

R E P O R T R E S U M E S

ED 011 644

AL 000 029

THE NOMINAL PHRASE IN MODERN HEBREW. PART 1, INTRODUCTION AND ARTICLE

BY- ORNAN, UZZI

HEBREW UNIV., JERUSALEM, (ISRAEL)

REPORT NUMBER TR-18

PUB DATE MAY 65

EDRS PRICE MF-\$0.09 HC-\$1.68 42P.

DESCRIPTORS- \*HEBREW, \*SYNTAX, \*TRANSFORMATION THEORY (LANGUAGE), DISCOURSE ANALYSIS, KERNEL SENTENCES, SEMANTICS, STRUCTURAL ANALYSIS, PHRASE STRUCTURE, MISHNAIC HEBREW, JERUSALEM

THE NOUN PHRASE IN HEBREW IS DESCRIBED IN TERMS OF ITS "TRANSFORMATIONAL" HISTORY. THE NOUN PHRASES OF HEBREW ARE CLASSIFIED ON THE BASIS OF TYPES OF ADJACENT, OR MODIFYING STRUCTURES WITHIN THE NOUN PHRASE. GRAMMATICAL RULES ARE FORMULATED TO RESOLVE PROBLEMS OF SENTENCE AMBIGUITY, THE RELATIONS BETWEEN CERTAIN SENTENCE STRUCTURES, AND PROBLEMS INVOLVING STRETCHES OF SENTENCES. THE STUDY SHOWS THAT DISCOURSE ANALYSIS IS ABLE TO EXPLAIN SUCH PROBLEMS IN HEBREW AS RELATIONS OF ANTECEDENCE AND GRAMMATICAL AGREEMENT ACROSS SENTENCE BOUNDARIES. (KL)

ERIC

THE NOMINAL PHRASE IN MODERN HEBREW **AL 000 029**  
PART I - INTRODUCTION AND ARTICLE

BY

**UZZI ORNAN**

**APPLIED LOGIC BRANCH  
THE HEBREW UNIVERSITY OF JERUSALEM**

**U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE  
OFFICE OF EDUCATION**

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE  
PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS  
STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION  
POSITION OR POLICY.

**TECHNICAL REPORT NO. 18**

THIS REPORT WAS PREPARED FOR THE

**U.S. OFFICE OF NAVAL RESEARCH, INFORMATION SYSTEMS BRANCH**

**UNDER CONTRACT NO. 62558-3882, NR 049-130**

**JERUSALEM, ISRAEL**

**MAY 1965**

**AL 000 029**

ED011644 I

**THE NOMINAL PHRASE IN MODERN HEBREW  
PART I — INTRODUCTION AND ARTICLE**

**BY**

**UZZI ORNAN**

**APPLIED LOGIC BRANCH  
THE HEBREW UNIVERSITY OF JERUSALEM**

**TECHNICAL REPORT NO. 18**

**THIS REPORT WAS PREPARED FOR THE**

**U.S. OFFICE OF NAVAL RESEARCH, INFORMATION SYSTEMS BRANCH**

**UNDER CONTRACT NO. 62558-3882, NR 049-130**

**JERUSALEM, ISRAEL**

**MAY 1965**

## PREFACE

This report consists of the first two chapters of a more extensive study that was written as a doctoral dissertation during the period of 1962-63, and was submitted to the Senate in the original Hebrew version in January, 1964.

A revised version of the whole dissertation will be published shortly in English. In addition to the material presented here, it will deal with other kinds of nominal adjuncts listed in the Table of Contents, i.e., adjectives, possessive pronouns, post-head nominatives (/somek/), prepositional phrases, the head noun (/nismak/) of nominal constructs (/smikut/), appositives and adjunct clauses.

The following system of transcription was used:

א	/ʔ/	ז	/z/	מ	/m/	ק	/q/	א, אֲ, אִ, אֵ, אֶ, אֹ, אֻ	/a/
ב	/b/	ח	/x/	נ	/n/	ר	/r/	אֵי, אֵיִ, אֵיִי, אֵיִיִ, אֵיִיִי, אֵיִיִיִ	/e/
ג	/g/	ט	/t/	ס	/s/	ש	/ʃ/	אֵי, אֵיִ, אֵיִי, אֵיִיִ, אֵיִיִי, אֵיִיִיִ	/i/
ד	/d/	י	/y/	ץ	/ʕ/	ת	/t/	אֵי, אֵיִ, אֵיִי, אֵיִיִ, אֵיִיִי, אֵיִיִיִ	/o/
ה	/h/	כ	/k/	פ	/p/			אֵי, אֵיִ, אֵיִי, אֵיִיִ, אֵיִיִי, אֵיִיִיִ	/u/
ו	/v/	ל	/l/	צ	/c/				

The Hebrew "shwa" is not indicated by a separate symbol, as the above form of transcription is essentially a phonological rather than a phonetic representation. Moreover, (1) a word-initial vowel indicates that the Hebrew word begins with א ("aleph"). /ʔ/ has been indicated only in word-medial position, where its function may be described as that of 'separator', that is, a symbol indicating a pause in breath between what

precedes and follows it, such as in /nir<sup>ʔ</sup>a/ 'appeared, was seen', /m<sup>ʔ</sup>od/ 'very', /dó<sup>ʔ</sup>ar/ 'mail', /ne<sup>ʔ</sup>xaz/ 'is held'. [Unfortunately, a number of errors in this connection occur in this text; some 10 words beginning with the letter "aleph" are transcribed, quite redundantly, with an initial /ʔ/, while three words with medial "aleph" are mistranscribed without any /ʔ/. These latter should be transcribed as: /yisra<sup>ʔ</sup>el/, p. 32; /ha<sup>ʔ</sup>élle/ and /ha<sup>ʔ</sup>éllu/, p.26.] Word-final  $\aleph$  is not indicated, either; its occurrence in this position may be inferred, for purposes of regular orthographic representation, from other forms occurring in the same paradigm, for example:

/yaca/ = $\aleph\aleph$ '	by /yac <sup>ʔ</sup> u/ = $\aleph\aleph$ '
'he went out'	'they went out'

Two consecutive vowels without any separator (that is, /ʔ/) represent a transition from one vowel to the next without any breath pause in between, as in /maptéax/ 'key'.

(2) The three plosive consonants /p, k, b/ are phonetically manifested as the corresponding fricative - that is /f,  $\chi$ , v/ respectively - where the former occur in post-vowel position, and are not transcribed as geminities, and when they occur after a consonant which begins a syllable. Thus

/dabar/ → [davar]	/dbarim/ → [dvarim]
/yosep/ → [yosef]	/mazlpim/ → [maz-lfim]

The fricative variant is generally also used when the consonant occurs word-medially following /ʔ, h, ʕ/ (and sometimes also /x/). In other cases, not specified here, where the fricative variant occurs, the corresponding symbol is indicated as follows:

/p, k, b/), e.g: /malkut/ → [mal $\chi$ ut].

(3) A consonant transcribed as a geminite is pronounced as the corresponding single symbol, e.g.: /dabbar/ → [dabar]. /sammal/ → [samal].

(4) The phonetic interpretation of most other symbols does not require further explanation, although the following should be noted:

/v/ - is generally pronounced as labio-dental [v], though in certain dialects it may be bilabial [w].

/x/ - some Hebrew speakers pronounce this as the aspirated pharyngeal [ħ], that is, Arabic ح; others pronounce it as the voiceless velar fricative [x], that is, they make no phonetic distinction between the fricative variant of /k/. (see (2) above) and the /x/.

