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ON THE PLACEMENT AND INTERPRETATION
OF THE VERB IN
STANDARD BIBLICAL HEBREW PROSE

by

Vincent Joseph John DeCaen

A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
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ABSTRACT

"On the Placement and Interpretation of the Verb in Standard
Biblical Hebrew Prose."   Ph.D., 1995.   Vincent Joseph John
DeCaen.   Department of Near Eastern Studies, University of
Toronto.

This thesis examines the so-called "enigma" of the

"tenseless" Biblical Hebrew verbal system as a problem in

generative grammar, specifically in the articulation of a theory

of tense and aspect for Universal Grammar.   The model integrates

phonology, morphology, syntax, semantics and pragmatics;   and

points back to the pre-modern tense solution revived by Revell

(1989) and Gropp (1991).   The complexity arising under

traditional morphocentric approaches derives from the constrained

interaction of several subsystems, commensurate with Peckham

(1994).   The corpus for the study is Samuel-Kings, a relatively

homogeneous block of Standard Biblical Hebrew prose.

The work is divided into three parts.   The introductory

section outlines the problem of the Biblical Hebrew verbal system

and introduces the notions of universal grammar and the

semantics-pragmatics distinction.   Three key concepts are

introduced: aspectual default, compositional tense-aspect and

implicature.   Transcription and notation are treated in an

appendix.

The second portion lays the groundwork for the formal proposal. Two chapters sketch a generative model of verbal morphophonology and morphosyntax, and the third runs through the problems of an aspectual analysis of Standard Biblical Hebrew. The proposed scheme has a three term inflectional system, employing extensive verb movement in a verb second system.

Part three outlines the proposal for the verbal system. The first chapter presents the generative tense-aspect framework. The description of the verbal system is split up into two chapters: the core tense-aspect system, and the additional constructions involving movement to lexicalize [±irrealis]. Tense neutralization (or the "consecutive" phenomenon) is analyzed as involving a complex interaction between tense, mood and pragmatico-discourse factors.

The conclusion is that Biblical Hebrew is a typical tense-aspect system, defaulting for the perfective aspect. Formally, the system is comparable to English and of course Mishnaic-Modern Hebrew; the closest match in terms of overall behaviour is that of Japanese. Standard Biblical Hebrew differs from later forms of Hebrew in having "preterite-presents" in the lexicon, in exhibiting tense neutralization, and in allowing a greater freedom in deictic shifting.

*The wise ones of Agarttha study all holy
languages in order to arrive at the universal
language, which is Vattan.*

Eco, *Foucault's Pendulum*

ACKNOWLEDGMENTS

I consider myself fortunate indeed to have been able to fashion my graduate studies to my own peculiar tastes. Early on I came across Schramm's exhortation:

> Until recently, the terms linguist and
> semitist were almost mutually exclusive. I
> believe that this came about largely as a
> result of German philological dominance in
> Semitic studies which persisted after the
> decline of neogrammarianism during a period
> when there was no real activity of a
> linguistic nature in Germany. At the same
> time, linguistic efforts were largely
> anthropologically oriented, and philological
> data were shunned. Today's hopes rest on the
> existence of a few, all too few, universities
> where it is at last possible for a student to
> concentrate on general linguistics and
> Semitic studies at the same time (Schramm
> 1970: 260).

That I was able to put such a programme together derives directly from the indulgence and good will of my committee members Elizabeth Cowper and Brian Peckham and above all my advisor E. J. Revell. This study reveals my indebtedness to all three and their respective seminal studies.

It is not likely, in retrospect, that I would have survived the university experience were it not for the support of these three. They come at the end of a long series of excellent instructors, for whom the same could be said, that include Ted Lutz, P. E. Dion, E. G. Clarke and J. W. Wevers in Near Eastern Studies; M. Daviau, P. Erb and Bob Fisher at Wilfrid Laurier, Religion and Culture; and Christina Kramer and Elan Dresher from

the earliest years in Slavic linguistics, who have again taken an active interest in my endeavours.

Fellow students James Hoch and Pau_ Sodtke patiently suffered long spates of babbling about tense and aspect. I find that I think about a subject best by rambling aloud, and some of the insights that I might claim fell from the blue actually came out of the many hours with these two. This goes double for Prof. Wevers who almost daily endured a barrage of linguistics-babble while Prof. Revell was on sabbatical.

Jackie Goutor worked hard and suffered long to get me through school. She quietly (sometimes not so quietly) endured rantings about tense this and aspect that and Hebrew this. And all along she has led the cheering section. I am very grateful to her: that I finished at all is due in no small measure to her effort.

This study is dedicated to my parents and in-laws without whose moral and financial support none of this would have come about.

CONTENTS

PREFACE

The present work represents a tentative solution to a problem that has increasingly engaged my attention since 1987: in what relation does Biblical philology stand to theoretical linguistics? For the two answers offered over the years have been found wanting.

The most popular answer is that linguistics offers a fancy jargon in which to clothe the assured results of several centuries of grammatical investigation. Unfortunately, the record of the last decade or so has done little to dispell this misunderstanding. Often this view is reinforced by a general confusion of theoretical linguistics (at least as practised in the Anglo-American tradition) with various literary fads which have indeed contributed to Hebrew studies little to date besides new jargon. The choice of grammatical problem--the old chestnut of the Biblical Hebrew verbal system--is intended to highlight the iconoclastic potential of theoretical reinvestigation.

The second view was voiced recently by Bodine in his introduction to *Linguistics and Biblical Hebrew* (1992).

> I believe it would be readily acknowledged by most biblical scholars that linguistics is a sister discipline that is vital to their field. Whether or not any given biblical scholar is directly involved in linguistics, most would accord it a place alongside archeology, historiography, literary criticism, the social sciences, and whatever other fields might be regarded as essential complements to biblical studies proper (Bodine 1992b: 2).

This second view is one that I held until recently; and perhaps it would be easiest to understand my own perspective by reconsidering Bodine's phrase: sister discipline.

Biblical philology, at least as practised in the universities, is a field within the field of Ancient Near Eastern Studies. It is not a "discipline"; rather, Biblical philology coordinates dialogue among the disciplines of the humanities and social sciences around the exegesis of a text (actually a whole series of texts). And with the primary emphasis on exegesis, the logical priority goes to the study of the grammars of Hebrew and Aramaic. Linguistics is the scientific investigation of grammar(s). Hence, linguistics is not a "sister" discipline; rather this whole line of thinking promotes linguistics to "queen" among the disciplines. Note, linguistics itself is both a discipline and a coordinating hub, as well as a major component in the new field of cognitive psychology. In the European context, the definition of linguistics can be extended to cover much of what is reserved for semiotics and the (post)-structuralist study of literature.

Taking up the tools of theoretical linguistics requires nowadays a substantial investment of time and effort. And who can blame Biblical scholars, with so many irons already in the fire, for avoiding a long apprenticeship with apparently so little to gain? This study is intended in part to persuade some that now is the time to start investing in such pursuits.

SIGLA AND ABBREVIATIONS (see also Appendix 1)

General

α,ß,γ	variables
O	object
S	subject
V	verb
V1	verb first, verb-initial
V2	verb second
V3	verb third

Glosses

√	verbal root
1,2,3	first, second, third person
ABS	absolutive
ACC	accusative particle *eth*
ANT	antipassive
Asp	aspect
Cons	consecutive
DEF	definite article
DUR	durative
f	feminine
IMPF	imperfective
INF(2)	infinitive
IRR	irrealis
m	masculine
NOM	nominative
NONFUT	nonfuture
PASS	passive participle
PERF	perfect(ive)
pl	plural
PRE	prefixed form
PRE!	imperative
PRE1	"long" prefixed form
PRE2	"short" prefixed form, volitional paradigm
PRES	present
PROG	progressive
PRT	participle
REL	relative particle *asher*
s(g)	singular
Subj	subjunctive
SUFF	suffixed form
wSUFF	conjunction + suffixed form
wPRE2	conjunction + PRE2
wayyPRE2	conjunction + consonant + PRE2 ("waw-consecutive with imperfect")

Morphophonology

μ	mora
σ	syllable
C	consonant
F	foot
V	vowel

Functional Grammar (FG) Syntax

O	object
P	special position, variously indexed: P_1, P_2, P_3
S	subject
V	verb
X	variable

Government-Binding (GB) Syntax

A	adjective/adverb
AUX	auxiliary
C(OMP)	complementizer
CONJ	conjunction
F	feature
I(NFL)	inflection
i,j,k	variables in coindexing
N	noun
P	preposition
t	trace
T(ENSE)	tense
V	verb
X,Y,Z	variables
X',X''	X-bar, X-double-bar (see ch.5)

Tense-Aspect, Mood

=	simultaneous
<	precedes
↑↓	related to tense-aspect formatives (see ch.6)
E	event (structure)
e,t,x	points on time line
IMP	imperative
IRR	irrealis
R	reference point
S	moment of speech

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THE ENIGMA OF THE BIBLICAL HEBREW
VERBAL SYSTEM

*Biblical Hebrew is often cited as a classic example of a tenseless
language. Yet a survey of the history of the analysis of the verb
system of Hebrew and that of the closely similar Quranic Arabic
reveals how little really lies behind such a claim*   (Binnick
1991: §8r, 434).

*Einen Exkurs zu den Verhältnissen des klassischen Arabischei
hielten wir deshalb für sinnvoll, weil wir am Beispiel sehen
können, wie unwichtig die Verbalflexion zum Ausdruck der
Temporalität sein kann*   (Schwall 1991: §1.3, 246).

§1.1. QUESTION AND ANSWER

§1.1.1   *The Enigma of Tenseless Semitic Verbal Systems*

The publication of McFall's doctoral work as *The Enigma of
the Hebrew Verbal System* (1982) coincides with a renewed interest
in the puzzle of Biblical Hebrew tense-aspect and that of the
Semitic family generally. The decade since has been punctuated
by the proliferation and consolidation of various schools,
creating a sense of urgent casting about to break the impasse.

At the same time the enigma of the classical Semitic
tenseless systems has been brought to the fore in general

1

linguistic discourse by Schwall (1991) and especially by Binnick (1991). Biblical Hebrew and Quranic Arabic are now standard parade examples of the "tenseless" or "aspectual" system, tokens of a language class that, as it turns out, makes up close to half of attested natural languages.

The enigma of the Semitic systems is no longer just a recondite problem for philologists; it is now at the cutting edge in the formulation of a general theory of tense and aspect in natural language. The question is, then, what light if any can linguists, now that their attention has turned in this direction, shed on this long-standing problem? This work takes on the Biblical Hebrew verbal system as a challenge in the adequate formulation of tense and aspect; in principle, the results obtained here should apply *mutatis mutandis* to the general class of tenseless systems.

§1.1.2 *Biblical Hebrew in the Light of Universal Tense-Aspect*

Broadly speaking, the tentative answer proposed in this work goes well beyond the bounds of traditional Hebraist discourse. When we compare the ternary tense system of Burmese, the tense-mood neutralization in Zulu, or the semantic range of the nonperfective extension in Mohawk to Hebrew's, we have definitely left the comfortable world of Semitics. The central point of this study is that the impasse over the Hebrew verbal system is largely a function of the isolation in which Hebrew studies are carried out. It has long been recognized that the problem with

Hebrew grammar is that it has been left primarily to the theologians.

> The establishment of Assyriology as an independent discipline and the rise of modern linguistic notions had gradually removed the study of Hebrew from the centre of Semitics which it had occupied for so long by virtue of its association with the Bible and theology. 'The greatest calamity that has befallen Hebrew is that in the divorce of Semitic studies from theology, Hebrew was assigned to the latter' (Ullendorff 1970: 263, quoting Polotsky 1964).

Hebraists will come to see Hebrew as a rather typical, indeed almost uninteresting (were it not for the complex tense neutralization), example of a tense-aspect system by breaking out of the self-imposed isolation. The isolation can be highlighted by the absence of two words in all studies of Hebrew tense-aspect: universal grammar.

1.1.2.1 *Universal Grammar and Linguistic Typology.* There is a reluctance to treat Biblical Hebrew on par with any modern language, basically for two reasons. First, Biblical Hebrew is the *leshon haqqodesh*, the "holy language," set apart as a vehicle of divine oracles. Second, the spirit of the American descriptivists pervades the study of Hebrew grammar, at least in the Anglo-American tradition. The emphasis is on the unlimited diversity of languages, not their similarities, and on description over explanation (largely a result of working with near-extinct languages). These sentiments set up a strong

barrier to cross-linguistic comparison.

A major exercise in this study is pigeon-holing, an activity that cuts against the grain of traditional discourse as just explained. It takes an effort of the imagination to see the Biblical Hebrew tense-aspect system as an extremely general type. The overall behaviour of the system finds its closest match in modern Japanese and Korean. The atypical habitual reading of the nonperfective can be found in Celtic and Iroquoian systems. Tense neutralization (traditionally the "consecutive" phenomenon), combining both mood and tense, is quite common throughout Africa and is scattered elsewhere. Beyond tense neutralization, Biblical Hebrew is marked only with respect to its ternary rather than binary tense system.

1.1.2.2 *Universal Grammar in Generative Perspective.*

Generative grammar is the application of the mathematical theory of computability in the study of natural language initiated in the 50s, now a central component--even a paradigm--in the burgeoning field of cognitive psychology. It is difficult to imagine something more out of tune with the prevailing currents in Semitic philology.

The key concept invoked is "modelling," a step well beyond simple description.

> The sciences do not try to explain, they
> hardly even try to interpret, they mainly
> make models. By a model is meant a
> mathematical construct which, with the
> addition of certain verbal interpretations,

describes observed phenomena. The
justification of such a mathematical
construct is solely and precisely that it is
expected to work (von Neumann in Gleick 1987:
273).

There is no way to avoid the intimidating, quasi-
mathematical notation and jargon of generative grammar. Part of
the goal of this study is to render innocuous the valuable
contributions of generative grammar in the study of the Hebrew
verbal system.

The remainder of this chapter is structured as follows. A
summary of the consensus on the Hebrew verbal system is provided,
supplemented by general criticisms of the tense-aspect theory
presupposed. A brief overview of recent contributions stands in
for a review of the literature. Finally, a concise summary of
the model proposed in this work is offered.

§1.2 BACKGROUND: BIBLICAL HEBREW AS TENSELESS

§1.2.1 *The "Inflectional Aspect" Consensus*

Biblical Hebrew is without grammatical tense: rather, the
finite verbal system inflects for aspect. Such is the orthodox
view most clearly reflected in the textbook tradition. "In
Hebrew thinking, *an action* is regarded as being either *completed*
or *incompleted*. Hebrew, therefore, knows of no past, present or
future tenses, but has instead a *Perfect* and an *Imperfect*

(Weingreen 1959: §29, 56 [emphasis his]).[1] Such is also the unambiguous conclusion in the now standard reference manual by Waltke and O'Connor (1990): "Biblical Hebrew has no tenses in the strict sense; it uses a variety of other means to express time relations. This is not a rare situation" (§20.2e, 347). "With the advocates of the aspectual theory we base our study of the suffix conjugation on the hypothesis that it designates perfective aspect (*Aspekt*)" (§29.6b, 475). This virtually unanimous consensus has endured for more than a century and a half; its future staying power is secured by its central place in the textbook tradition.

Biblical Hebrew is not an isolate (though some ancient Near Eastern languages are considered to be such, most prominently Sumerian[2]). The bundle of dialects known as Biblical Hebrew

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[1]The most recent contributions to the Anglo-American textbook tradition echo this inflectional aspect view:

> Seow (1987: XII §3a, 92; XVII §3, 141);
> Kittel *et al.* (1989: 56-57);
> Kelly (1992: §30.1, 83).

[2]There is considerable circumstantial evidence that Sumerian branched early from a macro-family that includes the Uralic and Altaic groups. Bomhard and Kerns set Sumerian in a group with Elamo-Dravidian, which in turn is a sister of "Eurasiatic" (including Indo-European, Uralic and Altaic: Bomhard, Kerns 1994: chart 1, 36). Recent contributions such as Bomhard (1990) and Bomhard, Kerns (1994) as well as Frayne (1993) provide the basic sound correspondences required to pursue this hypothesis further.
 Incidentally, Sumerian together with other obscure Near Eastern languages is considered tenseless as well (at least in the mainstream), encoding the perfective-imperfective contrast-- no doubt under the influence of the standard model of the Semitic

belongs to the tightly related Semitic family and shares a core grammar with the Southern group (including Arabic) and its own Northwestern branch (neighbouring Palestinian dialects, as well as Phoenician and Aramaic). If not sound methodologically, at least in practice, a general sketch of one of these verbal systems suffices for all: they stand or fall together.[3] Thus, the Semitic family (minus the Eastern or Akkadian branch) is tenseless.

> In the West Semitic area, Arabic and most of the other languages exhibit, according to the traditional approach, two conjugations which are usually called "terses". But this nomenclature must be considered improper, as different temporal concepts converge in each of these conjugations; it would be more appropriate to speak of "aspects". One of these uses prefixes . . . and generally indicates an incomplete action which corresponds, according to circumstances. to our future, present, or imperfect. . . . The other conjugation employs suffixes . . . and generally indicates a completed action which corresponds, according to circumstances, to our past tenses. The two conjugations are usually called "imperfect" and "perfect", respectively, in the etymological sense of these terms (Moscati *et al.* 1964 §16.28, 131-132).

Such is the monolithic façade that Biblical Hebrew--with the

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languages (Thomsen 1984: §§235-241, 118-123; cf. Black 1984: §1.2.4, 35-43; §3.6, 99-119; §4, 123-134. On Hurrian, Bush 1964: §7.424, 193).

[3]"It has generally--but not universally--been assumed that the "tense" systems of the two languages, Quranic Arabic and Biblical Hebrew, are essentially identical, so that the correct theory for one language should also be that for the other" (Binnick 1991: §8r, 455).

Semitic languages generally--presents to the student of tense and aspect. Indeed, Biblical Hebrew as a token of the Semitic languages has now gained the status of a parade example of the tenseless language together with Chinese in the most recent general survey of tense and aspect, Binnick's *Time and the Verb* (1991).

> If we look beyond the Indo-European family, many languages have no tenses at all (in the sense of a change in, or marking on, the verb). The verb of Chinese is invariable, and Chinese speakers consequently have considerable difficulty in learning to use the forms of verbs in languages which do have tense. Biblical Hebrew and Classical (Quranic) Arabic are also arguably languages in which verbs do not have different tense forms, though they do mark other distinctions such as aspect. . . . In all such "tenseless" languages, different relations in time can certainly be indicated, but not by using the forms of verbs to mark tense distinctions of the familiar kind (Binnick 1991: 8-9; cf. xi, 44, 128, 130).

This impression must be qualified in three important respects: 1) general statements on the Biblical Hebrew verbal system mask a problematic theory of tense and aspect; 2) the mainstream aspectual approach represents one theory among important contenders; 3) dissatisfaction with the orthodox aspectual view continues to spawn new formulations of Hebrew verbal aspect.

§1.2.2 *Problematic 19th Century Definitions.*

Confident twentieth-century orthodoxy with respect to the Hebrew verbal system rests on highly problematic nineteenth-

century formulations of tense and aspect. Some initial
indications of the difficulties are given in the following
subsections; the points are taken up again in detail in ch. 6.

1.2.2.1 *Tense*. On the one hand there is a general confusion
between the grammatical category tense (semantics) and the time
line of the real world (pragmatics). Thus arises a prescription
of a one-to-one correspondence between tense and time; any
mismatches are sufficient to render a language tenseless (e.g.,
Driver 1881: 1, 55; cf. Li, Thompson 1981: §6.1.4, 213-215,
216). What this confusion misses is the essentially "shifting"
(Jakobson 1957), "deictic" or "indexical" nature of tense: the
"now" of tense interpretation is analogous to the "here" involved
in demonstratives or the "I" in the pronominal system. "Although
the speech situation, the 'here and now', is the most basic
deictic centre, it is possible to have other deictic centres,
provided these are clarified by the context" (Comrie 1985: 16).

However, when consistently applied, not only is Biblical
Hebrew rendered tenseless but so too are *all natural languages*.
Consider the examples of the idiomatic use of the past tense for
nonpast in (1) adapted from Comrie (1985: 20) and in (2) for
Bangru (West Hindi) from Singh (1970: 61).

(1a) *Detta smakte godt.* (Norwegian)
     "This tastes [lit. tasted] good."

(1b) *Wer bekam die Gulaschsuppe?* (German)
     waiter to customers:
     "Who gets [lit. got] the goulash?"

(1c) *Ja pošel.* (Russian)
    imminent future:
    "I am leaving [lit. left]."

(2a) *dekhy ɔh kuṇ aya*
    "Look! Who comes there." [lit. came there]

(2b) *caly, mæ aya*
    "Go ahead, I shall come presently." [lit. came soon]

The past for nonpast is actually quite common outside the
European sphere. Consider also the Japanese data in (3) from
Soga (1983).

(3a) *Aa, dekita, dekita.*
    oh   got done got done
    "Oh, (it's) coming, (it's) coming." (Lit. "(It's) got done,
    (it's) got done." May be used when one is making something
    and its completion is near.) [= (30a), 65]

(3b) *Yoku natta, yoku natta.*
    well became
    "(It's) getting better, (it's) getting better." (Lit. "(It)
    got well, (it) got well." May be used by a doctor, for
    example, to a patient who is getting better.) [=(30b), 65]

(3c) *Kita! Kita!*
    came
    "(He) is coming, (he) is coming!/There he comes!" (Lit.
    "(He) came, (he) came.") [=(30c), 66]

(3d) *Kono siai wa moratta!*
    this game   TM got   [TM=topic marker]
    "(We) will win this game!" (Lit. "As for this game, (we) got
    (it).")   [=(32), 66]

Soga explains the Japanese phenomenon as follows.

        [The examples above imply] that the speaker
        is absolutely sure that the event expressed
        by the verb will be brought to reality.
        [Example (3d)] may be uttered when the game
        is half-way through and the victory is
        imminent, or even before the game starts. In
        either case, it is considered that as far as

the speaker is concerned, the victory is a
foregone conclusion. With such a use of the
-ta form [past-perfective], the speaker in
effect brings the future event to the past or
himself to the future with the expected event
as an already accomplished fact. In a sense,
the category discussed here is the reverse of
the category of "historical present" in which
the present is pushed back to the past (Soga
1983: 66).

The phenomenon of emphasizing present and future actions, or

even imperatives (on past for imperative: Soga 1983[4]; cf. Li,

Thompson 1981: §6.1.3, 207-213: rare for urgency, etc.) by means

of the past tense appears indeed universal. As Laude-Cirtautas

explains in describing the phenomenon in the two Turkic languages

Kazakh and Uzbek, the usage falls under two general heads:

(a) [the event] will take place immediately
or in the nearest future if the speaker so
urgently desires or fears the result of the
action that the action itself is considered
already fulfilled

(b) [or is an event] which takes place in the
present if the speaker attaches strong
sentiments to it.

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[4]An indirect command using the past-perfective "implies that
the hearer should already be at the stage where the action has
been completed" (Soga 1983: 66); this usage is felt to be
"abrupt" (Soga 1983: 67). Two examples are provided.

(a) *Saa,*   *katta,*   *katta!*   [=(33a), 67]
     well   bought
     "Come on, make a purchase, make a purchase!"

(b) *Yameta,*   *yameta!*   [=(33b), 68]
     quit (past)
     "Quit (it), quit (it)!"

It is understandable that in these instances
the usage of the past tense is confined to
direct discourses (dialogues): the loud,
emphatic voicing of an action is considered
part of its execution and manifestation!
(Laude-Cirtautas 1974: 152).

The past for nonpast is one example of what we shall term

idiomatic tense mismatches[5]; in Biblical Hebrew the phenomenon

is known as the "prophetic perfect," a misnomer as Klein (1990)

explains.

There are other, more systematic, past-for-nonpast tense

mismatches. Three of the more conspicuous are briefly described

here. First, there is a class of mismatches associated with

different lexical classes, especially verbs of cognition,

generally known in Germanic studies as "preterite-presents"

(Lightfoot 1979: 101-103). Either a present perfect (Greek *oida*

"I know"; cf. Middle Egyptian perfect or "stative" *iw.i.rḫ.kwi* "I

know" [Hoch, pc]) or past-perfective[6] (Japanese *wakatta* "I

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[5]We may wish to distinguish idiomatic mismatching from the
elevation of an idiom to a high literary convention. Comrie
notes the example of Roman letter writing in which all tenses are
understood with reference not to the writer's setting but to the
recipient's deictic centre (Comrie 1985: 16). Gonda also
describes the shifting conventions in Rigvedic tense and aspect
usage dictated by genre (Gonda 1962: ch. 3; cf. Banerjee 1983:
170 on post-Homeric and late Sanskrit usuage).

[6]Throughout this work we will consistently distinguish the
term "perfect" from "perfective" following Comrie's usage (e.g.,
Comrie 1976: 12). The latter is a value of the lexico-
grammatical category aspect and contrasts with the "imperfective"
or nonperfective (on the analogy of nonpast). The "perfect"
without the "-ive" is a species of stative, a "stative-
resultative" (e.g., Porter 1989), stressing the result of the
entailed event and its continuing relevance at the temporal
reference point (thereby combining stativity, perfectivity and

understand"; cf. Latin *memini* "I remember" and *odi* "I hate") will have "present" tense value. It appears that cognition can be treated as either stative or dynamic, the latter giving rise to such preterite-presents. Second, there is also the apparently universal use of the past tense in hypothetical constructions: *I wish I owned a car* (for an excellent survey and summary, James 1982). And third, we often find a "gnomic past" in which general truths are extrapolated from past observation.

In addition to such past-for-nonpast mismatches, we must reckon with the nonpast-for-past mismatch or "historical present" and mismatching in narration generally. A tense language such as English or Russian can narrate in the past tense, the present tense ("historical present"), or can "switch" or mix tenses: clearly this is a matter of stylistics and "information flow" (e.g., Schiffrin 1981; Casparis 1975: 16, lists the following as exhibiting the same behaviour: Vedic Sanskrit, Greek, Virgil's Latin, French, Icelandic sagas, early Germanic and Chaucer's English). Yet the same variation in and mixing of forms is often a key argument in favour of a tenseless diagnosis for many languages (including Biblical Hebrew: e.g., Driver 1881: 7). It is frequently true that a system with a clear tense distinction, such as Chadic Mofu-Gudur, will still prefer to narrate in the

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relative tense), sometimes combining the passive voice (e.g., Comrie 1981: esp. 70-71). The distinction will be clarified in ch. 7.

Notice that in the traditional Semitic terminology, indeed in most linguistic description, the terms "perfect" and "perfective" are generally used interchangeably.

nonpast (Hollingsworth 1991: 243-244), especially if the form is identical to the verb stem as in isolating languages. Yet the same failure to use a past indicator in narrative is almost universally cited in favour of a tenseless analysis.

The list of mismatches could be extended *ad nauseam*, but the same factors will keep turning up: lexical classes; suitability of representations to use (e.g., counterfactuals); idiomatic usage (e.g., gnomic pasts); and above all, stylistics and the "grammar of discourse." Instead of abandoning the connection between tense and time (e.g., Weinreich 1964, 1970), we can simplify and unify our understanding of tense by elaborating theories of lexical representation, of pragmatics and the structure of discourse; this point--the simplification of tense by enriching other grammatical components--is taken up again at various points below, especially ch. 3.

1.2.2.2 *Aspect.* On the other hand, the grammatical category aspect has been mistakenly defined in terms of "finishing" or "completing" so as to be equivalent to tense.

> with reference to action, the speaker views
> everything either as already *finished*, and
> thus *before* him, or as *unfinished* and non-
> existent, but possibly *becoming* . . . and
> *coming* (Ewald 1891: §134a, 1; Driver 1881:
> §5, 5).

This is not "tense" because tense involves a three-way distinction (past, present and future) as found in Greek and Latin (e.g., Ewald 1891: §134a, 2). It is therefore something

else: "aspect." A comparison of the principles invoked in
Revell's dissenting "relative tense" analysis of the Hebrew
system (1989a) with traditional accounts, from Ewald and Driver
to this day, clearly indicates that the operational definitions
and explanations render Biblical Hebrew "aspect" equivalent to
the current formulations of "relative tense."

We know from the study of Greek or Russian that tense and
aspect are independent grammatical categories that freely
combine. And yet the confusion of tense and aspect is still
current in general surveys on tense and aspect,[7] but is
nevertheless to be rejected (e.g., Comrie 1976: 18[8]).

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[7]For example, Dahl (1985), in defining relative tense,
writes of "forms that may express temporal relations between any
pair of time points, regardless of their deictic status" (p.25).
He continues, "It is the latter ones [relative vs. absolute
tenses] that are difficult to keep apart from aspects. . . .
Summing up, the distinction between tenses and aspects is by no
means clear, although everyone knows what the typical cases are
like" (p.25).
     Similarly, Chung and Timberlake (1985), in noting the
correlations between tense, mood and aspect (§1.3), apparently
confuse aspect with completion so that past tense includes
perfectivity.

> An event that is ongoing at the speech moment
> has not been completed. Hence there is a
> correlation between present tense and
> incompletive (imperfective or progressive)
> aspect, and by implication, between past
> tense and completive (perfective or
> nonprogressive) aspect (Chung, Timberlake
> 1985: §1.3, 206).

[8]A bounded event structure is composed of an inception,
progression and termination or completion. The perfective takes
the event globally, conflating inception, progression and
completion (Comrie 1976: 3, 16). The emphasis on completion is

One goal of the present study is the clarification of the notions of tense and aspect in light of current theoretical advances, providing a rigorous framework within which to debate the issues in Semitics regardless of the success of the particular tense-aspect model of Hebrew offered here.

To summarize: no pronouncement on the Biblical Hebrew verbal system, past or present, can be accepted at face value. Definitions, and the theories from which they flow, must first be rendered explicit.

§1.2.3   *One Theory Among Many*

The Hebrew verbal system is still an "enigma," though the textbook tradition by its very nature tends to mask dissent and confusion. McFall's important summary of past work on the verbal system, *The Enigma of the Hebrew Verbal System* (1982) (brought up to date by Waltke, O'Connor 1990 and Binnick 1991: §§8r-s), serves to expose the aspectual consensus as just one theory (or perhaps more accurately, one family of theories), albeit a fruitful one, among several viable competitors. McFall concludes that there is as yet no clear resolution to the problem of the verbal system; and further, that this state of affairs creates an exegetical crisis.

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misplaced (Comrie 1976: 18). The imperfective isolates some portion of the internal structure of the event (inception to completion; cf. Comrie 1976: 4, 16).

The matter of the definition of aspect is resumed in detail in chs. 6 and 7.

> If a correct understanding of the Hebrew
> language is the only basis for sound
> exegesis, and if the heart of a language is
> its verbal system, then it must be conceded
> that in the case of Hebrew we have not yet
> acquired a correct understanding of that
> language, and consequently we lack a sound
> basis for exegesis of the OT [Old Testament]
> Scriptures (McFall 1982: xii).

Similarly, Peckham, commenting on the predicament of the exegete, writes the following.

> The reader is turned into a translator and is
> left with a variety of choices but often
> without the means to choose. The language
> itself becomes a matter of intuition and the
> verbal system . . . seems to be an invention
> of the Biblical writers, or a mystery to
> which they had occasional access (Peckham nd:
> 2; cf. McFall 1982: xii, 36).

Inadequacies of the aspectual approach continue to generate new theories of Hebrew verbal semantics.

§1.1.4   *Proliferation of Alternative Approaches*

As we approach the millennium, there is an increasing fragmentation of the century-and-a-half-old consensus. While from a metatheoretical perspective this proliferation of solutions and consolidation of schools[9] may be desirable, even in

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[9]"Philosophical theories" (Waltke, O'Connor 1990: §29.5): Michel, "independent" vs. "dependent" (§29.5a-j, 470-474); cf. Kustár (1972): "determining" vs. "determined" (§29.5k, 474-475; cf. Binnick 1991: §8s, 439ff.).
    Following Rössler and Richter: Zuber, *Das Tempussystem des biblischen Hebräisch* (1985); Niccacci, *The Syntax of the Verb in Classical Hebrew Prose* (1990); also Schneider (1978) and Talstra (1978, 1982). Cf. the tagmemics of Longacre (1983, 1989, 1992).

some sense necessary (Feyerabend 1993), from an exegetical or

pedagogical standpoint the yawning gap at the heart of Hebrew

grammar is becoming more difficult to ignore.

Since this work neither specifically treats of past work nor

engages in concomitant criticism or polemic, only a general

summary of the current developments is offered here. First, the

fragmentation is only apparent. Recent contributions attempt

variously to redefine the grammatical category "aspect" in

Hebrew, often within a broader theory of aspect (e.g., Hopper

1979, 1982b), to shore up the inadequacies of traditional

notions. Second, there is a trend to partially or wholly abandon

grammatical models in favour of discourse analysis and the

investigation of the universal text-structuring properties of

verbal systems (especially those oriented around Weinreich's

approach to tense; e.g., Niccacci 1990). In no case is the host

of traditional assumptions regarding morphology, syntax and the

syntax-semantics interface questioned.

The vital distinction between semantics (meaning derived

from form) and pragmatics (meaning derived from form in

context)[10] is taken up at various points below, but a word on

discourse-driven models is in order here. First, to the extent

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Following Rundgren: Isaksson, *Studies in the Language of
Qoheleth* (1987); Eskhult, *Studies in Verbal Aspect and Narrative
Technique in Biblical Hebrew Prose* (1990).

[10]A concise introduction to the semantics-pragmatics
distinction is found in Blakemore, §3.1 "Carving up Meaning:
Semantics and Pragmatics" (1992: 39-48).

that the discourse approach is a coherent project it seems
necessarily to presuppose a grammatical model of Hebrew verbal
semantics in keeping with the Rundgren school (summary in
introductory materials of Eskhult 1990: foreground/background
generally correlates with local-semantic values; cf. Givón 1984:
§8.2.7, 287-290). Second, the approach runs aground of the so-
called consecutive phenomenon (examined at several points below)
by assuming a one-to-one relation between form and discourse
function (specifically, carrying the storyline). Third, the
domain of application is arbitrarily restricted to prose
narrative.

> Poetry has its own rules concerning the use
> of tense and, unfortunately, they are still
> mysterious; they cannot be derived from
> prose and vice versa (Niccacci 1990: 10).

> Unfortunately, the fact remains that in
> contrast with prose, poetry offers a very
> limited number of linguistic markers for
> identifying the function of individual forms
> and verbal constructions in a text. As a
> result, the problems a scholar has to face
> are more complex (Niccacci 1990: 12).

It is hoped that the present study will provide a surer
foundation for the important line of inquiry into the text-
structuring features of Biblical Hebrew tense and aspect as a
guide for exegesis and as a basis for a renewed attack on the
mechanics of Biblical poetry. The exclusion of text linguistic
concerns is only methodological, as Comrie clearly stresses.

> The decision not to base the analysis of
> tense on discourse function does not,

however, mean that the study of tenses in
discourse is not a relevant study, indeed it
is often the case that the investigation of
the meaning of a tense (or of some other
grammatical category) can best be approached
by studying its use in discourse: rather,
all that is argued here is that the
investigation of the use of a grammatical
category in discourse should not be confused
with the meaning of that category; instead,
*the discourse functions should ultimately be
accounted for in terms of the interaction of
meaning and context* (Comrie 1985: 29
[emphasis mine]).

The point is expanded in ch. 3 in the summary of the general

semantic theory presupposed in this study.

§1.3   OVERVIEW OF PRESENT STUDY

§1.3.1   *Summary*

This dissertation is an extended presentation of a

generative grammar fragment offered as a clarification and

synthesis of past work on the Biblical Hebrew verbal system and

as a sound basis for a new chapter in the discourse analysis of

the Biblical texts. This work is an attempt, initially under the

stimulus of E. J. Revell's tense analysis of the Biblical Hebrew

verbal system (1989a; cf. Gropp 1991) and of the unique modular

approach of Brian Peckham (nd, 1994), "to clarify the ill

arranged mass of material on the syntax of the verb presented by

the traditional Hebrew grammar. . . , and to substitute for the

unrealistic and fanciful explanations of syntactic facts arising

out of the usually accepted 'aspect theory' . . . , a treatment

that is more in accord with what we know of the development of language, and with the fundamental principles of linguistic science" (Blake 1951: vii).

§1.3.2 *Corpus*

Biblical texts are differentiated by obvious and often major dialectal features which correlate with relative chronology and genre. The major divisions are between Early and Late Hebrew (e.g., Polzin 1976) and between prose and poetry. These differences do in fact affect the use of the verbal forms as the brief survey by Blake (1951) clearly demonstrates. Based on usage, the Psalms together with the poetic book of Job form a block, the five books of Moses (Genesis through Deuteronomy) another, and Daniel is also marked off (Blake 1951: §6, 12-14); and again, the book of Ecclesiastes is also clearly singled out by Blake (1951: §66, 75; §69, 78).

