls will help her bridge the gap

But whether we use KMO in one sense or the other, it is unable to modify the derived nominal:

- (658)*PIKXUTA KMO ŠEAR HABANOT TAAZOR LA LEGAŠER ET HAPAAR
Her cleverness like the other girls will help her bridge the gap

It seems to us that only an exclusively transformational account of KMO 'like' phrases will reasonably explain this difference between ME 'than' and KMO phrases in (656,658)²⁶⁴.

264. This could doubtless be couched in a lexicalist or a transformationalist analysis of Derived Nominals. Note that the block on KMO 'like' clause reduction that (658) represents seems to operate only in cases of a subject residue; where the object is the potential residue, reduction does go through as normal. Thus (659) is far superior to (660):

- (659) HITYAXASUTO LE SARA KMO LE BAT NIRET TIPŠIT
His treatment Obj.M. Sara like Obj.M. a daughter seems stupid

- (660)*HITNAHAGUTO KMO KOXAV POP HI ŠE MOŠEXET OTAN
His behaviour like a pop star is what attracts them

The apparent readiness of [Comp, P] clauses governed by KMO 'like' to reduce so drastically and even to suffix residual NP, by contrast with other such clauses - such as those governed by KE 'when' and BIGLAL 'because' - may reflect a hierarchical relationship between semantic subclasses of "adverbial S", of a cross-linguistic sort.

Consider the following pairs of examples from German and Russian. In both languages, the Manner pro-form appearing in questions also does service as head of relative structure, witness the nominative case of the NP in (662,666), and the Place pro-form similarly serves to head relative S. Where the two semantic classes of Pro-form differ is in the ability of that of Manner alone to head a reduced relative S:

- | | |
|--------------------------|------------------------------|
| (661) Wie redest du ? | How do you speak ? |
| (662) Ich rede wie du | I speak like (lit.: how) you |
| (663) Wo isst du ? | Where do you eat ? |
| (664)*Ich esse wo du | I eat where you |
| (665) Kak tyi govoris ? | How do you speak ? |
| (666) Ya govoryu kak tyi | I speak like (lit.: how) you |
| (667) Gde tyi yeš ? | Where do you eat ? |
| (668)*Ya yem gde tyi | I eat where you |

Admittedly, when we talk of the exceptional behaviour of Hebrew Manner clauses, we are not talking about relative structures (which all seem to reduce to a similar extent), but rather about [Comp, P] S - and specifically, for reasons unknown to us, about KMO and not KFI or KESEM clauses.

But we would still suggest that some hierarchical force is at work in many languages, making some sort of reduction more likely in Manner clauses than in those of Place, Time, Degree and so on. Note incidentally that KMO clauses devoid of a CMP and susceptible to drastic reduction function also, as shown by

(669), as Comparatives:

(669) HALVAI ŠE HAYITI OSE ET HAMEKKAR ŠELI BE OTO KECEV KMO
ATA ET ŠELXA
If only I did my research at the same pace as (lit.:
like) you yours

So perhaps the hierarchy should make reference to a broad notion, perhaps 'equivalence', rather than specifically to Manner.

Our claim that all KMO 'like' phrases are transformational reductions means that sentences like (610-11) must be derived from something like (670-1):

(610) ANI KAMOXÁ I'm like-you

(611) ZE KMO BA PAAM HAKODEMET It's like on the last occasion

(670) ANI KMO₅[ATA] I am like [you are]

(671) ZE KMO₉[ZE HAYA BA PAAM HAKODEMET]
It's like [it was on the last occasion]

We are encouraged in this by the German and Russian (662,666), where the complement of a similar type of 'like' is clearly the residue of a reduced S.

The general import of our exclusively clausal source for KMO phrases does not readily tally with the apparent facts for English and German, where 'like' phrases are more 'phrasal' than 'than' phrases and 'wie' phrases are just as clausal as 'als' phrases respectively. But Russian, where 'equivalence' cannot, by 'kak' phrases, be expressed as 'phrasally' as 'comparison', with its genitive, seems to have a relationship more in keeping with that between KMO 'like' and ME 'than' phrases. So we shall not draw any cross-linguistic inferences from our derivation of Manner phrases in Hebrew.

3.3. : AN INTERPRETIVE ACCOUNT OF PREPOSITION PHRASES OF
PRECEDENCE AND SUBSEQUENCE

In the preceding section, we argued against deep phrasal complements of KMO 'like' because, for one thing, such phrases do not tolerate diverse 'subject- and object-oriented' interpretations in the same way as certain other phrases, such as those involving LIFNEI 'before' and AXAREI 'after'. We now tentatively suggest that these phrases, for all their ambiguity, should be accounted for not by transformational derivations but by rules of semantic interpretation. We shall attempt an explicit formulation of the latter in line with the general approach of Jackendoff (1972); and, just as we have endeavoured to set our T rules against a general background of Hebrew syntax, so we shall view our tentative projection rules in the light of other such rules in Hebrew.

3.3.1. Drawbacks to a transformational derivation of LIFNEI
'before' and AXAREI 'after' phrases.

Consider (672-3):

(672) HAEREV AŠKIV ET AXIXA HAGADOL LEFANEXA

This evening I'll put your elder brother to bed before-
you

(673) ANI TAMID MAAXIL ET HAKELEV LIFNEI HAXATUL

I always feed the dog before the cat

Apart from the natural interpretation of (672-3), by which the complements of the P are, notionally, regarded as objects of a repeated occurrence of the matrix V, it is in principle possible to take them as notional subjects, so that the elder brother is being put to bed twice and the cat is taking a turn in feeding the dog. The same is true, mutatis mutandis, for the P AXAREI and LEAXAR 'after'.

Now there is a third interpretation for certain such temporal phrases, which was not available for Concessive and Manner phrases: (674) ordinarily means that Sara left the hall before the show rather than before the show left:

(674) SARA AZVA ET HAULAM LIFNEI HAHACAGA
Sara left the hall before the show

But, in principle again, all three readings are syntactically possible.

Such ambiguity has been tackled, for German, by Steinitz (1969;4.2.). On the sentence

(675) Er wurde vor Herrn Prunkwitz mit der Arbeit fertig

she comments: "Es hiesse aber die syntaktischen Verhältnisse unangemessen erklären, würden wir die PP vor Herrn Prunkwitz in reguläre Analogie zur temporalen PP vor zwölf Uhr setzen.[.].]

Es ist auch nicht damit getan, dass konkrete (nichttemporale) Nomina in einem bestimmten Kontext in abstrakte (temporale) 'uminterpretiert' werden, wie es U. Weinreich vorschlägt."²⁶⁵

Steinitz proceeds to derive (675) by a reduction T rule from the same source as (676):

(676) Er wurde mit der Arbeit fertig, bevor Herr Prunkwitz mit der Arbeit fertig wurde

Now her conception of "syntaktische Verhältnisse" does not prompt her to consider the status of such a reduction rule in comparison with other putative German T rules; her prime aim is an isomorphism of syntactic and semantic structure, and she does not count the cost in terms of complexity and disparity of T rules.

265. This last point refers to Weinreich's use - with an entirely different type of example like 'during the Wall' - of transferable inherent features such as +TIME.

We now return to the Hebrew examples to try and count this cost and draw our own conclusions about the notion of syntactic relations, which can probably be applied to Steinitz' own phenomena.