/ʕ/ - those speakers who pronounce /x/ as [ħ] generally also pronounce the /ʕ/ ("ayin") as Arabic ع. Otherwise it is pronounced the same as the separator /ʔ/.

q - Generally /q/ is pronounced as [k].

(5) /a/ takes the form of a low vowel; /i, o, u/ generally correspond to their phonetic counterparts on the cardinal vowel chart; /e/ is pronounced approximately as [ɛ] in most dialects, though some speakers make a predictable phonetic distinction between /e/ as [ɛ] and as [e] - again, the two cardinal vowels.

(6) Word stress occurs on the final syllable. In words where some other syllable, and not the last, is stressed, the vowel of the stressed syllable is indicated by  $\acute{V}$  (where V stands for "vowel").

# ERRATA

	<u>in place of</u>	<u>read</u>
Page 5, 7th line		
from bottom ...	/maptex/	/maptéax/
Page 5, 3rd line		
from bottom ...	/bet sedq/	/bet sédeq/
Page 5, 3rd line		
from bottom ...	/bzedq/	/bcédeq/
Page 25, 5th line		
from top ...	/ókal/	/ókel/
Page 31, 5th line		
from bottom ...	/ʔefráyim/	/ epráyim/



## INTRODUCTION

1.1 The "Full-Stop" as the Boundary of Syntax

People do not generally string only words together when they talk, but sentences as well. Even when more than one person does the talking, a conversation will be made up of sentences that are in some way inter-related and follow on from one another. Scholars in ancient times were evidently aware of this aspect of language behaviour: they did not confine their linguistic writings to questions concerning phonetic features of sound; to matters of word morphology and the inter-relations of words with the same roots, patterns<sup>1</sup> or meanings; or different conceptions of sentence analysis and prescriptive statements about sentence construction. Their work also offers comment and instruction on oratory and the art of writing.

Yet the more extensive the scope of subject-matter that such writings attempt to cope with, the more broad and sweeping is their treatment. For it is obviously easier to classify and describe a restricted number of sounds than to specify rules about patterns of the verb or noun; and morphological changes visible within single words are more readily analysable than syntactic relations that are not morphologically manifest in the isolated word.<sup>2</sup>

It is thus understandable that linguists, engaged in a field that over the past few decades has acquired the character of as "exact" a science as possible, set the bounds of "grammar" at incorporating phonology, morphology and sentence-structure; formal composition and the art of rhetoric were not regarded as part of their scientific field of interest. Concern with such matters was judged to be extra- or even



pseudo-scientific. Whoever engaged in the study of syntax came to consider the sentence final full-stop as marking the boundary of his field of enquiry. Anything beyond that point was relegated to another domain, as it were. Yet this other domain was concerned primarily with the effect, either logical or emotive, that a piece of discourse might have upon its readers or hearers; and exponents of this domain were, consequently, interested chiefly in the literary merits, the logical construction, or the emotive value of any composition, rather than its linguistic properties, as such. The result was that the problem of inter-relations between sentences - adjacent or discontinuous - and of the inter-dependence of forms occurring in two or more sentences at a time, was avoided; these matters lay outside the realm of syntax, for they involve more than a single sentence at a time; and insofar as such questions were of some concern to scholars of composition and rhetoric, they remained unrelated to consideration of linguistic or grammatical categories.<sup>3</sup>

Yet if one considers a sequence of sentences constituting some single unit, it is quite apparent that the kind of relations which hold between items occurring in two or more separate sentences are in fact grammatical. In some cases, they are essentially the same as inter-relations obtaining between items which occur within a single sentence. Thus, for example, in: "Come, let us deal wisely with them" (Exodus, 1:10), the pronoun "them" is determined by the occurrence of "the people of the children of Israel" in the preceding verse. Were the pronoun "her" or "him" to appear, the error would be one of grammar: this is, of course, an instance of grammatical concord, just as one gets concord between subject and predicate within

a single sentence ("a man was" and not \**"a man were"* or between modifier and noun in "that man" and not \**"those man"*).

There are also other types of grammatical relations between different sentences, not necessarily found within one and the same sentence. Thus, for example, at the beginning of the Book of Job, one finds: "And that man was pure and righteous". The demonstrative pronoun "that" (and in Hebrew, the definite article preceding "man" /ha + *ʔiʃ*/) would not have been used had this sentence not ensued from the sentence before.<sup>4</sup>

Agreement of person, gender and number, demonstrative and other pronouns, the use of the definite article, and so on and so forth, are all conditioned by the ~~inter~~-relation of sentences following one another in the stream of speech (or writing). And this is true, as was mentioned before, not only in the case of a single speaker or of monologue, but in the case of conversation between two or more persons as well. Yet theories of syntax and grammar that we are familiar with fail to incorporate such problems, or they do so inadequately; these questions are regarded, rather, as belonging in part to the study of Logic. Conventional grammars and linguistic analyses do not for the most part provide a systematic characterisation of grammatical agreement between particular elements in a sentence or with elements in other sentences; they do not even prescribe patterns of usage for demonstratives or personal pronouns where the latter occur outside the sentence containing the words they refer to.<sup>5</sup>

One major shortcoming of current approaches to syntax, then, is the tendency to come to a full-stop at the end of every sentence.

## 1.2 Regularly Related Sentence Structures

People speaking a certain language find it quite easy to detect a certain set connection that some structures bear in relation to others in their language. In terms of morphology, for instance, speakers of different languages have an intuitive sense of the regular inter-relation of forms in the singular and plural, masculine and feminine, first, second and third person, past and future, and so forth. And the traditional textbook grammars of such languages reflect this intuition in the form of plain, straightforward rules. This is not the case, however, with other aspects of language structure. Native speakers (of Hebrew or English in this instance) are aware that there is some set relationship between such utterances as "Isaac called Esau, his older son" and "Esau, Isaac's older son, was called to him"; or between "the mother fed the child an apple" and "the child ate an apple" (in Hebrew, "eat" and "feed" are derived from the same root, /kl/, occurring in the two different patterns of /paʕal/ and /hipʕil/ as /ʔakal/ and /heʔkil/ respectively). Yet the study of grammar gives up at this point: it fails to establish rules formulating the inter-relations of such pairs of sentences: nor is it seriously concerned with the question of whether rules could be formulated so that one member of the pair can be automatically derived from the other. This area of language structure is left, as it were, to the speaker's "Sprachgefühl". Syntax will go only so far as to comment on the structure of each sentence separately. Yet if such sentences are in fact associated with each other in some set fashion, and if the transition from one sentence to the next occurs in some special way, then it seems reasonable to expect a grammar to include some

component which would explicitly aim to characterise just such transitional relations.

### 1.3 Interpretations of Ambiguity

Ambiguous utterances are almost a commonplace in language. As long as one is concerned solely with describing the facts, so to speak, one need do no more than simply indicate that a certain construction is as such "ambiguous". Yet the science of linguistics is not concerned merely with a description of the facts: the linguist is obviously interested in finding out what underlies the "fact" that in a certain phase of language, one and the same token happens to duplicate something quite different in another phase. In other words, what he will try to do is to somehow account for the sequence of events leading up to such identity of outcome.