To avoid *corpus confusion* and the attendant methodological difficulties, this study concentrates on the *Standard* dialect of *Early or Classical* Biblical Hebrew as defined by Revell (1989a) which we can reasonably assume was the prestige dialect in Judah in the late monarchic period. Specifically, the corpus for the present study is formed by the four books of Samuel and Kings (henceforth 1Sam, 2Sam, 1King, 2King) "since the value of verb forms in this straightforward historical narrative is generally

clear" (Revell 1989a: §1.3, 3).[11] Moreover, to avoid the
perceived difficulty in the study of poetry, the four brief
poetic passages are excluded from this corpus (1Sam 2:1-10; 2Sam
1:19-27, 22:1-51; 2King 19:21-28); they are taken up in a
brief appendix in light of proposals offered in the body of the
dissertation.

§1.3.3 *Prerequisites of a Generative Analysis (Part II)*

The generative tack pursued here necessitates a fully
explicit reanalysis of Biblical Hebrew verbal morphology and
clause architecture, and ultimately the rejection of the most
cherished elements of traditional grammatical analysis.

1.3.3.1 *Morphology (ch. 4).* The finite verbal paradigm is
reduced from the five or six forms traditionally posited (five in
Waltke, O'Connor 1990: §29.1b-c, 455-456) to three based on
strict morphological criteria: one in which person agreement is
suffixed, two in which it is prefixed. In traditional accounts
the core system of Hebrew and of the Semitic family generally is
reduced to a binary (suffixed vs. prefixed) rather than the

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[11]Binnick's general observation must be tempered in light of
such distinctions in *relative clarity* in Biblical texts. "It
seems puzzling, given the huge amount of study applied to the
Bible and the Quran, that there can be such divergent opinion as
to the analysis of the verb systems. In fact there is no *real*
controversy in regard to the interpretation of *particular* verbs
[because of sufficient context]; the problem arises only in
regard to the two types of verbs *in general*" (Binnick 1991: §8r,
456).

ternary oposition, based on semantic rather than morphological

considerations. But in itself there is nothing original in the

tripartite configuration derived from morphological analysis:

the recognition of two prefixed finite forms is the cornerstone

of the Rundgren school (e.g., Eskhult 1990). It is possible in

fact to argue that all Semitic finite verbal systems are *formally*

tripartite, most obviously the Akkadian dialects and Ge'ez

(classical Ethiopic), though admittedly in some the additional

prefixed form is restricted to modal uses, e.g., Aramaic and

Modern Hebrew. (The basic issues surrounding this problem are

summarized in Moscati *et al.* 1964: §§16.30-16.31, 132-134.)

The participle takes on a greater role following Joosten

(1989) and Lambdin (1971), recalling the treatment that is buried

in Driver (1881).

What is original here is the systematic elimination of the

so-called consecutive forms, reintroduced in even the most

rigorous, consistent accounts (e.g., Revell 1989a, Eskhult 1990),

from the verbal paradigm and the shifting of the burden of

meaning to the syntax. The elimination of the consecutive forms

also forces an explicit recognition of the additional morpheme

involved in the so-called *"waw-*consecutive + imperfect" or

wayyiqtol form; this study offers a full morphological,

syntactic and semantico-pragmatic account of this formative.

1.3.3.2 *Syntax (ch. 5).* The syntactic analysis outlined in

ch. 5 capitalizes on the "neglected point" in Hebrew syntax ably

and concisely presented in Niccacci (1987) and subsequently incorporated into, e.g, Revell (1989a) and Joosten (1992). With respect to the prefixed block of the Hebrew paradigm, there is clear distinction between *verb second* order and the indicative reading and *verb initial* order and the modal reading. Hebraists now write of two *tiers* based on this sort of modal distinction. The insight will be formalized in current generative terms and consistently extended throughout the entire verbal system.

The slack created in reducing the formal paradigm is picked up under a *verb movement* analysis over an underlying SVO clause architecture. On this view, Biblical Hebrew belongs typologically to a syntactic class that includes English and French. The overall strategy directly contradicts one of the most firmly entrenched elements in traditional Hebrew grammar, viz. that Biblical Hebrew is essentially VSO as is Arabic.[12] Rather, Biblical Hebrew strongly displays what is commonly known as the *verb second or V2 phenomenon* (e.g., Cowper 1992: §8.3.2, 138-139; Haegeman 1991: Ch. 11, §2.2, 522-531), so characteristic of the Germanic family of languages. This V2 behaviour is essentially characteristic of the Aramaic dialects, implicit in the functional syntactic formula for early Aramaic, P1 V S O (with some qualifications for the Imperial dialect), cogently defended in Buth's dissertation (1987). If we follow

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[12]In fact, the VSO analysis of Arabic is also problematic on closer examination. Additional complications are introduced in Jamal Ouhalla's "Verb movement and word order in Arabic" (1994).

Peckham in recognizing the same dynamic operating throughout the Northwest family at the syntax-semantics interface (Peckham 1994: II/4), the essential P1VSO (van der Merwe 1991) or verb second nature of Biblical Hebrew easily follows. The approach here distinguishes ordinary V2-type movement to topicalize from left-dislocated constructions (*casus pendens*) on a variation of the proposal in Naudé (1990).

Further, several elements thought to inhere in the morphosyntax, especially consecution, are eliminated from the grammar as implicatures and subsumed under a robust theory of pragmatics (especially in chs. 3 and 9).

§1.3.4 *Tense-Aspect*

Far from being an "enigma" (McFall 1982) or "one of the linguistic wonders of the world" (Peckham 1994: 28, commenting on the current consensus), Biblical Hebrew is rather typical in most regards of that half (more or less) of the world's languages that default for the perfective aspect including modern English. While Hebrew has much in common formally with the English system, with regard to the dynamic of the overall system Hebrew most nearly approximates the behaviour of modern Japanese or Korean.

1.3.4.1 *Perfective Default.* With English and Japanese, Biblical Hebrew defaults for the perfective. In other words, the natural interpretation or "default reading" of the simple tenses

with inherently dynamic verbs (accomplishments and achievements
vs. activities and states in the current Vendlerian terminology)
is perfective. Most characteristic of such a system is the odd
interpretation of the simple nonpast tense: 1) timeless or
"generic"; very frequently 2) habitual, frequentative, iterative
(indeed almost universally if the system lacks a special
habitual-frequentative formative); and 3) "future," especially
if there is not already some explicit modal or "future"
construction with which it is in competition. Crucially, the
simple nonpast tense excludes the progressive.[13] Consider, for

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[13]Comrie defines a two-way distinction for tense-aspect
systems in natural language in terms of the exclusion of the
progressive as well:

> In some languages, the distinction between
> progressive and nonprogressive meaning by
> means of progressive and nonprogressive forms
> is obligatory, whereas in others the use of
> the specifically progressive forms is
> optional, i.e. the nonprogressive form does
> not exclude progressive meaning. English
> [together with Brazilian Portuguese, p.34]
> belongs to the first type, so that
> Progressive and non-Progressive are not in
> general interchangeable, nor can any one of
> these in general be replaced by the other;
> in Spanish and Italian, on the other hand, it
> is normally possible to replace the
> Progressive by other forms, without implying
> nonprogressive meaning (Comrie 1976: 33, cf.
> 21).

Similarly, Cowper, in contrasting the behaviour of English
and Hungarian, writes,

> the Hungarian simple past . . . is best
> rendered by the English past progressive,
> while the English simple past must be
> translated . . . by the Hungarian perfective
> form. This difference in the interpretation

example, the following contrasts from Iraqw (Cushitic), Swahili
and Korean.

(4) *Iraqw:*
   (a)   *waʃari   i   aníng   tiq-s-iyá?*
           vomiting S.3 1.sg   ill-CAUSE-3.PL
           "Vomiting [makes/]will make me ill."

   (b)   *waʃari   i   aníng   tiq-m-iis-iyá?*
           vomiting S.3 1.sg   ill-DUR-CAUSE-3.PL
           "Vomiting is making me ill (now)."
           (adapted Mous 1993: §4.3.4, 178-179)

(5) *Swahili:*
   (a)   *Ndege wa-ruka.*
           birds 3pl-fly
           "Birds fly."

   (b)   *Ndege wa-na-ruka.*
           birds 3pl-PROG-fly
           "The birds are flying." (Perrott 1957: 36)

(6) *Korean:*
   (a)   *Sæ-ka   nan-∅-ta*
           bird-NOM   fly-NONPAST-DECLARATIVE
           "Birds fly."

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of accomplishments extends throughout the
tense system, so that the Hungarian simple
present is best translated by the English
present progressive, and the Hungarian future
is best translated by the English future
progressive. The English simple tenses must
always be translated by a Hungarian
perfective.
     Suppose that there were a parameter,
having to do with the default interpretation
of temporal structures. Suppose that
whenever possible, Hungarian represents a
temporal structure as extending over an
interval of time, while English does exactly
the opposite: it represents a temporal
structure as a point in time whenever
possible (Cowper 1992c: 11).

(b) Sǽ-tí-i   nal-ko   it-e̥-ta /iss-ø-ta/
     bird-PL-NOM   fly-PROG   be-NONPAST-DECLARATIVE
     "The birds are flying."   (translation by Ko, pc)

Contrast (4)-(6) with the Uradhi (Australia, Cape York Pen.)

example in (7).

(7) Uradhi: ula   utaẏa   awu-ɲa
                      3non-sg-NOM   dog-ABS   bark-PRES
                      "The dogs are barking/Dogs bark."
                      (Crowley 1983: (78), 363)

(4a)-(6a) can only be interpreted as comments on human physiology

and on natural avian proclivities; whereas, (4b)-(6b) must be

used to indicate actual vomiting or flapping of wings at the

moment of speech. Notice how this contrasts with the Australian

data in (7): the progressive is subsumed by the simple

inflectional system as indeed it is in the standard European

type. The progressive is, therefore, obligatorily expressed in

Iraqw, Swahili, Korean and indeed in virtually all non-European

systems, and thereby creates the formal diagnostic of the

bifurcating "present tense", either by means of verb stem

derivation (typically an affix surfacing between stem and

inflection) or through periphrasis with various major lexical

categories bearing aspect: 1) auxiliary verbs; 2) prepositions;

3) nominalizations/adjectivalizations; as well as some marginal

types employing adverbials or the antipassive in split-ergative

systems (DeCaen forthcoming: §4.4).

In addition to the "bifurcating present," many systems also

have a *semantically bifurcating past* in which the reading of the

past tense is ambiguous between past and present--a species of
systematic tense mismatch--determined by the inherent properties
of the verb. This additional characteristic is not universally
present in the perfective default class, but is dependent on the
nature of a language's lexicon. Some systems have both a stative
adjective and a paired stative verb (for isolating languages, the
same morpheme in different syntactic frames), contrasting being
in a state vs. entering into the state (ingressive, inchoative)
respectively. In such cases, the past tense with the stative
verb is best translated into English with the present tense of *to
be* plus adjective.[14]

The perfective class, as explained in DeCaen (forthcoming),
includes with very minor exceptions all non-Indo-European and
non-Uralic languages as well as a significant number of modern
Indo-European systems including English, Albanian, the Indic and
the Celtic groups (figure 1, next page). And if comparative
creole studies bear on the matter, it is also the unmarked tense-
aspect system as well (the idea is associated with the name
Bickerton: 1980, 1981, 1988, 1990; cf. Muysken 1981 and Romaine

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[14]Hopkins describes the typical scheme exemplified in
Hawaiian (1992: 52-53). The Hawaiian past formative *ua* with
statives indicates a past process resulting in the state already
being reached and is best translated by an English present tense
(cf. Elbert, Pukui 1979: §5.2, esp. 57-58).
    Comrie raises the issue of stative-ingressives in the
context of Chinese "aspect." He compares *tā gāo* "he is tall" vs.
tā gāo-le "he became tall, has become tall" [i.e., "he is tall
(now)"] (Comrie 1976: 20).

LIMITS OF THE NONPERFECTIVE SYSTEM
(Excluding Spread through European Colonialism)

▲ Nonperfective Default

△ Perfective Default

FIGURE 1

30
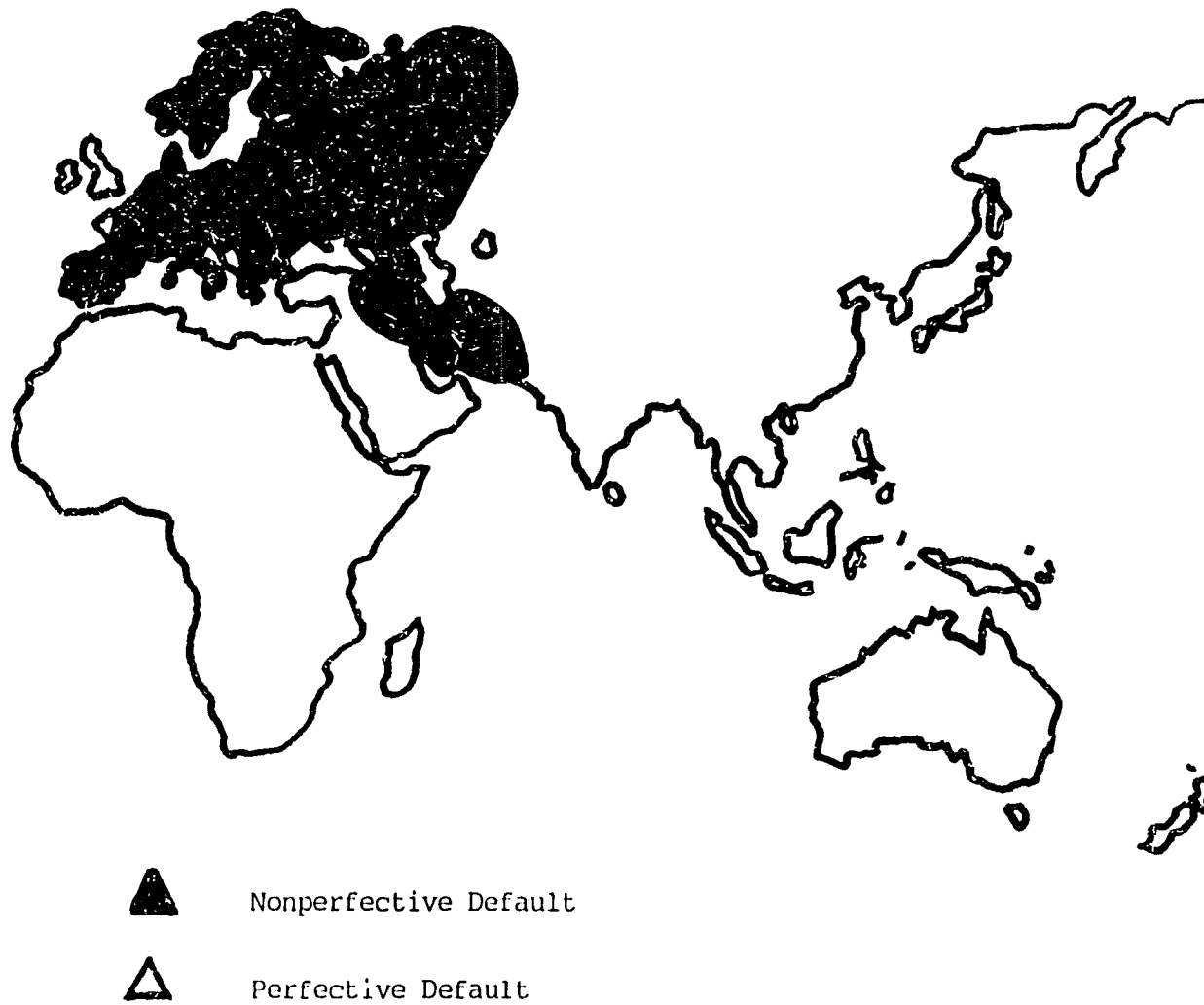
1988: ch. 7[15]). Clearly numbered among the perfective languages are apparently all creoles; the Indic heirs of Sanskrit (e.g., Marathi, Gujarati, Punjabi, Hindi-Urdu and Bengali); all Benue-Congo languages including Swahili, Zulu, Kikuyu and Sesotho (and also, e.g., those from Cameroon detailed in Anderson, Comrie 1991); the Western (Tagalog, Ilokano, Javanese) and Eastern Oceanic (Tahitian, Samoan, Maori, Hawaiian) branches of the Malayo-Polynesian family; as well as Mon-Khmer (Vietnamese, Cambodian), Kam-Tai (Laotian, Thai), Dravidian (Tamil, Kannada, Telugu), Sino-Tibetan (Chinese dialects, Burmese, Tibetan), Indo-Pacific (Hua), Australian (Margany, Wargamy, Mbabaram, etc.), Afroasiatic (the Cushitic, Berber, Chadic and Semitic families; Middle Egyptian), the West Atlantic (Wolof, Fula) and Kwa (Yoruba, Igbo, Kru) families in the Niger-Congo macrofamily, Nilo-Saharan (Maasai) and Khosian (Nama-Hottentot), Amerindian families such as Eskimo-Aleut, Siouan, Iroquoian, Caddoan, Muskogean, Uto-Aztecan and Mayan, and the Quechua dialects of the Andean-Equatorial family.

We may speculate that the continued enigma of the Biblical Hebrew verbal system derives in no small measure from the considerably different dynamic of Indo-European systems—especially the classical systems of Greek, Latin and Sanskrit which have shaped our grammatical traditions—that default for

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[15]"If we take it that it is most natural for a past tense verb to have perfective meaning, then it is natural for a language to seek some other means of expressing a past tense that does not indicate a single complete action" (Comrie 1976: 72).

the nonperfective (the simple tenses with simplex dynamic verbs
do not exclude the progressive, though apparently all systems
possess a progressive construction). As Dahl comments,

> a linguist who studies one language or a
> couple of languages from a restricted area
> may be unlucky enough to meet grammatical
> phenomena that turn out to be very untypical
> from a universal point of view (Dahl 1985:
> 20).

1.3.4.2 *Morpheme Inventory*. The formative configuration of the
verbal system posited for Biblical Hebrew is doubly marked, with
ternary rather than binary contrasts in both the tense and aspect
subsystems, as is English. The English configuration is given in
(8); the Hebrew analogue is detailed below. (8) represents a
substantive claim that is taken up in ch. 7.

(8) (a)
```
                    TENSE
          ┌───────────┴───────────┐
        PAST                    NONPAST
        -ed                        │
                        ┌──────────┴──────────┐
                     PRESENT              SUBJUNCTIVE
                       -s                     -∅
```

(b)
```
                    ASPECT
          ┌───────────┴───────────┐
      PERFECTIVE              IMPERFECTIVE
          -∅                       │
                        ┌──────────┴──────────┐
                     PERFECT              PROGRESSIVE
                       -en                   -ing
```
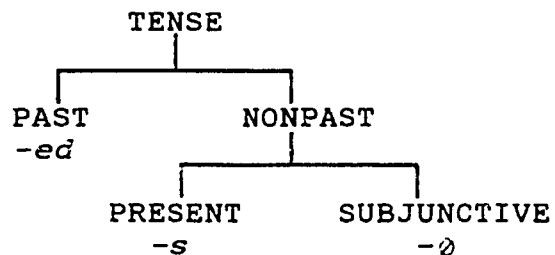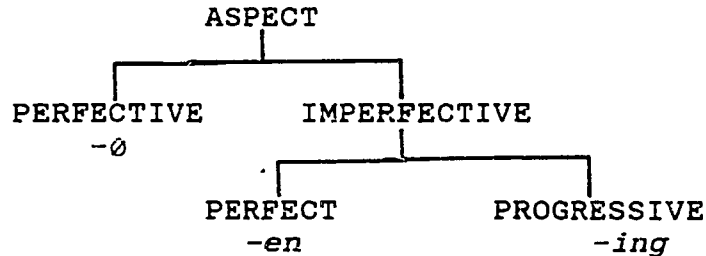
English differs enormously from Biblical Hebrew, indeed all so-called "tenseless" systems, in its many composite or compound "tenses" created by the stacking of auxiliary verbs, thereby adding considerably more expressive power.

1.3.4.3 *The Dynamic of a "Relative" Tense System.* While the formative inventory is comparable to English, the actual overall dynamic of the system is a close match to Japanese. Points of interest arising in several contexts in this study include 1) the rule-governed determination of relative vs. absolute tense in subordinate constructions (Japanese through lexis [Nakau 1976: 436ff.], Hebrew through verb-movement [reinterpreting Peckham 1994]); 2) discourse-driven "tense mixing" (present in past narrative [Soga 1983: appendix, esp. p.219; comparative Korean data in Hwang 1987: ch.4]); 3) the use of the past for present/future mentioned above in §1.2.2.1; and 4) the lack of modal auxiliaries (and so the simple "present" tense performing double duty as the "future").

1.3.4.4 *Hebrew Peculiarities.* Biblical Hebrew differs in two important respects from English and Japanese; these differences are sufficient to mask the underlying parallelism in the paradigms. 1) The Hebrew auxiliary √*hyy* "to be(come)" (English *be* and Japanese *i-ru*) that would otherwise support the nonfinite progressive is omitted in the present (but surfaces of course elsewhere). Many languages omit the copula with present

reference, e.g., Russian: in such cases, the copula with present tense endings is usually read as future. The formal parallelism is thus broken at a key point.

2) Biblical Hebrew is characterized by "tense neutralization" which interacts with the modal subsystem,[16] apparently an areal-temporal phenomenon (Loprieno 1980: esp. 15-16) found in neighbouring Northwest systems (Old Aramaic [Zkr inscription] and the new inscription from Tel Dan, Deir Alla, Moabite, perhaps common Northwest Semitic [Garr 1985: ch. 4, §8, 184-186]) as well as in Late Egyptian (Loprieno 1980). Tense neutralization is scattered throughout the world's languages, though is particularly prevalent on the African continent

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[16] The traditional term in Hebrew studies is "consecution" (less commonly "sequence"). However, since the Hebrew phenomenon is one variation on a common theme, Comrie's inclusive technical term is preferable (Comrie §5.1, 102-104). Comrie defines "tense neutralization" as follows.

> In several languages, there is a rule whereby within what would otherwise be a sequence of like tenses within a sentence, only the first verb shows the expected tense, while all subsequent verbs are in a single tense category, irrespective of the tense of the first verb (and thus the time reference of the later verbs (Comrie 1985: 102).

Comrie cites Bahinemo and reconstructed Proto-Indo-European (1985: 103) as well as the two-way contrast in Fula involving modality (1985: §5.2, 104-105; cf. Arnott 1970: §§56.1-56.7, 326-329). The latter two-way modal contrast is also posited here for Biblical Hebrew.
The important relation between tense neutralization and modality is captured in Palmer: he clearly connects the "neutralized" forms with the "subjunctive" of the languages surveyed including Fula, Maasai and Yoruba (1986: §5.5.2, 204-207). This correlation with the subjunctive is crucial in the model offered in Part III.

(Welmers 1973: §§12.10-12.14, 364-378; Longacre 1990).[17] The
very nature of the phenomenon ensures the prevalence of marked
constructions, especially in narrative (based on several trial
cuts, roughly 60% of matrix clauses in Standard Hebrew
narrative[18]), often to the point of marginalizing the core tense
system in some texts (e.g., Genesis 22: Bandstra 1992).

The next chapter of this introductory section considers the
problem of tenseless languages from the perspective of Universal
Grammar. The remaining chapter is an introduction to the broad
semantic and pragmatic theory underlying this study which
integrates concerns already raised. The notions of
compositionality and modularity, "strict compositionality," and
the crucial methodological separation of semantics from
pragmatics (especially with regard to the consecutive
phenomenon), are presented in some detail with English examples.
An appendix supplies the transliteration employed and explains
the use of tree notation and its conversion to the labelled
bracket notation.

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[17]The Bantu systems are of interest because the forms are
traditionally described as separate "tenses." Similarly,
Dyirbal's -ɲurra consecutive morpheme also (apparently) replaces
the tense formatives (Dixon 1972).

Haiman describes what are traditionally known as "medial" or
non-final verb forms (i.e., they must be followed by another
clause) that make up for a lack of clause conjunctions, a species
of consecutive that apparently is an areal phenomenon as well;
this construction can distinguish between coreferential and non-
coreferential subjects in the following clause (summary, Haiman
1980: xlvii-xlviii).

[18]Schneider averages the count from a number of texts at 75%
(Schneider 1978: §48.1.2.1).

2

BIBLICAL HEBREW AND UNIVERSAL GRAMMAR

*The general importance of the . . . discussion of the Semitic verb
is that the very same issues arise in regard to a great many
languages which lack absolute tense systems* (Binnick 1991:
§8t, 444).

*[highly constrained] systems [with certain free parameters which
can be fixed] will allow for the substantial surface diversity
found among natural languages by allowing the free parameters to
be fixed differently in different languages* (Hornstein
1981: 119).

There was a time when languages could be studied in
isolation, a time when language families such as the Indo-
European family were considered unrelated to their neighbours.
But now the pendulum has definitely swung the other way. Long-
distance comparison has established a reasonably solid foundation
on which to build; labels such as Afroasiatic, Eurasiatic or
Nostratic are gaining a foothold in mainstream discourse. And
yes, languages vary considerably, but that variation is within
bands narrower than previously imagined.

This chapter introduces the concept of universal grammar,
and indicates in what way adopting the perspective of universal

grammar can recast the enigma of the Biblical Hebrew verbal system.

§2.1. ON TENSELESS LANGUAGES AND UNIVERSAL GRAMMAR

§2.1.1   *A Three-Part Question*

This study in its present form has evolved from the following three-part question.

1)   Does universal grammar generate "tenseless" languages?

2)   If so, is Biblical Hebrew an instance thereof?

3)   If so, what does the Biblical Hebrew inflectional system encode? (and what does this mean for the formulation of universal grammar?)

To understand the implications of this question we must first examine the terms "universal grammar," "generate" and "tenseless," and also consider the range of possibilities for 3) in the context of the world's languages.

§2.1.2   *Universal Grammar*

There are, broadly speaking, two senses in which the term "universal grammar" might be understood, associated with the two names Greenberg and Chomsky (Comrie 1989: §1.1, 1ff.). There is an important variation on the latter associated with the name Bickerton (these two approaches differ, or more accurately differed, largely in emphasis, and have come closer in recent years [brief summary with contrasts in Romaine 1988: ch. 7]).

Each sense carries implicitly an entire research programme; the programmes complement each other and are more profitably pursued in tandem.

2.1.2.1 *Greenberg: Descriptive-Typological.* In the descriptive mode, the object is to capture the range of variation in *all attested* human languages. The goal of this inductive research is a catalogue of linguistic features as well as broad generalizations and tendencies set out within a relatively coarse-grained theoretical framework. Of the more important contributions to the study of tense and aspect, Comrie (1976) and (1985) are clear examples of this research strategy.

It is important to remember that even this "loose" descriptive sense of universal grammar was highly controversial only a few decades ago. Sapir, in his pioneering masterpiece, writes,

> Walking, then, is a general human activity
> that varies only within circumscribed limits
> as we pass from individual to individual.
> Its variability is involuntary and
> purposeless. Speech is a human activity that
> *varies without assignable limit* as we pass
> from social group to social group, the
> product of long-continued social usage. . . .
> speech is a non-instinctive, acquired,
> "cultural" function (Sapir 1921: 4 [emphasis
> mine]; cf. Joos 1957: "languages could
> differ from each other *without limit and in
> unpredictable ways*" [in Atkinson 1992: 21].).

In a similar vein, Bloomfield comments,

The only useful generalizations about

>language are inductive generalizations.
>Features which we think ought to be universal
>may be absent from the very next language
>that becomes accessible (Bloomfield 1933: 20,
>cited in Atkinson 1992: 21).

Cook recasts the position in current terms thus:

>Logically, the potential number of human
>languages is infinite; the permutations and
>combinations *could vary without rhyme or
>reason*. This has indeed been taken as
>axiomatic by some linguists (Cook 1988: 50
>[emphasis mine]).

More than a generation after Sapir and Bloomfield, Dahl replies,

reflecting the current consensus of mainstream linguistics, that

>*there must be some limit to variation among
>languages*: this is probably a relatively
>uncontroversial assumption today, but only
>thirty years ago [i.e., mid-50s] the
>prevailing dogma in at least some of the most
>influential schools of linguistics was
>exactly the denial of it (Dahl 1985: 31
>[emphasis mine]).

2.1.2.2 *Chomsky: Generative Grammar.* There is a highly

influential if controversial extension of the term universal

grammar associated with the name Chomsky. Rather than universal

grammar being defined as the set of attested human languages, it

is defined as the set of *nomologically possible human languages*

(Fodor 1983: 50). This shift in emphasis is quite dramatic. On

this view, we must now search for a general theory of human

language that not only explains the attested phenomena, but also

strictly defines the notion "possible human language" with

reference to biological endowment or the "laws of the mind" (or "nomology"). In this second sense the investigation of tense and aspect becomes much more challenging if not also much more interesting.

It is surprising how far the study of universal grammar in this second "explanatory" sense (i.e., vs. "descriptive") has come in the last decade or so, especially in the subdisciplines of phonology and syntax. The great advances have come in switching to a "Principles and Parameters" approach to grammatical problems which, e.g., underlies the syntactic theory in ch. 5 with respect to phrase structure. Two major parameters are involved in phrase structure: 1) the position of the phrase head (e.g., preposition) with reference to the object it governs (e.g., the object of a preposition); and 2) the position of "subject" or "specifier" with reference to the intermediate head-object construction. By setting these two parameters, we can in principle account for the phrase structure of any particular language.

By extension, we would assume that the subsystems of tense, mood and aspect are similarly subject to parameterization. It does indeed appear that grammatical tense and aspect can be parameterized in a similar fashion. As explained at several points, there appears to be only one major parameter: an aspectual default. In addition, at least two intermediate-level parameters (one each for tense and mood) are required, and a handful of low-level parameters are needed to regulate lexical

representations of verbs as well as the interpretation of tense-aspect with certain lexical classes.

The research goal on this view is a formal, computational device that accounts for the innate properties of human language. Researchers generally focus intensively on a few languages, attempting to exhaustively formalize a particular subsystem with reference to a general theory that is in constant flux. Thus we can attempt to formalize a model of Hebrew tense and aspect with the expectation of approximating a universal model.

2.1.2.3 *Bickerton: Natural Semantax.* To Bickerton we owe the popularization of the terms "bioprogram," "natural semantax" and "universal prototype." There are several ways in which Bickerton's view differs from the Chomskyan position.

First, there is an emphasis on the evolution of language supplemented by the study of children's acquisition: a type of "linguistic embryology" in which ontogeny recapitulates phylogeny, in effect a "bioprogram" (Romaine 1988: §§7.2, 7.4 esp. 275). For Chomsky, the question of language evolution is uninteresting if not meaningless; and developmental stages play no role in the formulation of an adequate computational model of the mature linguistic competence.

Second, while recent contributions of Chomsky and associates might be deemed "syntacto-centric" (e.g., Jackendoff 1990: 19), Bickerton's approach might be more "semantico-centric." Instead of syntax Bickerton writes in terms of "semantax." With the

recent shift away from an interpretive to a creative, fully autonomous semantic component (e.g., Jackendoff 1990, Sadock 1991) the differences between positions largely evaporate.

Finally, Bickerton theorizes in terms of "prototypes" to which languages may more or less conform. The tense-mood-aspect system of creoles is held to be a "universal prototype" of this semantic subsystem. Bickerton has come around to speaking of the prototype more in terms of unmarked parameters in universal grammar, reducing the positions to differences in terminology (Romaine 1988: 313).

§2.1.3 *On the Definition of "Tenseless"*

If by tenseless we understand "without temporal deixis," then certainly no such wildly dysfunctional object as a "tenseless language" exists (despite the spurious claims of Whorf [1938, 1946] regarding Hopi). "Probably all languages can lexicalise time reference, i.e. have temporal adverbs that locate situations in time, such as English *today, the year before last, at five o'clock*" (Comrie 1976: 6; cf. Lyons 1977: 679). When Blake comments that a "tenseless language" is "a system which it is difficult to imagine as developing and existing in the minds of any language group" (Blake 1951: 1), we must agree.[19]

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[19]In fact there are some who have no difficulty in this regard. There is a popular "Whorfian" school of thought that contrasts the primitive, concrete Hebrew thought (a sort of Semitic Hopi) with an abstract logical Greek perspective, locating the differences in the respective linguistic idioms. Norton has recently reprinted Thorlief Boman's *Hebrew Thought*

Similarly, Peckham writes, "This conclusion [that Biblical Hebrew is "tenseless"] flies in the face of commonsense, since most readers and translators find that Hebrew conforms to the requirements of their languages which are not tenseless" (Peckham 1994: 7). But such criticisms miss the point: the question is actually whether *formally or grammatically tenseless* languages are possible as viable human languages, and it does not appear that we can immediately rule this out as a logical possibility.

We could understand "formally tenseless" as lacking "inflectional tense." We would then by definition exclude a large class of languages on the basis of morphological type, specifically the morphologically "isolating" class of which the Atlantic creoles and the Chinese dialects are paradigms.[20] Such

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Compared with Greek, attesting to the popularity of this line of thinking. Therein the Israelite conception of time is described with reference, in part, to the verbal system (Boman 1960: III.B.2, esp. §§d-e, 143ff.).

There are two comments in order here. 1) In modern linguistics there is no room for the concept "primitive" language. "All languages and all varieties of a particular language have grammars that enable their speakers to express any proposition that the human mind can produce. In terms of this all-important criterion, then, all varieties of language are absolutely equal as instruments of communication and thought" (O'Grady, Dobrovolsky 1992: ch. 1, §2.2, 6). 2) The orientation of mainstream linguistics within cognitive science serves to emphasize the unity of human conceptualizing through natural language. We now speak of human languages as vehicles for a universal "mentalese" (e.g., Pinker 1994: ch. 3; Jackendoff 1990: ch. 1). This position is in stark contrast to that represented by Boman.

[20]This morphological exclusion is implicit in comments on Chinese and similar systems in the general surveys. Binnick writes that "the verb of Chinese is invariable" and therefore tenseless (1991: 8). In fact, among the relevant tense-aspect formatives in Mandarin are *-le*, *-zhe* and *-guo*--all enclitics:

a strategy makes an untenable claim as to the relation between inflection (INFL) and the degree of grammaticalization (general issues are raised, e.g., in Hopper, Traugott 1993, ch. 1).

We shall, therefore, define "tenseless language" operationally as follows. A tenseless language is a system lacking a closed set of morphemes (thereby excluding the major lexical categories) one of which encodes PAST. In this way we capture the essence of a grammatical tense system without indicating whether the relevant PAST morpheme is realized as inflection or as a "particle" or an "auxiliary" (depending on the language's resources) or perhaps as an abstract element that is lexicalized by syntactic rearrangement.[21]

§2.1.4 *The Nature of "Tenseless" Candidates*

The claims regarding the systems of tenseless languages throughout the world fall under two rubrics: 1) modal systems; and 2) aspectual systems. The modal analysis is extremely marginal; an aspectual analysis is virtually universal for tenseless systems. Both approaches have been taken in the study of Biblical Hebrew and the Semitic systems generally: here too

---

the verb is "variable." Similarly, Comrie's comments on morphological boundness might exclude such systems (1985: §1.4, 10; cf. 1976: 6).

[21]The substance of the proposal in Peckham (nd, 1994) is that tense is encoded in relative word order. To my knowledge, this is a unique claim in the literature on tense and aspect. Nevertheless, such a system is a logical possibility and could in fact be formalized within the framework adopted below, especially in chs. 5 and 7.

the modal approach is marginal, the aspectual is virtually

uncontested.

2.1.4.1 *Modal Systems.*   Binnick (1991: §8s, 442) correctly

draws attention to the equivocal presentation of the West Semitic

verbal system in O'Leary (1923):   on the one hand O'Leary

describes an aspectual system (235, 247), on the other hand a

modal system (235ff.).   On the latter, he writes

> The "perfect" of West Semitic . . . expresses
> a state or action which is definitely
> asserted and regarded as certain as
> contrasted with the imperfect expressing what
> may be, what is possible, or can be treated
> as an accessory, causal, conditional, etc.
> (O'Leary 1923: 235).

In addition to Zuber (1986), Joosten has tentatively suggested

that his work could be expanded into a full-blown modal analysis

along similar lines (Joosten 1992: §3, 12-14).

Two comments are in order.   First, the modal approach has

never been clearly articulated or advocated and so is passed over

here.   Secondly, the modal theory presupposes the binary rather

than the ternary finite system for Biblical Hebrew and the West

Semitic family generally, and as stated above, this position is

ultimately untenable.   Nevertheless, proponents could point to

Whorf's modal Hopi (Whorf 1938, 1946) and Comrie's two examples

of "inflectional" modal systems (Comrie 1985: §2.5, 50-53):

Burmese and Dyirbal.[22]

Burmese (Sino-Tibetan family) is described in the standard grammar Okell (1969; cf. Bernot 1980) as "modal." On closer inspection, the claim is dubious. Burmese appears to have a typical ternary tense system (inflectional enclitics) as well as a typical aspectual system (with auxiliary verbs), both given in (9).