Consider (677-8), two possible sources for (672) under its two readings:

- (677) HAEREV AŠKIV ET AXIXA HAGADOL LIFNEI ŠE AŠKIV OTXA
This evening I'll put your elder brother to bed before
CMP I put you to bed
- (678) HAEREV AŠKIV ET AXIXA HAGADOL LIFNEI ŠE ATA TAŠKIV ET
AXIXA HAGADOL
This evening I'll put your elder brother to bed before
CMP you put your elder brother to bed

Recall first of all that in chapter 2 we proposed deriving LIFNEI and AXAREI clauses from 'hidden relatives' and, possibly, from [Comp, P]S in addition. So, in our quest for a Before/After reduction rule for Hebrew, we are not encouraged by our conclusion in 3.2. that relative S never reduce so drastically as to drop their CMP ŠE and that [Comp, P] S, even where they drop their CMP, are not capable of reducing, and suffixing their residual NP, except in the case of KMO 'like' clauses.

But even less encouraging is the complete absence of intermediate degrees of reduction on the surface. This will be bad enough if we just follow Hasegawa (1972) in requiring something approaching 'maximal realisation' of a proposed deep source along diverse derivational paths²⁶⁶; it is even worse in view of the clear surface manifestations of intermediate degrees of reduction in Concessive and Manner constructions, as illustrated in this chapter. To exemplify, we cannot reduce (677) above to a residual CMP+Object, nor (678)

266. See p.135.

to a residual CMP+Subject:

(679)*HAEREV AŠKIV ET AXIXA HAGADOL LIFNEI ŠE OTXA

This evening I'll put Obj.M. your elder brother to bed before CMP Obj.M. you

(680)*HAEREV AŠKIV ET AXIXA HAGADOL LIFNEI ŠE ATA

This evening I'll put Obj.M. your elder brother to bed before CMP you

In fact the unacceptability of (679-80) is only to be expected, seeing as the only relative S reduction we did propose in 3.2.2. was in cases where the head N could bear a determiner OTO 'same'; sentences like (677) can hardly be paraphrased using such a head N:

(681)*HAEREV AŠKIV ET AXIXA HAGADOL LIFNEI OTA ŠAA SE AŠKIV OTXA

This evening I'll put your elder brother to bed before the same time that (=as) I put you to bed

Nor can we reduce LIFNEI 'before' clauses etc. by verb-gapping, witness (682-3):

(682)*HAYEVANIM GILU ET ZE LIFNEI ŠE HAAZTEKIM ET HAGALGAL

The Greeks discovered this before CMP the Aztecs Obj.M. the wheel

(683)*IM YES RAK MEAT ZMAN, MICVA ALEXEM LEHACIL ET ACMEXEM LIFNEI ŠE ZE ET ZE

If there's only a little time, it's a duty for you to save yourselves before CMP one Obj.M. another

Similarly for intermediate derivations devoid of a CMP ŠE, be they a full clause (684), a gapped clause (685), a residual NP (686) and, strikingly, two Object NP (687):

(684)*HAEREV AŠKIV ET AXIXA HAKATAN LIFNEI AŠKIV OTXA

This evening I'll put your kid brother to bed before I put you to bed

(685)*ANU GILINU BARZEL OD LIFNEI HAKELTIM NEXOŠET

We discovered iron even before the Kelts copper

(686)*CILCELU LE SARA LIFNEI ELAI

They rang Obj.M. Sara before Obj.M. I

(687)*XOVA AL HAAV LELAMED ET BNOTAV MIKRA OD LIFNEI BANAV GEMARA

A father should teach his daughters Bible even before his sons Gemara

This last example is the most revealing: even were the unacceptability of (686) the result of some drastic requirement of the reduction rule, we should still expect to leave a two-NP residue without difficulty. So by tentatively deriving both 'subject-' and 'object-oriented' LIFNEI 'before' phrases in (672-3) from a base P + NP, we can explain all the above examples.

LIFNEI 'before' etc. clauses are a fortiori unaffected by certain other phenomena typical of Comparative S alone, such as the leaving of an optional residual VP²⁶⁷ and the use of the alternative complementisers ASER and MA ŠE. For instance, we cannot say (688), by contrast with the grammatical (689):

- (688)*HI HIGIA LIFNEI MA ŠE CIPITI
She arrived before (lit.) what CMP I expected
(689) HI HIGIA MUKDAM YOTER MI MA ŠE CIPITI
She arrived earlier than what CMP I expected

We stress this because it has been suggested by Geis (1970) that Before and After expressions derive from Comparatives²⁶⁸. Such a derivation already seems a complex one in Hebrew. Even were it argued that the reduction rule producing (672-3) somehow had no derivational 'spin-off', why should two CMP typical of Comparatives be incompatible with LIFNEI etc. clauses?

A final drawback to a reduction T rule for (672-3) is the ungrammaticality of the reflexive pronoun in (690):

- (690)*YICXAK NISA LEŠAXRER ET ŠLOŠET XAVERAV LIFNEI ACMO
Yitzhak tried to free his three friends before himself

We might have hoped to generate (690) from something like (691), in a way normal with clear cases of reduction:

267. See p.206.

268. Recall our discussion on p.132-4, and Geis' own reservations about his Comparative derivation.

(691) YICXAK NISA LESAXRER ET ŠLOŠET XAVERAV LIFNEI ŠE ŠIXRER
ACMO
Yitzhak tried to free his three friends before CMP he
freed himself

In fact the ill-formedness of (690) is just typical of the complements of such P, which, perhaps for the same reason as their English counterparts, never seem to allow reflexivisation, witness (692):

(692)*ULA HIŠIR TALMIDIM RABIM AXAREI ACMO
Ula left many students after himself

Having concluded the negative side of our argument, we take a brief look, in 3.3.2., at a case of ambiguous orientation that should indeed be captured syntactically; and then return to formulate a rule of semantic interpretation and give it some more positive support.

3.3.2. A transformational account of ambiguous derived nominal complements.

Consider the phrase (693):

(693) AHAVAT HAŠEM The love of GOD (lit.: the love-of)

This Construct Phrase is both subject- and object-oriented, as is its English equivalent. Now when both a subject and an object are mentioned at the same time, the subject NP appears as complement of the derived nominal while the object NP follows, introduced by the Object Marker appropriate to the derived nominal (and to the nominal's associated V), witness (694):

(694) AHAVATO ET HAŠEM
His love of GOD (lit.: the love-of-he Obj.M. GOD)

In fact, the only difference between a finite clause and such a derived nominal structure is that the subject in the former, which is an independent word preceding the V in unmarked contexts, appears as an NP following and governed by the derived

nominal in the latter.

The obvious approach to the ambiguity of (693) is to derive both readings from a structure like (694). Two arguments exist to support this.

First, it is the aim of a lexicalist treatment such as we have favoured to generalise between S and NP structure. Now Hebrew S require a subject²⁶⁹; similarly, gerunds require a subject, so examples of gerunds like (695) cannot be read as object-oriented:

(695) BE KAXTAM ME HACON, HAYU OMRIM BRAXA

On their taking (lit.: on the taking-of-them) from the flock, they would say a blessing

The use of a derived nominal with an Object Marker + object is another instance where a subject must be explicit. Thus instead of (696) one must say (693) or else mention some explicit subject:

(696)*^v(HA)AHAVA ET HASEM (The)love Obj.M. GOD

So, when faced with (693) in its object-orientation, we can reasonably assume a deleted subject and postulate that a rule has slotted the underlying object of the derived nominal into the 'complement of derived nominal' position in place of the deleted subject.