Thus, for example, in terms of semantics the linguist will inquire into the meaning of a certain noun-pattern, in attempting to ascertain why a particular word no longer shares that connotation. (e.g: How does the Hebrew word /malben/ 'rectangle' fit into the pattern for words which generally denote a type of instrument - such as /maptex/ 'key', /masmer/ 'nail', or /mašder/ 'hoe'?). He may decide that a lexical ambiguity such as /cbi/ - 'deer' or 'beauty' - derives from the phonetic merging of what were originally two distinct Semitic consonants (/t/ and /d/); while a modern form such as [betsédek] ('rightly' and '(voice)box') may be derived from either the underlying form /bet sedq/ or from /bzedq/. From the point of view of morphology, the linguist may refer to paradigm-membership distribution and morphophonemic rules in solving a problem of ambiguity such as:

/xol/ - 'weekday' as in /xol hammo ʕed/ and 'sand' as in /xol hayyam/:

/xolot/ - /xol/ → xol  
 /xullin/ - /xell/ → xol

Alternately, he may find a clue in an immediate-constituent type analysis, in the case of an ambiguous phrase such as /ʕal yadi/ :-

/ ( ʕal + (yad + i) )/ - /( ( ʕal + yad) + i)/  
 'on            my hand'                                'next to me'

or

/(mo ʕécet + (hammdina hazzmannit) )/ - /(mo ʕécet + hammdina) + hazzmannit)  
 'council of the temporary state'            'the temporary council of state'

directly corresponding to the English:

(the (temporary state)) council) - (the (temporary (state council)))

Conventional grammar thus appears able to account for numerous instances of ambiguity quite adequately; yet there are numerous others that it cannot handle. Thus, for example, the following sentence is ambiguous:

/ hacciyyur                                bakkitta                                msa ʕmem /  
 'the painting                                in the class                                is boring'

for it may mean either:

- (i) 'the painted picture hanging in the class(room) is a boring picture'
- or (ii) 'the lesson in which the pupils paint in the class(room) is a boring lesson'



Such ambiguity cannot be accounted for in the framework of conventional grammar; some would simply approach it as a problem of lexical ambiguity. Yet if a considerable number of words of this pattern (as well as large numbers of words in certain other patterns, too) share a similar sort of ambiguousness,<sup>7</sup> linguistic analysis is obliged to consider the problem in terms of grammar, not of lexis, for it follows that one can establish grammatical rules to account for all such cases.

The inadequacy of a conventional approach in this connection is demonstrated in a case such as the following. A particular syntactic rule can be applied in order to combine two sentences sharing the same constituent into one composite sentence. Thus, for example, the two sentences given below can be combined into a single sentence.

(1) /hacciyyur	bakkitta	nimsak	š 'atáyim/ +	
'the painting	in the class	lasts	two hours'	
/hacciyyur	bakkitta	mistayyem	bša 'a	šes/ →
'the painting	in the class	ends	at (the) hour	six'
/hacciyyur	bakkitta	nimsak	š 'atáyim	v mistayyem bša 'a šes/
'the painting	in the class	lasts	2 hours	and ends at (the)hour six'

(That is, they would yield the Hebrew equivalent of: 'The painting lesson (which takes place) in class lasts for two hours and ends at six o'clock').

(2) /hacciyyur        bakkitta        taluy        mul        haxallon/        +  
       'the painting        in the class        hangs        opposite        the window'

/hacciyyur        bakkitta        ne ʔ xaz        bšne        masrim/        ⇒  
       'the painting        in the class        is held        by two        nails'

/hacciyyur        bakkitta        taluy        mul        haxallon        v        ne ʔ xaz        bšne        masrim/  
       the painting        in the class hangs opp. the window and is held by two nails'

Yet conventional syntax does not explain why certain other combinations of these sentences are impossible, as for example, in

\*/hacciyyur        bakkitta        nimšak        š ʔ atayin        v        taluy        mul        haxallon/  
       'the painting in the class        lasts        2 hours        and hangs opposite the window'

or

\*/hacciyyur        bakkitta        ne ʔ xaz        bšne        masrim        v        mistayyen        bša ʔ a        šeš/  
       'the painting in the class is held by two nails and ends        at (the) hour six'

for it fails to provide a rule classifying /ciyyur/ as two distinct items in the grammar of the language; and hence it is unable to demonstrate the fact that the two components of the asterisked pairs of sentences above do not contain a common constituent.

These and other similar problems are not resolved by immediate constituent (IC) analysis, either. The inability of IC analysis to handle such problems is



elaborated on in connection with a specific problem dealt with later in this study.

#### 1.4 Transformational Approach to Syntax

Some ten years ago, a new school of linguistic thought began to emerge in the United States: in terms of this approach, an adequate theory of language is conceivable only if traditional-type analysis is supplemented by a further component - that of transformational grammar. This theory, which was first formulated by Noam Chomsky, derives in part, according to Chomsky, from the attempts of Zellig S. Harris (under whom Chomsky studied) to engage in syntactic analysis of the paragraph.<sup>8</sup>

Chomsky maintains that IC analysis is adequate for only a limited range of sentence structures (referred to as "base sentences" in the present context<sup>9</sup>). He points out that an IC analysis of the constituents of a sentence can be represented in the form of a "tree" diagram. Yet not all sentence structures can be accounted for by this method. For example, the ambiguity in /hacciyyur bakkitta/ remains unresolved: a single tree will have to be used to represent both interpretations.<sup>10</sup>

Chomsky argues that linguistic structure can only be properly accounted for by viewing all sentences other than the "kernel sentences" as transforms of the kernel.<sup>11</sup> Thus, for example, he characterises a passive sentence as the transform of an active sentence, demonstrating how the latter can be transformed so as to yield its passive counterpart.<sup>12</sup> This operation, like other transformations, is specified in precise and formalised terms, so that once applied, the passive form is mechanically derived from it.

Such a transformation moreover provides an account of what underlies the

native speaker's intuitive sense of the inter-relations of different sentences: in general, these are sentences that represent different outcomes of the same source-sentence or sentences, or else one of them is a source-sentence and the other is its transform.

Transformational theory also enables one to tackle the problem of the syntactic structure of a stretch of utterances. The job of the grammarian need no longer come to a "full-stop" at the end of a given sentence. It becomes possible to conduct one's analysis in terms of an opening sentence or a follow-on sentence, the latter being associated with a set of rules that characterise its relation to the sentence preceding it. By approaching any sentence in a stretch of utterances in terms of its grammatical inter-relations with the sentences that precede and follow it, one can specify rules of grammar that account for the use of the definite article, personal pronouns, various demonstratives, and so on.

This notion may be briefly illustrated as follows. The sentence /hacciyyur bakkitta mša<sup>v</sup> mem/ is not a base-sentence, but is derived transformationally from two sentences combining into one. And it is ambiguous just because it can be derived from different base-sentences, as follows:

(1) /bakkitta mcayyrām ; ze mša<sup>v</sup> mem/ ⇒  
 'in the class (they) are painting; it is boring'

/hacciyyur bakkitta mša<sup>v</sup> mem /  
 '(the) painting in (the) class is boring'

(2) /bakkitta      yes<sup>v</sup>      ciyyur;      hu   mša<sup>v</sup> ʕmem /  $\Rightarrow$

'in the class there is a painting; he\*is boring'

/hacciyyur      bakkitta      mša<sup>v</sup> ʕmem /

'(the) painting in the class      is boring'

\*(Hebrew /hu/ = 'he' and 'it', the personal pronoun in the third person singular masculine, agrees with the masculine noun /ciyyur/; here /ze/ is a pronoun which refers back to a preceding sentence, rather than to a particular constituent.)