(9a)
```
                    TENSE
        ┌─────────────┴──────────────┐
      PAST                         NONPAST
      -pi                 ┌───────────┴───────┐
                      PRESENT                 ∅
                       -te
```

(9b)
```
                    ASPECT
        ┌─────────────┴──────────────┐
   PERFECTIVE                   NONPERFECTIVE
       ∅                 ┌───────────┴───────┐
                    PROGRESSIVE           PERFECT
                       nei                  pi
                  "stay, remain;         "finish"
                       live"
```
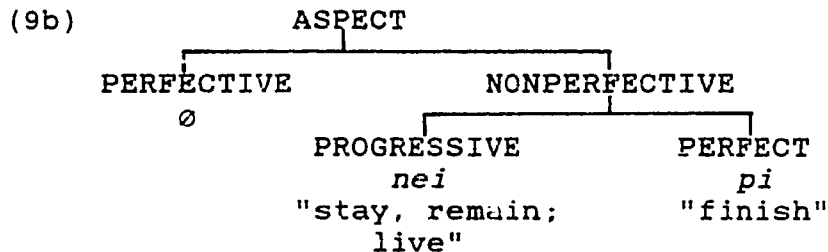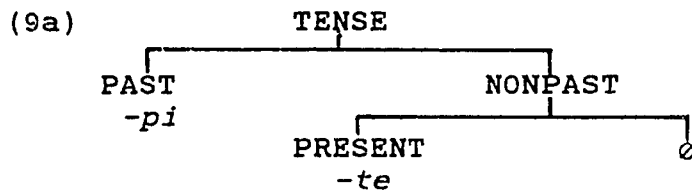
The difficulty arises in adding the particle -me (irrealis) to

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[22]There are a few others in the literature. Chung and Timberlake, e.g., cite Takelma (1985: 204) on the strength of Sapir (1912 [unavailable at the time of writing]).

Haiman describes the Hua system (New Guinea) as [±future] (1980: §7.2.1.5, 140-144): "There is only one formally marked distinction of tense, that between non-future (no auxiliary) and future, the latter being represented by a variety of auxiliaries" (140). On closer inspection the "auxiliaries" are several modals surfacing outermost in a particle stack, contrasting with zero since the system as described is otherwise "aspectual." The system bears close comparison with Yoruba (see next section §2.1.4.2).

the inflectional set in (9a), thereby creating a superordinate realis-irrealis distinction and hence the "modal" system. The language is head-final and there are a number of ways the modal construction could arise. For example, the construction with -*me* could be analyzed as the head of a compound verb (much like *will* in the English analogue) with the zero tense morpheme (a rather typical "future" tense in that case); or less likely, -*me* might be analyzed as a subordinating conjunction or "complementizer," again with zero tense-form. It is a matter for further investigation, but special attention should be paid to the distributional properties of -*me* over against -*pi* and -*te*, and also the possibility of combining -*me* with -*pi*.

Dyirbal, an Australian language from North Queensland, is analyzed by Dixon (1972: §3.4.3, 55) as encoding [±future] through its inflectional system; Comrie reasonably reinterprets the claim as [±irrealis] (Comrie 1985: 39-40, 51). There are several reasons to doubt this claim. First, the "future" also has the generic or timeless value(s) (Dixon 1972: §3.4.3, 55) so common for the nonpast in systems that default for the perfective. Second, the "future" is read as the present in construction with the antipassive -*ŋay* (Dixon 1972: §4.8.1, 91). Third, the "true" English present, the present progressive, does apparently have an analogue in Dyirbal--but with the antipassive construction (Schmidt 1985: 74-75). "Semantically, in its aspectual function, -1ŋay affix [the antipassive] indicates an ongoing action that actually takes place" (Schmidt 1985: 74; cf.

Dixon 1972: §4.8.1, 91; and Dixon 1977 for Yidiɲ, esp §5.5.3,

450-452). Schmidt includes a typical example of the antipassive-

progressive given in (10).

(10)   yuray!   ŋaja bura-lŋa-nyu
           quiet   I   see-ANT-NONFUT
                            [i.e.,   see-antipassive-nonpast]
           "[Be] quiet! I'm concentrating."

Thus the Dyirbal system appears on closer inspection to be a

typical member of the perfective class, inflecting for the basic

tense distinction [±past] together with the aspectual

[±progressive] encoded by what is described as the antipassive

formative.[23]

Malotki (1983) has put to rest the Hopi hoax, but it is

instructive to see how such an analysis can arise. If we go back

to the earliest work, we can see that Whorf was concentrating

solely on verbal derivation: a bare stem contrasting with two

suffixes, *-ni* (future or "expective") and *-ŋwi/u* (habitual or

---

[23]The phenomenon appears to be more widespread among "split
ergative" systems (i.e., where there are nominative-accusative
constructions derived by an "antipassive" transformation). This
split can correspond with aspect, as Dixon explains.

> If absolutive-ergative marking is found in
> one part of the system, we would expect it to
> be in past tense or in perfective aspect....
> In non-past tense or in imperfective aspect,
> nominative-accusative marking would be
> expected.... if a split is conditioned by
> tense or aspect, the ergative is *always* found
> either in past tense or in perfective aspect
> (Dixon 1994: 99; see further pp. 99-101).

"nomic", Whorf 1938). In fact, the verbal derivational system is much richer, with many aspectual and modal formatives (Malotki 1983: fig. 9, 626). One that gets passing mention is the diagnostic progressive (Whorf 1946: §5, 174; cf. Kalectaca 1978: less. 13) which contrasts with a perfective bare stem.

Hopi conforms in fact to the general Amerindian configuration of the "tenseless" system. The relevant tense-aspect formative (often labelled "aorist") is typically a preverbal particle in the Amerindian systems and can be separated some distance from the verb. Typically the particle has a fixed position relative to the verb complex, but in Hopi ordering is freer. It would seem that these languages are rendered "tenseless" by an implicit definition of tense that insists on the morphological criterion (rejected above §2.1.3):[24] hence Whorf's and others' concentration on verbal suffixation. The examples in (11)-(12) adapted from Kalectaca (1978: 143) show the use of the Hopi particle *as*.

(11a)   *kuuyi*   *muki*
           water   hot
           "The water is hot."

---

[24]"While much traditional grammar regards tense as a category of the verb on the basis of its morphological attachment to the verb, more recently it has been argued that tense should be regarded as a category of the whole sentence, or in logical terms of the whole proposition, since it is the truth-value of the proposition as a whole, rather than just some property of the verb, that must be matched against the state of the world at the appropriate time point" (Comrie 1985: §1.4, 12; cf. Lyons 1977: §15.4, 678).

(11b)   *kuuyi*   *as*   *muki*
          water   Past   hot
          "The water was hot."

(12a)   *nu'*   *sayti-ni*
          I   smile-Modal
          "I will smile."

(12b)   *nu'*   *as*   *sayti-ni*
          I   Past   smile-Modal
          "I was going to smile."

2.1.4.2   *Aspectual Systems.*   The traditional aspectual

consensus on Biblical Hebrew (stated in §1.2.1) is the most

consistent approach in the light of tenseless languages around

the world.   If we eliminate spurious examples such as Japanese

(Soga 1983) or Igbo,[25] there are still several important classes

of putatively "aspectual" systems listed in (13) with tokens in

brackets:

---

[25]In the analysis of Igbo (Kwa family, West Africa),
traditionally described as "aspectual" (e.g., Emenanjo 1985),
three separate elements are conflated under the heading "aspect":
1) "extensional" or inner suffixes that belong to a larger
derivational class and clearly modify a lexeme's inherent
aspectual reading;   2) an outer suffixal system encoding a
ternary contrast and answering to relative tense,

```
                  TENSE
           ┌────────┴────────┐
        PAST              NONPAST
        lE;nE;go      ┌──────┴──────┐
                     ghE            ∅
```
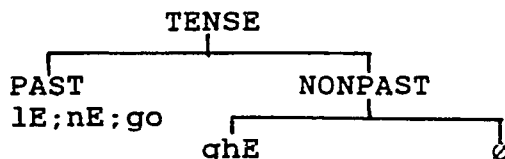
and 3) between two and ten auxiliary verbs encoding variously
aspect and mood, especially *na* < "be.in" and *ka/ga* < "go."

(13) 1)   Sino-Tibetan (Mandarin)
     2)   West Africa (Yoruba)
     3)   Atlantic Creoles (Haitian)
     4)   Amerindian (Mohawk)
     5)   Semitic (Arabic)

Together with other minor groups such as Kam-Thai (Laotian, Thai) or Mon-Khmer (Vietnamese, Cambodian) the groupings in (13) form a homogeneous type: the aspectual system. Notice that while the isolating extreme of the spectrum (one word, one morpheme) predominates--types 1)-3)--, it is a mistake to tie the tenseless verbal system directly to the isolating morphological class.

The aspectual type is defined by a marked term that combines in varying degrees past tense, perfective aspect and realis mood. Since it is generally held that the past and realis senses are defeasible, grammarians favour a perfective analysis for this marked formative: Mandarin "perfective" -*le*; Yoruba "perfect" *ti*; Haitian "anterior" *te/ti*; the "perfect(ive)" suffixed conjugation in Arabic; and the "aorist" preverbal particle *waʔ* in Mohawk.[26] Out of context this perfective morpheme is interpreted as past tense, and with the exception of the Semitic family, contrasts with zero (i.e., the autonomous verb stem)-- presumably then a "nonperfective." Both the perfective and the verb stem or "nonperfective" exclude the progressive, which upon

---

[26]In Bonvillain (1973), the verbal stem is the "perfective" or "punctual" form, and contrasts with a stem derived by suffixing /-s-/ which combines progressive and habitual: an "active state serial" (Bonvillain 1973: esp. 213). The past tense is formed by combining the "perfective" with the "aorist" particle (Bonvillain 1973: §7.1.1, 164-168).

a moment's reflection is wholly remarkable: the "nonperfective,"
the absence of perfectivity should subsume rather than exclude
the progressive. Thus we find in addition to the verb stem or
zero form constructions such as *(zhèng) zài V* (Mandarin "at V")
or *ń V* (Yoruba *ń* < "be.in") to encode the progressive
periphrastically.

A number of discourse factors conspire to boost the
frequency of the zero form in types 1)-3), marginalizing the verb
+ particle construction. For example, in Jamaican creole, the
particles are in complementary distribution with overt
expressions of time (Comrie 1985: 31). Such behaviour is also
found in Mandarin as shown in (14).

(14) *tāmen*   *qiántiān*   *jiào(*-le)*
     they   day.before.yesterday   tell(*-Perf.)

     wǒ *zài*   *zhèli*   *děng*
     I   at   here   wait

     "The day before yesterday, they told me to wait here."
     (adapted from Li, Thompson 1981: (115), 214)

Often the zero form is the preferred form in narrative; or the
zero form will surface in what would otherwise be described as
tense neutralization (§1.3.4.4, esp. note 16). The zero form is
also the most frequently met in subordinate constructions. Note
also that it is sometimes claimed that the preferred reading for
the zero form is past for the dynamic verbs, but present for the
statives (e.g., Yoruba [Comrie 1976: 82]).

There are a number of good reasons to reconsider the
aspectual analyses of these languages, e.g., that aspectual

formatives form separate morphosyntactic classes instead of patterning together, and we will look closely at some in the reconsideration of Biblical Hebrew aspect in ch. 6. One of the more curious problems is briefly raised here, viz. the free combination of the perfective formative with the progressive construction. There are some complications in a few systems that force a qualification of the generalization, conspicuously in Mandarin; nevertheless, the generalization is strong and completely at odds with expectations. Consider the examples in (15)-(17).

(15) *Hua (New Guinea):*

> *hu+ bai+ ro+ e*
> do   PROG PERF I
> "I have been doing" (Haiman 1980: 137-138)

(16) *Yoruba:*

> ó-   ti- ń-   sɔkɑ́   fɑ́ wákàtĭ mɛ́ta
> he   PERF PROG cry   for three hours
> "He has been crying for three hours."
>   (adapted from Wolff 1961: 75)

(17) *Hawaiian English Creole:*

> *...you know where we bin stay go before...*
>   PERF PROG
> "...you know where we had been going before..."
>   (adapted from Givón 1984-1990: (45.b),
>   294, citing Bickerton)

The combination of perfective and progressive produces a progressive in the past; the suggestion is that the perfective encodes not aspect but tense.

To summarize: the most consistent approach to Biblical Hebrew in the light of cross-linguistic surveys is the aspectual: [±perfective] as the core distinction.   The suffixed conjugation described in ch. 4 conforms to type in encoding [+perfective], and the perfective and the progressive freely combine in the construction with the perfective of √hyy "be" supporting the participle.   Only with respect to morphological type is Biblical Hebrew an atypical tenseless or aspectual system.

§2.1.5 *A Quick Answer to the Three-Part Question and the Problem*

To return to the tripartite question in §2.1.1, the prima facie answer to the first segment is Yes.   And the most reasonable answer to the third segment is aspect (on the assumption, of course, that Biblical Hebrew is in fact "tenseless").   So why should this pose any problem?

Taking the 4000-8000 languages of the world, it is reasonable to posit a general or "universal" grammar with three functional categories as in (18).

```
(18)        TENSE
          /       \
     [αPAST]     MOOD
              /        \
         [βIRR]       ASPECT
                    /        \
              [γPROGR]      EVENT
                 or      /‾‾‾‾‾‾\
              [δPERF]   /_____\
```
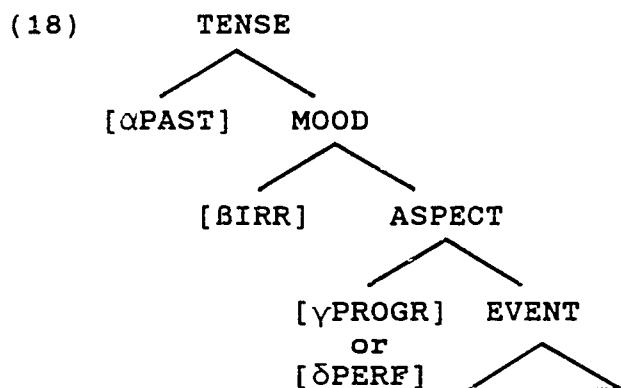
The Greek letters are read as variables with the values [+] or [-].

The upshot of (18) is that it takes only two formatives, one tense and one aspectual, to create a viable tense-aspect system in natural language. Except for the aspectual option, (18) conforms to the contents of Bickerton's bioprogram with respect to tense, mood and aspect. The nesting of the semantic categories conforms to suggestions in Givón (1982: 127); actual ordering is language-dependent.

The only parameter in (18) is aspectual following Comrie and Cowper (note 13 above): whether the aspectual principle or default of a given language is perfective or not. As concluded in DeCaen (forthcoming), the unmarked setting is perfective, i.e., [αPROGR]. Two intermediate parameters are required to generate ternary tense and mood subsystems. The [-PAST] node can be expanded by [αPRESENT], thereby creating a marked ternary system. It is less clear what is required for mood or "existential status"--a relatively neglected category--, but it may be that [+IRR] can be divided along the lines of the traditional deontic/epistemic distinction with [αIMPERATIVE]: again, a ternary expansion.

To repeat: why the problem? It would be preferable to make the strong claim that universal grammar has just these three well-motivated functional categories with such parameter settings. However, if we admit the class of so-called "tenseless" languages, we would be forced to abandon the strong

claim and to introduce a further major parameter setting: languages are free to choose whether or not they express the tense category at all. This is clearly undesirable in universal perspective.

This dissertation proposes that Biblical Hebrew is not in fact "tenseless." The theory and method employed extend in principle to the aspectual class as a whole, eliminating the tenseless class and bringing these languages into line with the schema in (18), thereby preserving the strong claim with respect to universal grammar.

§2.2 ASPECTUAL SYSTEMS AND LINGUISTIC TYPOLOGY

§2.2.1 *Typological Arguments*

Arguments from linguistic typology have been gaining greater force in certain sectors of the field of linguistics. Elsewhere I have written briefly on typological argumentation in historical linguistics and the reanalysis of the Indo-European consonantal system (DeCaen 1992a: §2, 34ff.). Traditionally a three-way stop distinction is posited on the strength of Sanskrit: e.g., the dental series *t, d, dh*. But the configuration with two voiced segments contrasting with one voiceless is highly atypical in light of cross-linguistic surveys; rather, we typically find two voiceless segments, one with secondary articulation, contrasting with one voiced. To make a long story short, the new system posited for Indo-European, *t, t', d,* is now typologically plausible.

Typological considerations are never probative; rather, typological arguments have great heuristic value in model building. We gain from typological considerations a sense of what is typical or unmarked, a sense of what is improbable and what is patently impossible.

§2.2.2 *Atypical Behaviour of the Perfective in Tenseless Systems*

We know that aspect, and particularly perfective aspect, freely combines with all tenses and temporal adverbs, and even with nonfinite constructions. However, the putative perfective of the tenseless or aspectual class of languages is restricted in its distribution: for instance, it does not combine with nonfinite constructions. There are also the following difficulties in the interaction with time and adverbs.

2.2.2.1 *Interaction with Temporal Adverbs.* Consider the interaction of temporal adverbs and "inflectional aspect" in Maltese (a development from classical Arabic). The data in (19)-(20) is provided by Borg (1981); note that the asterisk indicates "ungrammatical."

(19) *Perfective:*

    Ġanni mexa mid-dar sa l-iskola . . . (= (125), p. 155)
    "John walked from home to school . . ."

        (a)   il-bieraħ
              yesterday

        (b)   il-lum
              today

(c) *għada
tomorrow

(20) *Imperfective:*

Ġanni jimxi mid-dar sa l-iskola . . . (= (130), pp. 155-159)
"John walks from home to school . . ."

(a) *il-bieraħ
yesterday

(b) il-lum
today

(c) għada
tomorrow

The same result with the imperfective obtains for the participle
(Borg 1981: (132), p. 160). This incompatibility of temporal
adverbs with the aspects is wholly unexpected; one would suppose
that this is the behaviour of tense. Arbitrary and unrelated
stipulations would have to be added for the aspects individually
on permissible collocations: an extremely undesirable result
which in effect superimposes the behaviour of tense on the
aspectual system. According to informants, the same
incompatibility of "aspects" and adverbs is found in modern
Standard Arabic and various Arabic dialects.

2.2.2.2 *Atypical Defaulting at the Moment of Speech.* The claim
that perfective and nonperfective will default for past and
nonpast readings respectively, both out of context and, e.g.,
relative to main verbs in subordination, is also unexpected. We
would assume, e.g., that out of context the moment of speech,

"the present" or deictic "now," would be taken as the reference point. (Similarly, the matrix clause becomes the "now" for relative clauses.) But we know that both perfective and nonperfective aspect freely combine with the nonpast; and we also know the most natural reading of the nonpast + perfective: not past but *"future"*,[27] associated typically with languages that default for the nonperfective because of the robust perfective marking. Consider some non-Indo-European data from Mofu-Gudur (a Chadic language from the Cameroon) in (21), adapted from Hollingsworth (1991: (15), p.246), and also from Hungarian in (22).

(21a)   *A   ∅   kərey   málágway.*
           she NONPAST   grind   corn
           "She grinds/is grinding corn."

(21b)   *A   ∅   kərey   málágway   lá.*
           she NONPAST   grind   corn   PERFECTIVE
           "She will grind corn."

(22a)   *Péter tanulja a leckét.*
           Peter is learning the lesson.

(22b)   *Péter megtanulja a leckét.*   [perfective *meg-*]
           Peter will learn the lesson.
               (Bánhidi *et al.* 1965: §67(d), p.127)

In Mofu-Gudur and Hungarian, the perfective clearly contrasts with the past tense. In the former, tense is preverbal, aspect

---

[27]There are other readings beside the "future." The forms can be used in the historical present, e.g., in which case they are simply the perfective counterparts of simplex forms (cf. Comrie 1976: §§4.1, 4.3).

postverbal; in the latter, tense is inflectional, aspect marked by derivational prefixing. Both also have a "future" construction[28] with which the nonpast perfectives are in competition: the nonpast perfectives carry the sense of "sure futures" (Hollingsworth 1991: 246; Cowper, pc).

The phenomenon is not limited to the imperfective default class. In the Bantu language Kikuyu there is a ternary aspect distinction marked immediately preverbally: two statives, "imperfective" (progressive) and perfect, and several "completives" (perfectives) which mark "metrical tense" (three-way distinction: immediate, near, remote). Isolating for nonpast, we obtain the contrast between (23) and (24) (example adapted from Johnson 1981: tables 9.1 and 9.2, pp.161-162).

```
(23a)     a-    ra-         hanyũka    cf. a-ra-hanyũk-ire
          3ms-  PROG-       run                          PAST
          "he is running"              "he ran (yesterday)"

(23b)     a-    a-          hanyũka    cf. a-a-hanyũk-ire
          3ms-  PERFECT-    run
          "he has just run"            "he ran (before yesterday)"

(24a)     e-    kũ-                     hanyũka[29]
          3ms-  PERFECTIVE (Immediate)- run
          "he will run (soon)"

(24b)     a-    rĩ-                     hanyũka
          3ms-  PERFECTIVE (Near)-      run
          "he will run (at some point)"
```

---

[28]Mofu-Gudur: *da + V*; Hungarian: *fog* "catch, hold" + *V-ni* (infinitive).

[29]Apparently the form does not exist with the marker of "immediate past" (Johnson 1981: table 9.2, 162).

These are only two considerations and they have only been
briefly examined. A full treatment of these and similar issues
is reserved until ch. 6. We should conclude that the behaviour
of so-called tenseless or aspectual languages, including that of
Biblical Hebrew, is atypical and demands reconsideration.

§2.3 ASPECTUAL SYSTEMS AND GENERATIVE GRAMMAR

As noted earlier (§2.1.2.2), on the generative approach to
universal grammar we search for formal, computational models to
capture the phenomena encountered in attested human languages.
Further, the relatively new "Principles-and-Parameters" approach
is a powerful framework that captures both the great diversity
and unity among human languages. Anticipating ch. 5, we shall
look at phrase structure and briefly consider the implications
for traditional analysis of Biblical Hebrew.

§2.3.1 *"Minimal" Clause Architecture*

I adopt for the purposes of this study a "minimal" clause
architecture with just the two functional categories
Complementizer (COMP or C) and Inflection (INFL or I, following
Chomsky *Barriers* 1986: §1, 2-4).[30] Depending on the setting of

---

[30]I am of the opinion that we do not require more than this
superstructure of functional categories, especially for Hebrew
(cf. Borer, lecture based on Borer 1992). The issue is not
raised in this work again.

the head parameter, the two basic clause configurations in (25)

are possible (assuming a specifer-initial setting[31]).
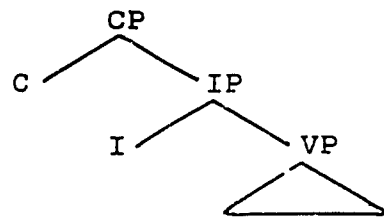
(25a)   *SVO:*   (25b)   *SOV:*
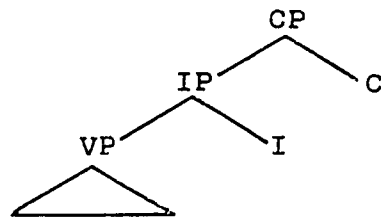
The interpretation of these "tree diagrams" is explained in

Appendix 1, and these constructions will be taken up in full in

chs. 5, 7ff. For now we will consider two implications of the

current theory.

§2.3.2 *INFL as TENSE*

The heart of the clause structure in (25) is the INFL or

Inflectional node, formerly AUX or Auxiliary in older versions of

the theory. The old AUX node subsumed a variety of things, but

crucially it included Tense. Whether INFL is broken up into more

than one functional category, as is often done (Cowper 1992a:

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[31]It does appear that we must admit the specifier-final
constructions based on Malagasy (VOS, Austronesian) and
Hixkaryana (OVS, Carib) cited by Givón (1984-1990: vol. 1,
§§6.4.1.4-6.4.1.5, pp. 196ff). These two extra possibilities do
not affect the point here.

§11.1 "The Articulation of INFL," 174ff), or is left atomic, the heart of the clause is still organized around Tense. Recently, the trend has been simply to replace INFL or I with TENSE or T which then projects a TP (read "tense phrase") as in (26).
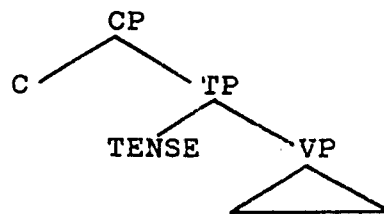
(26a)   *SVO:*   (26b)   *SOV:*
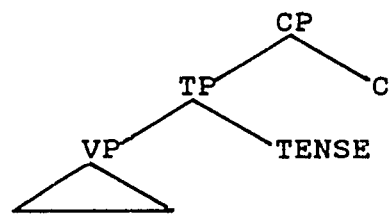
This move is extremely well motivated and is adopted in much of the specialist literature, but clashes with the notion of "inflectional aspect" in Biblical Hebrew and tenseless systems generally. It is for this reason that current research in generative grammar forces us to re-examine traditional analyses of Biblical Hebrew. The aspectual position may be correct, or the well-motivated theorizing may prove correct, or perhaps both are correct in some fashion; but in any case, we are sure to learn something interesting.

§2.3.3 *No Underlying VSO Constructions*

It may not have slipped by observant readers that there is no VSO construction shown in (25) and (26), nor can there be upon consideration of how phrase structure works in this framework. As noted above, there are two parameters in phrase structure:

the placement of the "head" and the placement of the "subject"
relative to the intermediate "head-object" structure. Assuming a
constant subject-predicate ordering (see note 31), the possible
underlying verb phrases generated by universal grammar are
limited to those in (27).

(27)   (Subject (Verb Object))

            (Subject (Object Verb))

This should alert us that something is odd about the traditional
analysis of Biblical Hebrew as VSO. As will become clear in ch.
5, Hebrew syntax is much more complicated than generally assumed.
But at any rate, current work in generative analysis forces us to
take a good look at Hebrew clause architecture.

    The next chapter takes up some very basic points in
semantics that will provide an initial orientation to the general
framework adopted in this study.

3

SEMANTICS AND PRAGMATICS

Recall also the experience from everyone's favorite hard science, physics. The discovery of the periodic table of elements was one kind of decomposition of substances into primitives; but the atoms then turned out to decompose further into a nucleus and electrons, the nucleus decomposed into quarks, and the quarks themselves are sets of features.... Do the phyisicists worry about never hitting bottom? I don't know, but it doesn't stop them from trying to achieve further explanation (Jackendoff 1990: 4).

At first glance, about the only thing that these questions [collapse of the Soviet Union, Oct. 1987 stock market crash, extinction of the dinosaurs, etc.] have in common is that they all have the same answer: "Nobody knows." Some of them don't even seem like scientific issues at all. And yet, when you look a little closer, they actually have quite a lot in common. For example, every one of these questions refers to a system that is complex, in the sense that a great many independent agents are interacting with each other in a great many ways. Think of the quadrillions of chemically reacting proteins, lipids, and nucleic acids that make up a living cell, or the billions of interconnected neurons that make up the brain, or the millions of mutually interdependent individuals who make up a human society. (Waldrop 1992: 11).

Languages are complex systems, formed by the interaction of many subsystems and subsubsystems. Languages are subject to variation, both historically and dialectally; languages vary considerably cross-linguistically. Languages have a certain

"fuzziness" in the sense employed in "fuzzy logic." Language is slippery and chaotic. The semantics of natural languages is even more complex, variable, fuzzy and chaotic.

How we choose to cope with complexity, variation and fuzziness in general tends to define our approach to grammar and to verbal semantics in particular. If we cannot easily grasp the semantics of a verbal system, some would say, then there is nothing to grasp: the verbal system is usage, and this is a matter for discourse analysis. Some would urge that the comparison of verbal systems is ultimately fruitless, that every system is unique in what it encodes. Some try to collapse all distinctions under one protean supercategory that can be realized in any number of ways (e.g., Huang 1988: diffuse-focussed).

The essence of the scientific approach to language and linguistic semantics is that there is an abstract order underlying superficial variation. If language is complex, then break it down into simpler components that interact in fixed ways to produce complexity. If semantics is fuzzy in actual use, then divorce use from the grammar and show by what principles usage can "fuzzify" semantics. If the readings with the same verbal formative vary, then perhaps other elements besides the inflection are contributing to the semantic mix, e.g., the representations of verbal lexemes or temporal adverbs or even syntactic configurations. If languages pattern together like gases and metals in the periodic table, perhaps there is an underlying "atomic structure" that can account for the attested

properties of languages: maybe there are semantic electrons and neutrons responsible for a "linguistic periodic table."

The approach taken in this work is that verbal semantics can be accounted for by a highly abstract, complex model. In effect, each component of the grammar is simplified by allowing the interaction between components or "modules" or "levels of representation" to take up the slack. We can considerably simplify the morphological, syntactic and semantic analysis of the Biblical Hebrew verbal system by adopting a few simple strategies.

This chapter introduces the basic strategies involved and indicates their application to the problem at hand. The present study relies heavily on the notions of "strict compositionality" and "monosemy" in attacking the enigma of the Biblical Hebrew verbal system as well as the "radical pragmatics" hypothesis (in effect limiting what a grammatical model must account for). In the remainder of this chapter these terms are defined and explained, primarily through English examples but with some indications of how they will be applied to Standard Biblical Hebrew.

§3.1 STRICT COMPOSITIONALITY

The formal study of linguistic semantics is largely defined by a single principle, the principle of *compositionality*, attributed to the German philosopher Gottlob Frege and defined by Cann as follows.

(28) *(Fregean) Principle of Compositionality:*

The meaning of an expression is a *monotonic function*[32] of

(a)   the meaning of its parts
[lexical semantics]

and

(b)   the way they are put together
[sentential semantics]

(Cann 1993:   §1.1.1, 4)

The almost complete exclusion of (28b) in the traditional

approach to Biblical Hebrew and especially to the verbal system

is what we shall call the *Morphocentric Fallacy*:   informally, the

attempt to account for all meaning by reference to words alone

(for the verbal system, by reference to the verbal forms

alone).[33]   The explicit introduction of (28b) into the study of

---

[32]*Function*:   "Essentially [the notion of function] is an
operation that derives a single result given a spec ied input"
(Cann 1993:   §1.1.1, 3).

Monotonicity: "Semantic rules should, therefore, not be
allowed to delete meanings during the derivation of the meaning
of a composite expression. The effect of this restriction is to
make the creation of the meanings of larger expressions **monotonic**
if all properties of previous parts of a derivation are
maintained throughout. In other words, once information is
introduced into a monotonic derivation, it is not lost
thereafter" (Cann 1993:   §1.1.1, 4).

[33]For "tense" read "tense, mood and aspect" in the
following:
"While much traditional grammar regards tense as a category
of the verb on the basis of its morphological attachment to the
verb, more recently it has been argued that tense should be
regarded as a category of the whole sentence, or in logical terms
of the whole proposition, since it is the truth-value of the

the Biblical Hebrew verbal system is the major contribution of
Niccacci (1987) and Peckham (nd, 1994), among others, and is
crucial in the present study. Some examples of the principle in
(28b) are now presented as an indication of the strategy pursued
below.

§3.1.1   *Subject and Object*

To begin with, a somewhat trivial example is the distinction
between subject and object in an inflectionally impoverished
language such as English as illustrated in (29).

(29a)   Rover bit Fido

(29b)   Fido bit Rover

Word order is vitally important in English, in this case
especially for the two dogs named Rover and Fido. The
straightforward conclusion to be drawn here is that "the
construction of meanings is **rule-governed**, in the same way that
the construction of the well-formed syntactic expressions of a
language is rule-governed" (Cann 1993: 4).

§3.1.2   *Verb Movement*

A less trivial example that in fact is the key to a correct
understanding of the Biblical Hebrew verbal system is verb
movement (implicit in the inductive work of Peckham 1994, as well
as in Niccacci 1987). Consider the example in (30) with the

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proposition as a whole, rather than just some property of the
verb, that must be matched against the state of the world at the
appropriate time point" (Comrie 1985: 12).

inflected verbal form underlined.

(30a)   Hebrew word order <u>does</u> make a difference.

(30b)   <u>Does</u> Hebrew word order make a difference?

As already noted in §1.3.3.2 in citing Niccacci (1987), Hebrew word order *does* make a difference. Of course, the phenomenon of verb movement in modern English is restricted--atypically it should be added--to auxiliary verbs (hence "AUX Inversion"); but this is not true of, e.g., French or German. The important point here is that verb movement is associated with a marked semantic contrast; and further, that the formal result of verb movement is a verb-initial construction. One insightful way to deal with these observations is to posit an abstract element the presence of which is signalled by the verb movement, the verb thereby "lexicalizing" the phonologically null element. Such an abstract analysis of (30) is presented in (31) with Q signalling the yes/no question and e (for "empty") marking the gap created by the abstract movement.

(31a) Q Hebrew word order does make a difference?
(31b)   Does Hebrew word order e make a difference?

This phenomenon, however, is not limited to English yes/no question formation, but functions to signal a variety of elements best subsumed under the general category mood. Admittedly, in modern English the following are marginal, but they serve

nevertheless to indicate the many extensions that can be found in the world's languages.

(32) *Hypothetical*:

Should I die, cremate me and scatter the ashes.

      (a)   *IF* I should die, . . .
      (b)   Should I *e* die, . . .

(33) *Desiderata, Imperatives:*

Don we now our gay apparel.

      (a)   *IMP* we don now our gay apparel.
      (b)   Don we *e* now our gay apparel.

It will be argued, as noted in §1.3.3.2, that in fact Biblical Hebrew is verb second or V2 (underlying SVO) and that verb-initial constructions are derived by verb movement which thereby enccdes "modal" features. The verb-initial consecutive (tense neutralization §1.3.4.4) constructions of Biblical Hebrew are reanalyzed in this light.

As Peckham (nd, 1994) and others have noted, word order also plays the key role in distinguishing matrix from subordinate constructions. Welsh, e.g., or German makes a similar distinction: in German, a V2 (matrix) contrasts with non-V2 (subordinate) as can be seen in (34); cf. Dzamba (Bantu) in (35) adapted from Siewierska (1988: (2.140), 91, citing Dik 1980)--a SVO/VSO contrast that will also be proposed for Biblical Hebrew.

(34a)   Was <u>habe</u> ich geschrieben?

(34b)   Nichts, was ich geschrieben <u>habe</u>, ist in seinem Buch.

(35a)   *o-Musa*   *a-tom-el-āki*   *o-Pɔsɔ*   *i-bondoki*
             the-Musa   he-send-to-past the-Poso the-gun

             "Musa sent Poso the gun."

(35b)   *Wa-kpáki*   *o-Musa*   *i-zikɔngɔ,*
             when-took   the-Musa   the spear

             onga   *ti-baki*   *emba*
             I   not-be   not

             "When Musa took the spear, I was not there."

§3.1.3 *"Strict Compositionality"*

Finally, we briefly examine a refinement of the principle of compositionality that will be invoked at several points in the following pages. The principle of "strict" compositionality defined in (36) might appear merely as a methodological codicil, but it in fact defines the entire approach to the syntax-semantics interface adopted here (contrasting, e.g., with the neo-Reichenbachian approach found in Hornstein 1990).

(36)   *Principle of Strict Compositionality:*

             Instead of treating constructions atomically,
             i.e., not making any connection between the
             lexical representations of the morphemes
             involved and the meaning of the construction
             as a whole, assign representations for each
             of the morphemes involved so that the
             meanings of the constructions follow
             automatically, *by simple composition,* from
             the meanings of the morphemes making them up
             (adapted from Cowper 1991a: 53).

The principle will be invoked throughout the study, though especially in ch. 4 wherein the "consecutive" forms are deleted from the verbal paradigm. Here the principle is illustrated in the constrasting analyses in (37) of the English "future perfect" construction.

(37) Jackie will have written the letter.

    (a) "*atomic*":

        will have written   -future perfect

    (b) "*strictly compositional*":

√will	-modal auxiliary (irrealis)
-∅	-present tense
√have	-auxiliary, adding agent of *write*
√write	-logical head of verb phrase
-en	-perfect (past relative to *have*)

        by composition: -future perfect

§3.2 COMPOSITIONAL TENSE AND ASPECT

There are in fact many potential sources of tense and aspect in a clause, and it is a grave mistake to shift the burden for the added nuances to the verbal system itself.

§3.2.1 *Compositional Tense*

There is no sound reason to abandon the well-motivated analysis of the English verbal suffix -*s* as present or "nonpast" tense; and yet the nonpast form is found in sentences with an

overall interpretation that is (apparently) not "present."
Consider a typical instance of the "future" reading given in
(38).

(38)   Emilie leaves tomorrow.
    cf. Emilie is leaving tomorrow.

Two points are illustrated in (38): 1) non-present readings
are not necessarily to be attributed to the verbal inflection
(here, quite clearly the source of the "future" reading is the
temporal modifier *tomorrow*); and 2) "present" does not
necessarily encode the time of the event itself, but rather the
point at which the proposition is held to be true (it is
considered true *now* that Emilie leaves *tomorrow*).

Further, the deictic centre or present "now" is itself
subject to interpretation (emphasized, e.g., in Revell 1989a,
Niccacci 1990). Notice how (39) is still a grammatical "present
tense" despite the shifting of the vantage point.

(39)   Emilie leaves Tuesday at eight o'clock p.m.

        vantage point:

            (a)   unspecified present (with respect to every
                  Tuesday evening): "habitual" reading

            (b)   presently Monday: "certain future" reading

            (c)   presently the following Saturday, Emilie's
                  departure related in vivid narrative style:
                  so-called "historical present" reading

The point of the foregoing is that inflection can in fact be assigned a very simple, virtually "underspecified" semantic value (e.g., "true now" for the simple present in English, and as I will argue, for the so-called "imperfect" of Hebrew) while the wide range of "readings" can be accounted for by 1) composition and 2) context (interpretation of deictic "now"). Simply listing all syntactic constructions cross-classified with contextual cues and supplying typical glosses fails to capture important generalizations.