Second, consider (697):

(697) AHAVAT ACMI GARMA LI LAASOT KAX

The love-of myself led me to do that

269. Admittedly, masculine plural present tense V can appear without a subject (we infer that it is -DEF, +HUM), as in LO ŠOMIM '(lit.) can't hear!' (=French 'on'). But the difference between this and the subject-less derived nominal in (693) is that the latter allows reflexive pronouns to refer back to an underlying subject, while the former does not, witness *LO SOMIM ET ACMAM 'Can't hear themselves!' As for the former itself, it cannot seriously be generated without a subject while gerunds and other forms require one.

The presence of the reflexive pronoun within the derived nominal structure is puzzling, in view of the impossibility of reflexive pronouns in clauses unless they are preceded²⁷⁰ by a coreferent. So it is fair to assume that (697) stems from a deep string something like (698):

(698) AHAVATI ET ACMI GARMA LI LAASOT KAX

My love of myself (lit.: the love-of I Obj.M. myself)
led me to do that

Admittedly, the deletion rule is not simple, for it does not, perplexingly, operate in contexts like (699-70):

(699) AHAVATI ET ACMI HI ŠE GARMA ET HAMAŠBER

My love of myself is what caused the crisis

(700) AHAVATI ET ACMI GARMA LA LIDXOT OTI

My love of myself caused her to jilt me

But the principle of such subject deletion and of a dual source for (693) is, to our mind, quite reasonable.

3.3.3. A rule of semantic interpretation for LIFNEI 'before' and AKAREI 'after' phrases.

The rule of semantic interpretation we shall now propose is just one part of the meaning of LIFNEI and AXAREI phrases. We are not concerned with the meaning of the lexical items involved or with focus, presupposition and reference (except for the reference of semantically inferred NP not present in syntactic structure). Rather, we are concerned with what Jackendoff (1972:1.5.) calls "the functional structure of a semantic reading", where V are represented by functions and N serve as variables for the functions. Again with Jackendoff (1972:3.7.), we suggest projection rules incorporating structural descriptions of the syntactic trees to which they apply and supported

270. That is, in deep structure, before Topicalisation and suchlike.

by projection rule entries in the lexicon; the rules assign partial semantic interpretations.

The projection rules for subject- and object-orientation of a sentence like (672), repeated below, will apply to the structure $[\overset{\text{III}}{\text{P}}, \overset{\text{II}}{\text{X}}]$, that is, to cases where a Preposition Phrase is directly dominated by either a higher verbal or a higher nominal node. (This excludes closely integrated PP that are going to crop up in connection with IM 'with' and BLI 'without' phrases.) :

(672) HAEREV AŠKIV ET AXIXA HAGADOL LEFANEXA

This evening I'll put your elder brother to bed before-you

We make mention of nominal nodes on account of the ambiguity of sentences like (701):

(701) HITPATRUTO ŠEL AGASI MIYAD AXAREI TAPUXI ORER HEDIM

The resignation of Agasi straight after Tapuchi caused a stir

Here there is little justification for a syntactic statement of the dual interpretation '..after Tapuchi ceased to exist' and '..after the resignation of Tapuchi' as in the context of a S.

The subject-orienting rule (P_{sub}), which will be entered positively in the lexicon for certain P, among them LIFNET 'before', serves to convert the PP structure into a semantic proposition; the latter's function and arguments will be identical and coreferent with those of the most directly dominating NP or else S, except that the first argument of the latter structures will have been replaced by an argument based on the complement NP of the Preposition Phrase in hand. A rough formulation of the reading of (701) '..after Tapuchi ceased to exist' (which we deem equivalent to 'after the time

known as Tapuchi') will, using Leech's (1969) system, be

$$(f(NP)) \cdot \longrightarrow \text{TIM} \cdot \emptyset' \ll \emptyset' \cdot \longleftarrow \text{BEF} \cdot +\text{PERI NP} \gg$$

meaning that the resignation was at a time that was preceded by the period known as Tapuchi.

As for the reading '..after the resignation of Tapuchi', we mark the two identical functions and arguments with identical indices. (Our example has but one argument, but it can have many.) The subject argument is that which happens to appear in the Preposition Phrase:

$$(f_1 (NP_1, NP_2 \dots, NP_n)) \cdot \longrightarrow \text{TIM} \cdot \emptyset' \ll \emptyset' \cdot \longleftarrow \text{BEF} \cdot \emptyset'' \ll \emptyset'' \cdot \\ \longleftarrow \text{TIM} \cdot (f_1 (NP_x, NP_2 \dots, NP_n))$$

Note that our rule P_{sub} refers only to the function and arguments (more accurately, to the V/Derived Nominal and nouns) within the nominal or S most directly dominating the PP in question, and this will be added to the structural analysis of the rule.

The object-oriented projection rule is in no way limited to semantically causative verbs such as HISKIV 'put to bed'; it is in order in (702):

(702) ET MI RAITA AXAREI SARA

Whom did you see after Sara ?

It works on indirect objects too, and in principle on any argument in the matrix S that we may wish to infer into the Preposition Phrase in question, witness :

(703) LEMI ANI CARIX LATET ET ZE AXAREI SARA

To whom should I give this after Sara ?

Let us have one general projection rule, that can see the complement of the P as taking the place of any argument of the function. Let us call it P_{pp} , for we shall be able to apply it to several kinds of PP in the coming sections.

Even a projection rule of this type, however, does not capture the full facts of the orientation of LIFNEI 'before' etc. complements. While subject-orientation is, apparently, always possible, object-orientation is dependent on semantic factors such as focus and presupposition. Consider (704):

(704) LAMA NATATA ET HAMIKROFON LE ŠAUL LEFANAI

Why did you give the mike to Saul before-me

At a pinch this can be object-oriented, but speakers prefer to use an explicit clause. The perfect object-orientation of (703), in such contrast to (704), is due partly to the interrogative pronoun in indirect object position in the matrix S, which invites one to infer that the N in the PP refers too to an indirect pronoun; for how could one interpret it as (705)?

(705)?LE MI ANI CARIX LATET ET ZE AXAREI ŠE ŠARA TITEN ET ZE

To whom should I give it after Sara gives it ?

In fact the presence of an interrogative pronoun can even permit a non-subject orientation in a case like (706), where it would otherwise have been quite far-fetched, witness (707):

(706) AL YEDEI MI NIVDAKTA AXAREI DOKTOR YARIV

By whom ~~were~~ you examined after Dr. Yariv ?