In other words, the ambiguousness of /ciyyur/ has its origins in grammar, and it is thus in no way a problem of lexis (even though the fact that it is ambiguous may obviously be indicated in an ordinary dictionary, too). What has happened here is that a single form is derived by means of two separate sentence transformations; and in order to properly account for what underlies the ambiguity, it is necessary to establish the sentences that it is derived from, and what type of transformation it has undergone.<sup>13</sup>

Thus, transformational theory is capable of solving all the problems outlined above: not only are ambiguities explicated, but the relations obtaining between certain sentence structures as well as problems concerning a stretch of sentences can all be formulated by grammatical rules.

### 1.5 The Noun Phrase - Head and Adjunct

The present study aims to characterise the Noun Phrase in Hebrew in terms of its derivational "history": in other words, to formulate a transformational grammar of Hebrew noun-phrases. In this context, the term "noun phrase" (henceforth: NP) refers to an endocentric phrase with a noun head<sup>14</sup>.

The question, then, is whether the adjunct may be considered as part of a certain base-sentence, and if not - how it combines with a noun to form an NP. There is also the question of the different grammatical structure of nouns forming the head element of NP constructions,<sup>15</sup> such as in the examples cited earlier (for instance, the ambiguousness of 'painting', or 'smoking' vs 'smoke'). As it is the adjunct element, however, that is the main determiner of the structurally distinct character of different types of NP, the analysis that follows is organized on the basis of different classes of adjuncts. Different types of NP heads will be considered only in instances where such an analysis is necessary in order to characterize a particular kind of NP construction. (This occurs particularly in the case of "action-nouns", as dealt with in Chapters III and IV below, and elsewhere.

Our analysis will proceed according to the following sequence, the chapters being divided in terms of type of adjunct. Noun Phrases where the adjunct is:-

- (i) an article;
- (ii) an adjective in post-head position;
- (iii) a possessive pronoun in post-head position;
- (iv) a noun in post-head position, where the head-noun is in construct state;<sup>16</sup>
- (v) a prepositional phrase, in post-head position;
- (vi) a noun in construct state, in pre-head position;<sup>17</sup>
- (vii) an appositive noun;
- (viii) a subordinate clause, in post-head position.

These chapters will be concerned with the underlying forms of the different adjuncts, in an attempt to formulate transformational rules characterising their

derivations. It should be noted from the outset that the basic assumption underlying our entire analysis is that all cases of adjunct, except article, are not part of a base-sentence, but that they are obtained as expansions of base-sentences by the application of transformational rules.

This assumption has obvious advantages: in the first place, it allows for a virtually uniform characterisation of the derivational history of most classes of adjuncts; and, secondly, it enables one's entire analysis to proceed from one single base-sentence structure. This structure will be formulated as follows:

$$(1) \quad S \longrightarrow N^* + VP$$

$$(2) \quad N^* \longrightarrow (I)(T+) N$$

$$(II) \quad N_{\text{prep}}$$

Where S = sentence

VP = verb phrase

T = article

N = common noun

$N_{\text{prep}}$  = proper noun

(-) = optional (The occurrence of the symbol may depend on rules to be explained later).

The occurrence or non-occurrence of T before N is specified in nearly all instances by rules formulated later in this description.

We shall attempt to expand this base-sentence, initially by means of PS (phrase-structure) re-write rules (marked by  $\longrightarrow$ ), and subsequently by various transformational operations (marked by  $\implies$ ), in order to show how different adjunct-classes derive from a single S or from a sequence of such S's.



## NOTES

<sup>1</sup> The term pattern is used throughout to refer to the notion of /mišqal/ in Hebrew - i.e., a group of words sharing the same phonological features of syllabicity, stress-position and vowel distribution. Members of the same /mišqal/ differ almost exclusively in their consonantal constituents.

<sup>2</sup> Syntactically conditioned case declensions, such as occur in Latin, for example, were the subject of detailed and elaborate analyses, which in turn implied consideration of problems of syntax. In the case of Hebrew, however, where syntax has relatively little effect on word-morphology, questions of syntax failed to form the subject of independent study. And the work of the ancient Hebrew grammarians, concerned as they were chiefly with questions of phonology and morphology, contains comparatively slight reference to matters of syntax.

<sup>3</sup> Some attention was occasionally accorded to a few specific structures that had particularly evident inter-relations within an extended utterance (for example, double conditionals and compound sentences). In his discussion of the scope of syntax in The Grammar of Mishnaic Hebrew, M.Z. Segal does not so much as mention the question of whether syntax should go beyond the bounds of the "full-stop". And even S.Z. Harris says the following in his Methods in Structural Analysis (first published 1947): "Stretches longer than one utterance are not usually considered in current descriptive linguistics ... the linguist usually considers the interrelations of elements only within one utterance at a time ..." (quoted from the 1951 edition, Structural Linguistics, p. 11). Yet see, too, n.5 below.

<sup>4</sup> Irrespective of whether the "preceding sentence" was stated explicitly, or merely by implication as a "background-sentence". This distinction is discussed at greater length later in this study. The point we wish to make here is that the instances cited by Bloomfield, for example, (Language, p. 203) constitute relations that are in fact linguistically determined; and the problem thus does not lie "outside the linguist's scope", as he would maintain. In contrast to this approach, Beverley Robbins, for example, makes an explicit attempt to incorporate "external" elements within the domain of linguistic analysis. See "The Transformational Status of the Definite Article in English", Transformations and Discourse Analysis Projects No. 38, University of Pennsylvania, 1961-62, p. 9.

<sup>5</sup> The first explicit inquiry into such problems seems to be the work of Z.S. Harris in "Discourse Analysis", Language Vol. 28, 1952, pp. 1-30; 474-494. See also his more recent series Discourse Analysis Reprints, Mouton, The Hague, 1963.

<sup>6</sup> In both cases, (i) 'The painting in the class(room)' and (ii) 'Painting in class' the definite article is used in Hebrew.

<sup>7</sup> In Hebrew, as in other Semitic languages, words belonging to the same "pattern" (see n.1) are characterised by semantic as well as formal similarity. Thus, for example, nouns in the pattern of /ciyyur/, which denote action, frequently have other denotations, too (e.g.: /dibbur, sippur, piqqud / ).

<sup>8</sup> See Neam Chomsky, "A Transformational Approach to Syntax", Third Texas Conference on Problems of Linguistic Analysis in English, Austin, Texas, 1962, p.124.



<sup>9</sup> These, of course, correspond to what are generally referred to in the literature as "kernel sentences". The latter term, which has been subject to somewhat varied interpretations, is purposely avoided here.

<sup>10</sup> Traditional clause-analysis is, similarly, no other than a "tree" type of description:-

<u>Subject</u>		<u>Predicate</u>	
	<u>modifier</u>	<u>verb</u>	<u>modifier</u>
hacciyyur	bakkitta	msa <sup>5</sup> mem	m <sup>2</sup> ed

<sup>11</sup> This is, of course, in no way, a precise characterisation of the theory, but it will suffice for present purposes. One might also note here, however, that Chomsky draws a distinction between the products of obligatory as against optional transformations, the former applying to the domain of kernel sentences. See Syntactic Structures, p.45. In this study, we distinguish between a "base" or primitive sentence, which is not the product of some transformation, and a "source" sentence, which may or may not be a base-sentence, just in case it is the "source" of some other sentence.

<sup>12</sup> See Syntactic Structures, p.42, ff.

<sup>13</sup> Those adhering to the IC school of analysis would have no way of doing just this. Even when such underlying features are differently manifested, their analysis will lead them to the same results. For instance, the following two base-sentences can undergo a general transformation, as follows:

I smoke; it is bad for me  $\implies$  Smoking is bad for me. And the following two sentences will undergo a corresponding transformation:

There is smoke; it is bad for me.  $\implies$  Smoke is bad for me. The grammatical structure of "smoking" as against "smoke" (Hebrew: /haššun/ and hešāšan/) is not relevant in the tree-representation, which will yield the same results for both.