§3.2.2 *Compositional Aspect*

At the risk of belabouring the point, we briefly examine the application of the compositional approach to aspectual readings. The set in (40) contains the inherently nonperfective activity of singing, but not all readings are nonperfective (cf., e.g., Comrie 1976: 45; Mourelatos 1981: 199; Jackendoff 1990: 30).

(40) (a) Joseph was singing.   -progressive

     (b) Joseph sang.   -perfect:-ə

     (c) Joseph sang continuously.   -perfective with internal
                                         temporal contour

     (d) Joseph sang for three hours. -perfective stretched out
                                         over interval

     (e) Joseph sang the song.   -punctual

     (f) Joseph sang every morning.   -iterative

We see quite clearly that the aspectual readings are

composed of the inherent nonperfective value of *sing* together with the contributions of verbal inflection (a,b), adverbial modification (c,d) and even the nature of the verb's object (e,f). It will be argued that Biblical Hebrew aspect is also derived compositionally; further, it will be argued that Hebrew does *formally* encode aspect, but through its derivational (participial) rather than its inflectional morphology.

§3.3 MONOSEMY AND SIMPLIFYING THE LEXICON

Traditionally we list all uses of a word separately in a dictionary; if senses diverge wildly, we add separate homophonous entries: *word*$_1$, *word*$_2$, *word*$_3$, etc. Such a strategy if unconstrained is undesirable in the study of linguistic semantics: we miss significant generalizations. In this section, we contrast an alternative approach exemplified in the work of Cowper (1989, 1991b, 1991c) in which we make strong claims of **monosemy** regarding homophonous forms of the same grammatical category and shift the burden of meaning to composition and pragmatics. The issues raised lead naturally to the *radical pragmatics* hypothesis.

§3.3.1 *The Case of Functional Formatives*

What is the meaning of English *to* and how many *to*'s are there? Traditionally there are posited at least two: a prepositional vs. an infinitival *to*. Consider an example in (41).

(41) I headed *to₁* Toronto *to₂* go *to₃* school.

We see clearly in tokens 1 and 3 the typical spatial sense of *to*;
but instance 2 has a temporal and intentional reading. Upon
further consideration, we see that the latter governs a verb,
whereas the former govern nouns: this is in fact a consistent
generalization. If we separate out a prepositional vs.
infinitival *to* we completely miss the generalization. A more
sophisticated approach is to recognize the directional, one-
dimensional sense of *to*, but to underspecify the semantic field
in which it is applied. Governing a noun forces the spatial
sense; whereas, connecting verbs forces a temporal reading.

Similarly we traditionally distinguish between a past
participle and a passive participle though they are formally
identical. Contrasting examples are presented in (42).

(42a)   I have   *written*   the letter.
(42b)   The letter was *written*   for the occasion.

In both cases the letter was the result of the process of
writing; the passive sense is therefore natural in (42b) (Comrie
1976: §4.6, 84ff.; 1981). In (42a) we notice an additional
argument of the verb *write*, the agent, and also the auxiliary
have. In the case of (42a), it is the agent that brings about
the result of the letter being written. We might speculate,
therefore, that *have* is responsible for the shift from passive to
active reading through introducing the agent rather than posit

separate but homophonous grammatical forms.

§3.3.2   *The Case of the Auxiliary* Have

Cowper (1989) raises the issue of *have*:   what does it mean? how many *have*'s are there?   A selection of senses from a standard dictionary (Concise Oxford) is given in (43).

(43) (a) *hold in possession*:   All the money that I had.
     (b) *experience the possession*: I have two sons.
     (c) *possession/contain as part*: June has 30 days.
     (d) *enjoy, suffer*:   I had a toothache.
     (e) *permit, accept*:   I won't have it.
     (f) *burden, obligation*:   I have my work to do.

     etc.

Cowper concludes, "The roles assigned to the arguments of *have* seem to be determined almost completely by the arguments themselves.   The notion of an underspecified representation, together with mechanisms[34] for spelling out details, therefore seems reasonable" (Cowper 1989: 86).

§3.3.3   *The Case of the Conjunction*

Every introduction to formal semantics notes the problem of assigning a representation to, e.g., *and* or *or*.   Compare the sense of *and* in (44) and (45) (the latter adapted from Blakemore 1992: (37)-(39), 79).

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[34]Especially the default mechanism.   On this score, Cowper points out that in the absence of evidence for relations, the default reading is possession: *Katie has a freeb* (Cowper 1989: 87).

(44)   The simple moral issue is black *and* white.

(45) (a)   The road was icy *and* he slipped.

(b)   Jane got on her bike *and* rode away.

(c)   Jane got on her bike. She rode away.

We would be inclined to assign the truth-functional *&* to *and* based on the typical instance in (44). However, we also note causal "and because of that" (45a) and temporal "and then" (45b) uses of the conjunction. Should we posit separate *and*'s? or should we at least distinguish the uses? The instance in (45c) should warn us that context is the crucial factor determining the senses. A more enlightened approach would separate lexical semantics from a general principle of interpretation along the following line: "there is a tendency to assume that conjuncts are causally or temporally related, if the events described are such that they can be so related under normal assumptions" (Cann 1993: 224). Many such cases in Hebrew could be treated similarly; e.g., the temporal and causal uses of the particle *ki* "when, because" (descriptive treatment of *ki* in Bandstra 1982; cf. Davison 1981 on Hindi *-kar* for a study along the lines suggested for *ki*).

§3.4   RADICAL PRAGMATICS

There is a methodology and also a theory of grammar implicit in the discussion in §3.3. In the formal investigation of pragmatics and the consideration of the boundary between grammar

and context, the hypothesis is dubbed *radical pragmatics*, as in

the title of Cole (1981).

> Radical pragmatics is the hypothesis that
> many linguistic phenomena, which had
> previously been viewed as belonging to the
> semantic subsystem, in fact belong to the
> pragmatic subsystem (Cole in the
> introduction to Cole 1981: xi).

Levinson explains the hypothesis in similar terms:

> there are also a number of general
> motivations for the development of pragmatic
> theory. One of the most important of these
> is the possibility that pragmatics can effect
> a radical simplification of semantics [hence
> perhaps *radical semantics*, his note 22]. The
> hope is based on the fact that pragmatic
> principles of language usage can be shown
> systematically to "read in" to utterances
> more than they conventionally or literally
> mean. . . . In this way, by unburdening
> semantics of phenomena that are resistant to
> semantic treatment but tractable to pragmatic
> explanation, there is considerable hope that
> pragmatics can simplify semantic theories
> (Levinson 1983: 37-38).

There is good reason, then, to introduce a pragmatics module

into the grammar to simplify other levels of representation.

Once the grammar is opened up in this way, not only is the

lexicon and the semantic component significantly unburdened, but

in principle all components are subject to simplification. In

ch. 5 it is suggested that move XP, i.e, the transformation that

moves about major constituents, can be explained as the

interaction between autonomous syntactic and pragmatic components

(cf. Sadock 1991: 3-4, *passim*).

This concludes the brief introduction to the semantic framework presupposed in the following pages. In Part II the groundwork is laid for the model in Part III: we require first of all a morphological analysis of the verbal system, and then a syntactic analysis of clause architecture compatible with the theory adopted in Part III. We also require some strong motivation for rejecting the traditional aspectual approach to the Standard Biblical Hebrew verbal system and for seriously considering tense again.

Appendix 1

TRANSCRIPTION AND NOTATION

In earlier versions of this work, there was considerable concern if not confusion over transcription conventions and the use of some basic linguistic notation, especially the tree notation and its conversion to labelled brackets. This appendix is intercalated between Parts I and II since this is where it first becomes relevant.

§A1.1 NOTES ON TRANSLITERATION

There are two reasons to adopt the North American version of the International Phonetic Alphabet (IPA). First, this work is addressed beyond the community of Semiticists (who in any case are already familiar with the Hebrew language and its phonology), and it is preferable to adopt the most general conventions. (This step may also be viewed as one practical step toward breaking the isolation of Semitic studies noted at the outset.) Second, the morphological analysis in ch. 4 cannot be formalized with the traditional renderings, as will become apparent.

§A1.1.1 *The Rendering of Consonants*

Explanations for the first chart are given immediately following. The first column sets out the Hebrew graphemes. (b) gives the traditional rendering, while (c) presents the adapted IPA; and (d) provides a few clarifications.

(a)	(b)	(c)	(d)
א	ꜣ	/ʔ/	glottal stop
בּ	b, b̲	/b/ [b]~[ß]	
גּ	g, g̲	/g/ [g]~[ɣ]	
דּ	d, d̲	/d/ [d]~[ð]	
ה	h	/h/	
ו	w	/w/	
ז	z	/z/	
ח	ḥ	/ħ/	voiceless pharyngeal
ט	ṭ	/t'/	"emphatic" = sec. articulation
י	y	/y/	
ך,כ	k, k̲	/k/ [k]~[x]	
ל	l	/l/	
ם,מ	m	/m/	
ן,נ	n	/n/	
ס	s	/s/	
ע	ꜥ	/ʕ/	voiced pharyngeal
ף,פ	p, p̲	/p/ [p]~[ɸ]	
ץ,צ	ṣ	/s'/	"emphatic" = sec. articulation
ק	q (or ḳ)	/k'/	"emphatic" = sec. articulation
ר	r	/r/	probably [R], uvular trill
שׁ – שׂ	ś	see below	
– שׁ	š	/š/	
ת	t, t̲	/t/ [t]~[θ]	

The brackets enable us to distinguish phonemic (slanted brackets) from phonetic (square brackets) renderings below; where not so indicated, the Hebrew data represents the phonetic. Notice, therefore, that the fricative versions of the stops will always be given for the Biblical data; at the most basic level, these are simply postvocalic variants, though across word

boundaries the variation is sensitive to prosodic phrasing, and the postvocalic rule is also subject to "geminate blocking."

The emphatics pose a bit of a mystery. In addition to the voiced and voiceless stops, there is a voiceless series with secondary articulation the value of which is unknown. Traditionally it has been assumed on the strength of Arabic that it is pharyngealization; but comparative and internal considerations argue strongly for glottalization as transcribed here. The actual value makes no difference for the study at hand, and the transcription adopted is more convenient in terms of keystrokes.

Finally, there is a curious problem with the rendering of sibilants. Historically there was an additional sibilant phoneme, and I consider the evidence persuasive that it was a voiceless lateral [ɬ]. This additional element developed along different pathways in the Semitic languages. In the Biblical consonantal text it is usually rendered by ש, which all things being equal, represents [š]; however, in the reading tradition it is pronounced [s] together with ס. Semitists use a convention of representing this phenomenon by ś, and we will follow the convention here: ś, therefore, has nothing to do with palatalization and is simply read [s].

§A1.1.2 *The Rendering of Tiberian Vowelling*

The traditional reading of the Biblical text is preserved in the Tiberian notation, named after the center Tiberias where a

scribal school was established. The vowelling is given with the

letter א for the seven basic signs; column (b) gives traditional

renderings, while (c) gives the values employed here.

(a)	(b)	(c)
אִ	i, ī, î	[i]
אֵ	ē, ê	[e]
אֶ	e	[ɛ]
אַ	a	[a]
אָ	ā, â; o	[ɔ]
אֹ [35]	ō, ô	[o]
אֻ [35]	u, ū, û	[u]

This rendering of seven vowels by seven vowel signs assumes

an understanding of the system found in, e.g., Schramm (1964) and

Greenstein (1992). In addition there is a sign for vowel

reduction/absence, the "schwa," which can combine with [ɛ], [a],

[ɔ] to represent reduced values. The vocalic interpretation of

schwa [ə] is transcribed; otherwise, the sign is ignored.

§A1.2 TREE NOTATION

The tree notation is used extensively in this work, both for

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[35]There is some graphemic variation that depends on a
consonantal ו following in the text, one of the so-called *matres
lectionis*. This makes no difference in the reading of the text.

morphology and syntax; it can be reduced for typographical
convenience to labelled brackets.

Consider some abstract constituent *A* which is composed of *B*
and *C*, and in that linear order. It can be represented by an
inverted "tree" diagramme so:

```
        A
       / \
      B   C
```
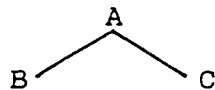
C itself may be composed of *D* and *E*, which can represented by a
composite diagramme so:

```
        A
       / \
      B   C
         / \
        D   E
```
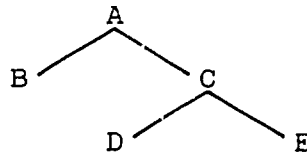
As a practical application, consider a prepositional phrase
(PP) composed of a preposition (P) and a noun phrase composed of
a determiner (D) and a nominal which is also composite: e.g., *to
the principal of the school*. This phrase can be parsed as
following.

```
                      PP
              P            DP
              to      D        NP
                      the   N        PP
                          principal  P      DP
                                     of  D        NP
                                         the      school
```
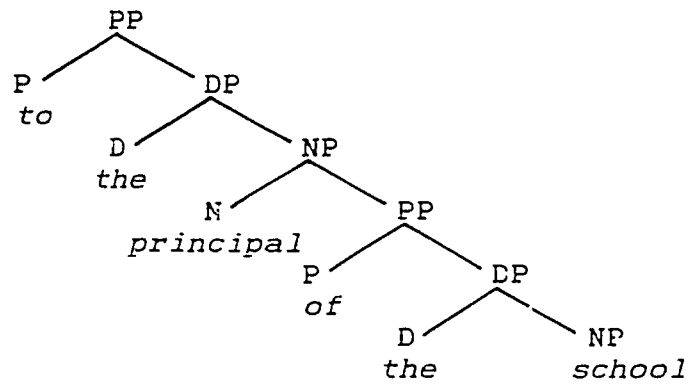
This parsing can also be represented by bracketing out the constituents and then labelling the brackets. With the same example, we obtain the following.

[PP to [DP the [NP principal [PP of [DP the [NP school]]]]]]

This second notation system is difficult to read and is avoided in the present study.

4

VERBAL MORPHOPHONOLOGY: MORPHEME INVENTORY

it is not necessary, and may not even be correct, to assume that Hebrew morphology combines and conceals originally distinct verbal forms whose specialized uses would explain the apparent randomness and irregularity of the Hebrew system. Feckham, "The Sequence of Tenses in Biblical Hebrew," 13.

A full-blown generative model of the Biblical Hebrew verbal system requires first of all a complete catalogue of the abstract morphosyntactic representations. i.e., representations to mediate the interaction of the morphological, syntactic and semantic components, to plug into the formal theory. Because Hebrew morphophonology is not as straightforward as that of English and because we do not assume any familiarity with the Hebrew system, a concise sketch of the phonological "spell-out" of the verbal morphemes is provided. This chapter also sets forth the set of sigla used throughout this work in the glosses of the Hebrew data.

This chapter would not be required were we dealing with English. The relevant suffixes are easily identified: /t/, /s/,

/n/, /ɪŋ/. The surface realization of the formatives requires a simple epenthesis rule with a voicing rule to derive them. A few words could be added about the so-called "strong" or irregular verbs. Finally, the abstract morphosyntactic representations could be assigned: e.g., -ED, -S, -EN, -ING. If we could assume that all readers of this study were Hebraists, we could move directly to the morphosyntactic representations.

The present chapter presupposes two things. First, the most basic principles of structuralist analysis applied to morphology are taken for granted. It is assumed, e.g., that the reader can identify the formative -s in *cats* and recognize that it is the same as that in *dogs* despite the phonetic variation; and also see that the -en in *oxen* is a variant on the plural marking. The basics of a generative analysis of Tiberian phonology, such as that found in Prince (1975) or Malone (1993), is also assumed. Only the bare minimum of phonology required to understand the spell out of the forms described here is provided.

This chapter has a natural four-fold division. 1) The concept of morpheme is examined and refined. 2) Nonlinear or *autosegmental* representation is then introduced through tonal phonology. From autosegmental phonology we pass to the autosegmental morphology of Hebrew. A third prosodic tier is added to the consonantal and vocalic tiers, and the mora is introduced to mediate at the interface of these three tiers. 3) The three finite verbal forms, the two adjectival forms (participles) and the two nominals or "infinitives"--a total of

seven forms--are presented and the sigla are explained. 4)
Finally, we exclude the so-called consecutive or sequential
verbal forms from the paradigm, thereby providing a transition to
the consideration of syntax in ch. 5. In this last section, an
additional morpheme is identified, formally an underspecified
consonant; this formative plays a key role in the model to be
developed in ch. 9.

§4.2 ON THE NATURE OF THE MORPHEME

§4.2.1 *The Classical or Structuralist Morpheme*

The "word" has traditionally been notoriously difficult to
define rigorously, but in Biblical Hebrew as in English it is
generally true that the blocks of letters separated by spaces are
words.[36] Words generally have internal architecture and it is
the discipline of morphology that investigates this internal
structure.

Consider first the putatively longest word in the English
language: *antidisestablishmentarianism*. Native speakers should
have no difficulty in breaking down the structure as in (46).

(46) *anti- dis- establish- ment- ari- an- ism*

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[36]It appears that the "word" is a "fuzzy" concept, since
many lexical, phonological and syntactic factors go into its
definition. However, the "prototypical" word is sufficient for
our purposes here.

Each unit identified in (46) "means" something, though often it is difficult to say just what; the overall meaning of the word is derived by the composition of these smaller meanings. The minimal units of meaning in (46) are *morphemes*. This in brief is the "classical" picture of morphology associated with the North American structuralist tradition and in particular with the name Bloomfield.

In the classical tradition, morphemes are concrete, discrete *things*; they are specific, continuous stretches of the speech signal. On this view, the classical ideal is the agglutinating language, i.e., a language in which words are simply strings of morphemes with transparent meaning. Unfortunately, there are a good many natural languages that fail to operate in this manner; the study of these has forced a more abstract definition of the morpheme.

§4.2.2 *Other Types of Morphology*

Rarely do languages approach the ideal of agglutination. Even languages such as English which informed the pioneering efforts of American structuralists are highly problematic on closer examination. Three types of problems are considered briefly here.

There is first the vowel alternation induced by the transition from West Germanic to modern English found in the most common of nouns: *foot, feet; woman, women; goose, geese.* Originally there were plural endings in /-i/ that caused an

umlaut (back vowels are fronted); the rounded vowels were later
unrounded and the vowel ending dropped; subsequently the vowels
were altered in the Great English Vowel Shift. In modern English
the plural is signalled solely by the vowel alternation.

Another instance of vowel alternation can be traced back to
the original Indo-European system and continues to haunt students
of Greek as well as the Germanic languages. The paradigm is the
verb *to sing*: *sing, sang, sung*. It is tempting to posit a form
s-ng and a series of vocalic morphemes; but in the end an
undesirable proliferation of vocalic patterns results.

Finally, there is the problem of "zero morphology" in which
forms that would otherwise be expected to change remain
invariant. On the one hand are the inflectional cases such as
the plural of *sheep* or the past tense of *hit*. On the other hand
we find "zero derivation": the verb *iron* from the instrument
iron. In the past an abstract form -∅ was posited; this place-
holder approach is still extremely useful in presenting and
parsing data, whatever its ultimate theoretical status.

In summary, the conceptually attractive agglutinating model
of morphology encounters numerous difficulties. These have been
handled in various ways in the past; but the approaches break
down when minor counterexamples become the basis of entire
systems outside of the European sphere.

§4.2.3 *Autosegmental Phonology*

As a transition to Hebrew morphology we will consider the

problem of tone languages and the independent status of tones. In particular we are interested in the stability of tones, despite the deletion of the vowels that bear them, and the representation that is employed to represent the phenomenon.

The example is taken from KiRundi as analyzed by Goldsmith (1990: §1.5, 27-29); note that low tone is not indicated, but high tone is signalled by the acute accent. First there are the contrasting verbal forms given in (47).

(47) (a) *ba-*   *ra-*   *rim-*   *a*
         3pl.-   Asp.-   hoe-   Final Vowel
         "they hoe"

   (b) *a-*   *ra-*   *rim-*   *a*
         3sg.-   Asp.-   hoe-   Final Vowel
         "(s)he hoes"

It is not surprising to find the unmarked low tone consistently here. The stem for "woman," however, bears a high tone on the second syllable: *goré*. The most natural approach in such a case is to assume two vocalic phonemes: e.g., *e* vs. *é*. In the days when phonemes were simply thought of as bundles of contrasting features, the feature [+/-hi] would be introd⸱ ⸱ to differentiate the two.

The standard approach makes a clear prediction, however: the deletion of the vowel in derivations spells the loss of the tone. Contrary to expectation, tones show a remarkable amount of staying power. In KiRundi the first of two vowels is lost at a word boundary creating the contrast in (48).

(48) (a) *aba-goré*   *ba-ra-rim-a*
           Prefix-woman   hoe

      (b) *umu-gor*   *á-ra-rim-a*
           Prefix-woman   hoes

Such stability of tones has forced the recognition of the autonomous or *autosegmental* character of tones. On one tier exist the familiar segments: the consonants and vowels. On another tier are found the autonomous tones. Independent segmental or "autosegmental" tiers are related via *association lines*, and the nature of such association is the basis of an extended line of fruitful research on tonal languages. The underlying and surface representations of (48b) are presented in (49) in order to display the standard notation.

(49) (a) underlying representation:

      (b) loss of final -e:

      (c) reassociation of high tone with delinking of low:

(d) surface form:

```
umu- gor          a-   ra-  rim- a
 \/    |       /       |    |    |
  L    L     H         L    L    L
```
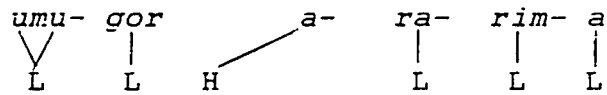
§4.3   AUTOSEGMENTAL HEBREW MORPHOLOGY

§4.3.1   *Discontinuous Semitic Morphology*

One natural extension of the theory of multiple tiers is the

analysis of Semitic morphology along the lines of McCarthy

(1985).   The Arabic form *kataba* "he wrote," e.g., is

traditionally parsed into a consonantal root √ktb "write," a

vocalism *a-a-a* (3ms of the so-called "perfect") and the

abstract template CVCVCV (the underived or basic "theme").   The

three separate tiers are isolated autosegmentally and then

related by means of association lines as in (50).

(50)

```
                a
              /|\
            / | \
          C V C V C V
          |   |   |
          k   t   b
           \  |  /
            \ | /
              √
```
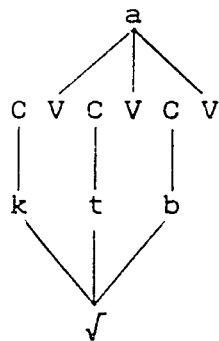
Many curious features of Semitic morphophonology can be shown to

follow from the geometry of such abstract representations

together with a general theory of constraints on the association
lines (Goldsmith 1990: §2.3.2, 95-102 and sources listed).

§4.3.2 *Application: Pronominal Elements*

Two examples of the simplification and generalization
obtained on this approach are now briefly examined. First there
are the West Semitic second person subject-agreement markers of
the suffixed finite form: /ta/ 2ms and /ti/ 2fs. In this case
we see that second person is realized by $\sqrt{}$t and that gender is
signalled by changing vocalism, /a/ for masculine and /i/ for
feminine. Rather than simply listing suffixes uninsightfully, we
can begin to isolate morphemes and derive the meaning of the
suffixes *by composition*: theoretically a vast improvement. The
representations are given in (51).

(51) (a) masc.:   (b) fem.:

```
         a                              i
         |                              |
         |                              |
        CV                             CV
         |                              |
         |                              |
         t                              t
         |                              |
         √                              √
```

West Semitic deictic/third person elements such as pronouns
and object suffixes also receive a unified treatment. There is
an added twist in the third person that is of considerable
interest here. Underlying representations of West Semitic /hu/

3ms, /hi/ 3fs, and /ha/ deictic particle (Aramaic) are supplied
in (52).

(52) (a)   masc.:   (b)   fem.:   (c)   neutral:

```
      u                    i                     a
      |                    |                     |
      |                    |                     |
     CV                   CV                    CV
      |                    |                     |
      |                    |                     |
      h                    h                     h
```
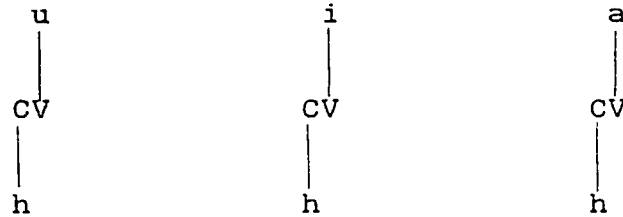
The first point of interest is the principle of vocalization
and the relation of the different vowels to semantic markedness.
Assuming that feminine gender is universally marked with respect
to the masculine, we see in both the second and third person that
the unmarked member is /a/. We can then assume that /a/ is the
default vowel, i.e., when simply a vowel is required without
further specification, /a/ surfaces. This turns out to have wide
applicability throughout Semitic morphophonology. We also notice
that in the case of a binary contrast /i/ is the second member;
in fact /i/ appears always to be the most marked: compare the
ternary series in the case of the third person /a/ < /u/
< /i/.[37]

The added twist with the third person is found in the
realization of the independent proforms. Compare the forms in
(53).

---

[37]There is some circumstantial evidence that the Semitic
languages possess a four-way contrast: a < e < u < i. See note
41 and sources in De Caen (1992a: 32).

(53) (a) *Hebrew, Aramaic*   (b) *Arabic, Ugaritic*

3ms /huʔ/   3ms /huwa/

3fs /hiʔ/   3fs /hiya/

The four languages cited are all dealing with what is known as a "minimal word constraint" (i.e., forms must contain a certain amount of "content"), and are repairing the underlying forms in (52) according to the dictates of their respective phonological systems. To capture this phenomenon and the differing prosodic systems in general it is necessary to invoke a theory of prosodic structure.

§4.3.3 *The Third Prosodic Tier*

There are a number of reasons to revise the flat CV template in favour of a prosodic tier (Broselow, nd), but the issues involved would take us too far afield. I adopt without comment the framework in Zec (1988) in which the mora is the lowest element in the prosodic hierarchy: the moraic level can then serve as the interface between consonantal, vocalic and prosodic tiers.

For our purposes the prosodic hierarchy is that given in (54) with both the terms familiar from traditional metrics and the current sigla.

(54) *Prosodic Hierarchy:*

foot	F
syllable	σ
mora	μ

Any structure above the foot strays into the interface between phonology and syntax, and so is not directly relevant here.

The subsyllabic mora is understood to be the source of the distinction between light and heavy syllables as shown in (55).[38]

(55) (a) *light*   (b) *heavy*   (c) *"superheavy"*
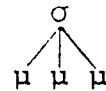
The light-heavy distinction should be familiar to students of Greek and Latin as well as students of Arabic. The word-final "superheavy" syllable of Arabic depicted in (55c) plays an important role in the presentation of Hebrew morphology below.

The contrast in (53) can be accounted for by 1) assuming the Semitic foot is bimoraic,[39] and 2) by assuming that Semitic

---

[38]The tree notation here is read as follows. A syllable (σ) consists of so many moras (μ).

[39]To be precise: both left-headed and quantity-sensitive, i.e., a "moraic trochee." Mester has developed the model for Latin in Mester (1992).

words must contain at least one foot (again, the minimal word
constraint). We then find that underlying the contrast in (53)
is a common bimoraic template given in (56); the contrast arises
from the different strategies employed to fill in the structure.
(Note that the segmental material represents the derived
phonological representation; the lexicon will separately list √h
and the vocalizations u and i.)

(56) *Minimal Word Constraint:*

```
        Word
         |
         |
         F
        / \
       /   \
      μ     μ
```


(57) (a) *Hebrew, Aramaic:*

```
        F                       F
        |                       |
        σ                       σ
       / \                     / \
      μ   μ                   μ   μ
     /\   |                  /\   |
    h  u  ʔ                 h  i  ʔ
```


(b) *Arabic, Ugaritic:*

```
        F                       F
       / \                     / \
      σ   σ                   σ   σ
      |   |                   |   |
      μ   μ                   μ   μ
     / \ / \                 / \ / \
    h   u   a               h   i   a
```
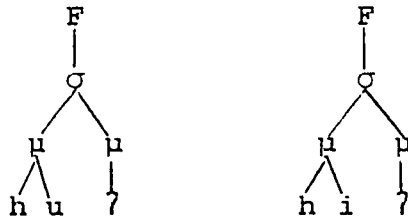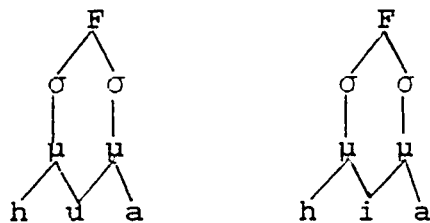
We conclude the following. Hebrew and its closest relatives share a consonantal default /ʔ/ that takes up the extra mora. Arabic and similar systems prefer a bisyllabic word in which the extra material is obtained by spreading the glide and inserting a default vowel. These sorts of differences are systematic throughout the Semitic family: underlying representations are shared and their respective prosodic systems spell them out.

§4.3.4 *The Hebrew Foot Conspiracy*

Adopting the prosodic approach also allows us to capture an interesting generalization regarding Hebrew morphophonology. In Hebrew as in the Semitic family generally, the basic nominal[40] (and prepositional) stem is differentiated from the basic verbal (and adjectival) by the placement of the thematic vowel as indicated in (57).

---

[40]The choice of the so-called "segholate" nominal as the "basic nominal" deserves a word. The choice is based on distributional, semantic and historical considerations, and especially on the markedness relations that hold between nominalizations in the lexicon and on a judgement on the relative productivity of formations. The unfolding of this argument would take us too far afield in the present context.

(57) (a) *nominal:*   (b) *verbal:*
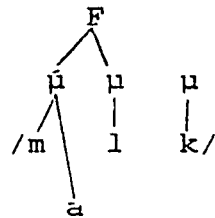
/málakV/ → [mɛlɛx]   /malák-a/ → [mɔlax]
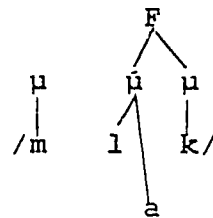
"king"   "he reigned"

Here is the conspiracy: Biblical Hebrew consistently skip

final moras to protect the theme vowel (at least through

"lexical" derivations[41]), most notably in the affixed verbal

forms; where endings consist of more than one mora, the moras

are grouped to maintain the integrity of the syllable with the

thematic vowel (the source of the distinction between "light" and

"heavy" endings). The skipping of final material is quite

common: it falls under the general rubric of *extrametricality*

required, e.g., in the current analysis of Latin and Arabic

---

[41]It is possible that the thematic vowel may be reduced in
the final "postlexical" derivation (for more on the distinction
between lexical and postlexical phonology, see Goldsmith 1990:
ch. 5 "Lexical Phonology"). Sample derivations are provided for
[malko] "his king" and [mɘlɔxim] "kings" (on the underlying form
of the segholate as /malakV/, see DeCaen 1992a: §§1.1-1.4).

underlying forms: málakV-h-u   málakV-i-m
lexical derivation: málkaw   màlakíim
postlexical forms: málko   mɘlɔxím

stress assignment (Goldsmith 1990: ch. 4, esp. 197ff.). What is
remarkable is its use to distinguish Semitic nominals and
verbals. Yet such a development is gaining strength, e.g., in
modern English between pairs of bisyllabic words. Among a
growing list of pairs are found *rébel* (N) vs. *rebél* (V) and
prótest (N) vs. *protést* (V).

§4.4   THE BIBLICAL HEBREW VERBAL PARADIGM IN BRIEF

§4.4.1   *Two Conventions*

Two conventions are adopted here and extended throughout
this study. The first convention is adopted to represent all
three tiers simultaneously. We will understand (58b) as
shorthand for (58a).
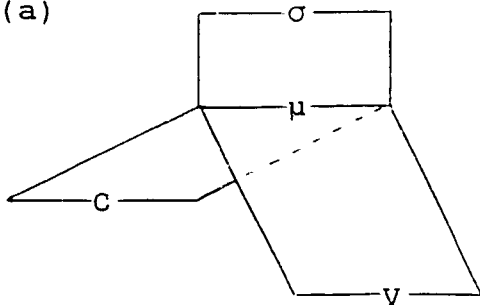
(58) (a)   (b)
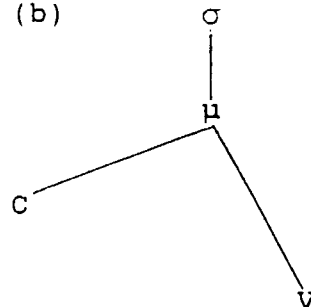
The second convention relates to the abstract
morphosyntactic representations and is employed extensively in
the chapter on syntax. This is the convention of the "tree
notation" described in §A1.2, an example of which is given in
(59).

(59)

$$\underset{B \qquad \qquad C}{\overset{A}{\bigwedge}}$$
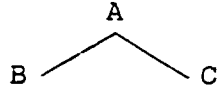
Recall that the tree is read as follows. Some element *A* consists of *B* and *C* in that order. (To save space, labelled square brackets can be used instead: [$_A$ B C]. Where we wish to avoid specifying order we use a comma: [$_A$ B,C].)

§4.4.2 *The Tripartitie Division of the Hebrew Paradigm*

As already indicated, the Hebrew verbal system breaks down into 1) inflected forms, 2) participles and 3) nominals or "infinitives." These three elements will be understood to have the following abstract morphosyntactic representations.

(60) (a) *inflected forms:*

$$\underset{I \qquad \qquad V}{\overset{INFL}{\bigwedge}}$$

(b) *participles:*

$$\underset{A_{PRT} \qquad \qquad V}{\overset{ADJ}{\bigwedge}}$$

(c) *infinitives:*

$$\underset{N_{INF} \qquad \qquad V}{\overset{NOUN}{\bigwedge}}$$
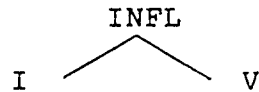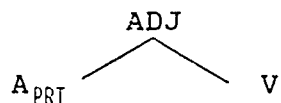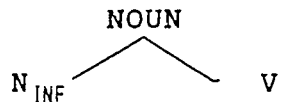
§4.4.3 *The Finite Verbal System*

The inflectional system (60a) is taken here to consist of three forms related hierarchically as indicated in (61). This particular ternary model can be found, e.g., in Eskhult (1990) as noted at the outset in §1.3.4.2.

(61)   INFLECTION
                                (INFL)
          ┌───────────────────────┴────────────┐
       SUFFIXED   PREFIXED
        (SUFF)   (PRE)
                            ┌───────────────────┴────────────┐
                         STANDARD   MODIFIED
                         PREFIXED   PREFIXED
                          "LONG"   "SHORT"
                          (PRE1)   (PRE2)
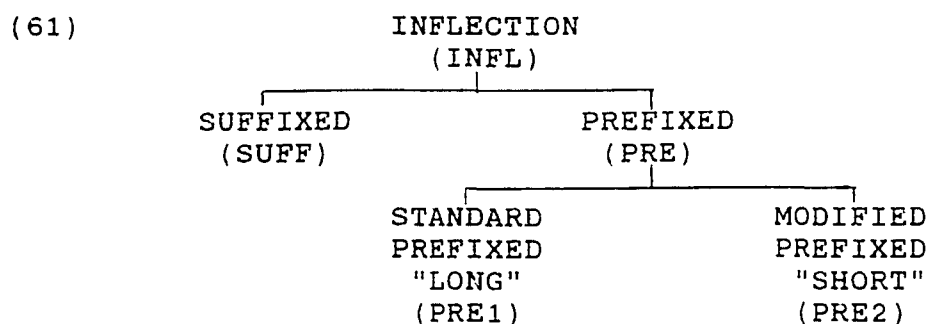
The forms of the verb will be given for both triconsonantal roots ($\sqrt{ktb}$ "write") and biconsonantal roots ($\sqrt{k'm}$ "arise") as well as for the triconsonantal roots with final glide /y/ ($\sqrt{bny}$ "build"). Only the underived stem or *Qal* will be given; other verbal stems or "themes" will be described where relevant below.[42]

---

[42]There are four basic derived stems for the triconsonantal root:

causative:	h-	$C_1\ C_2\ C_3$
passive/reflexive:	n-	$C_1\ C_2\ C_3$
"intensive":		$C_1\ C_2C_2\ C_3$
"reflexive-causative":	h-t-	$C_1\ C_2\ C_3$

The causative and intensive also have passives that differ in vocalization.

4.4.3.1 *The Suffixed Form (SUFF).* The unmarked and so default thematic vowel of the suffixed verbal form is /a/; other vowels will have to be indicated in a root's lexical entry. The third person is distinguished by a suffixed underspecified vowel between stem and subject-agreement; other persons add the subject-agreement formative directly to the verbal stem.

The format for the presentation here and below is as follows. The sigla that will be used to gloss the verbal forms are given first. The abstract autosegmental representation is given as the underlying representation. Finally, the surface form cited in the data is given in square brackets. Both "pausal" and "nonpausal"[43] forms are given if different, and in that order. Stress is marked by the acute accent.