(707) ATEM TIBADKU AL YEDEI HAPSIXOLOG AXAREI HAROFE

You'll be examined by the psychologist after the doctor

Example (707) has important bearing on the exact stage in the syntactic derivation at which our projection rule should apply. Jackendoff (1972:1.2.) holds that "various parts of semantic representation are related by the semantic component to various levels of the syntactic derivation." Now as the orientation of the complement of AXAREI 'after' in (707) is strongly to the subject, while in the active source sentence (708) below, where the two NP have opposite functions, the

orientation is easily to the subject again, we shall regard the P_{pp} rule as a derived projection rule that applies after the Passive rule has permuted the functions of NP²⁷¹:

(708) HAPSIXOLOG YIVDOK ETXEM AXAREI HAROFE

The psychologist will examine you after the doctor

One syntactic transformation that the P_{pp} rule must precede is Adverbial Preposing, of the kind that transforms (709) into (710)²⁷²:

(709) ANI XOŠEV ŠE MEZEG HAAVIR YIHYE NAIM MAXAR

I think that the weather will be nice tomorrow

(710) MAXAR, ANI XOŠEV ŠE MEZEG HAAVIR YIHYE NAIM

Tomorrow, I think that the weather will be nice

We have shown in 2.1. that certain factive-type verbs impede such preposing; and now we see from (711) below that AXAREI 'after' phrases standing in front of this type of verb not only refuse to be attributed syntactically to the embedded S but even resist being interpreted semantically as a clause akin to the embedded S, i.e. as something like (712):

(711)*AXAREI HAKELEV, ANI MEVIN LAMA MAAXILIM ET HAXATUL

After the dog, I understand why they feed the cat

(712) AXAREI ŠE MAAXILIM ET HAKELEV, ANI MEVIN LAMA MAAXILIM ET HAXATUL

After they feed the dog, I understand why they feed the cat

Contrast (711) with (713), where the presence of a parenthetical type of V facilitates the application of our projection rule:

(713) AXAREI HAKELEV, ANI XOŠEV ŠE MAAXILIM ET HAXATUL

After the dog, I think that they feed the cat

271. Of course this holds only in the event that Hebrew has a motivated Passive rule.

272. See 2.1.2.

Now were we to modify the P_{pp} rule to take account of diverse contexts like (711,713), we should be duplicating the syntactic machinery of the Preposing T rule. Far simpler to order P_{pp} before this T rule.

One feels that it is natural for such a projection rule to be sensitive to the changes wrought by Passivisation, i.e. to be subsequent to it, for the P_{pp} rule comprises, as its 'constant' argument (represented by NP_x in the formula in the middle of p.240), an NP capable of moving 'crucially' in the Passive rule.

Similarly, KMO 'like' reduction, illustrated earlier in this chapter, must be sensitive, i.e. subsequent, to the Passive rule, or else we should be able to generate, e.g., (714) and preserve its meaning in the transform (715) - which is ill-formed in the relevant sense:

(714) KAYOM HAAŠKENAZIM MEVATIM ET HAGRONIYOT KMO HASFARADIM
Today the Ashkenazis pronounce the gutturals like the Sephardis

(715)*KAYOM HAGRONIYOT MEVUTAT AL YEDEI HAAŠKENAZIM KMO
HASFARADIM
Today the gutturals are pronounced by the Ashkenazis like the Sephardis

There may be other rules that, like KMO clause reduction, do not care to distinguish deep and derived non-subjects. Perhaps they could be characterised in terms of the type of operation they perform, in that rules whose residual variable is liable to be an NP could be ordered after Passivisation. What we would suggest is that our projection rule be similarly ordered; perhaps it, too, could be characterised in terms of its operation, so that the grammar of Hebrew might feature a conditions box serving both the syntactic and the semantic components.

In conclusion, one might say that the difference between

transformational reduction rules and the P_{pp} rule is that the latter can apply, all else being equal, to both subjects and objects, whereas the former are barred from leaving a residual object NP unless they also leave the preposition introducing it. What they share is a sensitivity to Passivisation that finds expression in the ill-formedness of (715) and the poor interpretability of (707).

One constraint that seems to have nothing to do with ordering is the coordination interpretation constraint. (716) below cannot be read as (717):

(716) ETEN LEXA TŠUVA AXAREI MOŠE VE SARA

I'll give you an answer after M₀she and Sara

(717) ETEN EEXA TŠUVA AXAREI ŠE ETEN TŠUVA LE MOŠE VE ŠE SARA
TITEN LEXA TŠUVA

I'll give you an answer after I give one to Moshe and
and Sara gives you one

In other words, we cannot apply two different P_{rp} rules within a coordinate structure. Nor, for that matter, can we apply a P_{pp} rule to one coordinate NP while interpreting the other NP as a mere complement of AXAREI 'after' (context permitting). Far from contending that AXAREI 'after' phrases thus behave similarly to phrases that are definitely the output of reduction rules, such as those in (718) - which cannot be derived by any stretch of the imagination from (719) - and thus explaining the coordination constraint as a syntactic constraint, we would rather propose that there is some sort of semantic stigma against even explicit notions like (717) above; and that this stigma is particularly strong in terse contexts like (716,718):

(718) HAYELIDIM CADIM CVAYIM KMO ARAYOT VE NEMERIM

The natives hunt gazelles like lions and tigers

(719) HAYELIDIM CADIM CVAYIM KMO ŠE CADIM ARAYOT VE KMO ŠE
NEMERIM CADIM CVAYIM

The natives hunt gazelles like they hunt lions and like
tigers hunt gazelles

Indeed, in a case like (720), where the first V must be read as belonging to a relativised subject while the second, by virtue of its masculinity, must express a general 'on'-type subject, the combination of the two sorts of relative S reduction within a coordinate structure can only be regarded as a specimen of syllepsis!

- (720) HANAŠIM HALALU, ŠE SONOT VE ŠE SONIM, MUXRAXOT LEHIŠTA-MEM BASOF
These women that hate and that (=people) hate, are bound to get bored eventually

Note finally that, as Conjunction Reduction must occur on a higher cycle than the collapsing of Derived Nominal structures such as REDIFAT HAYELIDIM 'The persecution of the natives' (indeed Jackendoff (1971) orders Conjunction Reduction after Relative Formation, for reasons that hold for Hebrew too), Conjunction Reduction cannot take cognisance of the different possible deep structure orientations of such derived nominals. Only a general semantic constraint would seem to work.

- 3.3.4. Evidence for such a rule of semantic interpretation: BEIKVOT 'in the wake of' phrases.

The ad hoc nature of any T rule deriving LIFNEI 'before' phrases from complement clauses was the negative side of our case for a P_{pp} projection rule. The positive side proceeds from the behaviour of PP involving the P BEIKVOT 'in the wake of'.

Whereas (721) means that the strike followed the explosion, (722) does not imply that the strike followed an event or state called 'political prisoners':

- (721) KOL HAPOŠIM ŠAVTU RAAV BEIKVOT HAHITPOCECUT
All the criminals went on hunger strike in the wake of the explosion

(722) KOD HAPOŠIM ŠAVTU RAAV BEIKVOT HAASIRIM HAPOLITIIYIM
All the criminals went on hunger strike in the wake of
the political prisoners

Rather, (722) means that the political prisoners too had been on strike; the interpretation, in other words, is the same as in AXAREI 'after' phrases.

What engages our attention is the absence of any corresponding clause from which one might have derived examples like (722). We cannot say:

(723)*HEM SAVTU RAAV BEIKVOT ŠE HAASIRIM HAPOLITIIYIM SAVTU
They went on hunger strike in the wake that the political prisoners went on strike

And it is not worth trying to derive (722) from some more complex structure like BEIKVOT PEULAT 'in the wake of the action of..', a derivation without apparent precedent in Hebrew. The situation seems to call for a rule of semantic interpretation, indeed a rule of multiple orientation like that for LIFNEI 'before' and AXAREI 'after', witness (724) below, where, perhaps because a subject-orientation is semantically unthinkable (how do you kill someone twice ?), an object-orientation is quite in order:

(724) HAIM ATA XOŠEV ŠE YAMITU ET RODRIGO BEIKVOT ŠEAR HATERORISTIM
Do you think that they'll execute Rodrigo in the wake of the other terrorists ?