<u>Subject</u>	<u>Predicate</u>		<u>Subject</u>	<u>Predicate</u>
Smoking	is bad for me	<u>vs</u>	Smoke	is bad for me

It follows that the fact that /ciyyur/ represents a single manifestation of two nouns that are grammatically distinct is insignificant for IC-type analysis.

<sup>14</sup> The term "endocentric" is used here in the sense applied by Bloomfield (Language, p. 194). See, too, Hockett, A Course in Modern Linguistics, p. 184. This notion is given a different, semantically-oriented, interpretation by Jespersen (Philosophy of Grammar, p. 116).

<sup>15</sup> This forms a central topic of concern in R.B. Lees' Grammar of English Nominalizations, 1960 (2nd printing, 1963).

<sup>16</sup> "A noun in construct state" refers to the first of two nouns forming a "nominal construct" in Hebrew (that is, /smikut/). The form of the construct-state noun (the /nismak/) is generally morphologically determined; but its occurrence as either the head (as in (vi) above) or adjunct (as in (iv) above) element of NP is syntactically determined, as we shall try to show.

<sup>17</sup> This heading also includes non-construct state adjuncts (that is, non /nismak/) which precede the head in NP.

## ARTICLES

2.1 The definite article invariably occurs in conjunction with a noun, producing an NP with the noun as head and the article as adjunct. Hebrew grammarians tend to restrict the notion of "article" /tavit/ to the definite article alone (that is /ha/). And in fact, a non-definite noun in Hebrew generally occurs without any article, so that the definite/non-definite distinction is likely to be manifested as a contrast between /ha/ and zero.

Yet one needs to take account, too, of such expressions as *ʔiš exad/* denoting 'one man', or 'a man', or */yalda axat/*, which denotes either 'one girl', or 'a girl', contrasting with */haʔiš/*, 'the man', and */hayyalda/*, 'the girl', respectively. In other words, the distinction between definite/non-definite is also manifested in the contrast between /ha/ = 'the' and /exad/ = 'one' or 'a'.

The word /exad/ (both in its singular and plural forms, as stated later) when occurring as a noun-adjunct, is thus ambiguous: it may function as an adjunct (in the classical sense of a quantitative adjunct as discussed in Chapter 7) or as an article. The fact that /exad/ may be considered as a quantifying adjunct has meant that grammarians tended to disregard its properties as an indefinite article, particularly in view of the fact that its occurrence as an article is optional and not, as in languages such as English, obligatory.

2.2 The question then is how the article is derived, and whether /ha/ has a different derivational history from that of /exad/. The solution is suggested later (rules no. 6-15), since several expansions of base-sentence (1), should precede it.

$$(3) \quad N^* + VP \longrightarrow N_i^* + VP_i$$

$$(4) \quad i \longrightarrow ms, mp, fs, fp$$

$i$  here represents an index of gender and number for  $N^*$  or for  $VP^1$ . The symbols used here are: m - masculine, f - feminine, s - singular, p - plural. Virtually all Hebrew nouns have a different form in the singular and plural<sup>2</sup>, while any noun is generally either masculine or feminine (Hebrew having no category corresponding to neuter gender.)

Rule (3) is the Concord-Rule, which states that the  $N^*$  and VP of any sentence share the same index of gender and number. We shall see, at a later stage of this work, that in a transformational grammar the rule given here will apply to all the remaining cases of concord between different elements in Hebrew sentences<sup>3</sup>. It should, however, be noted that formal concord between masculine and feminine or singular and plural is in some cases violated, mainly for semantic reasons.<sup>4</sup>

2.3 We should now develop the VP element of S

$$(5) \quad VP \longrightarrow (I) \text{ haya, } yeš^5, V_o (+R_{opt} + N)$$

$$(II) \text{ haya} + A, (hu +) A$$

$$(III) \text{ haya} + N, (hu +) N$$

(IV) haya + l + N, yeš + l + N

(V)  $V_{1,2 \dots n} + R_{obl} + N (+ R_{opt} + N)$

where:  $V_o, V_{1,2 \dots n}$  = a finite verb, as explained in 2.4 below.

A = an adjective, such as /yaroq/ 'green'; /xivver/ 'pale'; /gamur/ 'absolute', 'finished'; /mšubbax/ 'superior'; /mubhaq/ 'conspicuous'; /margiz/ 'annoying';

$R_{opt}, R_{obl}$  = a preposition, as explained in 2.4 below.

2.4 There is an extensive tradition of semantic and quasi-semantic considerations underlying the conventional classification of verbs into transitive and intransitive.<sup>6</sup> This distinction has been given different interpretations at different times and in relation to different languages. With respect to Hebrew, at all events, where the distinction between "direct" and "indirect" object is meaningless<sup>7</sup>, the definition of a transitive verb as one that is followed by a direct object - with other verbs being defined as intransitive by contrast - simply does not apply.

The truly relevant distinction is a strictly syntactic one, in terms of the following criterion: whether the verb standing alone without any sort of supplement<sup>8</sup> (an "absolute" verb) can combine with N to form a complete sentence, or not.<sup>9</sup> A verb that can combine with N in such a way is an intransitive verb; a verb requiring some supplementary element in order to form a sentence with N is a transitive verb.  $V_o$  in Rule 5 (I) is thus an intransitive verb, for it can stand alone in combining with N to form a sentence, and what is added in parentheses is merely an optional supple-



ment; on the other hand,  $V_{1,2 \dots n}$  in 5 (V) is a transitive verb, for the supplementary element is obligatory, and not optional (though here, too, of course, the element in parentheses may or may not be added optionally).

It is thus the nature of whatever follows the verb (that is, the supplement) - whether optional or obligatory - that determines whether a verb is intransitive or transitive. We shall thus have to start by sub-dividing the supplement into two different types. A preposition (R) is accordingly defined for any given sentence as either  $R_{opt}$  (optional) or  $R_{obl}$  (obligatory). The verb of any given sentence can then be classified in terms of type of supplement, and in terms of the identity of the particular R (mainly  $R_{obl}$ , though see below with respect to  $R_{opt}$ ). Different classes of verbs are marked by index numbers as  $V_0$ ,  $V_1$ ,  $V_2$ , ...  $V_n$ .

$V_0$  is the symbol indicating verbs that occur in a sentence without any obligatory preposition following, such as /yašan/ 'sleep', /xašab/ 'think', /mad/ 'stand', /hexvir/ 'grow pale', /ʔakal/ 'eat', (in a restaurant, at home), etc.<sup>10</sup>  $V_1$  represents, for example, the class of verbs obligatorily followed by (that is, governing) the  $R_{obl}$  /el/ <sup>11</sup>, such as /hitkavven/ 'intend', /hityaxes/ 'refer', /xiyyek/ 'smile';  $V_2$  - those verbs obligatorily followed by /b/, such as /zilzel/ 'belittle', /hištammeš/ 'use', /sixeq/ 'play';  $V_3$  - those verbs followed obligatorily by /ʕal/ such as /xašab/ 'think of', /hitgabber/ 'overcome', /hispiáʕ/ 'influence';  $V_4$  - verbs followed by /axre/, such as /radap/ 'pursue', /xippes/ 'seek';  $V_5$  - verbs followed by /bipne/ such as /ʕamad/ 'confront';  $V_6$  - verbs followed by /min/, such as /ʔakal/ 'eat', /paxad/ 'be afraid', /hityare/ 'fear',

/nirta<sup>6</sup>/ 'recoil', /nasog/ 'retreat', etc.