SUFF.3ms√write
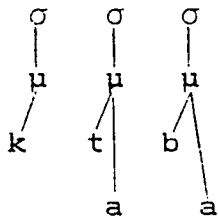
[kɔθɔ́β-ø]   [kɔθə́β-ø]

---

[43]By "pausal" we mean that form of the verb which surfaces when the verb is final in the phonological "phrase." This form is that closest to the underlying representation. When non-final, several postlexical adjustments are made; hence "nonpausal."

SUFF.3fs√write
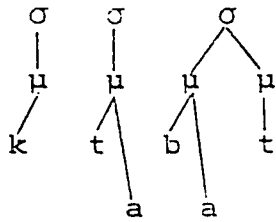
[kɔθɔ́ɓ-ɔ]   [kɔθəß-ɔ́]
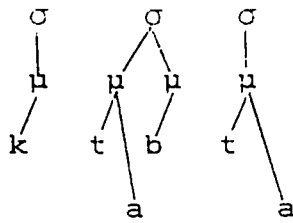
SUFF.2ms√write

[kɔθɔ́ß-tɔ]   [kɔθáß-tɔ]
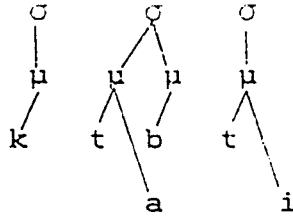
SUFF.2fs√write

[kɔθɔ́ß-t]   [kɔθáß-t]
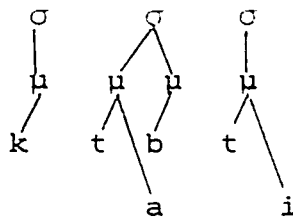
SUFF.1s√write

[kɔθɔ́ß-ti]   [kɔθáß-ti]

SUFF.3pl√write

[kɔθɔ́ɓ-u]   [kɔθəɓ-ú]

SUFF.2mpl√write

[kəθaɓ-tɛ́m]

SUFF.2fpl√write

[kəθaɓ-tɛ́n]

SUFF.1pl√write

[kɔθɔ́ɓ-nu]   [kɔθáɓ-nu]
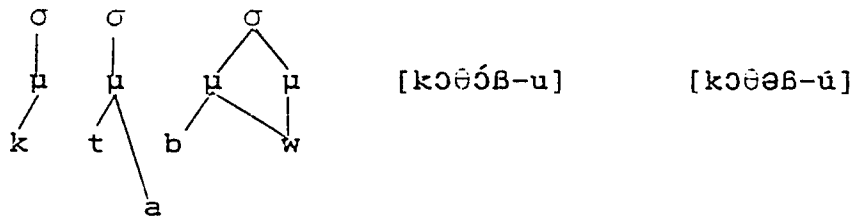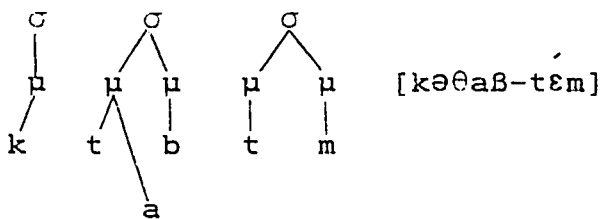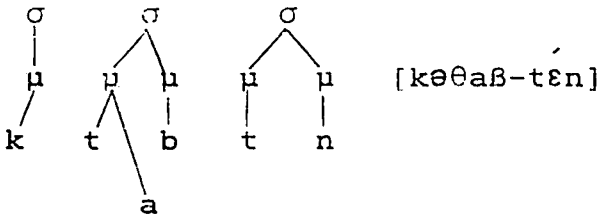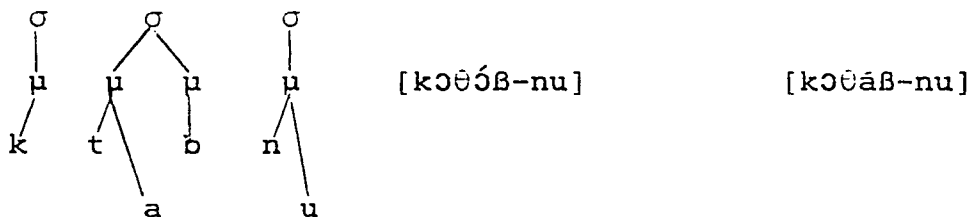
The conflated stems, i.e., representations in which the tiers are brought together, of the other two root types are /k'ám-/ √arise and /banáy-/ √build. In the latter, the glide

spreads thereby creating /iy/ which is interpreted [ii]. In the third person, /ay/ is dropped altogether in derivation; and the feminine has a special ending /-tat/ vs /-t/. The nonpausal forms are listed for comparison with √ktb.

	SUFF√arise	SUFF√build
3ms	[k'ɔ́m]	[bɔnɔ́]
3fs	[k'ɔ́mɔ]	[bɔnəθɔ́]
2ms	[k'ámtɔ]	[bɔníθɔ]
2fs	[k'ámt]	[bɔníθ]
1s	[k'ámti]	[bɔníθi]
3pl	[k'ɔ́mu]	[bɔnú],
2mpl	[k'amtɛ́m]	[bəniθ§m]
2fpl	[ʎ'amtɛ́n]	[bəniθɛn]
1pl	[k'ámnu]	[bɔnínu]

4.4.3.2 *The Prefixed Form (PRE1)*. The prefixed conjugation not only places its subject-agreement before the stem, but it also has an entirely different set of agreement markers of the form CV-. Gender and number are indicated in the marked cases with additional suffixes. The default vocalization is /u/. The nonpausal forms are added below where they differ from the pausal.

PRE1.3ms√write
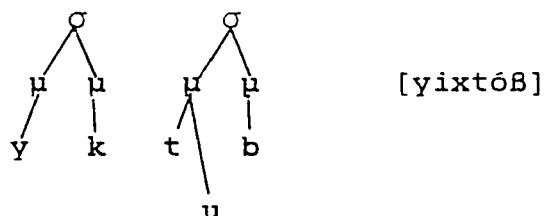
[yixtóβ]
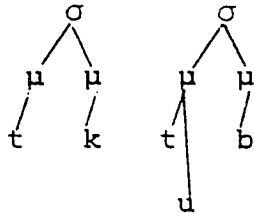
PRE1.3fs√write

[tixtóß]
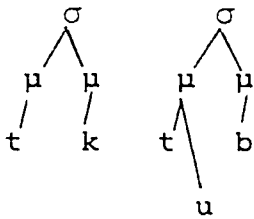
PRE1.2ms√write

[tixtóß]
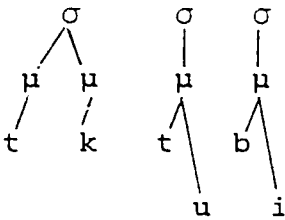
PRE1.2fs√write

[tixtóßi]   [tixtəßí]

PRE1.1s√write
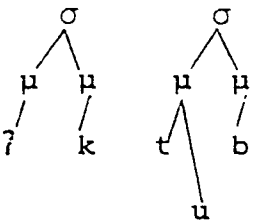
[ʔɛxtóß]

Similarly, the plural forms are as follows.

PRE1.3mpl   [yixtóßu]   [yixtəßú]
PRE1.3fpl   [tixtóßnɔ]
PRE1.2mpl   [tixtóßu]   [tixtəßú]

```
PRE1.2fpl            [tixtóßnɔ]
PRE1.1pl            [nixtóß]
```

With the Hebrew biconsonantal root, the CV prefix remains an
open syllable and the theme vowel, which in the case of √k'm is
the default /u/, is lengthened throughout lexical derivations,
surfacing as [u] vs. [o]. In many cases, this creates a
superheavy syllable. PRE1.3ms√arise is represented as,

PRE1.3ms√arise
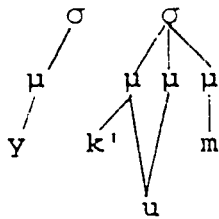
[yɔk'úm] < /yak'úum/

Two things are odd about the glide-final roots: 1) the
final glide does double-duty as theme vowel; and 2) the
stressed word-final /iy/ is realized as [ɛ]. The /iy/ is dropped
in the 3mpl, presumably under the same rule as /ay/ in the
suffixed conjugation. Thus, PRE1.3ms√build is spelled out
[yißnɛ́], while PRE1.3mpl√build is [yißnú].

§4.4.4 *A Second Prefixed Conjugation (PRE2)*

To my knowledge, the position here has never been
consistently held in the study of the Biblical Hebrew verbal
system. The position is that in Biblical Hebrew there is a
second coherent conjugation alongside the standard PRE1, a PRE2

tense-aspect or "subjunctive" analogous in function if not also

in form to that of Ge'ez (classical Ethiopic).

There are three problems, at least historically, in

establishing a coherent PRE2 conjugation for the synchronic

Biblical Hebrew system. 1) PRE2, if recognized at all, is not

treated with the core finite system, but rather separately with

mood; as we shall see (especially in chs. 8 and 9), there is a

good deal of justification for this. But from a purely

morphological point of view--keeping our levels separate--the

distinction between indicative and modal is not relevant. 2)

The second obstacle is the traditional division of PRE2 by

person: separate names, separate treatments and different

locations in the grammars (e.g., first person "cohortative" vs.

third person "jussive"). Morphologically, the separation might

be justified: different word formation rules are in fact at work

here. In terms of distributional properties, we should prefer an

allomorphic analysis instead.[44] At the very least we should

recognize a single "volitive" conjugation (Gropp 1991: 47; cf.

Lambdin 1971: §107, 118-119). 3) Finally, the second major use

of PRE2--the so-called "waw-consecutive"--is arbitrarily

separated out and called a "preterite" for which there are many

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[44]Consider the list of English plural morphemes from Spencer
(1991: 40): *oxen, formulae, criteria, mafiosi, indices, teeth,
cherubim, memoranda, schemata, crises.* The grammatical category
number remains constant but the means employed to signal it
varies. Traditionally, we speak here of allomorphic variation,
though a more sophisticated approach would distinguish category
and "exponent" (Spencer 1991: 41 and references).

historical explanations.[45] As Gropp correctly points out, the
diachronic dimension is irrelevant in the study of the system as
it stands (Gropp 1991: 45). Moreover, cross-linguistically the
marriage of mood and consecution is quite unexceptional, as
indicated in the introduction and expanded upon in ch. 9.

There are three formal differences between PRE1 and PRE2 (in
addition to word order) that are now briefly described.

4.4.4.1 *Object Suffixes*. Hebrew has an additional formative
/-n-/ that surfaces between verb stem and object suffix with the
standard PRE1, thus distinguishing it from the jussive-
imperative-preterite, i.e., PRE2 which lacks it; this formative
it shares with Biblical Aramaic (/-n(n)-/ ; Rosenthal 1983:
XIII.13, §§174-176, 54-55). Standard Biblical Hebrew is entirely
consistent with respect to this distinction where it is
orthographically distinct in the consonantal record, viz. in the
case of third person singular object suffixes.[46] Contrasting 3ms

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[45]From a modern linguistic point of view, the least
plausible but nevertheless still popular is the idea that
Biblical Hebrew contains two verbal systems that have been poorly
spliced together. This position relies on a story of language
contact that is implausible in light of current investigations,
especially into the origins of pidgins and creoles.

[46]There is one probable exception in 2King6:28 (repeated
6:29). The form *wǝnoxǝlεnnu* is generally treated as a purpose-
result form (PRE2). Moreover, the form in 2King6:28 is clause-
initial, which is a good indicator of PRE2 as explained below.
On the other hand, the form is clearly conjoined with the V2 PRE1
form *noxal*; and might easily be read as PRE1 as well.
Moroever, *-ehu* appears on *wayynoxǝlehu* as expected in 6:29.
The matter is far from clear.
The statement about consistency must be qualified in the

forms with 3ms and 3fs object suffixes are given in (62).

(62) *Standard Biblical Hebrew*   *cf. Biblical Aramaic*

    (a)   /yaktub-i-hu/ [yixtǝßehu]   /-i-hi/
          PRE2.3ms√write-3ms
          "may he write it(m)", etc.

          /yaktub-i-ha/ [yixtǝßɛhɔ]   /-a-ha/
          PRE2.3ms√write-3fs
          "may he write it(f)", etc.

    (b)   /yaktub-i-n-hu/   [yixtǝßɛnnu]   /-i-nn-ih/
          PRE1.3ms√write-3ms
          "he writes/will write it(m)"

          /yaktub-i-n-ha/   [yixtǝßɛnnɔ]   /-i-nn-ah/
          PRE1.3ms√write-3fs
          "he writes/will write it(f)"

4.4.4.2 *Star Geminate Theme Vowel in Third Person.* The distinction that grammars highlight is the contrasting vocalization of PRE1 and PRE2 in the third person singular. The distinction is found in forms where PRE1 has a final superheavy syllable: 1) biconsonantal roots in the underived theme; 2) all roots in the causative or *hiphil* theme (/h-/ is prefixed to the verbal stem, the theme vowel is /i/). The distinction is also conspicuous in the glide-final root class in which the glide

---

following way: consistent where it makes a difference. In other words, other cues can identify the form as PRE2, and so the environment is thereby "neutralized," permitting free variation. Revell notes the four cases of -*ɛnnu* for the expected -*ehu* in this corpus: 1Sam16:11, 20:21, 21:10; 2King9:33 (Revell 1989a: §14.2, 15).

spreads to do double-duty as its theme vowel. The common
denominator in all cases is the loss of the geminate vowel in the
stem-final syllable which contains, probably not coincidentally,
the theme vowel. A list of contrasting PRE1-PRE2 pairs is given
in parallel columns in (63).

(63)   PRE1   PRE2

(a) *biconsonantal in /u/*

/ya-k'uum/   [yɔk'um]   /ya-k'um/ [yɔk'om]

(b) *biconsonantal in /i/*

/ya-śiim/ [yɔśim]   /ya-śim/   [yɔśem]

(c) *hiphil*

/ya-ha-k't'iil/   [yak't'il]   /ya-ha-k't'il/ [yak't'el]

(d) *hiphil with laryngeal*

/ya-ha-ngiiʕ/   [yaggiaʕ]   /ya-ha-ngiʕ/   [yaggaʕ]

(e) *glide-final*

/ya-gliy/   [yiɣlɛ]   /ya-gli/
                                   → /ya-gl/[47]   [yiɣɛl]

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[47]Two general rules are involved here. First, there is the
wholesale loss of short final vowels. Second, sonorants can hold
the syllable nucleus throughout a lexical derivation, but there
is a late (i.e., "postlexical") spell-out rule that inserts [ɛ].

The word formation rule of PRE2.3s thus resembles a "subtractive" morpheme in structuralist morphology. The rule not only attacks superheavy syllables but all geminate vowels in the verbal stem (with the exception of 1s; cf. Revell 1988: 420). Our rule schematized in (64) must then make specific mention of the morphological status of the vowel affected (the hatch marks signal the breaking of the association line; the mora is deleted).

(64) *PRE2.3s Word Formation Rule:*
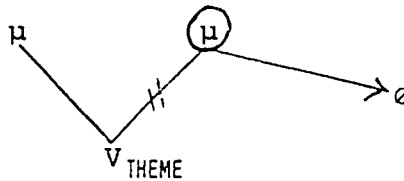
4.4.4.3 *The Suffix of the First Person.* There is an extension of the first person prefixed form, [-ɔ], which creates what is traditionally known as the "cohortative." The distinction is shown in (65).

(65) PRE1.1s√write /ʔa-ktúb/ [ʔɛxtóβ]

 PRE2.1s√write /ʔa-ktúb-a/ [ʔɛxtóβɔ], [ʔɛxtɵβɔ́]

The great difficulty in the first person is the sporadic omission of this extension in the cohortative and the general omission in

the wayyPRE2 construction treated below. It would be preferable to find a unified formal explanation. We know, e.g., that the extension is obligatorily omitted with glide-final roots[48]; the assumption would be that in the maze of Tiberian phonology there is something that filters out /íya/. One might suspect, therefore, that the nature of the root-final consonant plays a role in the distribution of long forms, perhaps also of the long wayyPRE2 forms as well. We can also invoke the notion of "neutralized environment" in the case of tense neutralization (wayyPRE2): the environment already marks the form as PRE2. In the case of tense neutralization we find forms without the extension in roughly a 3:1 or 4:1 ratio, though the distribution is skewed (Revell 1988: 421). (It is possible to argue that a levelling process is under way in Standard Biblical Hebrew, extending the long form from imperativals to the tense neutralization construction which eventually becomes standard in some later dialects.)

4.4.4.4 *The Imperative.* For our purposes here, the imperative is the second person of PRE2 minus person-agreement, i.e., √t; gender and number are still indicated by the same suffixes. This phenomenon is analogous to the dropping of pronouns or "pro-drop" in many languages including English. There are subtle

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[48]For example: *ʔɛ̌štaħawɛ̌* (1Sam15:25), *ʔɛhyɛ̌* (2Sam7:6, 22:24), *ʔɛʕɛ̌śɛ̌* (2Sam9:1, 9:3), *ʔɛβkɛ* (2Sam12:22), *ʔɛβrɛ* (2Sam13:6, 13:10).

differences in the masculine singular imperative of biconsonantal
and glide-final roots which need not detain us.   In the glosses,
a special PRE! will mark these forms.

§4.4.5   *The Non-Finite System*

The remainder of the paradigm is straightforward
morphophonologically and the number of forms in this section is
universally recognized.

4.4.5.1   *The Participles*.   Of major concern in this study is
the active participle which is glossed PRT.   The passive
participle or PASS is marginal in the system, and unlike many
systems in the world including those of the Germanic and Romance
families, it is not used to create "perfect" tenses.

With respect to the *qal* or underived theme, both participles
take the thematic vowel on the verbal-adjectival pattern;
however, they differ in the placement of the vowel gemination.
In (66) the forms are given for √ktb "write".

(66) [koθeß]
      PRT√write
      "writing"/"writer"
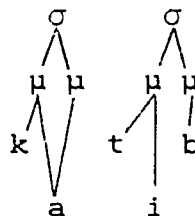
[kɔθuß]
PASS√write
"written"

σ σ
μ μ μ μ
k t b
a u
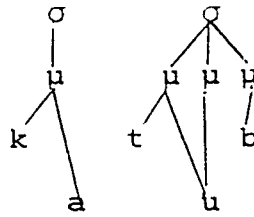
Two additional points are appended here. In the derived

themes with the exception of the passive-reflexive with prefixed

n-, the participle is formed by prefixed √m on the verbal stem.

Of special note as well is the formation of the biconsonantal

participle in the underived theme. The masculine singular

participle is identical with SUFF.3ms (k'ɔm), while the feminine

in this corpus differs only in the placement of stress

(unstressed /-at/ is SUFF, stressed /-at/ is PRT).

2.3.5.2 *The Nominals*. There are two forms, two "infinitives,"

that are relevant at several points in later chapters. The one,

the so-called *infinitive construct*, is typically the object of a

preposition, the latter's value being translated from the spatial

to the temporal field (with the exception of *min* "from"). Of the

two forms, this one most nearly approximates the behaviour of the

English infinitive and so is glossed INF. More often than not,

INF is best translated by the nomen actionis (English *V-ing*).

The second, the *infinitive absolute*, is marginal. In the

corpus of Samuel and Kings, it usually surfaces in the topic slot

(explained in ch. 5) and is a way of repeating the consonantal

root of the main verb--a sort of reduplicative morpheme copied

off the main verb. A first approximation of its value is *very*.

I have glossed it INF2. Again, both the forms are given for √ktb

"write" in (67).

(67) [li-xtoß]
to-INF√write
"to write"
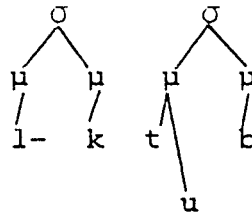
[kɔθoß   tixtəßɛn-nu]
INF2√write PRE1.2ms√write-3ms
"you must surely write it"
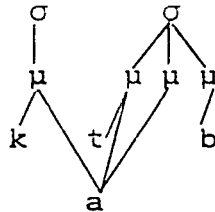
In (67) is indicated the spreading of the vowels of the

infinitives which, at least in the case of INF, is necessary to

explain the appearance of /u/ when the syllable is closed in

derivation. The spreading of /u/ and /a/ also extends to the

biconsonantal roots producing INF arise /k'uum/ [k'um] vs.

INF2√arise /k'aam/ [k'om]. The infinitives of the derived themes

are essentially the verbal stems with minor adjustments; the

details are irrelevant here.

§4.4.6 *Summary*

This concludes the survey of the verbal paradigm assumed throughout the remainder of this work. A summary listing of the seven forms is provided in (68).

(68)   I   →   {SUFF, PRE1, PRE2}

        A$_{PRT}$ →   {PRT, PASS}

        N$_{INF}$ →   {INF, INF2}

The rest of this chapter is devoted to arguing against expanding the finite component of the paradigm (INFL) by the introduction of "consecutive" or serial forms. This discussion provides a springboard for the following chapter on clause architecture.

§4.5   ON THE ELIMINATION OF THE CONSECUTIVE FORMS

This section begins by acknowledging the major contribution of Joosten (1992) regarding the meaning of the suffixal consecutive form (wSUFF[49]) which is crucial to the model proposed in Part III, but rejects the morphological analysis of the phenomenon. The principles upon which wSUFF is excluded from the paradigm extend to the elimination of wPRE2 and wayyPRE2. The elimination of wayyPRE2 forces the recognition of an additional formative that will play a central role in ch. 9.

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[49]The w in wSUFF represents the conjunction $\sqrt{w}$ or /wa/ "and, but."

§4.5.1 *The Problem of wSUFF*

Joosten (1992) proposes that wSUFF be analyzed as encoding an underspecified modality, and I believe that this approach correctly captures the relevant generalizations explored in ch. 9. Joosten argues that the properties of wSUFF cannot be derived compositionally; and so he posits a separate verbal form in line with the traditional analysis of Biblical Hebrew. In this subsection an example is presented to clarify the phenomenon under discussion. Joosten's implicit theory is shown to be empirically inadequate and a syntactic approach is tentatively suggested in its stead.

4.5.1.1 *An Example.* We begin with an example of the phenomenon from 1Sam1:3 provided in (69).

(69) wə-ʕɔlɔ   hɔ-ʔiš ha-hu   me-ʕir-o
     and-SUFF.3ms√ascend DEF-man DEF-that   from-town-his

     miy-yɔmim yɔmim-ɔ   lə-hištaḥawoθ
     from-days days-DIR   to-INF√worship

   "That man would go up from his town to worship year after
   year."   (1Sam1:3)

The problem is as follows. Whatever the meaning of the finite verbal form in (69) is exactly, and this point is controversial, it does not mean what the SUFF form would mean, i.e., past tense, punctual, single occurrence. Rather there is a modal sense of prediction or "future," what *would* generally be the case; as well, the verb cannot be interpreted as punctual.

Moreover, the clitic /wa-/ "and" does not seem to be performing its regular conjoining function: this verse is at the head of a new paragraph.

The traditional answer to the problem, as Joosten reiterates with sources, is as follows. Despite the superficial appearance of the clitic conjunction /wa-/ on a SUFF host, this is clearly not a case of SUFF with the conjunction. Rather, there is an additional verbal form wSUFF (consistent with the sigla employed here) that bears the different content (generalized modality or irrealis). There is no doubt a historical relation involved, as Joosten notes; but in the *synchronic* analysis, the history is of course irrelevant.

There is an additional factor often invoked in favour of wSUFF. This is the stress shift from the theme vowel to the subject-agreement suffix in the first and second persons singular. This line is a dead end as Revell (1984: esp. 440; 1985) makes quite clear (cf. McFall 1982: appendix 2, 189-210): the shift is related to postlexical adjustments in phrasal phonology.

4.5.1.2   *Two Reasons to Reject wSUFF.*   Beyond the red herring of the stress shift and in addition to the preferable strong claim that if we apparently have a conjunction and SUFF then in fact that is what we have, there are two good reasons to reconsider the position.

First, for the claim to be valid, the combination of

conjunction and SUFF should be a necessary and sufficient condition for the radically different meaning. As Joosten and with him every grammar point out, SUFF may have the different meanings without the prefix √w (e.g., 1Sam2:16 *lɔk'aḥti*); and the presence of √w does not guarantee the semantic difference (abundantly attested in the corpus). The exceptions are generally presented as minor and explained in a number of ways (often by questioning the accuracy of scribal transmission). In fact the exceptions form a significant block of counterexamples which can be further classified into several types (e.g., simple conjoining of SUFF forms: e.g., 1King21:19 *yɔrɔštɔ waðibbartɔ*).

In contrast to the impression of a minor exception, a trial cut throughout 2King reveals a surprising picture. Upwards of 35% of cases of wSUFF must be read as SUFF. Even granting that many of the cases in 2King follow on wayyPRE2 (this usage is concentrated in 2King23ff), the wayyPRE2 read as "preterite," and even granting a modal analysis of the consecutive phenomenon in anticipation of ch. 9, there is still in excess of 5% of wSUFF in 2King that remain unaccounted for. The latter 5% are clearly cases of simple conjoining of SUFF-headed phrases.

Moreover, random sampling of chapters in 1Sam reveals that well over 90% of all main clauses begin with the conjunction /wa-/ "and, but" (99% for the section 2Sam9-20 and 1King1-2 according to Dempster 1985: 40). Indeed, we find that the counterexamples for wSUFF, with and without the conjunction, correspond roughly to this ratio of 1 in 10: no doubt not a

coincidence.

A second very good reason to reject the wSUFF theory is the minimal pair (70)-(71) derived from the example in (69) above (repeated here as (70)) in accordance with Standard Hebrew usage.

(70) wə-ʕɔlɔ   hɔ-ʔiš ha-hu   me-ʕir-o
     and-SUFF.3ms√ascend DEF-man DEF-that   from-town-his

     miy-yɔmim yɔmim-ɔ   lə-hištaħawoθ
     from-days days-DIR   to-INF√worship

     "That man would go up from his town to worship year after
     year."   (1Sam1:3)

(71) wə-hɔ-ʔiš ha-hu   ʕɔlɔ   me-ʕir-o
     and-DEF-man DEF-that   SUFF.3ms√ascend from-town-his

     miy-yɔmim yɔmim-ɔ   lə-hištaħawoθ
     from-days days-DIR   to-INF√worship

     "That man went up from his town to worship year after year."
     (adapted from 1Sam1:3)

Two points are of immediate interest here. First, the source of the iteration supposed in 1Sam1:3 is not the verb but in all likelihood the modifier "year after year" plus context as is demonstrated in (71). In other words, we have here a good example of the applicability of "compositional aspect" introduced in §3.2.2. Second, the difference in meaning between (70) and (71), again an open question in many circles, correlates with a variation in word order. This is the crucial insight in the work

of Peckham (nd, 1994) and is an obvious extension of the work of Niccacci (1987) cited in the introduction (§1.3.3.2).

Discussion of word order and semantics is taken up at several points in succeeding chapters, but one point is worth emphasizing here. The unmarked or natural or expected meaning of SUFF is obtained in the V2 construction in (71), while the marked modal reading is apparently a function of verb-initial ordering in (70). Notice that this is in fact the exact opposite of what we would expect under a VSO analysis of Biblical Hebrew syntax. The mirror image of expectation under the VSO hypothesis and fact is taken up in the opening of ch. 5.

§4.5.2 *On the Nature of wPRE2*

The justification for a separate consecutive construction wPRE2 is even less compelling. In (72) a typical example is given in which the ambiguity between PRE forms is resolved in favour of PRE2.

(72) šilḥɔ nɔ   1-i   ?ɛḥɔð min han-nɔʕɔrim
     PRE!.pl√send please to-me   one from DEF-servants

     wə-?aḥaθ   hɔ-?aθonoθ   wə-?ɔrusɔ   ʕað ?iš
     and-one   DEF-donkeys   and-PRE2.1s√run to man

     hɔ-?ɛlohim   wə-?ɔšußɔ
     DEF-god   and-PRE2.1s√return

     "Please send me one of the servants with one of the donkeys
     so that I might go to the man of God quickly and then
     return." (2King4:22)

The argument in favour of a separate form is simply the

additional sense of *purpose or result* ensuing on the imperative. Additionally, the essential PRE2 nature of this construction is not generally recognized in traditional grammars; thus, the modal sense must be captured elsewhere.

Three points tell against the extra form. First, out of context the wPRE2 forms in (72) would be read as modals with the conjunction. In fact it is not uncommon for a PRE2 modal to occur with the conjunction or for modals to be conjoined serially. Second, the logical connection of "in order to" can be derived from context; it is better to maintain a unified lexeme √w "and" and derive the additional sense as an implicature (§3.3.3). The sense of a desideratum is a function of PRE2 and word order which combine to make the "modal." It is simply a matter of correctly analyzing the prefixed verbal form in this construction as PRE2.

4.5.3   *The Problematic WayyPRE2*. Perhaps the most characteristic phenomenon in Biblical Hebrew grammar, especially the Early variety, as every new student of the Biblical dialects quickly learns, is the use of the *waw-consecutive* (or more accurately, the "waw-consecutive with imperfect(ive)") in straight Hebrew narrative prose. Compare the forms in (73).

```
(73) (a)  wPRE2      /wa-ya-ktub/         /wa-ya-hyi/
                     [wǝyixtoß]           [wihi]
                     "and may he write"   "and may he be"
```

(b)   wayyPRE2   /wa-y-ya-ktub/   /wa-y-ya-hyi/
                 [wayyixtoß]   [wayhi]
                 "and he wrote"   "and he was"

It is easier to see the contrast in examining the underlying
phonemic representations: there is a copy of the consonant of
the subject-agreement prefix (which is true regardless of which
person is involved). Otherwise, the same argument applies as in
the case of wPRE2: there are superficially the conjunction and a
familiar verb form, PRE2. Extending the structuralist method
employed so far, we would make the strong claim that in fact this
is what we have: the conjunction and PRE2, *and something else*.

The most natural extension of the line we have pursued is to
maintain the strong claim on the nature of wayyPRE2 by positing
an additional morpheme, semantic content to be determined in ch.
9. Its position between the conjunction and the verb in initial
position immediately suggests its morphosyntactic properties: we
can assume tentatively that it is some sort of "complementizer"
(traditionally the class of "subordinating conjunctions" with
theoretical refinements and extensions in the Government-Binding
framework as explained in ch. 5).

Formally, the morpheme is a copy and so its underlying
representation will be impoverished or "underspecified." We can
reduce it to simply an additional mora (μ) and allow consonant
spreading to fill in the content. We would assume that the
second consonant of the definite article is also an instance of
this copying; but in this case we know what happens when the

deictic elements surface as independent words, viz. the default consonant /ʔ/ appears (see above (57a), §4.3.3: in the Aramaic article, the enclitic /-aʔ/ < */haʔ/, we again find the /ʔ/). If we insisted on greater concreteness (as we probably should), we could easily identify the mystery formative as /-ʔ-/[50]: the matter is a technical one and will not be pursued here. A full underlying representation of the forms in (73b), now reanalyzed, is supplied in (74): note that the additional mora is circled.

(74)

(a)
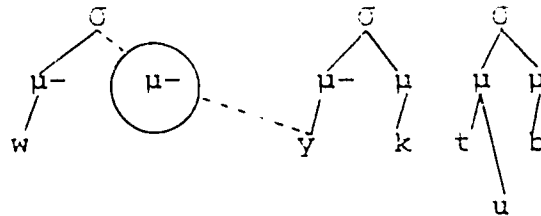
(b)
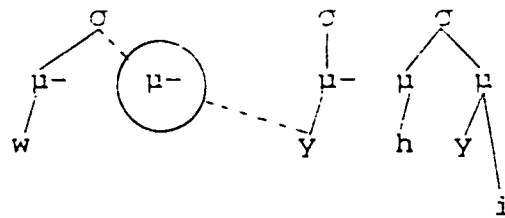
N.B. [wayyǝhi] → [wayhi]

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§4.5.4 *Eliminating the Consecutive Forms: Conclusion*

It is preferable to make strong claims on monosemy as explained in §3.3 and to seek other explanations for the semantic variation in the lexicon, the syntax and in an examination of the contributions of context. Traditional analysis seeks to locate the burden of the varying verbal semantics in the inflectional morphology alone, a programme which we informally dubbed the Morphocentric Fallacy in §3.1, p.68.

In this section we have seen how one might go about shifting the burden to the syntax (wSUFF and word order) and the pragmatic properties of the conjunction (the implicature of purpose-result and wPRE2). To pursue this line of inquiry, we first require a full-blown syntactic analysis that treats of the internal architecture of constituents (heads, objects, etc.). This is crucial if we are to develop a compositional analysis of the wayyPRE2 and the mystery formative briefly sketched in §4.5.3.

5

VERBAL MORPHOSYNTAX: VERB MOVEMENT

When you mathematize something you distill its essence.
                    Brian Arthur in Waldrop (1992: 44)

From a typological viewpoint it may be interesting to give a more
definite answer to the question whether Hebrew is a VSO language
or rather SVO as Joüon maintains. . . .   The answer to the
question may influence our understanding of the Hebrew sentence
and the relationship of several syntactical constructions on the
one hand and the description of complex sentences on the other.
Jongeling (1991: 104)

There is little that is original about the following

proposal on Biblical Hebrew syntax, though the particular

constellation of diverse elements is no doubt novel and the

rejection of the traditional VSO hypothesis is certainly

controversial.   The general model can be found in germ in Joüon's

descriptive treatment (1923: §§154-155), a much neglected

contribution to Hebrew studies.   Joüon unambiguously claims that

the unmarked Hebrew order is subject-predicate and SVO--though

there is provision for predicate-subject and OVS--and that

subordinate conjunctions or "complementizers" induce verb-initial

constructions (Joüon 1923: esp. §154f, 468, and §155k, 474).

This general model is implicit in the unpublished work of

Peckham (nd, 1994), and especially in his methodological

separation of "matrix" or "main" clauses from subordinate and

coordinate constructions (cf. Lightfoot 1991 on "degree-0

learnability"). The model is a natural extension of the work of

Niccacci (1987, 1990), Revell (1989a) and others noted in

§1.3.3.2. The model is also implicit in the comparisons with

Celtic VSO systems (Welsh in Jongeling 1991) which are probably

best analyzed as matrix V2, subordinate V1, with underlying SVO

(as Jongeling notes in n. 8, p. 104 regarding Welsh; cf. Breton,

V2 matrix, strict V1 subordinate: Press 1986: ch. 4 "Syntax";

and also SVO Irish: Carnie 1991). Finally, and most

importantly, a much earlier version of the Government-Binding

model presented at the end of this chapter is briefly sketched in

Naudé (1990).[51] I also adopt Naudé's claim with little comment

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[51]A technical point that should be clearer by the end of the present chapter:

At an earlier stage I followed, along with Naudé, the standard analysis of V2 languages that raises the verb to COMP and sets WH-phrases (interrogatives) and topicalized XPs in spec-CP. The left-dislocated *casus pendens* was then accounted for by CP-adjunction.

There may be good reason to avoid CP-adjunction, but this does not concern us here. The real problem is created by the surfacing of topicalized elements to the right of COMP (spec-IP). If we base-generate subjects within VP (at spec-VP), topicalization (and for that matter WH-movement) can easily be accommodated at spec-IP (with V2 raising to INFL). On this approach, left-dislocation is base-generated at spec-CP, i.e., without the adjunction structure. This structure also permits the unification of discourse related phenomena. This approach is clarified below.

that left-dislocation (usually accompanied by a resumptive pronoun), traditionally the *casus pendens* phenomenon, is base-generated (i.e., is not derived by movement); whereas, topicalization (without resumptive pronoun) arises under move-ɑ̀ (the single transformation in Government-Binding).

This chapter is organized as follows. 1) A brief introduction to syntax in a generative mode is provided. 2) From there the basic facts of Biblical Hebrew syntax are presented within the Functional Grammar (FG) framework (Siewierska 1991), a model frequently used in studies of Semitic syntax (e.g., Buth 1987, van der Merwe 1991; cf. Bandstra 1992). It is then shown how a "two template paradox" arises and how it can be solved under a verb movement analysis. 3) An orthodox presentation of the X-bar syntax of the Government-Binding (GB) framework (Cowper 1992a, Haegeman 1991) follows and the verb movement analysis is then formalized. The insights of the FG analysis are incorporated by assuming a pragmatico-discourse functional level of representation suggested by Sadock (1991: esp. 210ff.): move-XP is required by the pragmatico-syntactic interface rather than abstract case assigment. The remainder of the chapter is devoted to analyzing the basic Biblical Hebrew syntactic configurations within this slightly augmented GB framework.

§5.1 A BRIEF INTRODUCTION TO SYNTAX IN THE GENERATIVE MODE

§5.1.1 *Requirements of a Syntactic Theory*

Just as morphology is defined as the study of the combination of morphemes into words, so syntax is the investigation into the nature of the combination of words into groups, i.e., constituents or *phrases*, and the combination of phrases into clauses and sentences. In generative perspective, a theory of syntax must deploy some formal (computational) device to capture all and only the grammatical combinations or *strings* of words in a given language (observational or *empirical adequacy*); and in such a way that the model accounts for native intuitions about the structure of that language and captures linguistically significant generalizations (*descriptive adequacy*). Ultimately, we would like to establish a universal model of syntax to account for all attested languages, and to account for them in such a way that we can explain the ease and rapidity of first-language acquisition (*explanatory adequacy*).