Thus the need for a projection rule, entered as a semantic rule-feature in the lexical entry of BEIKVOT 'in the wake of', is one positive reason for setting up such a rule for LIFNEI, AXAREI phrases etc.

In 3.4. we shall seek to broaden this rule tentatively in the context of Comparative expressions. But first we note some other interpretations of Time phrases.

3.3.5. Another rule of interpretation for Time phrases in general

Consider (725-6):

- (725) AXAREI SUEC XAZAR HAŠALOM LAMIZRAX HATIXON
After Suez peace returned to the Middle East
(726) AXAREI NAPOLYON XAZAR HAŠALOM LEEROPA
After Napoleon peace returned to Europe

Although 'Suez' may once have been just a place name, it now serves to signify an event. In this capacity, it is not limited to peripheral contexts, witness (727):

- (727) SUEC HAYTA PARAŠA MESUBEXET
Suez was a complicated episode

It will thus be covered by a lexical redundancy rule assigning 'event' status to place names.

By contrast, 'Napoleon' signifies 'Napoleon's lifetime' in the context of Time phrases only, such as (726,728):

- (728) MEAZ NAPOLYON SORERET HALEUMANUT
Since Napoleon nationalism has held sway

Steinitz (1969:4.2.) dismisses Weinreich's (1966) proposal for transferable features like [₊TIME] to be spread from, say, a Time P to its inherently [₋TIME] complement NP, thus capturing the contextually temporal nature of N like 'wall' in Time PP such as 'during the wall'. She prefers to derive such PP by T rule from S with empty verbs like 'existieren' or the more specific 'bauen, entwickeln, erfinden', so that (729) derives from (730):

- (729) Diese Häuser wurden vor der Mauer abgerissen
(730) Diese Häuser wurden abgerissen, bevor die Mauer gebaut wurde

But consider these three Hebrew examples:

(731) ACALCEL LEIŠTI AXAREI HANOEM HASLISI

I'll ring the wife after the third speaker

(732) MAAXALEI GVINA ASURIM LIFNEI BASAR

Foods containing cheese are forbidden before meat

(733) AXAREI DIRA KTANA KOL KAX, ANI LO CARIX LEHITLONEN AL HADIRA HAZOT

After such a tiny flat, I've no reason to complain about this one

Even were there motivation for a T rule reducing [Comp,P] S to form the underlined phrases, one may ask what kind of V is to be inferred in such S. The folly of a higher hypothetical pro-V, with its concomitant T rule involving a 'positive absolute exception'²⁷³, has been illustrated by Jackendoff (1972: 2.1.). But if, like Steinitz, we make reference to real verbs (say, HOFIA 'appear', AXAL 'eat' and GAR/BIKER 'live/visit' for (731-3) respectively), we court the risk of finding ourselves without an appropriate verb for some particular inferred S. This actually happens in the transformational analysis of lexical items such as causative V, where, as Jackendoff (ibid.) puts it, "the causation implied is of a more direct nature than seems to be expressible by any verb in English."²⁷⁴

So rather than link every meaning distinction to a deep structure distinction, let us capture (731-3) and (726,728) by a projection rule for functional meaning. Not wishing to include selectional restrictions in the syntax, we shall not limit ourselves to Weinreich's feature-spread description - let us project the PP in (731-3) into propositions having all sorts of functions, These may partly depend on the N involved in the PP: that in (731), being an agent N, is likely to imply a verb

273. See Lakoff (1971) for this notion.

274. See Hasegawa (1972) for a critique of performative pro-V and multiple higher V.

akin in sense; but the semantic component is likely to deem anomalous only those readings that infer a V which is itself incompatible with the complement NP in the PP. In principle, then, (731) could be the remark of a cannibal just about to consume the third speaker.

Note that this projection rule is not a 'halfway stage' between context-free interpretation of N and their interpretation under P_{PP}. It might have been felt that the basic reason for the regularity of the P_{PP} interpretation, by contrast with that of (731-3), is the presence of a matrix S containing the LIFNEI 'before' etc. phrase. But observe that the (731-3) interpretation is available for other P such as AD 'until' and MEAZ 'since', but P_{PP} is not - it is limited to phrases expressing what we dub Precedence and Subsequence²⁷⁵.

Accordingly, (734) below can be read as referring to the time until the existence of Saul and David; but (736) cannot be used to paraphrase (735) - only P of Precedence and Subsequence seem to allow this:

- (734) HAYTA ANARXIYA GMURA AD ŠAUL VE DAVID
There was anarchy until Saul and David
- (735) AMARTA ŠE ANI YAXOL LEHIŠTAMEŠ BO AD ŠEV DAVID YIŠTAMEŠ BO
You said I can use it until David uses it
- (736) AMARTA ŠE ANI YAXOL LEHIŠTAMEŠ BO AD DAVID
You said I can use it until David

We can add weight to our interpretive analysis, and in particular our understanding of the Precedence and Subsequence rule, by examining the interpretation of certain Comparatives in the next section.

275. There may be yet another kind of interpretation, restricted to AXAREI 'after' phrases. In AXAREI KOL HAXEVRE HAELE ANI CARIX LANUAX 'After all those people, I need a rest', AXAREI may be appearing in the sense of 'on account of'; it is doubtful if other Time P can replace it here.

3.4. : AN INTERPRETIVE ACCOUNT OF SOME COMPARATIVE PHRASES

3.4.1. A rule of possibly broader interpretation: BEHAŠVAA
'in comparison' phrases.

Consider the pair of sentences (737-8):

(737) AXAT HABAAYOT HI REGIŠUTAM HAYETERA ŠEL YEHUDIM LESAKERET
BE HAŠVAA LI ŠEAR AMIM

One problem is the extra proneness of Jews to diabetes
in comparison to other peoples

(738) AXAT HABAAYOT HI REGIŠUTAM HAYETERA ŠEL YEHUDIM LESAKERET
BE HAŠVAA LI ŠEAR MAXALOT

One problem is the extra proneness of Jews to diabetes
in comparison to other diseases

The dual orientation of the NP complementing the derived nominal HAŠVAA 'comparison' - towards YEHUDIM 'Jews' or towards SAKERET 'diabetes' - cannot be explained by invoking a T rule derivation from a full S, for such full S do not exist, witness (739):

(739)*HAGVARIM NOHAGIM YOTER MAHER BE HAŠVAA LE (SE) HANAŠIM
NOHAGOT

Men drive faster in comparison to (that) women drive

But if we replace BE HAŠVAA LE in (739) by ME AŠER 'than CMP', the sentence becomes grammatical.

Now hitherto we have not drawn any distinction, in evaluating the merits of transformational and interpretive descriptions, between ambiguity as to subject- and object-orientation and some quite different sense - such as that in which AXAREI 'after' governs a regular, context-free Time noun. Now one has a strong feeling that there is no justification for a dual source for (737-8): BE HAŠVAA 'in comparison with' may be neutral in sense, signifying a comparison of the situation as a whole rather than of any of the NP involved - as if one were to say:

(740) ...KE ŠE OSIM HAŠVAA LI ŠEAR HAAMIM

When one makes a comparison with other peoples

It ~~does not~~ seem to be the same neutrality of sense as that in, say, BIGLAL 'because' phrases. To say (741) is not to imply that the Rabbi, too, did anything in particular ; whereas (737-8) do invite one to infer some item already mentioned in the sentence in the Comparison phrase:

(741) ASITI ZOT BIGLAL HARAV

I did it because of the Rabbi

But it is the absence of any other, more restrictive sense that tempts us to represent the meaning of (737-8) by giving a broad statement of comparison approximating to (740) rather than by projecting the syntactic structure of the whole sentence in (737-8) into diverse semantic structures. Bolinger (1968:120) remarks: "There may have been a little too much eagerness to find differences, and to account for them by positing underlying grammatical contrasts when actually the sameness in form may have been intentional, with a meaning so general as to embrace contrary interpretations which are not grammatical but depend on the context."