That is, the re-write rules for different verb classes will be specified at the appropriate point in the grammar by approximately the following formulation:

$V_0 \longrightarrow$  /yašan/, /xašab/, /ʕamad/, /hexvir/, /ʔakal/, ...

$V_1 \longrightarrow$  /hitkavven/, /hityaxes/, /xiyyek/, ...

$V_2 \longrightarrow$  /zilzel/, /hištammeš/, /sixeq/, ...

etc.

The precise number of classes is not yet clear. It depends upon the number of prepositions that can occur as  $R_{obl}$ , and would have to be decided on the basis of a separate study.

Several verbs are obviously liable to occur in more than one of these listings, as is evident from the examples cited above as well (/xašab/, /ʕamad/). Once the re-write rules for the different classes of verbs are specified,  $R_{obl}$  will be re-written by the following rules:

- $R_{obl} \longrightarrow$
- (1) /el/ in env.  $V_1$
  - (2) /b/ in env.  $V_2$
  - (3) /ʕal/ in env.  $V_3$
  - (4) /axre/ in env.  $V_4$
  - (5) /bipne/ in env.  $V_5$
  - (6) /min/ in env.  $V_6$  , etc.



The re-write rules for  $R_{opt}$  will evidently be rather simpler, though it cannot be said that all of them occur after any  $V_0$  or after any construction of the form  $V_{1,2...n} + R_{obl} + N$ . Sub-classes of verbs need to be listed here, too, and, for example, a list of the verbs that can be followed by the non-obligatory preposition /el/ 'to' would not include a verb such as /yašan/ 'sleep'. We shall not be able to go into this question in the present context; we would merely note in passing that it appears that in terms of a classification such as this, groups of verbs that are semantically related share certain distinctly syntactic properties as well (this seems to be the case, for example, with "verbs of motion").<sup>12</sup>

A solution along these lines for the problem of "transitive" versus "intransitive" verbs appears peculiarly appropriate to Hebrew, where not only are there but a few words that can occur as an optional supplement without any preceding preposition (such as /šam/ 'there', /po/ 'here', /az/ 'then', /etmol/ 'yesterday' and /maxar/ 'tomorrow'); but moreover the obligatory supplement of the so-called direct object is indicated by a preposition, in the form of the word /et/ (see footnote 7).

## 2.5 "haya" and "yeš"

(a) "haya" = 'there + be + past + ms' and "yeš" = 'there + be + present', are referred to separately in the above formulas, even though in (I) they function precisely as  $V_0$ . On the other hand, in II, III, and IV, they have a different reference from that of  $V_0$ .

(b) In (II) and (III) /haya/ functions as a tense-indicating auxiliary. Where the tense is /hove/ (roughly corresponding to English "present", from which it differs in several senses), /haya/ is replaced by the personal pronoun /hu/ = ms, 3rd person, which in turn may be deleted. Thus the parenthesis in (II) and (III) indicate freedom of choice for stylistic purposes, i.e., grammatical free variation..

(c) In (II) and (III) /haya/ may be replaced by a number of other auxiliaries, some indicating modality - such as /nir'a/ 'seem', /nexšab/ 'thought (to be)', 'regarded (as)', and some indicating aspect, such as /hitxil/ 'begin', or /na'sa/ 'become'. A complete grammar of Hebrew would need to specify a detailed list of such auxiliaries at this point.<sup>13</sup>

(d) (IV) formulates the particular function of "haya" and "yeš" when these are followed by the  $R_{obl} /1/$  to indicate possession. (Where  $\left\{ \begin{matrix} yeš \\ haya \end{matrix} \right\} + 1 + N$  corresponds to the English "N + have +  $\left\{ \begin{matrix} present \\ past \end{matrix} \right\}$  "). "yeš" is then the present form of the verb "haya" in this use (as well as in indicating the existence of N, in the sense of 'there + be', as in (I) above (see (a) above). In contrast to most Indo-European languages, the N in the VP (formula (IV)) indicates the possessor, while the first N (from Rule (1)) indicates the thing possessed.<sup>14</sup>

2.6 Now we come to T.

(6)  $T \longrightarrow (I) (1) X$

(2)  $X \longrightarrow ha + \text{---} ( + \left\{ \begin{matrix} hazze \\ hahu \end{matrix} \right\} )$

(II)  $exad + \text{---} (min + X_{mp})$ ,  
where  $\text{---}$  is filled by N.

As is apparent from what appears in parenthesis in (II), /exad/ will occur only in combination with a noun that may be used both in the singular and in the plural ( $X_{mp}$ ) in the same noun phrase (T+) N; it follows that /exad/ cannot be added to nouns indicating a substance that is uncountable or unspecifiable, such as /avir/ 'air', /ékal/ 'feed', etc. (cf. Jespersen, Grammar of English, Vol. III, pp.390 ff.), nor to a noun which has a different meaning in the singular to its meaning in the plural, e.g: /'ec/ 'tree' or 'weed' and /'ecim/ 'trees', or uncountable quantity of weed. Obviously, if the substance-noun also refers to one sort of that substance, and may thus also take the plural form, then it can also take /exad/ as well, e.g: /yáyin - yenet/ 'wine - wines'.

/exad/ = 'a', /hazze/ = 'this' and /hahu/ = 'that' are modified for gender and number as follows:

- (7) (I) hazze  $\longrightarrow$  ha  $\begin{Bmatrix} \acute{e}lle \\ zzet \end{Bmatrix}$ , in env. N  $\begin{Bmatrix} p \\ fs \end{Bmatrix}$  —
- (II) hahu  $\longrightarrow$  ha  $\begin{Bmatrix} hem \\ hi \\ hen \end{Bmatrix}$ , in env. N  $\begin{Bmatrix} mp \\ fs \\ fp \end{Bmatrix}$  —
- (III) exad  $\longrightarrow$   $\begin{Bmatrix} axadim, kamma \\ axadot, kamma \\ axat \end{Bmatrix}$ , in env. — N  $\begin{Bmatrix} mp \\ fp \\ fs \end{Bmatrix}$

The formulation of Rule (6) takes into account both articles, as mentioned in the introduction to this section. The optional addition of the demonstrative, represented in parentheses in formulation (6<sub>I</sub>), was included both for reasons of simplicity - to avoid adding another rule - and also because the demonstrative

has the effect of reinforcing the definite article /ha/. Moreover, Modern Hebrew has adopted from Mishnaic usage yet another form of definite determiner also involving the demonstrative "ze": instead of /hayyéled hazze/, one may also say /yéled ze/, both in the sense of 'this boy', thus omitting the definite article from both the noun and the demonstrative, while nevertheless retaining the definite reference of the phrase. That is

$$(8 - \text{opt})^{15} \quad ha + N_{ms} + hazze \longrightarrow N_{ms} + ze$$

The remaining forms making up the "ze" paradigm in this case (that is, without preceding /ha/), are as follows in Mishnaic Hebrew: fs: /zo/, p (m + f): /éllu/. In Modern Hebrew, /élle/ and /éllu/ are used interchangeably, as grammatically non-distinct, that is, either /élle/ or /éllu/ after "N" and either /haélle/ or /haéllu/ after "ha + N"), while one often finds - particularly in the spoken language - that /zot/ is used instead of /zo/ and vice versa, /hazzo/ (or /hazzu/) instead of /hazzot/.