§5.1.2 *Accounting for Variation*

It would appear that there is no such thing as free variation in syntax (in the sense that anything goes), though admittedly there is a spectrum over which languages differ with respect to syntactic variability. To capture such variation, investigators seek generalizations about word order: *basic word order*. The variation is then accounted for by positing some formal operation that moves constituents about, or equivalently

stipulates various linear orders.

We will examine one example already used in the introduction and repeated here in (75).

(75) (a)   Hebrew word order does make a difference.

(b)   Does Hebrew word order make a difference?

At the very least we would like to abstract away from the actual sentences to general statements on English word order. We might say, for instance, that an English sentence can consist of at least the two orderings in (76).

(76) (a)   Sentence →   Subject Verb(Aux) Verb Object

(b)   Sentence →   Verb(Aux) Subject Verb Object

The statement in (76) is observationally adequate as far as it goes: but it crucially fails to capture native intuitions regarding the pair: there is undoubtedly a relation between (76a) and (76b). Native speakers of English would recognize (if the concept were explained) the unmarked status of (76a) and also the additional semantic burden carried by the ordering in (76b). To account for this understanding we would posit (76a) as the basic ordering and seek a formal means to correctly derive structures such as (76b) (which is not as easy as it may sound!). In addition, our model must account for the extra meaning in (76b) in some fashion.

§5.1.3 *Basic vs. Dominant Word Order*

There is a difference between basic word order and *dominant or statistically prevalent* word order (Siewierska 1988: §1.1.1, 8ff.): the difference is crucial, and failure to recognize it leads to no end of descriptive and theoretical difficulties. To return to the example in (75)-(76): we recognized a basic word order reflecting native speaker intuitions. But now consider the text of the American national anthem with the question marks on matrix clauses. If we naively equated basic word order with statistically prevalent or dominant order, we would be led to posit (75b)-(76b) as basic on the basis of this sample--obviously an absurd position. The point is that text type and information structure can radically skew statistical prevalence (Siewierska 1988: 12-13).

In Standard Biblical Hebrew narrative prose, the *statistically prevalent* construction is VSO with wayyPRE2 (the form was introduced §4.5, esp. §4.5.3). In straight narrative-descriptive passages (e.g., Solomon's construction of the Temple [1King6]), wayyPRE2 - VXSO (X a place-holder variable) outnumbers SUFF/PRE1 - XVSO roughly two to one.[52] Hebraists have

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[52]Notice that the passages such as 1King6 were preselected on the basis of being prototypical prose passages. The range here is 55-60+%.

Schneider cites a figure of 75%, i.e., wayyPRE2 - VXSO outnumbering XVSO three to one; this number is apparently based on averaging over a number of texts (Schneider 1978: §48.1.2.1). We would expect individual corpora to vary from the 75%.

If we simply took random cuts in Samuel-Kings, the picture becomes much more complicated. A slightly more dynamic narrative with some dialogue will bump the number down into the 40s (e.g.,

constructed the theory of Standard Biblical syntax on the
implicit assumption that *statistically prevalent* prose ordering
is *necessarily basic* word order. (In no small measure, this is
the source of the failure of prose syntactico-semantic models to
extend to poetic passages; compare statistics, note 52.)
However, if we clearly distinguish *dominant* from *basic*, the
entire picture changes dramatically.

For our purposes, then, let us understand the term "basic
word order" as follows. Basic word order obtains in a simple,
declarative, "matrix" or main clause that is prototypically
transitive and contains full vs. pronominal constituents
(Siewierska 1988: §1.1.1, 8). Thus, we must distinguish word
order in Biblical Hebrew matrix clauses from that obtaining in
subordinate and coordinate constructions (as does, e.g., Peckham
1994). If we concentrate on the simple matrix construction, to
the methodological exclusion of others, we must arrive at the
position of Joüon (1923) as we shall see.

§5.1.4 *Schools of Generative Syntax*

Depending on the interests, goals, the kinds of questions
asked and the expectations regarding answers, there is no end to
possible generative theories of natural language syntax. The
survey provided by Bodine (1992c) makes this much clear. A more

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1Sam1, 44% wayyPRE2 - VXSO). The number can vary wildly,
especially in the poetic passages; e.g., in 1Sam2:1-10 wayyPRE2
makes up 6% of matrix clauses, 8% if the verbless clauses are not
counted.

technical and extremely valuable survey can be found in

Moravczik, Wirth (1980); while Sells (1985) and Siewierska

(1988) offer concise introductions with a more manageable number

of schools.

Schools are distinguished by a few major parameters. 1)
They differ first in how much structure they aim to account for.
Some schools are not particularly interested in the internal
structure of constituents (FG, Relational Grammar [RG]), while
others delve into phrase structure (GB, Generalized Phrase
Structure Grammar [GPSG]). It is preferable to offer a unified
account of constituent-internal and -external structure. 2)
Schools differ in the nature of primitives posited. On the one
hand are schools that treat grammatical relations (subject,
object, etc.) as primitives (FG, RG); on the other are the
formal schools that take morphosyntactic heads as primitive
(Noun, Preposition, Verb, etc.) and treat grammatical relations
outside of an autonomous syntax (GB, GPSG). 3) Finally, schools
differ in the nature of formal devices employed: formulas or
templates (FG), constituency-dependency trees (GB, GPSG), and
even the "spaghetti" diagrams of "neural nets" in
Stratificational Grammar.

For the purposes of this study, we will employ two of the
more popular and successful generative theories of syntax: Dik
et al.'s Functional Grammar (FG) and the Government-Binding
Framework (GB) of Chomsky and others. FG has been favoured by
Semitists working in syntax. GB "can reasonably be described as

the major school of research in syntax in North America and most of Europe" (Cowper 1992a: xi). Moreover, a GB-style analysis is required for the theoretical framework adopted in Part III.

§5.1.5 *Some Standard Biblical Hebrew Syntactic Structures*

If we control for the relevant criteria regarding basic word order (§5.1.3), we must recognize (77) and (78) as "unmarked" or basic (as we have defined the concept) Standard Biblical Hebrew syntactic structures.

(77) u-malʔax YHWH dibbɛr   ʔɛl ʔeliyyɔ hat-tišbi . . .
     and-angel YHWH SUFF.3ms√speak to Elijah DEF-Tishbite . . .

     "But the angel of the Lord said to Elijah the Tishbite. . ."
     (2King1:3)

(77') u- [malʔax YHWH]   [dibbɛr]   [ʔɛl ʔeliyyɔ hat-tišbi] [...]
         Subject   Verb   Indirect Object   Object

(78) wə-naʕamɔn sar s'əɓɔ mɛlɛx ʔarɔm   hɔyɔ   ʔiš gɔɖcl
     and-Na'aman chief army king Aram   SUFF.3ms√be   man great

     li-ꝑne ʔaðon-ow . . .   wə-hɔ-ʔiš   hɔyɔ
     to-faces lord-his   and-DEF-man   SUFF.3ms√be

     gibbor ḥayil   məs'orɔʕ
     warrior strength   PRT.ms√leprosy

     "Now Na'aman, the commander of the army of the king of Aram, was a great man in the sight of his lord. . . . and he was a mighty warrior, but with leprosy." (2King5:1)

(78') wə-[naʕamɔn...]   [hɔyɔ]   [ʔiš gɔðol]
         Subject   Verb   Predicate

      wə-[hɔ-ʔiš]   [hɔyɔ]   [gibbor ħayil]
         Subject   Verb   Predicate

The example in (77) is a simple, declarative matrix clause
that is transitive and contains full constituents; the simple "A
was B" in (78) is given for comparison. We can summarize the
structures in (77) and (78) by the formula SVX (X a variable).
To repeat, this is the position sketched (with little in the way
of explanation) in Joüon (1923: esp. §155o, 475); and this view
radically contradicts the received wisdom that Hebrew is
basically or essentially VSO.

In (79) and (80) are presented the major expansions of
Biblical Hebrew clause structure (N.B.: for ease of presentation
I have adapted (79) to create the representative example in
(80)).

(79) ki   ʕað hay-yɔmim hɔ-hemmɔ   hɔyu   ßəne yisrɔʔel
     for   until DEF-days DEF-those SUFF.3pl√be   sons Israel

     mək'att'ərim   1-o
     PRT.mpl√burn.incense   to-it(m)

     "For up until that time the Israelites had been burning
     incense to it." (2King18:4)

(79') [ki]   [ʕað hay-yɔmim...]   [hɔyu]   [ßəne yisrɔʔel]
      Sub.Conj.   Temporal Adverb   Verb   Subject

[mək'att'ɔrim]   [l-o]
  Participle   Indirect Object

(80) nəḥaš han-nəḥošɛθ   ʕað hay-yɔmim hɔ-hemmɔ
     snake DEF-bronze   until DEF-days DEF-those

     hɔyu   ßəne yisrɔʔel   mək'att'ərim   l-o
     SUFF.3pl√be   sons Israel   PRT.mpl√burn.incense   to-it(m)

     "As for the bronze snake, up until that time the Israelites
     had been burning incense to it." (modified 2King18:4)

(80') [nəḥaš...]   [ʕað hay-yɔmim...]   [hɔyu]   [ßəne yisrɔʔel]
      Casus Pendens   Temporal Adverb   Verb   Subject

      [mək'att'ərim]   [l-o]
        Participle   Indirect Object (Resumptive Pron.)

The structures in (79) and (80) add considerably to the

complexity of the formula required:

        (Cas.Pend.) X V_{infl} S V_{prt} X

Following Joüon (1923: §154m, 471) we should recognize the

"dummy" status of √hyy "to be": in the case where a verb is not

available to bear inflection, √hyy is deployed to support the

inflection.[53] We could derive from our expanded formula this

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[53]In a more sophisticated analysis we may want to alter this
stance. Nevertheless, the position is empirically adequate and
sufficient for our modest purposes here.
     I draw attention to a similar move in the analysis of
Russian.

basic generalization:

$$\ldots \quad X \quad INFL \quad S \quad \ldots$$

Finally, we must contend with the decidedly marked

constructions in (81)-(84).

I return to Russian, a language that allows sentences
to consist of a noun phrase and a nonverbal predicate
phrase. As in many such languages, these verbless
sentences exist only in some unmarked form such as the
present tense. In more marked parts of the verbal
paradigm, the past tense or future tense, for example,
a copular verb obligatorily appears. *Fido sabaka* means
only "Fido is a dog". To express the equivalent of
"Fido was a dog" an additional word is required: *Fido
byl sabaka*.

The account of the sudden appearance on the scene
of a copular verb is quite straightforward in the
[Autolexical] system being explicated here. The past
tense in Russian is expressed in terms of an
inflectional suffix *-l* on verbs. This lexeme is
obligatorily a suffix, which we may specify by
assigning it a lexical representation along the lines
of L11.

(L11)   *-l*   (Russian):

syntax = nil

semantics = 0^{-1}

morphology = $[_{V[-l]}$ V[-0]_____]   . . .

Forms like *⁎Fido +l sabaka* . . . though
syntactically and semantically well formed will be
ungrammatical because the morphological requirements of
the past-tense lexeme are not met. . . . this morpheme
will have to have a verb to support it. . . . it will
have to be some semantically neutral verb like *byt'*
[semantics = nil] (Sadock 1991: §2.2, 35-36; cf.
e.g., Dik 1987: §§1.1-1.3, 55-58 on "copula support").

(81) ha-yɔðaʕtɔ   ki   hay-yɔm   YHWH lok'eaḥ
     Q-SUFF.2ms√know   that   DEF-day   YHWH PRT.ms√take

     ʔɛθ ʔaðon-ɛxɔ   me-ʕal roš-ɛxɔ
     ACC lord-your   from-over head-your

     "Do you know that the Lord is going to take away your master
     from over you today?" (2King2:3)

(81') [ki]   [hay-yom]   [YHWH]   [lok'eaḥ]
      Sub.Conj.   Temporal Adverb   Subject   Participle

      [ʔɛθ ʔaðon-ɛxɔ]   [me-ʕal roš-ɛxɔ]
      Direct Object   Source

(82) ki   lo bə-ḥɛrɛß u-ßa-haniϋ   yəhošiaʕ   YHWH
     that not by-sword nor-by spear PRE1.3ms√save YHWH

     "that it is not by the sword or spear the Lord saves."
     (1Sam17:47)

(82') [ki]   [lo bə-ḥɛrɛß u-ßa-haniϋ] [yəhošiaʕ] [YHWH]
       Sub.Conj.   Instrument   Verb   Subject

(83) wə-yɛθɛr dißre ʔaḥazyɔhu ʔasɛr ʕɔsɔ   halo hemmɔ
     and-rest acts Ahaziah   which SUFF.3ms√do Q.not they

     xəθußim   ʕal seφɛr dißre hay-yɔmim lə-maləxe yisrɔʔel
     PASS.mpl√write on book   acts DEF-days to-kings Israel

     "As for all the deeds of Ahaziah which he performed, are
     they not written in the Book of the Chronicles of the Kings
     of Israel?" (2King1:18)

(83') wə-[yɛθɛr diβre...]   [halo]   [hemmɔ]
          Casus Pendens   Part.   Subject (resumpt.pron.)

[xθθuβim]   [ʕal seφɛr...]
Participle   Locative

(84) wə-hɔ-ʕɔm   han-nišʔɔr   bə-ʔɛrɛs' yəhuðɔ . . .
     and-DEF-people   DEF-PRT.ms√remain   in-land Judah . . .

     wa-y-yaφk'eð   ʕale-hɛm ʔɛθ gəðalyɔhu . . .
     and-ʔ-PRE2.3ms√appoint   over-them ACC Gedaliah . . .

     "And, as for the people left in the land of Judah . . ., he
     appointed over them Gedaliah . . . " (2King25:22)

(84') wə- [hɔ-ʕɔm...]   [wa-] [y-] [yaφk'eð]
          Casus Pendens   Conj. ?   Verb

     [ʕale-hɛm]   [ʔɛθ gəðalyɔhu...]
     Indirect Object   Direct Object

In (81)-(83) is introduced the added problem of the fixed
"particle" (generally a subordinating conjunction in traditional
terminology; "complementizer" in the GB terminology adopted
below). In (81) and (82) the extra preposed constituent surfaces
to the right of the particle (the X is the preposed constituent
in: Part. X S V ...) (see note 51); while in (83) the
extra constituent surfaces to the left of the particle and,
crucially, induces the resumptive pronoun (X Part. S V ...).
Finally, (84) represents arguably the most marked construction in
Biblical Hebrew syntax, viz. a left-dislocated constituent with
the wayyPRE2 verbal construction and with realignment
postverbally (i.e., "end focus": in this case, the reordering of

direct and indirect objects).

There is one phenomenon for which the Samuel-Kings corpus is lacking in clear, salient examples: minimal pairs in which the word order is interpreted differently depending on distinctions in modality. An example from the Book of Job is presented in (85) with an adaptation representative of the crucial distinction. Two examples comparable to (85a) are added in (86)-(87).

(85) (a) hay-yom   ha-hu   yəhi   hošɛx
          DEF-day   DEF-that   PRE2.3ms√be   darkness

         "As for that day, let it become darkness!" (Job 3:4)

     (b) hay-yom   ha-hu   yihyɛ   hošɛx
          DEF-day   DEF-that   PRE1.3ms√be   darkness

         "That day will become darkness" (modified Job 3:4)

(86) wə-ʔattɔ   ʕamoð   k-ay-yom
     and-you   PRE!.ms√stand as-DEF-day

     "As for you, stay here for a time." (1Sam9:27)

(87) lo xen   ʔohilɔ   lə-ɸɔnɛ-xɔ
     not thus   PRE2.1s√wait   to-faces-your

     "I shall not wait like this before you." (2Sam18:14)

§5.1.6 *Summary*

As a bare minimum, a successful syntactic analysis must insightfully account for the variation in (77)-(87) (to date no analysis has fully accounted for this range of data). In the next section we will look at how FG accounts for the facts of Standard Biblical Hebrew syntax. We will see that in crucial respects the FG account falls short; (79), (81), (82), (84) and especially (85)-(87) create serious difficulties. A way out of the difficulties is suggested: the verb is not fixed in the clause as is implicitly assumed, but moves about the sentential structure.

§5.2 FUNCTIONAL GRAMMAR AND HEBREW SYNTAX

§5.2.1 *General Success of FG Approach*

The basic facts of Biblical Hebrew syntax have been known for some time and are reasonably well understood. A certain amount of sophistication in our understanding of Biblical Hebrew has been achieved in the last decade or so; and this has been achieved in no small measure by the application of the syntactic theory of Functional Grammar (or something notationally equivalent, e.g., Bandstra 1992). The defining characteristic of Biblical Hebrew on this view is *topicalization*, and FG is remarkably well suited to handling the phenomenon.

§5.2.2 *The Universal Template*

Functional Grammar does not have an autonomous level of

syntactic representation; rather, it treats linearization as a function of pragmatics. The device adopted in FG is a pragmatico-syntactic template presented in (88) and subsequently explained.

(88) P_2 , P_1 (V) S (V) O (V) , P_3

        "Theme"   "Tail"

                where,   S - Subject
                          O - Object
                          V - Verb
                          P - Special Position

                          X - Variable over S, O, V, P

Subject, Verb, Object and Position are the primitives (at least as far as linearization rules are concerned[54]). Notice that the relative order of the verb is parameterized to account for cross-linguistic variation. The last, Position, is a special slot that correlates with various discourse functions which are then separately indexed. The commas mark the clausal boundaries: we thus speak of extra-clausal Ps. The "theme" P_2 corresponds to the strong effect associated with the *casus pendens* phenomenon:

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[54]The understanding of syntactic functions in FG (subject, object) as well as the pragmatic functions (topic, focus) are somewhat esoteric. Siewierska has provided reasonably clear and concise discussions of these issues (1991: chs. 4, 6).

while the "tail" P_3 is not directly relevant to our concerns here, but is necessary to account for "end focus" in under 5% of Standard Biblical Hebrew clauses (according to trial cuts). P_1 is crucial to the FG account. This is the position of the particles; when particles are absent, P_1 is home to the topicalized element (if any); P_1 may in fact remain empty.[55]

Several critical comments are in order here. First, the universal S-O relation appears to be empirically inadequate with an increasing number of reports of O-S languages (see note 31, p.62). Second, the ordering of V and O is divorced from the ordering of other heads and their objects, which is a significant loss of generalization. Finally, the relative "size" of constituents is ignored. Thus, a morphosyntactic head such as V is on equal footing with whole phrases (S, O). And the list of elements appearing in P_1 includes both heads (especially the "particles") and whole phrases (the topicalized Xs). Despite these and other inadequacies, and despite the coarse-grained nature of the template (ignoring constituent-internal architecture), this pragmatico-syntactic template has great heuristic value and captures at least the essential facts of Standard Biblical Hebrew clause structure.

§5.2.3 The Hebrew Template

The Biblical Hebrew template is considered to be that given

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[55]For example, a lone finite verbal form may form a viable matrix clause: *ẖɔtʾɔθi* "I sinned."

in (89).

(89) P_2 , P_1 V S O , P_3

    The VSO core is established based on the dominant
construction in Biblical Hebrew narrative, a representative
example of which is provided in (90).

(90) wa-y-yeðaʕ   ʔɛlk'ɔnɔ ʔɛθ hannɔ ʔišt-c
    and-ʔ-PRE2.3ms√know Elkanah   ACC Hannah wife-his
        V   S   O

    "And then Elkanah lay with Hannah his wife." (1Sam1:19)

    The P_1 function is then invoked to account for the
construction in (77) repeated as (91).

(91) u- malʔax YHWH dibbɛr   ʔɛl ʔeliyyɔ hat-tišbi
    and angel YHWH SUFF.3ms√speak to Elijah DEF-Tishbite
      P_1 V   X

    "But the angel of the Lord said to Elijah the Tishbite..."
    (2King1:3)

    The promotion of S to P_1 in (91) is quite common.
Sampling indicates that roughly 55+% of Standard Biblical Hebrew
prose topicalization involves S.   This is actually in line

with Germanic data, e.g., wherein promotion of S to P_1 averages 60% (Lightfoot 1991: 73, citing Gerritsen 1984). The minor discrepancy may be an accident (this requires an intense study); but the difference may be accounted for by the obligatory expression of the subject in the Germanic languages over against the optional presence of the subject in Biblical Hebrew (additional pronouns become emphatic with overt subject-agreement, as in all Semitic languages).

The P_1 function is also invoked for the typical subordinate construction given in (92).

(92) wa-y-yɔsar   ʔɛθ mass'əβaθ   hab-baʕal
      and-ʔ-PRE2.3ms√remove   ACC sacred.stone   DEF-Ba'al

      ʔašɛr   ʕɔsɔ   ʔɔβ-iw
      REL   SUFF.3ms√make   father-his
       P_1 V   S

"And he removed the sacred stone of Ba'al which his father had made." (2King3:2)

The P_1 approach to Biblical Hebrew is remarkably successful (both empirically and descriptively) for the vast majority of clauses in our Standard Hebrew corpus. The added P_2 function takes care of much of the remaining data (up to 2% more), an example of which was given as (80) and repeated as (93).

(93) nǝhaš...   ʕaðˇ hay-yɔmim...   hɔyu   βǝne yisrɔʔel...
     P2   P₁   V   S . . .

§5.2.4 *Where the Template Fails*

Insufficient attention has been paid to constructions such
as that in (94) in all accounts save Lode (1984). (These are the
constructions that are especially problematic for the standard GB
analysis of V2 phenomena; see note 51.)

(94) wa-y-yikk'ɔhalu   ʔɛl ham-mɛlɛx šǝlomo
      and-ʔ-PRE2.3mpl√assembled   to DEF-king Solomon
              V   P_x

      kɔl ʔiš yisrɔʔel   bǝ-yɛrah hɔ-ʔeθɔnim b-ɛ-hɔγ
      all man Israel   in-month DEF-Ethanim in-DEF-festival
           S   X

      hu ha-hoðɛš haš-šɔβiʕi
      it DEF-month DEF-seventh

      "Every man in Israel came together to King Solomon at the
      festival in the month of Ethanim, i.e., the seventh month."
      (1King8:2)

A similar occurrence is found in (84) above. A reexamination of
(79), (81) and (82) will show that a template with an additional
P_x is not an uncommon construction: in (79), (81) and (82) we
obtain,

            . . .   P₁   P_x   V   S   . . .

Upon closer examination of the Samuel-Kings corpus we find

confirmation of the existence of not one but two distinct

templates with P_x schematized in (95): a two template paradox.

(95) (a) P_1 V P_x S   O   X

       (b) P_1 P_x V   S   O   X

Where a P_x is clearly required we find that it is the

topicalized element, whereas P_1 is the "particle" or

subordinating conjunction. Investigation indicates that the

properties of P_x are in accord with topicalization generally:

the types of constituents, the relative frequency, the stylistic

effects.

The theoretical problem is this: how do the templates in

(95) relate? This is similar to the question raised in (75)-(76)

above; i.e., is one order basic and the other one derived? We

would be ill-advised to try to conflate templates as in (96)

because of the considerable loss of generalization.

(96) P_1 P_x V P_y S   O   X

In (96) we can avoid the problem by arbitrarily separating out

pre- and post-verbal ordering (P_x and P_y respectively). In fact

this is what Lode (1984) does (though not in an FG framework)--

and without any explanation.

> The problem of word order in verbal clauses
> in Hebrew is of a double nature: the
> preverbal and the postverbal word order....
>
> The function of postverbal word order is
> not less important. It is independent of
> preverbal word order. and it will be
> presented. . . without reference to preverbal
> word order (Lode (1984: 133).

Upon careful consideration, what seems to force this move is the

unexamined assumption of the fixity of verbal position and the

attempt to save the strict VSO, which is taken to be inviolable.

The way out of the "two template paradox" is simply to

reject the hypothesis of strict VSO; and further, to seek a way

of uniting the templates. The key to this uniting of templates

is the explicit recognition of (95b) as the basic or underived

template following Joüon's lead.

§5.2.5 *Descriptive Inadequacies*

Before we leave the FG analysis of Biblical Hebrew word

order, we should examine briefly two problems that affect not the

observational but the descriptive adequacy of the FG template

approach to the variation in (77)-(87).

First, FG has no insightful way to handle the phenomenon in

(85)-(87) ((85) repeated as (97) below) except by explicitly

acknowledging the two template paradox.

(97) (a) hay-yom ha-hu   yəhi   hošɛx
          DEF-day DEF-that   PRE2.3ms√be   darkness
              P₂   V   P₁

     (b) hay-yom ha-hu   yihyɛ   hošɛx
          DEF-day DEF-that   PRE1.3ms√be   darkness
              P₁   V   X

Secondly, FG has nothing to say about the basic SVO

structure clearly associated with the Standard Biblical Hebrew

participle isolated in (79):

     βəne yisrɔ?el mək'att'ərim   l-o
     sons Israel   PRT.mpl√burn.incense   to-it
        S   V   X

§5.3 A GOVERNMENT-BINDING APPROACH TO STANDARD BIBLICAL HEBREW SYNTAX

§5.3.1 *An FG Template with Movement?*

There is a way of avoiding the path to the structure in

(96). First, we must reject the subsuming of the subordinating

conjunction and kindred "particles" under the rubric of P_1.

Instead, we simply treat P_x as a token of P_1, thereby insisting

on a strong claim on the unified nature of topicalization. We

would need to recognize a new element in the functional template:

C (for subordinating conjunction). Then, to get from (95b) to

(95a), we need only posit the movement of the verb diagrammed in

(98).

(98) (a) P_1 V P_X S O X

   (b) P_1 P_X V S O X
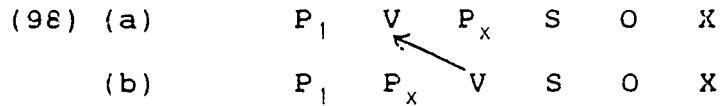
The resulting proposal is presented in (99).

(99) P_2 , C P_1 V S O X , P_3
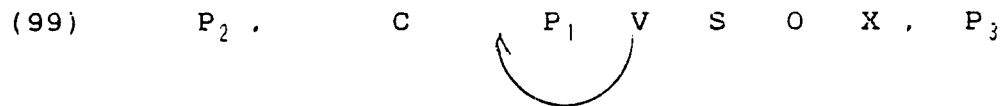
The Government-Binding approach to syntax is especially suited to handling such movements of morphosyntactic heads.

§5.3.2 *GB Syntax*

The syntactic structures in GB are built up through the recursive X' (read "X-bar") schema. This schema stipulates universal dominance relations; the linearization is parameterized to account for cross-linguistic variation. In this subsection the X' schema is built up systematically; and then a minimal clause structure is stipulated with an application to the full expansion of (79) of our set of basic structures to be accounted for.

5.3.2.1 *Phrase Structure.* The basic phrase consists of a morphosyntactic head and the "object" it governs. Languages tend to set the head in the same position relative to the object that

it governs regardless of the morphosyntactic category. Thus in Hebrew there are *pre-* positions: prepositions before objects, nouns before the genitive they govern, similarly adjectives, participles; also, verbs generally surface before their direct and indirect objects.

Let us take a concrete example set forth in the X' notation and then add some details of interpretation. In (100) is parsed a major constituent, *bǝ-Bayiθ YHWH* "in the house/temple of YHWH."

(100)
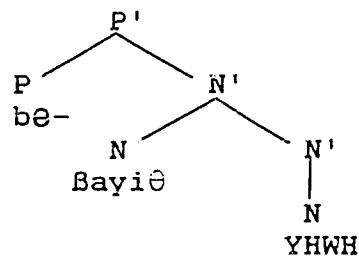
We say that the prepositional head together with its object form a prepositional phrase P' (read "P-bar"); further, we say that the prepositional head *governs* and *assigns case* to its object.[56] Similarly, the head of the genitival construction, *temple*, governs and assigns genitive case to the object with which it forms a phrase. We stipulate that heads govern only non-head

---

[56] In Biblical Hebrew, at least as read in any known tradition, case endings are completely lost and so this nicety is not directly relevant. In other Semitic systems such as Akkadian or Quranic Arabic, case assignment is central and these notions are crucial.

material; thus, *YHWH* forms an independent N'.

From (100) we generalize to the Biblical Hebrew X' schema presented in (101).

(101) Biblical Hebrew *X' Schema:*

```
          X'
         /  \
        X    Y'
```
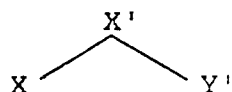
Notice that in light of (101) it follows that the verb and its object(s) also form a phrase conforming to the generalized schema as indicated in (102); a "double-object" construction is depicted in the abstract.

(102) *Biblical Hebrew Verb Phrase:*
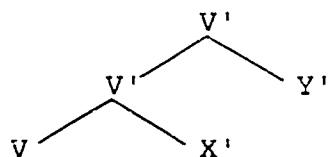
```
            V'
           /  \
         V'    Y'
        /  \
       V    X'                    X, Y variables
```

In (102) is shown a further convention: the X' can be expanded to accommodate both direct and indirect objects; further, any number of modifiers can be added as is required.

Finally, phrases can be predicated of one another. In (103) we find Solomon standing in the Temple.

(103)

```
                          P''
              ┌────────────┴──────────┐
             N'                        P'
              │               ┌────────┴────────┐
             N                P                  N'
           šəlomo            bə-          ┌───────┴────────┐
           Solomon           in          N                N'
                                        Bayiθ              │
                                        house              N
                                                          YHWH
                                                          Lord
```
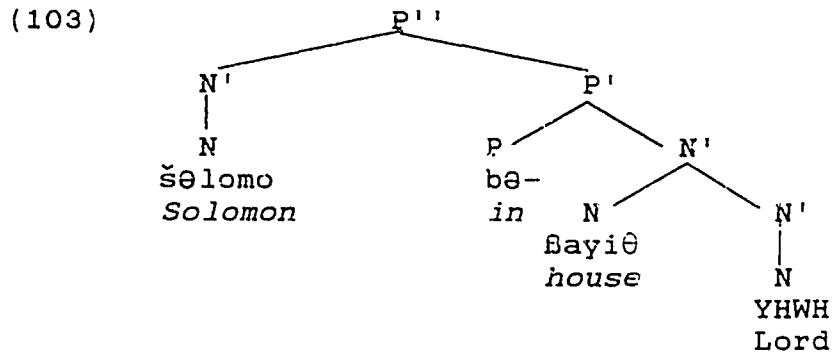
In (103) is shown the full expansion possible under X'
conventions. A revised schema for Biblical Hebrew is now given
in (104) with explanations following.

(104) *Revised Biblical Hebrew X' Schema:*

```
                X''
          ┌──────┴──────┐
        Z''             X'
                   ┌────┴────┐
                   X        Y''         X, Y, Z variables
```

Notice that all non-head material must be a full X'' or "maximal
projection" under the standard GB account. Z'' is in a
privileged position in the configuration in (104):   as *sister*
(constituents in the same phrase are "sisters") of X' it is the
subject in X''. The generalized term for this privileged
position is *specifier* or simply *spec*:   thus we say that Z'' is in
spec-X''.

This concludes the introduction to the X' conventions.

5.3.2.2   *The Clause in GB Perspective*.   We will adopt the

Barriers minimal clause structure (Chomsky 1986) which recognizes

only two *functional or grammatical categories*:   COMP or C

("complementizer") and INFL or I ("inflection").   The skeleton of

a Biblical Hebrew clause is given in (105).

(105)

```
              C''
             /  \
          __    C'
               / \
              C   I''
                 / \
               __   I'
                    / \
                   I   X''
                      / \
                    __   X'
                        / \
                       X   __
```
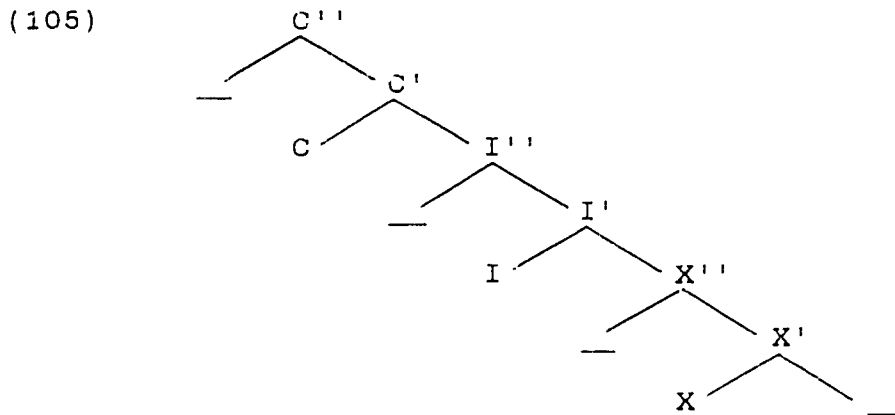
X a variable over the major lexical
categories *N, A, P, V*

We are now in a position to translate the insights of FG

into GB-ese.   We simply establish the following correspondences:

GB spec-positions will correspond to the "theme" P_2 (spec-C''),

to the topicalizing P_1 (spec-I'') and to the Subject or S (spec-

X'' for some lexical category).   A diagram of this proposal is

presented in (106) using the convention of parallel

representations in Sadock (1991) in which two dimensions are

shown, one with an inverted tree.

(106) *Pragmatico-Discourse Functions:*
      (FG usage, see (88), p. 147)

```
                              TOP''
                          ／       ＼
                        ／           ＼
                      ／               TOP'
                    ／              ／      ＼
                  ／              ／          ＼
                ／              ／              PRED''
              ／              ／               (COMMENT)
            ／              ／                ／      ＼
  THEME                TOPIC      SUBJECT      PREDICATE'
        ＼                 ＼           │              │
          ＼                 ＼          │              │
            ＼                 ＼         │              │
              ＼                 ＼        │              │
                ＼                 ＼     X''            V'
                  ＼                 ＼       ＼        ／
                    ＼                 ＼       V''
                      ＼                 ＼    ／
                        ＼            I     ／
                          ＼          ＼   ／
                            ＼          I:
                              ＼      ／
                        C       I''
                          ＼   ／
Syntax:                     C'
                          ／
                        C''
```
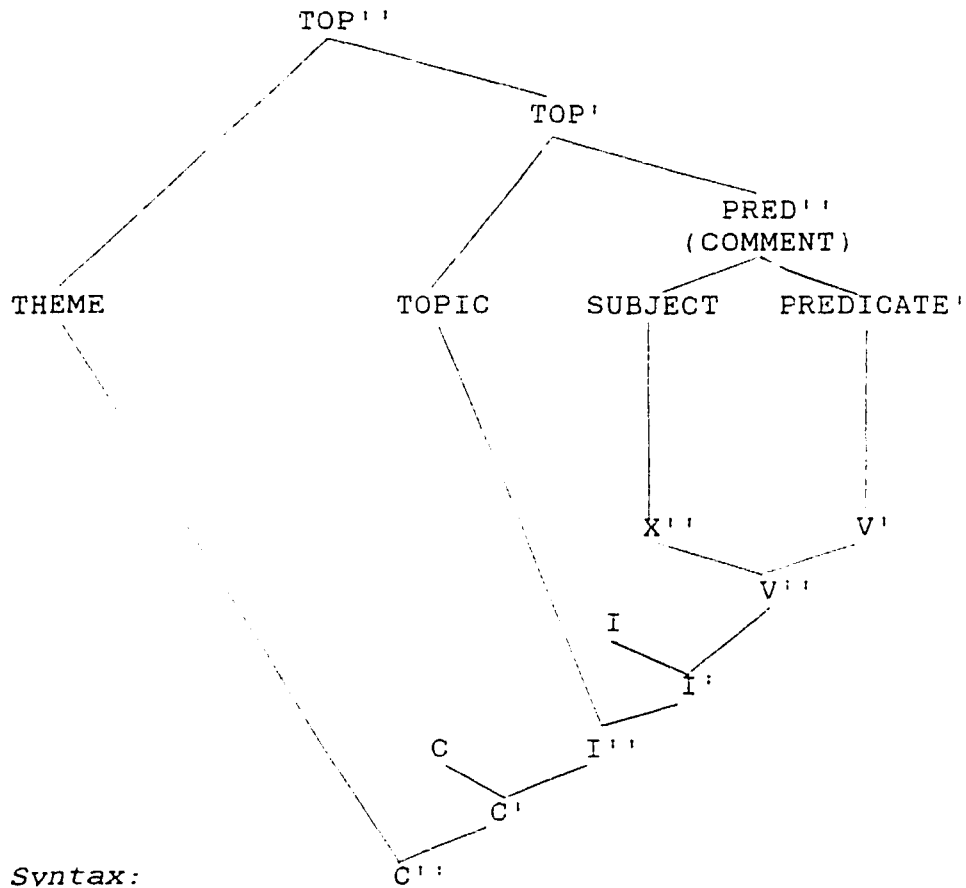

5.3.2.3 *Application.*   The elaboration of GB clausal

architecture permits a straightforward parsing of the example in

(79) now repeated as (107). The parsing follows in (108).