When we consider ambiguous sentences like (672) on p. 231 in this light, it seems possible that it is the other, context-free use of LIFNEI 'before' phrases - as in LIFNEI ŠES 'before six' - that is preventing us from regarding LEFANEXA 'before-you' in (672) as just a 'watered-down' quasi-temporal P plus a vague instance of an animate N. This feeling is stronger, perhaps, in the case of BEIKVOT 'in the wake of' in (724) on p.246, where the relationship between BEIKVOT and its complement may, through the lack of a corresponding full S, be felt to be 'sloppy' and not worth a specific semantic representation along the lines of P_{pp}.

We shall make further mention of this kind of approach

in 3.5.2. But now we propose a rule of semantic interpretation more akin to that proposed for Precedence and Subsequence. It will be suggested that the two form part of some larger Hebrew, and possibly cross-linguistic, phenomenon.

3.4.2. A rule of interpretation akin to that of 3.3.3., for DOME 'similar' and ŠONE 'different' phrases.

Consider the two paraphrase pairs (742-3,744-5):

(742) MIŠEHU NATAN LI TAKLIT DOME LE ZE

Someone gave me a similar record to this

(743) MIŠEHU NATAN LI TAKLIT ŠE DOME LE ZE

Someone gave me a record that is similar to this

(744) DALYA LAVŠA SIMLA DOMA LE SARA

Dalya was wearing a similar dress to Sara

(745) DALYA LAVŠA SIMLA ŠE HAYTA DOMA LA SIMLA ŠE SARA LAVŠA

Dalya was wearing a dress that was similar to the dress that Sara was wearing

Now there is a regular correspondence in Hebrew between sentences like (742) and (743): most adjectives attributive to a N can be predicated of that N in a relative clause. No such correspondence exists, however, between the head+modifier and the more complex predication in (744) and (745) respectively; for instance, (746) below, featuring the modifier ZEHE 'identical', cannot be paraphrased by means of (747) and means nothing if not that Dalya's dress is identical to Sara herself:

(746) DALYA LAVŠA SIMLA ZEHA LESARA

Dalya was wearing an identical dress to Sara

(747) DALYA LAVŠA SIMLA ŠE HAYTA ZEHA LA SIMLA ŠE SARA LAVŠA

Dalya was wearing a dress that was identical to the dress that Sara was wearing

In fact the only other adjective that seems to behave like DOME 'similar' is ŠONE 'different', hence (748):

(748) DALYA LAVŠA SIMLA ŠONA MI SARA

Dalya was wearing a different dress from Sara²⁷⁶

Lexical idiosyncrasy, then, is the first obstacle we encounter if we react to the disparity in meaning and cooccurrence relations between (742) and (744) by trying to set up two distinct syntactic sources.

But there are even graver obstacles. Trying first to derive a phrase like DOMA LE SARA 'similar..to Sara' in (744) from DOMA LA SIMLA ŠE SARA LAVŠA 'similar to the dress that Sara was wearing', we find - as in our analysis of LIFNEI 'before' phrases etc. - that there is no precedent in Hebrew for such a dismantling of a relative structure, complementiser and all²⁷⁷; the most drastic dismantling that does occur with any regularity is that illustrated in our account of 'hidden relatives'.

Observe too - in case it is felt that the absence of derivational precedents in two cases already, i.e. DOME/SONE and AXAREI/LIFNEI, is beginning to look like a sufficient precedent in itself - that there is no intermediate derivational 'spin-off'. Both (749) and (750) are nonsense:²⁷⁸

(749)*DALYA LAVŠA SIMLA DOMA LA SIMLA ŠE SARA

Dalya was wearing a dress similar to the dress that Sara

(750)*DALYA LAVŠA SIMLA DOMA LE ŠE SARA (LAVŠA)

Dalya was wearing a dress similar to that Sara (was wearing)

276. The P ME associated with SONE 'different' seems to be syntactically distinct from the Comparative ME 'than', for the latter always allows the addition of YOTER 'more' as in HI GDOLA (YOTER) MI SARA 'She's big (more) than Sara' but HI SONA (*YOTER) MI SARA 'She's different (more) from Sara'. So we do not wish to derive (748) by a mere Comparative Reduction rule.

277. Except perhaps for Adjective Formation, where it is the predicate of the relative S that is left as residue.

278. It seems that the Hebrew postposed A corresponds to both the preposed and the postpos^{ed} A in English.

Nor can we gap the V and leave two NP as we could in Concessive, Manner and Comparative S reduction:

(751)*ANI MAAXIL OTAM BE CURA DOMA LA YAAKOV ET HADAGIM ŠELO
I feed them in a similar way to Yaakov Obj.M. his fish

That DOMA 'similar' phrases are not derived by Comparative Reduction in the same way as Comparative KMO 'like' phrases is clear from the lack of a DOMA parallel to the intermediate derivation featuring KMO, witness (752) and (750):

(752) DALYA LAVŠA OTA XACAIT KMO ŠE SARA LAVŠA
Dalya was wearing the same skirt (lit.) like CMP Sara was wearing

(750)*DALYA LAVŠA SIMLA DOMA LE ŠE SARA LAVŠA
Dalya was wearing a dress similar to CMP Sara was wearing

We shall offer two more arguments for not deriving DOME etc. phrases from S. The first concerns the mechanics of clause reduction. Recall that in 3.2.5. we claimed, on the basis of cases like (655), that the KMO 'like' reduction rule is incapable of deleting identical case markers:

(655)*LI YEŠ OTA MEXONIT KAMOXA
(lit.) is to me the same car like-you (=as you)

Now DOME 'similar' phrases, by contrast, do not (indeed cannot) repeat case markers; hence the unacceptable (753), (where LE is merely the P normally governed by DOME itself):

(753) LI YEŠ BAAYOT DOMOT LEXA
(lit.) are to me similar problems to-you

It is especially their inability to accommodate case markers that persuades us to generate DOME and SONE phrases, for all their ambiguity, in the base as such.