2.7 The article "exad" (= 'one' , 'a') in fact occurs after and not before N, as does /ha/, and thus requires further specification, as follows:

$$(9) \quad \text{exad} + N + VP \longrightarrow N + \text{exad} + VP$$

The concord rules (3) and (7) obviously apply to (9) as well. However, in the case of Rule (9), "exad" does not include "kamma" = 'some', which invariably occurs in pre-N position.<sup>16</sup>

The forms /haya/ and /yeš/ = 'be' were represented above (2.5) as not necessarily sharing the syntactic properties of V. In the case of structure (5<sub>I</sub>), too, they

differ from  $V_0$  as follows: where the article of  $N$  is /exad/, the sentence occurs in the opposite order, as below:

$$(10) \quad (\text{exad}+) \ N + \text{haya, yeš} \longrightarrow \text{haya, yeš} + N (+ \text{exad})$$

2.8 Rule (6) specified the two alternatives for  $T$ , /ha/ and /exad/. The question then is what determines whether the definite or the non-definite article occurs. With regard to the latter, its occurrence was stated to be optional in our remarks at the outset of this chapter.

The use of the definite article is hard to specify in many languages, and it is common to supplement the rules characterising its usage by reference to "idiomatic expressions", such as do not lend themselves to generalisation. Moreover, one also needs to take into account the possibility that part of the rules governing its use are optional rules, appertaining to the realm of style (such as Rule(8-opt)). Similarly, certain of these uses are involved with problems that cannot be entered into at this stage of the analysis, such as questions of /smikut/ 'nominal constructs', complex sentences and so forth. Nonetheless, it would seem that some characterisation of numerous instances of the occurrence of the definite article may be specified even at this stage, as follows:

Where there is a sequence of two sentences,  $S_1$  and  $S_2$ , that is quite unrelated to any preceding utterance, and where the  $N$  of  $S_2$  is a second occurrence of the  $N$  of the opening sentence  $S_1$  (even though not necessarily with the same index number), then  $T$  of  $S_2$  can only be /exad/ (or zero), while  $T$  of  $S_1$  may be either /ha/ or /exad/, in terms that can be specified as follows:

$$(11) \quad \#(T+) N_1 + VP_1 / (T+) N_1 + VP_2 \# \Longrightarrow \#(\text{exad}+) N + VP_1 / T + N + VP_2 \#$$



where # represents the initial symbol of the first sentence or the final symbol of the last sentence in a sequence of sentences, and / represents the initial symbol for a sentence that is not the first, or the final symbol for a sentence that is not the last, in a sequence of sentences.<sup>17</sup>

The character of T in (11) is determined by the index number of the N, as follows:

$$(12) \quad T \longrightarrow /ha, \quad \text{in env. } N_s + VP_1 / \longrightarrow N_s + VP_2$$

$$(13) \quad T \longrightarrow /exad/, \quad \text{in env. } N_p + VP_1 / \longrightarrow N_s + VP_2$$

$$(14) \quad T \longrightarrow /ha/, /exad/ \text{ in env. } N_p + VP_1 / \longrightarrow N_p + VP_2$$

/exad/, obviously, takes plural form, where needed, in (13), (14), as specified by rule (7.III).

What the above rules indicate, then, is that the definite article occurs only when the same noun has been referred to in a preceding sentence, and only if the said noun indicates the same number of items as did its previous occurrence. That is the meaning of Rule (14): where  $S_2$  refers to the same number of items as were indicated in the  $N_p$  of  $S_1$ , then the  $N_p$  of  $S_2$  will be preceded by /ha/; if  $S_2$  refers to only part of the items indicated in  $S_1$ , then  $S_2$  will have the non-definite article /axadim/ (or /axadot/ depending on gender, or /kamma/) = 'some'.<sup>18</sup>

2.9 The above description accounts for a considerable proportion of the occurrences of the definite article; however, in relation to the simple sentence, what has been specified so far does not account for other instances where the definite /ha/ is used: for example, preceding nouns with "unique" referents, such as /haššémeš/, /hayyaréax/, haʕolam/, ('the sun', 'the moon', 'the world'); or, specifically-

known referents, such as /ha'árec/ = 'the land', i.e. Israel, /hayyam/ 'the sea', or /ha'ir/ 'the city'; or the occurrence of the definite article in indicating a class, e.g: /ha'adam/ (= 'Man', corresponding to French 'l'homme') /haqqáyic/ 'summer' (French 'l'été'), /hazz'ebim/ 'wolves'; or a substance, /haxómer/ '(the) material', /habbarzel/ 'iron', (French 'le fer'), /hammáym/ 'water', /ha'avir/ 'air'.

The difficulty here is that nouns such as these are definite in initial sentences, too, which are quite unrelated to any preceding utterance. Yet this unrelatedness to preceding utterances does not appear a valid criterion here, for the very fact that such referents are well-known or that their existence is recognized, indicates that some preceding utterance, which conveys such definiteness of reference, is in effect taken into account. Such an utterance is not, it is true, stated explicitly, yet it is agreed upon, so to speak, by both the speaker and the hearer. We shall thus propose to account for this feature as the outcome of a deletion transformation: under a certain condition, the  $S_1$  of (11) is omitted, so that only  $S_2$  is left, in which case  $S_2$  occurs as an "initial sentence"!

The condition referred to is that in  $S_1$ ,  $VP \rightarrow /haya/, /yeš/,$  that is,

$$(15) \# (T+) N_1 + haya, yeš / (T+) N_1 + VP_2 \# \implies \# T + N_1 + VP_2 \#$$

(15) is then an individual instance of (11), and in terms of the comment following (14), its T is specified as /ha/ in accordance with (12) or (14).

The T of (15) may, however, be /exad/ as well; for an  $S_1$  whose N is plural and whose VP is /yeš/ or /haya/ is no other than a "statement of existence" made with



reference to the  $N_p$  in general; but such propositions are generally not stated explicitly, on the assumption that the "fact" stated is universally known and accepted. Thus an  $S_1$  of this sort may also be deleted, even in cases where  $S_2$  refers to only one or part of the items referred to in  $S_1$ ; and then  $T \longrightarrow /exad/$ , by (13) and (14). Thus, for example, at the beginning of fables and legends one finds sentences such as  $/mélek\ exad\ he^{\text{b}}bir\ qol\ bmalkuto/$  'a (one) king made his voice heard in his kingdom';  $/ikkar\ exad\ hexli\ lharxib\ et\ mišqo/$  'a (one) farmer decided to expand his farm', and so on. These sentences, too, may be regarded as deriving from Rule (15), where  $S_1$  contained  $N_1$  in the plural.

# NOTES

<sup>1</sup> This i can, of course, be attached not only to N and VP alone, but to any other symbol and to any word, where necessary.

<sup>2</sup> An exception is /lišim/'bandit' (adopted in Hebrew from the Greek λῆστης) which takes the same form in singular and plural. In classical literary style, N<sub>prop</sub> occurs in singular form even when it has plural reference, as in /šne yosep ben šim'on/ 'two Joseph Ben (= the son of) Simeon', that is, 'two persons, each named Joseph Ben Simeon'. Yet proper nouns do occur in plural form both in the spoken and literary modern language, for example: /šte germányot/ 'two Germanies', /malkut šte sicílyot/ 'the kingdom of two Sicilies', /šloša šim'onim/ 'three Simeons'.

<sup>3</sup> This single rule would seem to eliminate the need for more complicated methods of description, being both simpler in formulation and wider in scope than, for example, the device of "long components". Cf Zellig S. Harris, Structural Linguistics, 1960, p. 322.