(107) ki ʕaδ hay-yɔmim hɔ-hemmɔ   hɔyu   βɘne yisrɔʔel
      fɔr until DEF-days DEF-those SUFF.3pl√be   sons Israel

      mɘk'att'ɘrim   l-o
      PRT.mpl√burn.incense   to-it(m)

      "For up until that time the Israelites had been burning
      incense to it." (2King18:4)

(108)
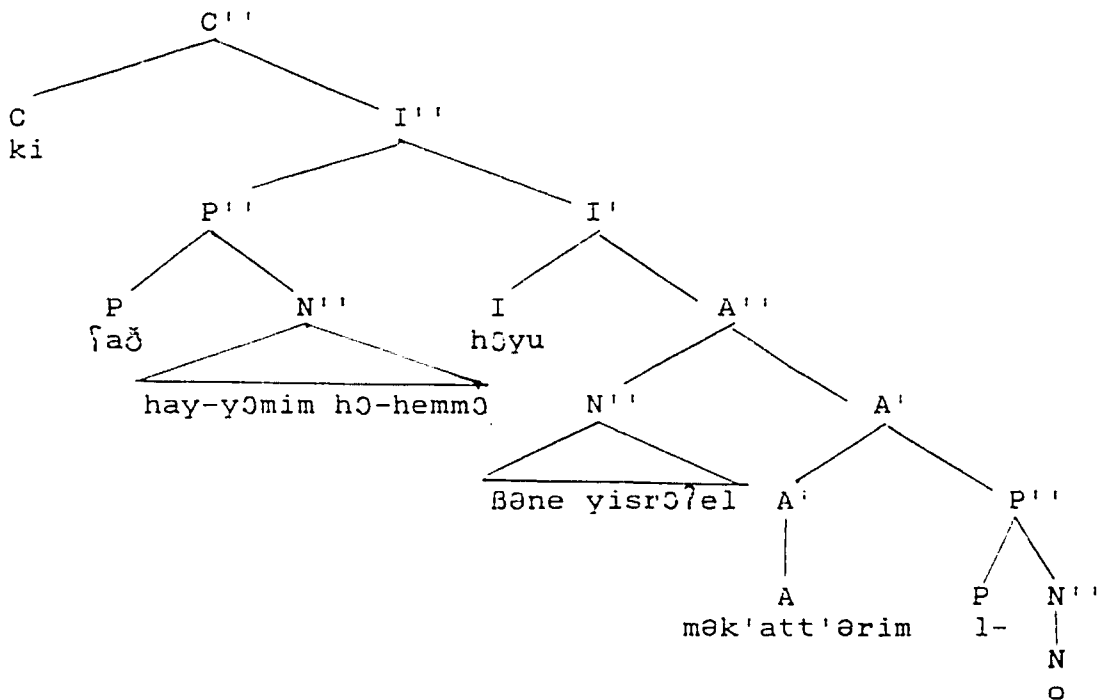
The triangle employed in (108) is an abbreviation device where
the structures are not essential to the point at hand; this
device will be used extensively here and in later chapters.

In the next subsection a brief account of how structures
such as (108) are derived is presented as the basis for the full
description of (77)-(87) in section §5.4.

§5.3.3 *Movement at the Interfaces*

Syntactic structures are created by the negotiation of the interfaces with other components. In the standard GB account here there are two types of movement: 1) move-X'' arising at the interface between syntax and pragmatics (see (106) above); and 2) move-X arising from the demands of the morphology (and phonology).

5.3.3.1 *Topicalization or Move-X''*.

In the underived or D-structure (D from "deep") we will assume that spec-I'' is vacant. We will assume that some Z'' is selected to be topicalized and is promoted to the vacant slot. Both D- and S- ("surface") structures are given for topicalization in the abstract in (109).

(109) (a) *D-structure:*
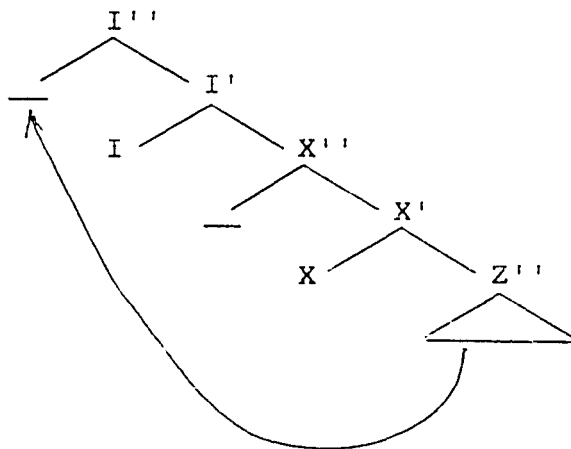
(b)   *S-structure:*
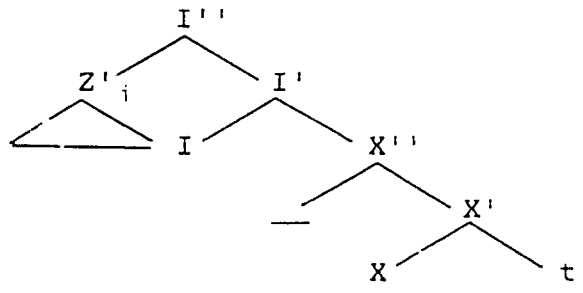
In (109a) we begin with the vacant spec-I''; and the object of some head X is promoted to spec-I''; the movement is signalled by a coindexed trace *t* that marks the point of departure in the derived structure in (109b).[57]

5.3.3.2   *Head Movement or Move-X.*   The second operation is the key to the account offered in this study. This is the movement of morphosyntactic heads in satisraction of the demands of the morphological component. It is slightly more complicated than move-X'' because it involves the operation of *adjunction* not yet introduced. Adjunction creates structures such as the one in (110);   read "Y is (right-)adjoined to X."

---

[57]Since S-structure is the interface between autonomous levels of representation, and other components therefore require all information to be present in S-structure for full interpretation, the coindexed trace is required.

(110)

```
        X
       / \
      X   Y
```
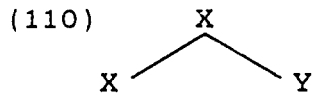
The verb stem in Biblical Hebrew is not autonomous as we saw in ch. 4. Rather the stem is an abstract root that must be expanded by the negotiation of consonantal, vocalic and prosodic dimensions. We will assume therefore that V must raise to I in order to satisfy the demands of the morphology. (Where no V is present in D-structure, the morphology supplies the dummy √hyy; see note 53.) Furthermore, V must raise to C in order to account for verb-initial constructions. These two movements are formalized in (111) and (112).

(111)   (a)

        (b)

(112) (a)

```
                C'
          C          I''
          ↑       ___      I'
                       I      V''
                   I⌢V
                     √
```

(b)

```
                   C'
          C              I''
     C⌢I_i        ___       I'
      I⌢V                t_i   V''
        √
```
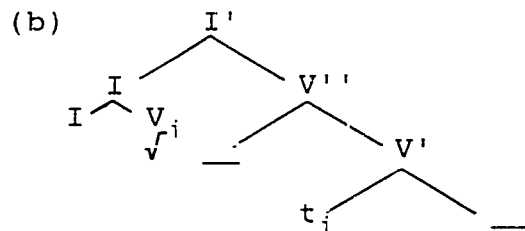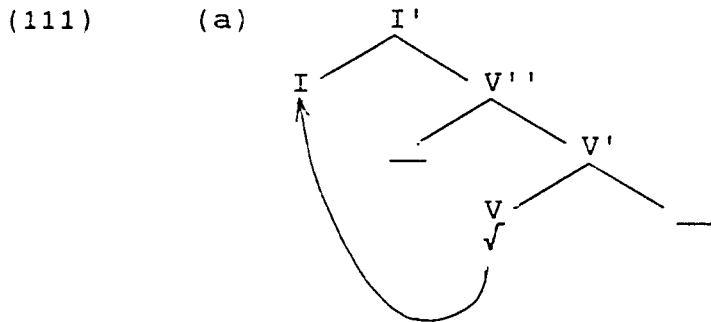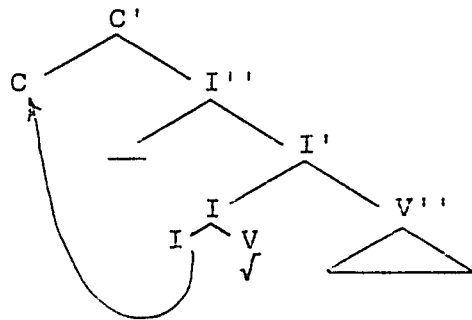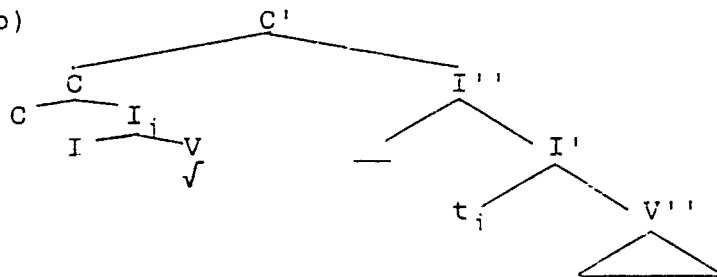
This in brief is how S-structures are derived. Sample derivations for (77)-(87) are now given in §5.4.

§5.4 THE BASIC HEBREW STRUCTURES IN GB PERSPECTIVE

In this section, the aim is not to give every possible variation on Hebrew syntactic structures, but rather to give sufficient indication as to how the full complement could be derived. We now proceed through the several types of constructions presented earlier as (77)-(87). Only the actual Hebrew is repeated here; to facilitate cross-referencing, structure (N) will be numbered (N)*.

§5.4.1 *SVX Constructions*

As explained above, the SVX constructions must be considered unmarked or basic by the criteria given in §5.1.3. We can see that this position also follows from the model presented here. S-structures are now given for (77)* and (78)*.

(77)*   CONJ''

```
              CONJ''
             /      \
          CONJ       C''
          u-        /   \
          and      C      I''
                   ∅     /   \
                      N''ⱼ     I'
                     /‾‾‾\    /    \
                    mal?ax  I      V''
                    YHWH   /\     /   \
                angel of  I^Vᵢ   tⱼ     V'
                  YHWH   dibbɛr        /    \
                         spoke       V'      P''
                                     |      /    \
                                     tᵢ    P       N''
                                          ?ɛl     /‾‾‾‾\
                                          to    ?eliyyɔ hat-tišbi
                                                Elijah the Tishbite
```
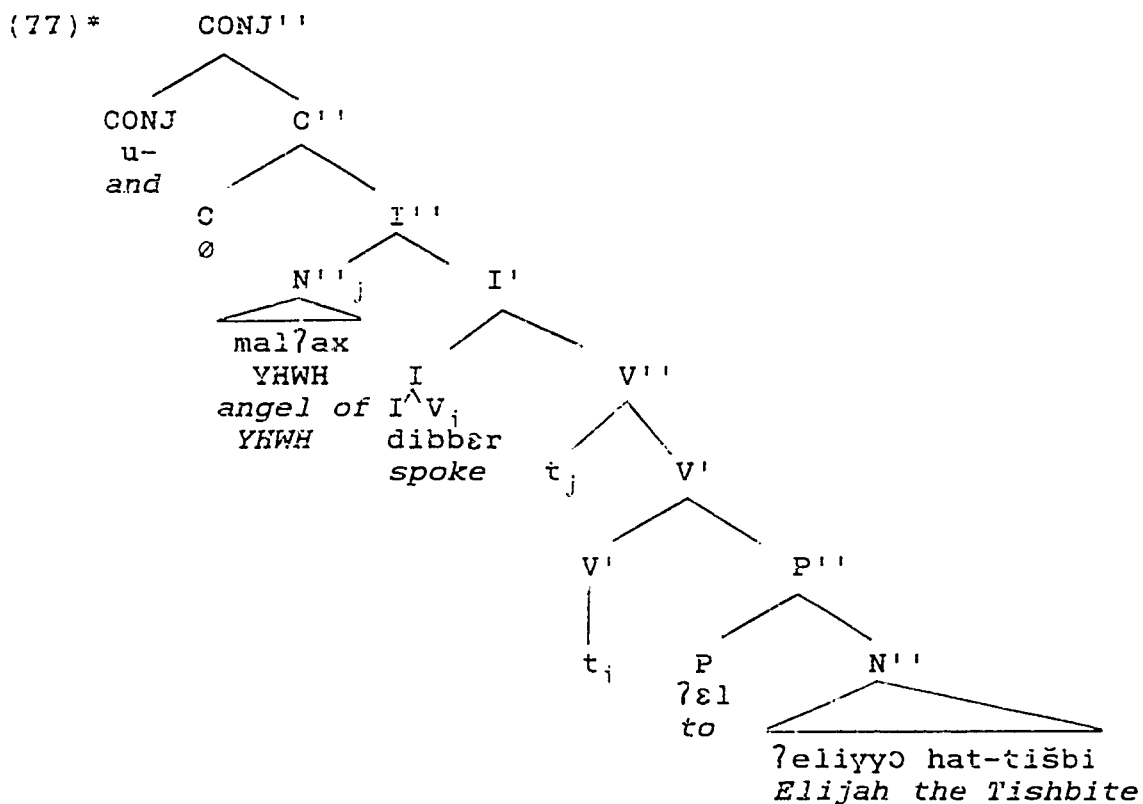
In (77)* we see that the subject generated in spec-V'' has been topicalized, surfacing in the spec-I'' and leaving behind a coindexed trace. The verbal root has moved to I under head movement to satisfy morphological requirements; it has right-adjoined to I, leaving behind a coindexed trace.

(78)*

```
                        CONJ''
                       /      \
              CONJ          C''
              wǝ-          /    \
              and        C        I''
                         ᴈ       /    \
                             N''ᵢ        I'
                           /‾‾‾\        /   \
                         naʃamɔn...    /       \
                         Naaman    I       N''
                                   hɔyɔ    /    \
                                   was   tᵢ      N'
                                        /‾‾‾‾‾‾‾‾‾\
                                      N'            P''
                                    /    \         /    \
                                  N'      A''     P       N''
                                  |       |       li-    /‾‾‾‾‾\
                                  N       A'      to   φne ʔaðon-ɔw
                                  ʔiš     gɔðol        faces lord-his
                                  man     great
```
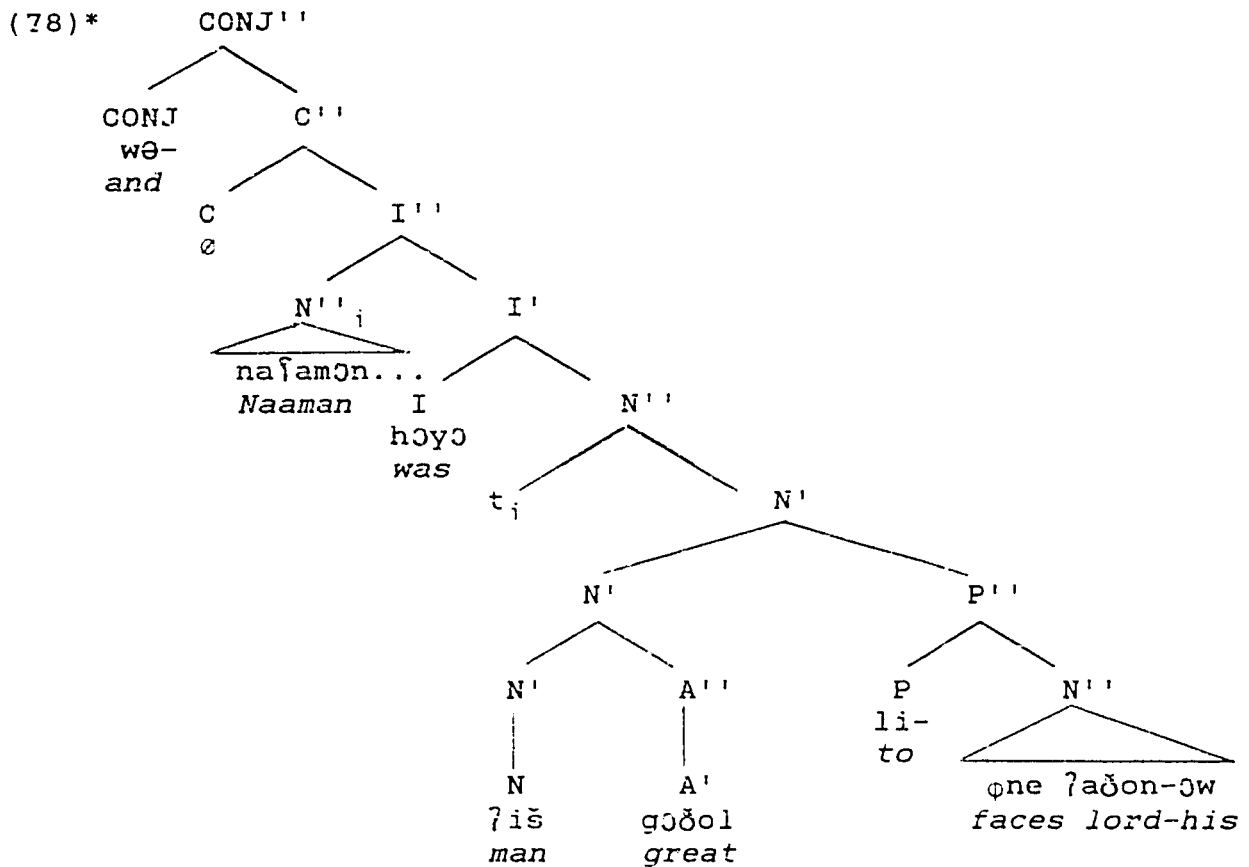
Similarly in (78)*, the subject has been promoted to spec-I''. Notice that in this case, no verb need move to I: the dummy √hyy is supplied.

§5.4.2 A Note on the Conjunction Schema

The examples in (77)* and (78)* have forced the explicit recognition of the conjunction or CONJ √w- introduced in ch. 4. Since the conjunction plays such a key role in ch. 9, a tentative version of a conjunction schema is given in (113) extrapolated from the X'-schema.

(113)   *Conjunction Schema:*

```
                CONJ''
              /        \
          X''         CONJ'
        /_____\      /      \
              CONJ        X''
                        /_____\
```
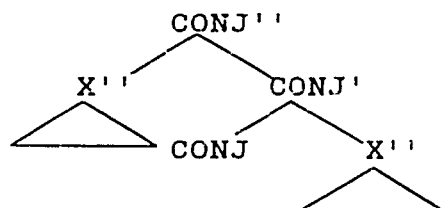
The schema in (113) explicitly recognizes that conjoined phrases are of the same type and size.   This schema will suit our purposes below.

§5.4.3   *The Structure of the Casus Pendens Construction*

We have already looked at (79) above;   and so we proceed directly to *casus pendens* or P_2 "theme" construction with resumptive pronoun in (80)*.

(80)*
```
                    C''
                /         \
           N''              C'
         /_____\          /     \
  nəhaš han-nəhošɛθ     C         I''
   bronze snake         ∅       /     \
                            P''ᵢ         I'
                          /_____\      /    \
                        ʕað hay-yɔmim        \
                          hɔ-hemm    I      A''
                        until that time hɔyu  /    \
                                           N''      A'
                                         /_____\   /   \
                                    βəne yiśrɔʔel
                                    sons of Israel A'    tᵢ
                                                 /   \
                                               A'    P''
                                               |    /__\
                                               A    l-o
                                          mək'att'ərim  to it
                                          burning incense
```
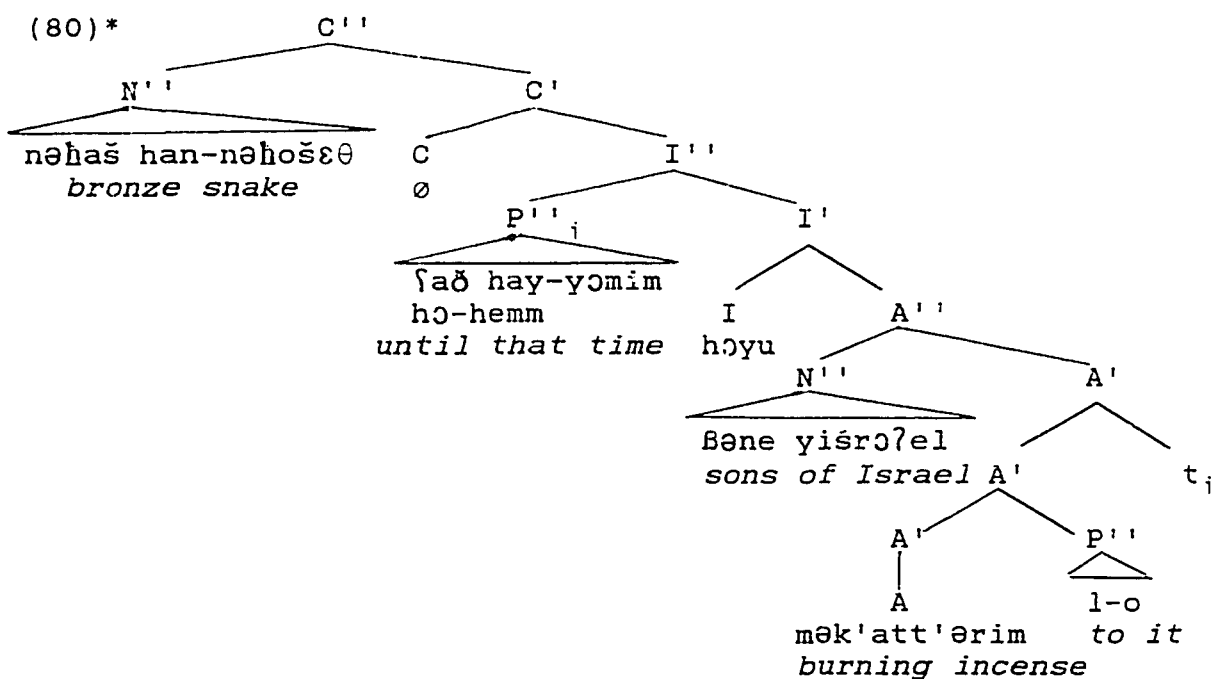
In (80)* the topicalized element moves to spec-I'' and leaves the necessary trace. The "theme" in spec-C'' is not understood to move; rather, its relation to the clause is indicated by a base-generated resumptive pronoun. Naudé (1990) defends this view of the *casus pendens* construction or left-dislocation or "thematization" (based on FG terminology on the analogy with topicalization); it is beyond the scope of this work to pursue the matter further. It is worth noting that this view allows a unified account of the resumptive pronoun also usually found in subordinate constructions: in both cases, the element associated with the resumptive pronoun is outside C.

§5.4.5 *Zero INFL*

We can account for constructions such as (81)* on the assumption that INFL may be underlyingly as well as superficially null.

(81)*

```
            V'
           / \
          V   C'
         √ydʕ / \
         know C   I''
              ki  / \
              that N''ᵢ  I'
                  /‾‾\  / \
                hay-yom I   A''
                 today  c  / \
                        N''    A'
                       YHWH   / ‾‾
                             /    \
                            A'     tᵢ
                           / \
                          A'   P''
                         / \   / \
                        A   P'' P   P''
                     lok'eaḥ / \ me- /‾‾‾‾‾\
                      taking /   \ from ʕal roš-ɛxɔ
                            P    N''    over head-your
                           ʔɛθ  /‾‾‾\
                           ACC  ʔaðon-ɛxɔ
                                your master
```
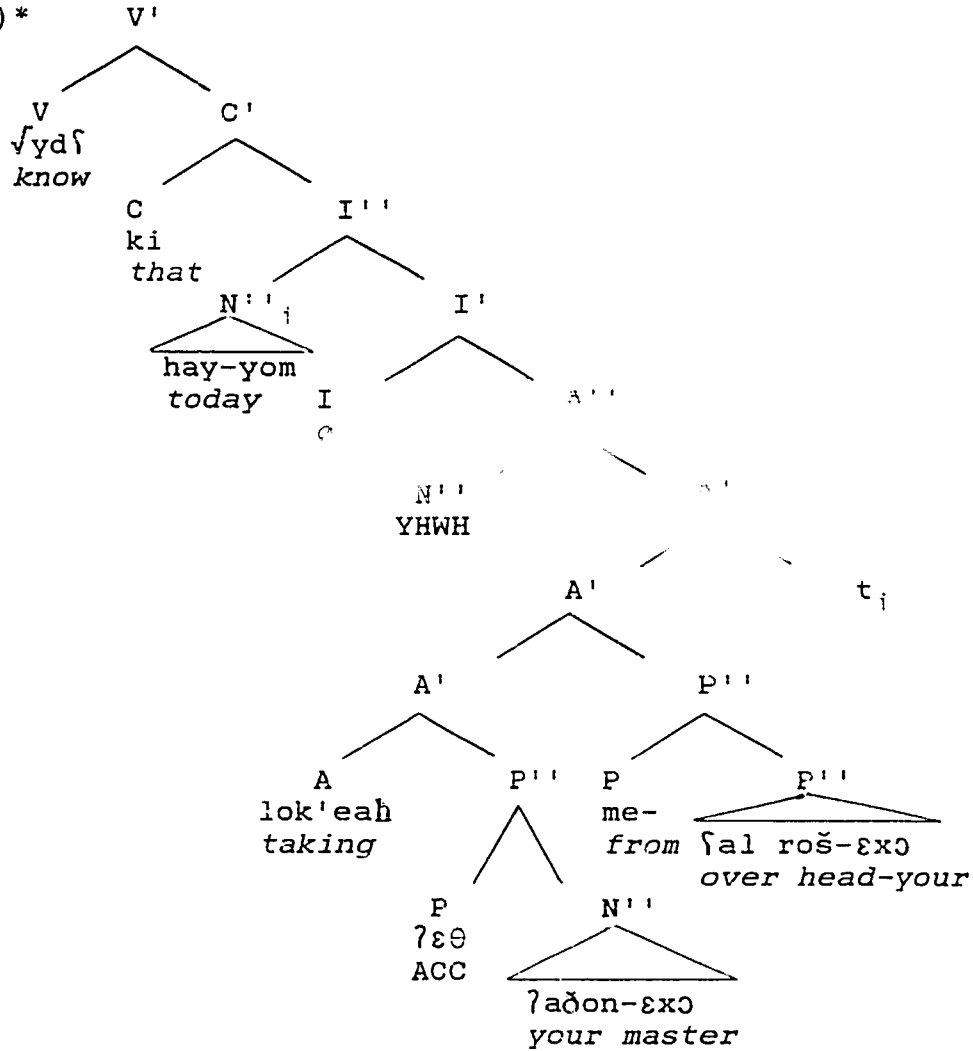
§5.4.5 *The Complex COMP Construction with wayyPRE2*

By now the parsing of (83) should be self evident. However, the parsing of (84)* is as complicated as it gets. Comments on (84)* follow the parsing.

(84)*

```
                        CONJ''
                   ┌──────┴──────┐
                CONJ''         CONJ'
              ┌──┴──┐        ┌──┴──────┐
         √w-hɔ-ʕɔm        CONJ         C'
        and the people    √w-      ┌───┴────────┐
                                  C'            I''
                               ┌──┴──┐      ┌────┴────┐
                              C    I ᵢ    P''ⱼ        I'
                           √ʔ-yaɟk'eð  ┌──┴──┐    ┌───┴───┐
                           ʔ-appointed ʕale-hɛm  tⱼ      V''
                                       over them      ┌──┴──┐
                                                     N''    V'
                                                     pro  ┌──┴──┐
                                                         V'    t ᵢ
                                                      ┌──┴──┐
                                                     tⱼ    P''
                                                        ┌──┴──┐
                                                        P    N''
                                                       ʔɛθ  gəðalyɔhu
                                                       ACC  Gedaliah
```
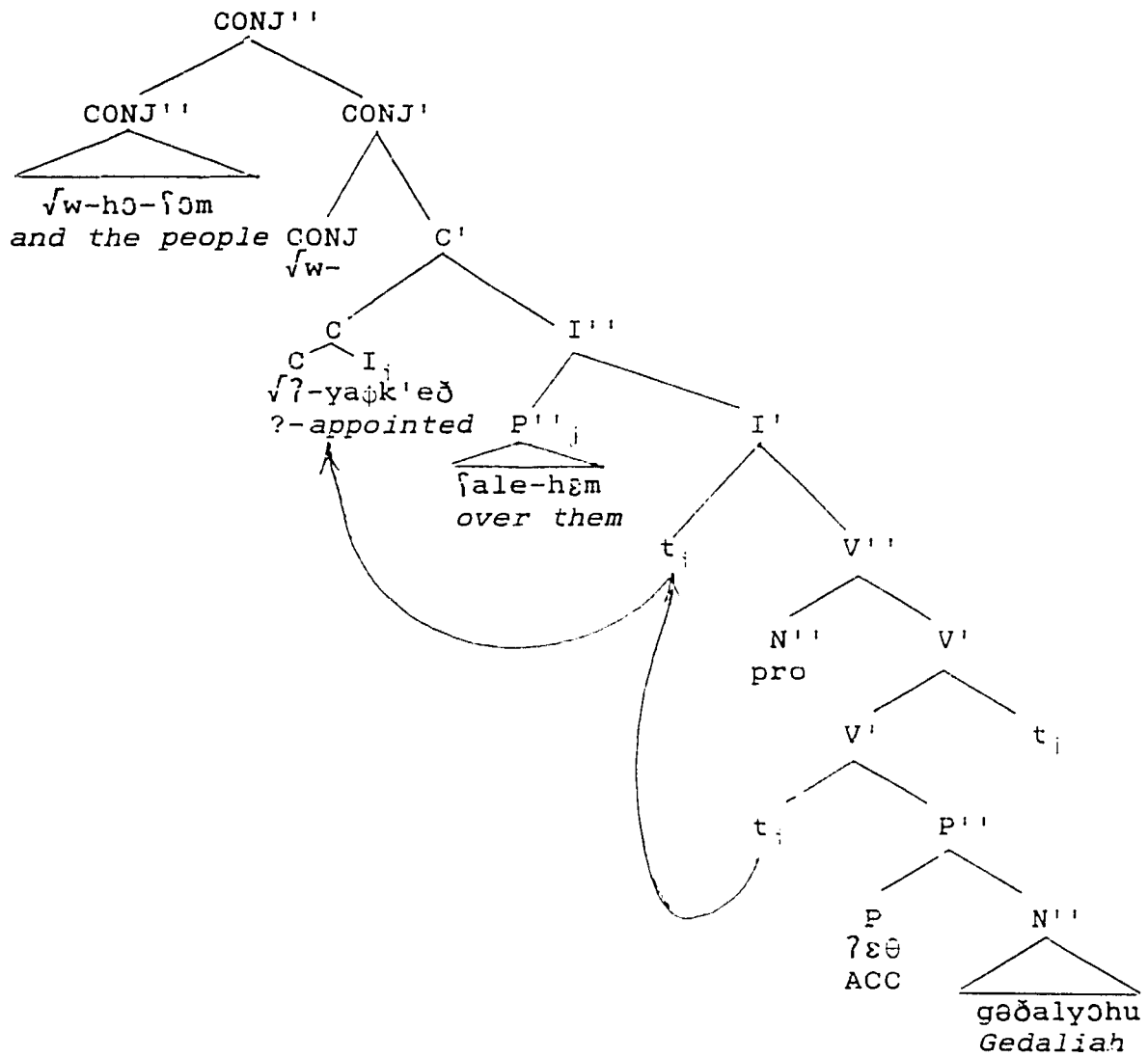
The people is generated outside C' and triggers a resumptive pronoun. There is a complex COMP head at C formed by two movements: first V to I, then the I-V complex to C. It is assumed that the first constituent after the verb is located at spec-I'', i.e., *over them* has been topicalized leaving the

expected trace. Finally, if the subject is not overt as is the case here, an underlying pro (phonologically null) is posited to interact with subject-agreement rules.

Notice that in (84)* the complementizer nature of the underspecified $\sqrt{?}$ posited in §4.5.3 for the wayyPRE2 construction is explicitly recognized. Finally, some of the complexity inherent in the conjoining of phrases (the CONJ''s) is shown in (84)*. A full-blown treatment of the consecutive phenomenon will be put off till ch. 9.

§5.4.6 *A Crucial Difference*

We anticipate the semantic analysis of raising to COMP in chs. 8 and 9 by diagramming the crucial distinction between (85a)* and (85b)*.

(85)*   (a)   hayyom hahu, yəhi hošɛx
                 that day, may it be darkness
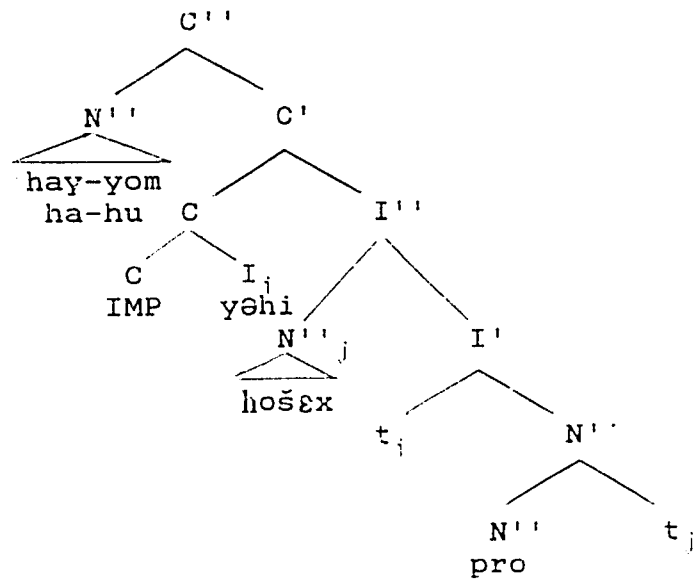
(b) hayyom hahu yihyɛ hošɛx
     that day will be darkness
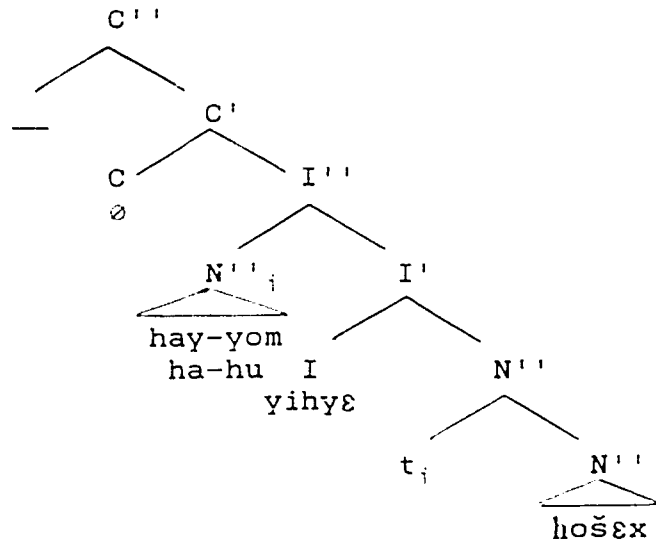
The case will be made that only certain "modal" COMPs can select PRE2 and that they force raising for various reasons. Thus the morphological distinction in (85a)* signals the presence of a phonologically null COMP (IMP, imperative) and the position of the verb, viz. at COMP. This forces the parsing of *hayyom* at spec-C''.

§5.4.7 *Summary*

We can now tackle verbal semantics and the syntax-semantics interface with the GB model offered here. To review: two movements are posited. First, we assume that an X'' raises to spec-I'' under topicalization. (*Casus pendens* is found in spec-C''.) Second, the position of the finite verb is derived by head movement to I (V2), and then to C (V1) if required. Why movement to C is required is left till Part III.

In the next chapter, the last preliminary study, we examine the traditional understanding of aspect from Ewald and Driver to the present and show that the analysis is at best problematic. This last preliminary chapter provides the motivation for the tense analysis in Part III, expanding on the work of Revell (1989a) and Gropp (1991).

6

RECONSIDERING THE ASPECTUAL ANALYSIS
OF STANDARD BIBLICAL HEBREW

*with reference to action, the speaker views everything either as
already finished, and thus before him, or as unfinished and non-
existent, but possibly becoming ... and coming ...*
(Ewald 1891: §134a, 1).

*The Hebrew of post-biblical times certainly used a tense system,
and the same is widely assumed for the ancestor of the biblical
language, as vestigially represented by the "preterite" (or waw
consecutive) use of the imperfect form. It seems likely, a
priori, that the system of the intervening period would also have
been one of tense.* (Revell 1989a: §2.1(c), 3)

"Biblical Hebrew has no tenses in the strict sense" (Waltke,

O'Connor 1990: §20.2e, 347): such has been the claim for more

than a century. What is actually meant by "in the strict sense"

is that neither variant of the classical-medieval theory of

tense, developed in the study of Greek and extended to Latin

(Binnick 1991: ch. 1), is applicable to Biblical Hebrew (nor

indeed to rabbinic nor modern Hebrew). Rather, it is claimed,

the finite verbal forms encode only aspect--"similar to the

Slavic imperfective/perfective system" (Waltke, O'Connor 1990:

§20.2h, p.348). Of course, if tense "in the strict sense" is eliminated and mood is already accounted for by a second "tier" in the paradigm (imperative, jussive, cohortative)--so the reasoning goes--the only remaining possibility is aspect. But recent theoretical investigation into the nature of aspect and aspectual systems under the rubric of tense-aspect casts serious doubts on these claims as we shall see.

It would no doubt be of considerable interest from the perspective of the history and philosophy of science to chart in detail the meteoric rise of the aspectual approach traced to Heinrich Ewald (1803-1875) and further interpreted and popularized by S. R. Driver (1846-1914). Certainly the centuries-old frustration with tense solutions was the driving force. No doubt the respect for and influence of the nineteenth-century pioneering giants sustained the drive, reflected in textbooks, journals and commentaries through the second half of the century and into the twentieth. But above all we should consider in more detail the explosion of aspectology in the early 1900s with the "discovery" of the Slavic systems with further applications in the study of Greek. The extension of the principles of aspectology to Greek, the very staple of theology in general and Biblical studies in particular, furnished the initial plausibility structure for the aspectual model of Biblical Hebrew.