The second argument concerns the positioning of the LE 'to' phrase governed by DOME 'similar'. Were it the case that

DOME LE and ŠONE ME introduced S in deep structure - S that reduce - we should expect DOME and ŠONE to act like determiners, and their associated putative S to resemble any complement S associated with a determiner by undergoing Rightward Extraposition, as in (754-5) below, where OTO and YOTER are the determiner (and quantifier) respectively:

(754) AXŠAV NICTAREX LEHAASIK OTO MISPAR ŠEL NAŠIM KMO GVARIM

Now we'll have to employ the same number of women as men

(755) HEM MAASIKIM MISPAR GADOL YOTER ŠEL NAŠIM ME ASER GVARIM

They employ a greater number of women than men

But DOME and SONE phrases are quite unable to undergo Extraposition, witness (756-7):

(756)*AXSAV NICTAREX LEHAASIK MISPAR DOME ŠEL NAŠIM LI GVARIM

Now we'll have to employ a similar number of women to men

(757)*HEM MAASIKIM MISPAR ŠONE ŠEL NAŠIM MI GVARIM

They employ a different number of women from men

So let us regard the LE 'to' and ME 'from' phrases in (744) and (748) as no different syntactically from those that have the different paraphrase. A semantic projection rule will account for them; it differs operationally from that proposed for Precedence and Subsequence in that it infers not just the best part of a clause but also a head N, that is, (744) will be interpreted by the rule not as something like (758) below but as (759):

(758) DALYA LAVSA SIMLA DOMA LE [SARA LAVSA Δ SIMLA]

Dalya was wearing a similar dress to Sara was wearing a Δ dress

(759) DALYA LAVŠA SIMLA DOMA LA SIMLA, [SARA LAVŠA SIMLA]

Dalya was wearing a dress similar to the dress [Sara was wearing a dress]

The added complexity of this rule might explain why some speakers who readily apply P_{pp} to LIFNEI 'before' etc. refuse

to interpret (744) in any but its absurd sense.

To give a little detail concerning this rule (henceforth P_{comp} , the comparative projection rule), it interprets the complement NP of the LE and ME phrases not only as subject of the relative S (as illustrated in (759)) but also as object, direct or indirect, witness (753); it thus resembles P_{pr} . It is restricted to a single clause, so that (760) below cannot be read as (759) in the same way as (744) can:

(760) DALYA LAVŠA SIMLA ŠE DOMA LE SARA

Dalya was wearing a dress that is similar to Sara

In this respect too, P_{comp} resembles P_{pp} , as well as paralleling the Comparative Reduction rule, which refuses to reduce the deep structure (761) to (762):

(761) DALYA LOVEŠET SIMLA [ŠE YOTER [ME [AŠER SARA LOVEŠET SIMLA] ŠE Δ Yafa] Yafa]]

Dalya is wearing a dress [that is more [than Sara is wearing a dress [that is Δ pretty] pretty]]

(762) DALYA LOVEŠET SIMLA ŠE YOTER Yafa ME AŠER SARA

Dalya is wearing a dress that is more pretty than Sara

This last example, in fact, has only an absurd sense. We discussed well-formed versions of this structure (without a CMP) in our account of Adjectival Adverbials.

In matters of ordering, too, P_{comp} emulates the surface traits of real reduced comparative S, as well as those of LIF-NEI 'before' etc. phrases. First, it applies after Passivisation, so that we do not transform (763) into (764):

(763) MOŠE KVAR PITAX GIŠA DOMA LEXA AL

Moshe has already developed a similar approach to-you

(764)*GIŠA DOMA LEXA PUTXA KVAR AL YEDEI MOŠE

A similar approach to-you has already been developed by Moshe

This resembles the ill-formed (765), arising from premature

Comparative clause reduction:

(765)*YOTER KOXAVIM ME AŠER MIKCOANIM NITGALU AL YEDEI KOVE-
 VANIM 279
 More stars than professionals have been discovered by
 amateurs

Second, P_{comp} is best ordered before Topicalisation, to allow (766) to be interpreted without undue complication of the rule-analysis. Note that Comparative reduction is also best ordered before Topicalisation, to generate (767); and recall that we ordered P_{pp} too before Adverbial Preposing:

(766) YAXOL LIHYOT ŠE LAVAŠTI MAŠEHU DOME LE SARA, AVAL SIMLA
 DOMA LE AXOTA ANI AF PAAM LO LAVAŠTI
 Maybe I wore something similar to Sara, but a similar
 dress to her sister I've never ever worn

(767) YOTER ČIPS MIMXA ANI LO TAVATI - RAK KAMUT ŠAVA
 More chips than you I didn't ask for - just an equal
 amount

In conclusion, the P_{comp} rule need not be explicitly formulated, for it is evident that it 'shadows' both the Comparative reduction T rule and the P_{pp} rule in many respects. Perhaps the most striking difference between P_{comp} and other more familiar projection rules for Comparative constructions is the failure of ME 'than' phrases²⁸⁰ to give the reading discussed in this subsection: compare (768) below with (748)- the former can only mean that the dress is nicer than the girl! :

(768) DALYA LAVŠA SIMLA Yafa MI SARA
 Dalya was wearing (lit.) a nice dress than Sara

(748) DALYA LAVŠA SIMLA ŠONA MI SARA
 Dalya was wearing a different dress from Sara

279. Even after extraposition of the ME AŠER 'than' phrase, (765) would fail for lack of a repeated P AL YEDEI 'by'.

280. I.e. those ME phrases not associated with a head such as YOTER 'more' and which, as has been argued on p.226, probably arise from a base P + NP rather than from a reduced S.

Our inability to offer an explanation for (768) must seriously limit the claims we can make concerning the generality of the P_{comp} rule proposed here and the rule mooted in 3.4.1. Furthermore, we can point to a language like French, where, it seems on the basis of random investigation, both the interpretation of 'pareil' phrases and that of comparative constructions such as 'Elle porte une plus belle robe que toi' is unambiguous - the sentence just mentioned has only an absurd reading. Notwithstanding this, 'avant' and 'après' phrases seem to have as many interpretations as in Hebrew and German. So we can hardly make strong cross-linguistic claims about the relation between Precedence and Subsequence interpretation and that of Comparative expressions. Nevertheless, we are intrigued by the relationship between 'pareil' phrases and Comparatives in French.

In Hebrew, at any rate, it appears that there is a link between the interpretation rules for Precedence and Subsequence and for Comparatives. This suggests that, on the semantic level, Geis (1970) may have been right in identifying 'before' and 'after' with 'earlier' and 'later'.

In 3.5.2. we shall allude to the interpretation of 'coordinative' expressions and seek a further generalisation. First, however, let us look briefly at the interpretation of some other Time expressions.

3.5. : TIME PHRASE INTERPRETATION: MORE PARTICULAR AND GENERAL ASPECTS

3.5.1. 'Simultaneous' Time phrases.

As expressions with DOME 'similar' invite complex interpretation, we might have expected adverbials like BI ŠAAT.. 'at the time of..' , BI ZMAN.'at the period of..' and IM

'with:.' to act like LIFNEI 'before' etc. phrases. That is, we might have wished to interpret (769) below as (770) - as well as in the sense that Dan was in Heidelberg during the lifetime of Chou:

(769) DAN HAYA BE H~~HE~~IDELBERG BI ZMAN CU

Dan was in Heidelberg at the time of Chou

(770) DAN HAYA BE HAIDELBERG BI ZMAN ŠE CU HAYA ŠAM

Dan was in Heidelberg at the time that Chou was there

But (769) does not mean (770); the same holds in the case of BI SAAT 'at the time of'. This is a problem that would have worried us even had we derived LIFNEI 'before' phrases from full S.

Nor can we paraphrase (771) by (772):

(771) IM HAMERAGLIM HIGLETA HAMEMŠALA MEA PKIDIM

With the spies the government expelled sixty officials

(772) IM HAGLAYAT HAMERAGLIM HIGLETA HAMEMŠALA MEA PKIDIM

With the expulsion of the spies the government expelled sixty officials

Here too a P_{pp} projection rule will not work.