<sup>4</sup> Such cases are enumerated below:

- (1) personal names are used not in terms of formal indication (usually indicated by the suffix), but according to the sex of the person referred to (e.g: /tamaz/, /pura/, /šefráyim/, /xayyim/, /raxnim/); this is also the case with nouns indicating female animals or people, (e.g: /šem/ = 'mother' and /šaton/ = 'she-ass') that are regarded as feminine nouns;
- (2) a collective noun in singular form may occur in a sentence with a plural VP (e.g:) /šam/ 'nation', /qahal/ 'audience' or 'crowd'. At different historical

points in the language, the list of collective nouns subject to such non-concord tends to differ. The number of such nouns seems to have become somewhat more restricted in contemporary usage;

(3) nouns signifying the names of cities and countries are invariably feminine singular (e.g: /yisrael/ = Israel, /micráyim = Egypt, /arcot habbrit = the United States);

(4) nouns such as /elohim/ = 'God' and /b'alim = 'Baal' or 'owner' with plural form (indicated by the suffix /im/) occur in sentences with singular VP. Such occurrences, which are interpreted as cases of Pluralis Majestatis, are almost non-existent in modern Hebrew;

(5) the style of rabbinic literature in former times tended to disregard the rule of concord between masculine and feminine to a large extent, particularly where the N referred to an inanimate noun;

(6) formal non-concord, such as /lo haya máyim la'eda/ = '\*there was no waters for the people' or /vayyece moše v'ahron/ = '\*and there comes out Moses and Aaron', such as could be found in ancient writings, is very rare in modern literary usage; it does sometimes occur in the speech of people with non-Hebrew backgrounds, evidently by analogy with the concord rules of their native languages.

<sup>5</sup> /yeš/, which can stand alone as a full VP (in the sense of 'there is', 'there are') by Rule 5 (I), may take different forms to agree with the gender and number of the N, as follows: ms - yešno, fs - yešnah, mp - yešnam, fp - yešnan. These forms are but yeš is obligatorily yešno, yešnah, yešnam, yešnan, in env. ha + N — all optional, not obligatory. /haya/, on the other hand, takes different forms to agree with the gender and number of the N, as does any V, according to Rule (3).

<sup>6</sup> As illustrated, for example, in conventional textbooks for the teaching of grammar, where transitive verbs are described as those whose "action is transferred to someone or something else", while the action of intransitive verbs "ends with the doer of the action". Besides being based on a purely semantic criterion, this distinction is not nearly clear enough. Criticism of definitions along such lines is expressed by Jespersen in regard to direct and indirect objects (Philosophy, p. 158).

<sup>7</sup> Even where N functions as what corresponds to the direct object in other languages, it is preceded in Hebrew by a special preposition - /et/. It is true that /et/ is manifested only when N is definite; the non-occurrence of /et/ preceding a non-definite (or even a definite N in verse) can, however, be explained as the result of a deletion transformation.

<sup>8</sup> The word "supplement" is used to indicate whatever follows the head of VP within VP.

<sup>9</sup> See Y. Bar-Hillel, "A Quasi-Arithmetical Notation for Syntactic Description", Language 29 (1953), 47-58.

<sup>10</sup> The masculine singular form of the verb in past tense represents the base form of the Hebrew verb throughout. The infinitive form has in each case been retained in the English gloss.

<sup>11</sup> Prepositions occurring as  $R_{obl}$  are not glossed. See footnote 12.

<sup>12</sup> It is worth noting, too, that the outcome of this representation of prepositions may be reflected in dictionary usage as well:  $R_{obl}$  should be listed in dictionary entries for verbs all or some of whose occurrences appear in sentences with the structure 5 (V)

the same verb, of course, being liable to be followed by several different  $R_{obl}$ .

$R_{opt}$ , on the other hand, is generally not listed in the entries for verbs with which it may occur. Another consequence which should be manifested is that the dictionary entry of a preposition ought to give a definition for  $R_{opt}$ .  $R_{obl}$ , which obviously has no independent meaning, should then be defined by a list of all the verbs with which it co-occurs as  $R_{obl}$ , or, alternatively, full lists of verbs in each verb-class such as the above  $V_1$ ,  $V_2$ ,  $V_3$  etc., should be printed in the introduction of the dictionary, to be referred to in the context at each  $R_{obl}$  part of the entry.

<sup>13</sup> Some of these verbs occur in cases where the N or A is (or can be) replaced by an infinitive with /l/ = 'to', such as /carik lašuv/ 'have to return', /ʕatid lhikkaneš/ 'due to enter', /hitxil laléket/ 'begin to walk'.

<sup>14</sup> Nevertheless, in the spoken language it is quite common to hear the preposition /et/ - occurring as  $R_{obl}$  in formula (V) where the N is definite and functions as an Object - in formula (IV) as well, preceding N; e.g.: /haya lanu et hasséper/ '\*there was to us the book', instead of /hasséper haya lanu/, particularly where the N has the form of the demonstrative /ze/ 'it' - /haya lanu et ze/. Speakers using this form thus treat "haya + l" (and similarly "yeš + l") as V of formula (V). Yet if "haya" + l" is treated as a verb, it should be noted that it is morphologically distinct from all other verbs, in that the subject suffixes attaching to it are possessive pronoun suffixes and not the regular suffixes for verb subjects.

<sup>15</sup> Rule numbers followed by the symbol "-opt" indicate optional transformations.

<sup>16</sup> It should be noted that in spoken Hebrew (particularly of substandard variety),



constructions such as the following are sometimes heard: /exad msuḡgaʿ/ = one (who is) lunatic'. It is not easy to attribute this usage to the influence of any particular non-Hebrew vernacular (Arabic?), and it would probably be more correct to infer that in such cases /exad/ occurs as an elliptic form of /ʔis exad/ = 'one man', which is followed by /msuḡgaʿ/ 'mad', lunatic' as a non-restrictive adjective-adjunct (cf Chapter 3) or an appositive (Chapter 8).

<sup>17</sup> The N of the first sentence may also be an N derived from the expansion of VP which contains an N (after either an  $R_{obl}$  or  $R_{opt}$ ), just in case the second sentence contains an occurrence of the same N, that is

$$(11a) \#(T+) N_i + V + R + (T+) N_j / (T+) N_j + VP_2 \# \Rightarrow \#(T+) N_i + V + R + (\text{exad}+) N_j / T + N_j + VP_2 ;$$

and the restraints specified in (12), (13), and (14) below apply to (11a) as well, with certain self-understood variations.

<sup>18</sup> If we were allowed to mark the number of items indicated by  $N_p$  as, e.g:  $N_{p_n}$ , then we were able to specify the use of /ha/ and /exad/ as the following:

$$(14a) T \rightarrow /ha/ \text{ in env. } \# N_{p_n} + VP_1 / \text{ — } N_{p_n} + VP_2 \#$$

$$(14b) T \rightarrow /exad/ \text{ in env. } \# N_{p_n} + VP_1 / \text{ — } N_{p_{n-x}} + VP_2 \#$$

with some modifications these rules could serve instead of (12), (13), as well!

$$(12a) T \rightarrow /ha/ \text{ in env. } \# \left\{ \begin{matrix} N_s \\ N_{p_n} \end{matrix} \right\} + VP_1 / \text{ — } \left\{ \begin{matrix} N_s \\ N_{p_n} \end{matrix} \right\} + VP_2 \#$$

$$(13a) T \rightarrow /exad/ \text{ in env. } \# N_{p_n} + VP_1 / \text{ — } N_{p_{n-x}} + VP_2 \#$$

where  $N_{p_{n-x}}$  may indicate  $N_s$  also ( $x \leq n-1$ ).