Let us first try to understand BI ZMAN and BI ŠAAT 'at the time of'. That the limitation is not confined to ~~this type~~ of interpretation is shown by the unacceptability of (773):

(773)*ASUR LEEEXOL GVINA BI ŠAAT BASAR

It is forbidden to eat cheese at the time of meat

All three non-temporal types of NP that were shown on p.248 to be perfectly compatible with AXAREI 'after' etc. are incompatible with BI ŠAAT and BI ZMAN, i.e. the latter do not allow the broader kind of interpretation that we discussed.

What at first seems even stranger is the fact that BE-MESEX 'during' is incompatible not only with NP like BASAR 'meat' but even with animates like ŠU 'Chou'. In actual fact,

BI ŠAAT and BI ZMAN 'at the time of', too, are incompatible with animates in a particular way: when BI ZMAN is used with ČU 'Chou', as in (769), it is possible, indeed preferable, to use the 'rightward-dislocated' form²⁸¹ BI ZMANO ŠEL ČU '(lit.) in his time of Chou', which is characteristic of N + NP constructions whose N is a lexical N rather than a pro-noun; i.e. the occurrence of the noun ZMAN 'time' in (769) seems to be a lexical N rather than a pronoun. (We have alluded to this dual function of ZMAN 'time' on p.149.) But where BI ZMAN introduces inanimate N such as HAMITUN 'the recession' - i.e. N of the type that the P BEMEŠEX 'during' does govern - such Rightward Dislocation is impossible, witness (774), which suggests that ZMAN in BI ZMAN HAMITUN 'at the time-of the recession' is the pro-noun ZMAN and subject to the same constraints on interpretation as BEMEŠEX 'during':

(774)*BI ZMANO ŠEL HAMITUN YARAD MISPAR HAOLIM

(lit.) In its time of the recession the number of immigrants decreased

Actually, the distinction we wish to draw is not dissimilar to that which seems to hold between 'in the time of' and 'at the time of' in English: the former only introduces animate N (and suchlike) - hence '*in the time of the recession' - while the latter introduces inanimate, event N like 'recession' and, if it takes animate N at all, certainly precludes expressions like '*at Napoleon's/our time'.

Hebrew, instead of a distinction between 'in' and 'at', seems to make one between pronominal and lexical ZMAN 'time'.

As for the preposition IM illustrated in (772), it too

281. We discussed this rule in 1.1.6.

governs event nouns, derived nominals and gerunds while being incompatible with animate N such as ČU 'Chou'.²⁸²

Our tentative explanation, then, for the operation of the P_{pp} interpretation rule on 'comparative' Time expressions of the 'before' and 'after' type but not of the 'at the same time as' type is in terms of a hierarchy: any 'comparative' Time phrase that resists P_{pp} (such as BI ZMAN in which ZMAN is a pro-noun) will also be incompatible with animate N such as ČU 'Chou'. We shall pursue this no further.

To give one last instance of the difference in interpretation between LIFNEI 'before' and BI ZMAN 'at/in the time of', compare (775-6); the former is ambiguous, the latter is not:

(775) LAMA HUZKERA HAHITPOCECUT LIFNEI HADLEKA

Why was the explosion mentioned before the fire ?

(776) LAMA LO HUZKERA HAHITPOCECUT BI ZMAN HADLEKA

Why wasn't the explosion mentioned at the time of the fire ?

3.5.2. The interpretation of some 'coordinative' expressions

We shall conclude our case for rules of semantic interpretation for Time expressions by briefly proposing another such rule, involving what we dub 'coordinatives', and suggesting a general link between all the interpretive rules posited in this chapter.

We noted on p.224 that IM 'with' and BLI 'without' phrases allow of both subject- and object-orientation while not permitting appropriate case markers. Furthermore, IM 'with' does not govern S any more than BEIKVOT 'in the wake of'.²⁸³

282. Except, of course, when IM has a non-temporal, comitative sense.

283. See 3.3.4.

This suggests the need for a rule of semantic interpretation to infer full S of various kinds for IM 'with' and BLI 'without' phrases.

Now the same is true for phrases expressing the notions 'besides' and 'except'. Consider (777) and (778-9):

(777) HADENIM TOMXIM BATURKIM MILVAD HANORVEGIM

The Danes are supporting Obj.M. the Turks besides the Norwegians

(778) LO RAA OTI AF EXAD PRAT LE MOŠE

No one saw me (lit.: Obj.M. I) except for Moshe

(779) LO RAITI AF EXAD PRAT LE MOŠE

I saw no one except for Moshe

In (777) both subject- and object-orientation is possible for HANORVEGIM 'the Norwegians', and in (778-9) MOŠE is subject- and object-oriented respectively. Note secondly that no case markers can be entertained within the peripheral phrases concerned. Thirdly, no such prepositions, be they MILVAD, PRAT LE, XUC ME or any other, can govern a clause, or any other material that might be considered as derivational 'spin-off' from an underlying S.

A 'replacive' P like BIMKOM 'instead of', though able to govern S, is like the above P in introducing multiply oriented NP in its own right (no case marker being permitted).

What such expressions appear to share is a kinship with coordination - they add a positive or a negative proposition, as it were²⁸⁴. The same may be said of IM 'with' and BLI 'without' as they occur on p.224²⁸⁵. The term 'coordinative' is appropriate to them. (We hasten to add, however, that we

284. Mayo (1954:18) regards 'except' as a "device for avoiding speaking of an infringement" of the matrix S.

285. See Jespersen (1924:90) and Fillmore (1968:81).

do not mean that the semantic representation of such phrases is bound to feature such a coordinated proposition, with material identical to that in the matrix S. For the existence of such synonyms of PRAT LE 'except for' as LEMAET + literally 'to exclude' - points to the possibility of a more 'neutrally oriented' representation of the general form 'exception/addition/replacement being made for NP', along the lines of that mooted for BE HASVAA LE 'in comparison to' in 3.4.1.. Perhaps an additional projection could then relate such a representation to coordinate structure.)

Note also that the afore-mentioned XUC ME 'besides/except' is syntactically a Comparative, for it is able (though we are unsure to what extent) to take a Comparative clause with the characteristic ASER complementiser, oriented to some matrix NP:

(780) ANI LO ROCE LAASOT KLUM XUC ME ASER LANUAX

I want to do nothing (lit.) apart from (=than) CMP to rest

It thus resembles the English 'other than..'. The other items such as PRAT LE and MILVAD, though not Comparatives syntactically in this way, may be semantically regarded as such.

Now we suggest that it is not by accident that expressions of Comparison and 'Coordination' (rather than of Cause or Condition or Place) are open to these complex interpretations. For on the syntactic plane, too, it is deep structure comparative and coordinated S that appear subject to the most drastic reduction: in Hebrew the latter allow almost any conceivable residue, and the former, while not tolerating an NP residue if it involves the deletion of part of an NP or a PP, are prepared, as we have seen on p.206, to leave a residual VP - unlike any of the "adverbial clauses" discussed in this chapter.

We stress that this involves having different notions of Comparison (and 'Coordination') for the semantics and the syntax respectively, for AXAREI 'after' phrases, for instance, permit multiple interpretation whereas AXAREI 'after' clauses do not allow the same drastic reduction as clauses introduced by the Comparatives ME ASER 'than CMP' and KMO 'like'. Nevertheless, there appears to be a semantic link between the various rules of interpretation presented in the second half of this chapter.

This concludes our account of selected elliptic peripheral phrases in Modern Hebrew.

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