Both in terms of observational adequacy and descriptive power there is no real comparison between the rejected age-old

three-tense theory and the new aspectual models. This much is beyond dispute.[58] It does not follow that the latter is in principle the right kind of solution nor that tense models could not be found that are empirically adequate. In this chapter we examine the aspectual approach in general, pretheoretical terms and question whether it provides the right kind of solution. The examination of a generative tense-aspect alternative is left for Part III.

§6.1 OVERVIEW

Notice that the title for this chapter reads "reconsidering." The aim is to cast enough doubt on the firmly entrenched aspectual position that we would be prepared to consider another solution, especially a tense solution. This chapter is preoccupied with the orthodox account of Biblical Hebrew aspect outlined in ch. 1, and does not directly deal with problems in the recent proposals (such a task would require a separate work).

The strikes against the standard aspectual hypothesis are many and varied, principal among which are the following: 1)

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[58]"Ewald's study considerably narrowed the gap between text and interpretation. In scientific thought a theory is created by imagination from the data being investigated, and the theory is then tested by logic against the data. Ewald's aspect theory, in the minds of many, better satisfied the data than any tense theory; in most grammars the terms "perfect" and "imperfect" replaced the temporal terms. Standard works on the other Semitic languages came to employ similar concepts and terms" (Waltke, O'Connor 1990: §29.3h, 464).

Ewald's and Driver's operational definitions of aspect are
equivalent to relative tense; 2) the historical continuity of
Standard Biblical Hebrew with tense systems; 3) the
inconsistencies of Biblical Hebrew aspect in cross-linguistic
perspective, including the imperfective's exclusion of the
progressive, the failure of the aspectual distinction to extend
to the entire paradigm, and the aspectual clashes involved with
the so-called perfective; and 4) the deictic nature of Semitic
aspect.

§6.2 ON OPERATIONAL DEFINITIONS OF ASPECT

The point of this subsection is that if one examines the
seminal works of Ewald and Driver one will actually find a tense
model. The problem of terminology is examined in light of
crucial assumptions that were being made at the time regarding
the nature of tense systems.

§6.2.1 *Ewald on Aspect*

Fortunately Ewald was quite clear by what he meant by
"aspect."

> with reference to action, the speaker views
> everything either as already *finished*, and
> thus *before* him, or as *unfinished* and non-
> existent, but possibly *becoming...* and
> *coming...* (Ewald 1891: §134a, 1).

If there is a difference between "finished" or "before" and the
standard "past," it must be subtle indeed.

Ewald goes on to compare Hebrew "aspect" with a proper tense system such as found in Greek and Latin. In Greek and Latin, it is claimed, there is a three-way distinction between past, present and future. Since there is not a three-way distinction in Hebrew, but rather a binary contrast, the Hebrew system cannot be one of tense (tense by definition is a three-way system). It is therefore something else: "aspect" (Ewald 1891: §134a, 2). "Aspect" on this view is operationally equivalent to a binary tense distinction.

§6.2.2 *Driver on Aspect*

We have already encountered Driver's views on tense-aspect in §1.2.2.1. It would appear that the definition of tense was such that no mismatches were possible, and as we saw in ch. 1, such a strong claim is not tenable for any language. Biblical Hebrew is not in any way consistent, so the reasoning goes, so it cannot be encoding tense, but something else: "aspect."

But Driver then goes on to describe the perfective in terms of past and completed, operationally a relative tense system (Driver 1881: §§5-6). Driver also explicitly notes that the imperfective is never used to express "mere continuance." "The participle is the form which indicates continued action" (Driver 1881: §31, 41). Thus we obtain the paradox of the imperfective excluding the progressive which has been with us to the present.

§6.2.3 *19th Century Tense-Aspect*

Ewald's and Driver's views are quite typical of the time and have even made their way into the most recent general surveys on tense-aspect. For instance, Ewald and Driver both assumed a correlation between completion and aspect that is prominent in Chung, Timberlake (1985), Dahl (1985) and Bybee *et al.* (1994). As noted in §1.2.2.2, this view cannot be sustained.

Both assume an idealized tense-logic based on ancient theories of tense. The Greek metaphysical speculation on time comes to define the grammatical category tense. Also, the consistency and precision assumed for a tense system is in keeping with the idealization in this tense-logic.

Time is defined in terms of past, present and future for Ewald and Driver. The view that a system without a future cannot be a "tense" system surfaces in a variety of settings from that time on. As for the languages of the ancient Near East, one striking example is the analysis of Hittite's verbal system. All things being equal, Hittite possesses a straightforward Indo-European tense system; but the inflectional contrast is not ternary but binary. For this reason and this reason alone Barton, e.g., suggests that Hittite might be tenseless, encoding "(in)complete" (Barton 1928: §10.2, 23).

§6.3 HISTORICAL CONTINUITY

The next point assigns the burden of proof to the aspectual analysis, and places an impediment in the way of the traditional

assumption that Biblical Hebrew aspect somehow developed into

post-Biblical tense. It has always been assumed that there is a

simple path from (im)perfectivity to the later Hebrew tense.

First, the burden of proof clearly falls to the aspectual

model.

> The Hebrew of post-biblical times certainly
> used a tense system, and the same is widely
> assumed for the ancestor of the biblical
> language, as vestigially represented by the
> "preterite" (or *waw* consecutive) use of the
> imperfect forms. It seems likely, *a priori*,
> that the system of the intervening period
> would also have been one of tense (Revell
> 1989a: §2.1(c), 3).

Proponents of the aspectual model must demonstrate that Biblical

Hebrew is <u>not</u> a tense system, and the case is not overly

persuasive. Moreover, they must provide a plausible model for

the development: tense > aspect > tense. It would appear that

avenues of explanation have now been blocked off as I will now

explain.

First, at the most general level, we can define the problem

in explanation in terms of "intermappability."

> For aspectual and tense oppositions to freely
> interchange, they must be mutually inter-
> mappable. Yet the two sets of categories
> have never received a theoretical treatment
> which would provide such a mapping (Binnick
> 1976: 40).

Since the categories of aspect and tense are fully independent,

there is no way to get from perfectivity to past tense, there is

no intermappability. It has simply been assumed in the past that

aspect would naturally map to tense, but this assumption is based on the confusion between tense and aspect that we have already dealt with in several contexts.

Second, in the recent and quite promising study of the "evolution of grammar," there is apparently no pathway that can get Biblical Hebrew from an aspectual system to a tense system. Consider the complex relations between the perfect, perfectivity and past tense summarized graphically in Bybee *et al.* (1994: fig. 3.1, §3.17, 105) and reproduced in part as (114).

(114)

```
                                          INFERENCE  ────→ INDIRECT
                                          FROM RESULTS      EVIDENCE
─────────────→ RESULTATIVE
                                          ANTERIOR ────────→ PERFECTIVE/
─────────────────────────────→                              SIMPLE PAST

──────────→ COMPLETIVE
                                          derivational
                                          perfective
```
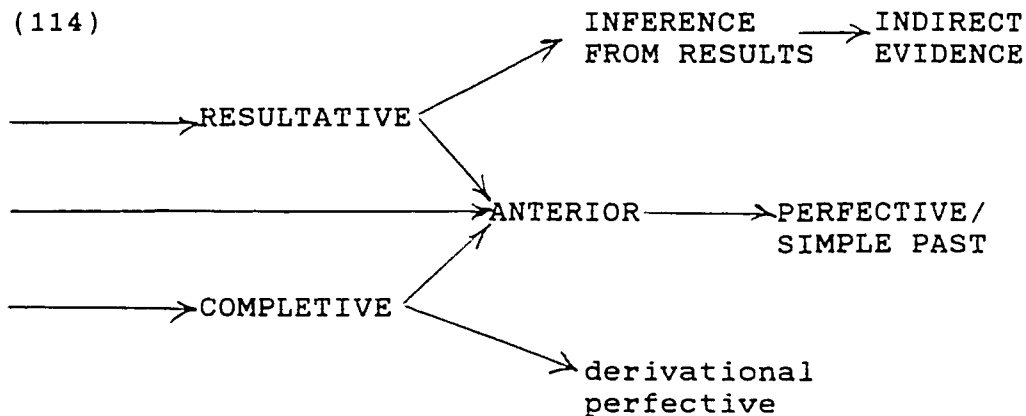
Note that "anterior" here is equivalent to "perfect" as defined in this study. (114) makes clear that the nexus of the system is the anterior-perfect. Depending on a host of factors, the perfect can develop into either a perfective or a simple past (but not both). Indeed, there is no doubt that the SUFF conjugation in the Central Semitic languages, in keeping with (114), began as a nominal with pronominal clitic eventually

serving as stative-resultative, from there developing into a perfect and finally into the Central Semitic "perfective." But there is no pathway between perfective and past: there is no intermappability. The right-hand margin of (114) appears to be an evolutionary dead-end, and development apparently proceeds via the evolution of new forms to supplant these.

The continuity problem is not devastating; it may be that we have not found an explanation *yet*, but that does not preclude the possibility. What seems more problematic is the wildly atypical behaviour of Biblical Hebrew aspect in light of our understanding of aspectual systems generally. We now turn to the more conspicuous mismatches between Hebrew aspect and the "Slavic imperfective/perfective system."

§6.4 THE IMPERFECTIVE AND THE PROGRESSIVE

The behaviour of the Biblical Hebrew imperfective is wholly unexpected. While the imperfective aspect (e.g., French *je lis*, Russian *ya čitayu*) subsumes the progressive, the prototypical imperfective component, the Hebrew imperfective and the Semitic imperfective generally exclude the progressive: the progressive paradox. The Hebrew imperfective should pattern with the following forms.

(115) *Kammu (Mon-Khmer):*

```
mɛɛw       yàam
cat        mew
"the cat mews/is mewing"
(adapted from Svantesson 1994: (1), 3)
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(116) *Uradhı (Australian):*

> ula   utaɣa   awu-ɲa
> 3non-sg-NOM   dog-ABS   bark-PRES
> "The dogs are barking/Dogs bark."
> (Crowley 1983: (78), 363)

From Ewald and Driver on down it has been clearly recognized that in fact this is not how Hebrew imperfective aspect works. "With the exception of the future usage, when the action described may be quite specific, the imperfect is otherwise used to describe action conceived by the speaker as general, non-specific, habitual, potential, or to some degree probable" (Lambdin 1971: §91, 100). On the other hand the "participle, both as an attribute and as a predicate, usually indicates a continuing action, one in progress, and is best translated with the English progressive tenses" (Lambdin 1971: §26, 19).

As indicated in §1.3.4.1, this behaviour is diagnostic of the perfective-default class in which the progressive is obligatorily expressed (English *I read the newspaper* vs. *I am reading the newspaper*). On this second view, we would expect that the aspectual principle in Biblical Hebrew is not [±perfective] but [±progressive]. This point is central to the model proposed in Part III.

§6.5 THE BEHAVIOUR OF ASPECTUAL SYSTEMS

In this section we concentrate on Russian and ancient Greek, two parade examples of the aspectual system. The term "aspectual

system" is in fact a misnomer, for these systems inflect for
tense and not aspect. Aspect is derivational; perfective-
imperfective pairings are formed in the lexicon by a variety of
word formation rules. Typically, these word formation rules map
an imperfective stem to a perfective form; but in both Russian
and Greek, the direction is reversed for a handful of important
lexemes, e.g., GIVE.

§6.5.1 *Russian*

The aspectual systems of Russian and the Slavic family
generally are more "lexical" than "grammatical." Typically a
verb denoting an activity or process is lexically mapped onto an
accomplishment by means of a prefixed preposition. So for
example, the stem *čitay-* "read" is mapped to *pro-čitay-* "read
through." English maps lexemes in an analogous manner: the
activity of turning, e.g., and its lexically derived
accomplishments *to turn about/around/on/off/over*, etc. This
mapping in fact is characteristic of the Germanic lexicons
generally. Compare for example the German pairings *jagen* "chase"
and *erjagen* "catch" (Binnick 1991: 141), *kämpfen* "fight" and
erkämpfen "achieve by means of a fight" (Comrie 1976: 47), and
essen "eat" and *aufessen* "eat up" (Comrie 1976: 48). Russian
differs only in the fixity of the imperfective-perfective
pairings;[59] any other lexically derived perfectives must be

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[59]Cf. Georgian (from Comrie 1976: §5.1.1, 92) and Hungarian
(from Bánhidi *et al.* 1965):

paired by other means with imperfective counterparts.

The simplex *čitat^y*, the inherently imperfective activity of reading, is presented in (117) with its perfective counterpart *pročitat^y*, the accomplishment of having read something through (*pro-*), from cover to cover.

(117) *unmarked* ⟹ *perfective*

PAST | *on čital* | *on pro-čital*
| he read/was reading | he read-PERF

NON-PAST | *on čitayet* | *on pro-čitayet*
| he reads/is reading | he will read

INFINITIVE | *čitat^y* | *pro-čitat^y*
| to read | to read-PERF

IMPERATIVE | *čitay* | *pro-čitay*
| read! | read!-PERF

Note that the Russian imperfective and perfective freely combine with all verbal forms, unlike the Hebrew: there are no aspectual pairs of infinitives or imperatives in Hebrew (a point

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Georgian: *Hungarian:*

cer "write"   írni "write"
da-cer "write(PERF)"   meg-írni "write(PERF)"

ča-cer "inscribe"   be-írni "note, register"
gada-cer "copy"   le-írni "note down, copy; describe"
gamo-icer "subscribe"   fel-írni "inscribe, make note"
  ki-írni "write out, except"

made by Kuryłowicz 1973: 155; cf. comments Binnick 1991: §r,
438-439). Note also that the combination of perfective and
nonpast is typically read as "future" (in fact this is an
overgeneralization: it has other uses [e.g., Forsyth 1970: chs.
5, 6, 11]).

The Russian also has "reverse" mappings, i.e., from the
simplex stem which is perfective (or from lexically derived
perfectives as noted) to a derived imperfective as shown in (118)
for *dat^y* "give."

(118)	unmarked	$\Longrightarrow$	imperfective
PAST	*on da-l* he gave		*on da-va-l* he was giving
NON-PAST	*on dast* he will give		*on dayot* he gives/is giving
INFINITIVE	*da-t^y* to give-PERF		*da-va-t^y* to give
IMPERATIVE	*da-y* give-PERF!		*da-va-y* give!

Hebrew does in fact have a robust lexical mapping from
"basic" forms to derived (with stem-prefixation save in one
conspicuous case [see note 42, p.105]), but such mapping
manipulates argument structure to produce various causative and
reflexive/passive verbal stems. Whatever aspectual type Biblical
Hebrew might pattern after, it is not to be compared with the

"prepositional Slavic type" under which rubric we should also include Georgian and Hungarian, which form an areal grouping or *Sprachbund*.

§6.5.2 *Greek*

There is another aspectual type represented by Greek in which aspect appears more fully grammaticalized and so initially is more promising for comparison with Hebrew. However, the difference lies only in the number and superficial regularity of the word-formation rules in the lexicon, not in the mechanics of the system itself. One of the basic perfective derivational suffixes is *-s-* (hence deriving "sigmatic" stems) as examination of (119) shows.

(119)	*unmarked*	$\Rightarrow$	*perfective* ("aorist")
PAST	*e-lü-e(n)* Past-loose-3ms he loosed/ was loosing		*e-lü-s-e(n)* Past-loose-Perf-3ms he loosed-PERF
NON-PAST	*lü-ey* loose-3ms he looses/is loosing		*lü-s-ey* loose-Perf-3ms he will loose
INFINITIVE	*lü-eyn* loose-Inf to loose		*lü-s-ay* loose-Perf-Inf to loose-PERF
IMPERATIVE	*lü-e* loose-2s loose!		*lü-s-on* loose-Perf-2s loose!-PERF

SUBJUNCTIVE	*lü-ēy* loose-3ms.Subj (that) he loose	*lü-s-ēy* loose-Perf-3ms.Subj (that) he loose-PERF
GENITIVE PARTICIPLE	*lü-ont-os* loose-Part-Gen.ms	*lü-s-ant-os* loose-Perf-Part- Gen.ms

Greek has two further mappings, creating a complex paradigm: a passive-perfective in *-θē(s)-* and a present-perfective or "perfect" (as we have defined the term) in *-k-* with reduplicative stem-prefixation. Additional complexity derives from a productive medio-passive set of endings (ignored here) which doubles the size of the paradigm, as well as from the superficial variation produced by morphologically conditioned theme-vowels between stem and ending together with the distortion of vowel contraction.

§6.5.3 *Summary*

In summary, Biblical Hebrew differs from aspectual systems such as Russian and Greek at two points. First, aspectual marking is essentially lexical, not "grammatical" as it would be in Biblical Hebrew. In Russian we observe that the aspectual mapping is lexically conditioned and its products are both multiple and generally unpredictable semantically, and from which a perfective match is more or less arbitrarily selected. Though not mentioned above, Greek presents an initially mindboggling array of suppletive stems for the perfective which necessarily

are listed separately in the lexicon. In contrast, Hebrew verbal inflection and lexical derivation are morphophonologically transparent and the meanings largely predictable when semantic classes are taken into account (e.g., stative vs. dynamic or "fientive").

Second, aspectual systems flesh out a basic tense skeleton, multiplying the columns in traditional paradigms (two columns in Russian, more in Greek). This essential cross-classification of aspect with tense, mood and non-finite forms is conspicuously absent in Biblical Hebrew (cf. Zevit 1988: 26). In this respect, the hallmark of the aspectual systems, the "future" in Russian or Georgian created by the intersection of the features nonpast and perfective (see §2.2.2.2), has never been accounted for in traditional analyses of Biblical Hebrew.[60]

From the perspective of comparative grammar, we would be forced to acknowledge a new tense-aspect system with little in common with that of Greek or Russian save labels. As noted in the opening chapter, this system can be found in roughly half of the world's languages. From a purely theoretical standpoint, we should be reluctant to open up a new class of tense-aspect systems without strong motivation.

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[60]It is tempting to view the "future" readings of the Biblical Hebrew suffixed form with proclitic conjunction (wSUFF in ch. 4) as filling the slot (DeCaen 1992b), but we have already eliminated the construction on principled grounds from the paradigm.

§6.5.4 *Clashes with the Perfective*

Revell draws attention to the Hebrew perfectives that
express "events which were repeated, habitual or continuous over
a period" (Revell 1989a: §3.1, 4). One of the examples he takes
from 2Sam which is given in (120).

(120)   wa-ʕasʹaθ ʔaḥiθoφɛl   ʔašɛr yɔʕasʹ
           and-advice Ahithophel REL SUFF.3ms√advise

           b-ay-yɔmim   hɔ-hem
           in-DEF-days   DEF-those

           "The advice of Ahithophel which he used to give in
           those days" (2Sam16:23, Revell's translation)

Not only is such a usage of a "perfective" unexpected in general
terms, it is also out of keeping with usage of the so-called
aspectual systems. Compare the Russian translation of 2Sam16:23
in (121) with the relevant verbal form underlined.

(121)   *sovʸety že Axitofʸela, kotoryʸe on <u>daval</u> v to vrʸemʸa*
           advices indeed of-Ahitophel which he <u>gave(IMPF)</u>
           at that time

It is the nature of Standard Biblical prose that such
examples are few and far between. However, there are two classes
of lexemes that are incompatible with the perfective.

6.5.4.1 *No Perfective of BE.*   It is not true that all verbs
in Russian, Greek and other such systems have lexical
imperfective-perfective pairings. Among a handful of lexemes
without such pairs, the one consistently encountered cross-

linguistically is BE. Greek *eimi* "be" has no perfective (aorist) counterpart. Similarly, Russian *byt*^y "be" has no perfective counterpart. However, a frequently encountered form in Standard Biblical Hebrew is *hɔyɔ* SUFF.3ms√be "was"; on the aspectual analysis, this is a perfective of BE. We conclude that the Semitic systems are completely atypical in this regard.

6.5.4.2 *Inherently Unbounded Activities.* A few lexemes in Hebrew are inherently imperfective, such as "walked." The use of the perfective with such lexemes, especially in imperfective frames, is wholly unexpected. Two examples from the corpus are given and their Russian equivalents follow with underlined forms.

(122) zəxɔr nɔ   ʔeθ ʔašɛr hiθhallaxti
         PRE!ms√remember   ACC REL   SUFF.1s√walk.about

         lə-φɔnɛ-xɔ   bɛ-ʔɛmɛθ
         to-faces-your   in-truth

         "Remember that I faithfully walked before you."
         (2King20:3)

(123) *vspomni, što ya <u>xodil</u> pr^yed licem Tvoim v^yerno*
         remember that I <u>walked(IMPF)</u> before your face
         faithfully

(124) bə-xɔl had-dɛrɛx   ʔašɛr hɔlax   ʔɔβ-iw
         in-all DEF-path   REL SUFF.3ms√walk   father-his

         "in all the ways that his way had walked."
         (2King21:21)

(125)   *to^yu že točno dorogo^yu, kotoro^yu xodil ot·ɜc ɜvɔ*
         in that exactly way, that <u>walked(IMPF)</u> father his

6.5.4.3 *Summary.* This line of criticism on the basis of clashes is not probative; but it has been established that Biblical Hebrew usage would be quite atypical on the aspectual scenario. However, proponents could point to the Septuagint Greek translation and its aorists *ebuleusato* "advised" (2Sam16:23), *periepatēsa* "walked about" (2King20:3), and *eporeuθē* "walked along" (2King21:21). I would simply caution that use of the literal/mechanical, so-called *kaige* recension here is problematic. "Normally, the most usual equivalent for the Hebrew perfective is the aorist in the Samuel-Kings corpus, and the aorist is used without paying attention to the context or the resulting Greek" (Voitila, pc; cf. mechanical usage in, e.g., the Psalms [Pietersma, pc]). Indeed, in the crucial example, 2Sam16:23, the Lucianic original is nonsigmatic.

§6.6 STANDARD BIBLICAL HEBREW ASPECT AND DEIXIS

The fundamental difference between tense and aspect is that the first is deictic while the second is non-deictic. The behaviour of temporal deixis patterns with pronouns and demonstratives. And because of the deictic nature of tense, it is subject to collocational restrictions. Grammatical aspect on the other hand is virtually free of such restrictions.

There is no logical reason why aspect, whether imperfective-perfective, stative-dynamic, or whatever other variety of aspectual contrast proposed, should be tied to time. Moreover, if there is a pragmatic operation by which aspect is interpreted relative to a given reference point, we should expect that all aspectual forms would be interpreted as true at that point. This is not how Semitic aspect works: there is a consistent split in the interpretation of aspectual forms at a given time, whether in a neutral context or in subordination. The SUFF form consistently backshifts while PRE1 does not: this is the behaviour of deictic tense [±past].

§6.6.1 *Defaulting at the Moment of Speech*

It can be established for living Semitic systems that the SUFF out of context is read as past, while the contrasting PRE1 form is not read as past.

> Another criticism of the aspect theory is that it falsely predicts that, out of context, the verb forms should have no tense value. Yet in Arabic at least, perfective forms are normally interpreted, out of context, as past and never as present or future, while the reverse is very nearly true of the imperfective.... Aartun presents for the uses of the forms: 98.07% of the *qatal* [perfective] forms are past in meaning (1.93% are future, but none are present), while 72.34% of *yaqtul* [imperfective] forms are present and 14.89% future, and only 12.77% past.
> [We can account] for the tense difference by noting that, since a completed action can occur only in the past, and not in the present, [the perfective] must be past.... Since [the imperfective] refers to

a recurrent action..., it can be only present
in tense.
        Neither of these points follows,
however, from the aspectual theory itself.
An action can be completed in the future. An
action can be recurrent in the past or
future. And it is odd to say that an action
cannot be complete in the present, while
claiming that actions can recur in the
present (Binnick 1991: §8r, 437).

To Binnick's comments we can add that if the perfective were to
be read with reference to the moment of speech, it should not be
a relative past but relative future tense (the point was already
made in §2.2.2.2).

Granted we cannot obtain native speaker intuitions for
Biblical Hebrew aspectual defaulting. But we can note some
striking patterns. If we isolate dialogue, we find the
consistent interpretation of matrix SUFF as relative past and
matrix PRE1 as relative nonpast. It is for this reason that
theories that rely on pragmatics place such a heavy emphasis on
the distinction between narrative and dialogue. There are other
ways to isolate a default. The most obvious is to look at values
with interrogatives, for the interrogative forces an
interpretation at the moment of speech. Consider the split in
the following.

(126)   mɛ ʕɔśiθi...   u-mɛ hatt'ɔθi
          what SUFF.1s√do   and-what SUFF.1s√sin

          li-φne ʔɔβ-ixɔ
          to-faces father-your

          "What have I done? And in what have I sinned against
          your father?" (1Sam20:1)

(127)   lɔ-mɛ   θißki
         for-what PRE1.2fs√cry

         "Why do/should you cry?" (1Sam1:8)

    cf. lɔ-mɛ   ßɔxiθ
         for-what SUFF.2fs√cry

         "Why did you cry?" (adapting 1Sam1:8)

It is because of this defaulting that we should expect clashes with temporal adverbs contrary to the aspectual hypothesis. The example of Maltese was given in §2.2.2.1; however, it is in the nature of our corpus that such clashes should be unattested: we only get positive, not negative data from written materials. However, we can observe this sort of deictic behaviour in the interpretation of subordinated verbs.

§5.6.2 *Relative Tense in Subordination*

On the aspectual scenario, we would not expect any fixed interpretation of subordinate forms; at the very least, their temporal values should be the same for whatever pragmatic mechanism. However, we find that SUFF is consistently treated as past relative to the event structure of the matrix clause; whereas, PRE1 is consistently treated as nonpast relative to the main event (cf. Revell 1989a: §§3.2-3.3, 4). The aspectual theory must stipulate independently these two readings, superimposing tense behaviour on the aspectual model.

Three examples of the SUFF are provided to make the point; the phenomenon is treated in more detail in ch. 8.

(128) *past of past:*

wǝ-ʔaβšɔlom ʔašɛr mɔšaḥnu ʕɔle-nu
and-Absalom REL SUFF.1pl√anoint over-us

meθ b-am-milḥɔmɔ
SUFF.3ms√die in-DEF-battle

"And Absalom whom we had anointed over us [as king] has died in battle" (2Sam19:11)

(129) *past of present:*

lɔm-mɔ θiβʕat'u   bǝ-ziβḥ-i... ʔašɛr s'iwwiθi...
for-what PRE1.2mpl√scorn at-sacrifice-my REL SUFF.1s√command

"Why do you scorn my sacrifice that I commanded?" (1Sam2:29)

(130) *past of future:*

u-zǝʕak'tɛm   b-ay-yom ha-hu
and-SUFF.2mpl√cry.out on-DEF-day DEF-that

mil-li-φne malkǝ-xɛm   ʔašɛr bǝḥartɛm   lɔ-xɛm
from-to-faces king-your REL SUFF.2mpl√choose for-you

"And you will cry out on that day on account of your king whom you (will) have chosen." (1Sam8:18)

§6.7 SUMMARY

This chapter has been a supplement to the introductory considerations in chs. 1 and 2. The goal has been to cast sufficient doubt on the adequacies of the aspectual model(s) so that we would be prepared to consider something else.

§6.2 picked up on the point in §1.2.2 that there are serious

problems with the original formulations of tense and aspect that have become the foundation for the standard aspectual treatment. In addition, the diachronic dimension was added here in §6.3, a problem never addressed by the founders of the aspectual model.

We also formulated the "imperfective" paradox, touching on points made in §1.3.4.1 and §2.1.4.2. To this was added a review of the properties of the Slavic and Greek verbal systems to emphasize the atypical behaviour of Semitic aspect. Finally, a brief survey of the deictic properties of Semitic aspect expanded the comments in §2.2.2.

The point of this chapter is that either we simply do not understand how grammatical aspect works or that Hebrew does not encode inflectionally the imperfective-perfective distinction. And this problem is not limited to Hebrew and the Semitic family. Many such systems behave in the manner of Hebrew, perhaps half of all attested human languages. Either we must begin to investigate a new tense-aspect type, different from the "Slavic imperfective/perfective system," or we must reconsider the aspectual analysis. Part III presents a model of Biblical Hebrew that brings the Semitic languages into line with the established typologies, and this approach can in principle be extended *mutatis mutandis* to the so-called "tenseless" class of languages as a whole.

7

GENERATIVE TENSE-ASPECT

*Given the parallelism in first principles, I therefore believe
that the central issue of the theory of conceptual knowledge ought
to parallel that of the theory of syntax: What are the innate
units and principles of organization that make human lexical and
sentential concepts both possible in all their variety and also
learnable on the basis of some realistic combination of linguistic
and nonlinguistic experience?* (Jackendoff 1990: §1.2, 11)

*My claim is that within the domain of tense, just as in other
parts of natural language, semantic interpretation underdetermines
syntactic structure. Consequently, it is imperative to discover
the sound-meaning mapping in the domain of tense. These syntactic
structures allow the subsequent rules of semantic interpretation
to be simplified and the grammar of tense to be constrained. As
in other areas of grammatical study, "going syntactic" in the
domain of tense permits the elaboration of theories that have some
claim to explanatory adequacy....* (Hornstein 1990: 5)

The highly formalized approach to the study of tense and

aspect has until recent decades been primarily the concern of

logicians whose interests have not necessarily coincided with

those of theoretical linguists. It is only with Bull (1960) and

a series of works in the 70s that a formalized or generative

approach to tense and aspect began to take firm root in the

linguistics community. Hornstein (1977) and (1990) are the first

fruits in the search for an explanatory theory of tense and

aspect in natural language.

There is now a considerable array (at least superficially)

of proposals for dealing with tense and aspect as well as

concomitant notations that as a rule attempt to extend a given

logico-semantic theory to different types of deixis, including

temporal deixis. Logicians are often more interested in the

formal properties and possibilities of a given system than in

deciding which system(s) might actually underpin actual natural

language. One basic approach among this array, stemming from the

pioneering efforts of Hans Reichenbach (1947), has been of

particular interest to linguistic theorists because it is

sufficiently simple and constrained to serve as a component in

universal grammar. Among the family of theories that may

properly be called "neo-Reichenbachian," we will adopt and adapt

in the following pages one very promising variation put forward

by Cowper (1991a, 1992b, 1992c) under the tag "Strict

Compositionality" for reasons that will become apparent.

In this chapter we will slowly build up the elements of such

an approach to the grammatical categories of tense and aspect.

We begin with grammatical aspect or "inner tense" and develop an

interpretation of a time-line with the contrasting primitives [<]

and [=]. We then look at "compositional aspect" or *Aktionsart*

within a Vendlerian framework. From there it is a natural

progression to the grammatical category of tense and truth

evaluation, with some comments on compositional tense. The chapter is rounded out by briefly considering two approaches to the representation of mood [±IRR]. We will then be able to assign specific semantic representations to the Standard Biblical Hebrew verbal forms, develop a model for compositional tense-aspect, and provide a basis for the pragmatic interpretation of the forms and for their discourse functions in the structuring of the Biblical texts.

§7.1 EVENT STRUCTURES AND GRAMMATICAL ASPECT

In traditional tense-logic, time-lines have been used to graphically interpret a given formalized system, and we will adopt the practice throughout of converting formalisms into a graphic derivative to clarify the discussion. Tense-logicians generally attempt a connection to the real time-line of the "real" world, envisioning a continuous line with a deictic "now" or moment of speech (S) as in (131).[61]

(131)   S
        ------------------------•-------------------

---
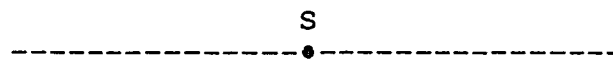
[61]The contrast between traditional approaches to semantics and that assumed here has been captured by the distinction E-semantics vs. I-semantics ("external" vs. "internal") respectively. Jackendoff (1990) draws this distinction among others in his introductory material.

We will be developing a more abstract "X-line" schema depicted in
(132) better suited to handle the semantics of natural languages.

(132)

$$- \quad - \quad - \quad - \quad - \quad \bullet\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!\bullet \quad - \quad - \quad - \quad - \quad -$$
$$x_i \qquad\qquad\qquad x_j$$

§7.1.1 *Bounded/Unbounded Event Structures*

We must first distinguish two fundamental types of inherent
or "lexical" aspect: states vs. non-states or "actions." In
Biblical Hebrew we have a pair that nicely encodes the
distinction: *hɔyɔ* "be" vs. *hɔyɔ l-* "become" or more generally
some change of state.[62] The time-line of "be" is represented as
an unchanging line (133); while the dynamic event structure of
"become" is captured by setting two boundary points (134): the
event structure is then "bounded" (vs "unbounded").

(133)   "be" $-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-\!-$

(134)   "become" $-\!-\!-\!-\bullet\!-\!-\!-\!-\!-\!-\!-\!-\!-\bullet\!-\!-\!-\!-$

---

[62]A common expression is, "the word of the Lord came to X
[*hɔyɔ l-* X], saying." This same construction is also used for
possession: I have a daughter = a daughter is to me.

A formalism for grammatical aspect can be formulated using (134). We define a time-line for the internal temporal contour of an action or its "event structure" made up of points t. We can than assign an arbitrary index to the two bounding points as in (135).

(135)
$$\text{------}\bullet\text{------------------}\bullet\text{------}$$
$$\qquad t_i \qquad\qquad\qquad\qquad t_j$$
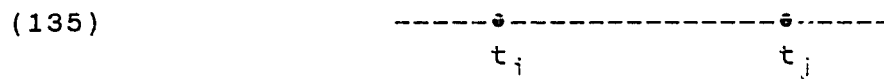
Using the time-line in (135) we can formally define inception, process, termination and resulting state. It does not appear that pre-inception has a role to play in the aspectual systems of natural languages; it may prove to be crucial in the study of mood. The event structure itself (E) is defined by the interval (t_i, t_j), the inception by t_i, the termination by t_j, and the resulting state as all points such that t is greater than t_j.

With such a time-line and such formal definitions, we can then define the traditional aspectual categories. We do this by positing an arbitrary reference point (R) and defining the possible relations between R and E.

(136)
$$R_1 \qquad\qquad\qquad R_2 \qquad\qquad\qquad R_3$$
$$\downarrow \qquad\qquad\qquad \downarrow \qquad\qquad\qquad \downarrow$$
$$\text{----------------}\bullet\text{----------------------}\bullet\text{------------}$$
$$\qquad\qquad t_i \underbrace{\qquad\qquad\qquad\qquad} t_j$$
$$\qquad\qquad\qquad\qquad E$$
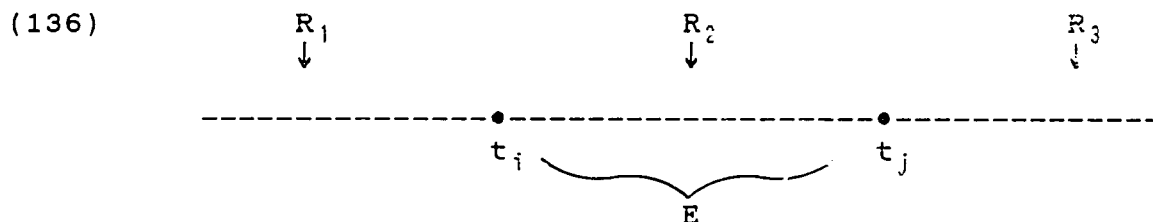
There are three relations that are defined between R and E. R_3 represents the stative-resultative or "perfect." The perfect can be formalized as E<R (read "E precedes R"). In contrast, the progressive is obtained at R_2 and is formalized by E=R (read "E simultaneous with R"). The perfect and progressive, therefore, both define "regions" as opposed to "points": they are nonpunctual or "imperfective." Some languages combine these two aspects into one nonpunctual category; e.g, the Japanese form *V-te* is ambiguous between perfect and progressive, and other means are found to encode the distinction.

The third possible relation is not directly provided for in the time-line as yet. We will therefore adopt Cowper's convention of using the triangle in (137).

(137)

$$\begin{array}{c} R \\ \downarrow \\ \\ E \end{array}$$
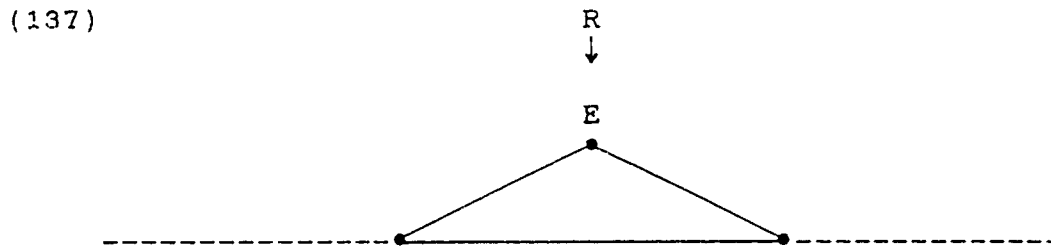
In (137) the event is collapsed to a point: it is punctual or "perfective." In English and Biblical Hebrew, this is the natural interpretation of bounded event structures (hence "perfective default"), and so it is not given a formal representation by Cowper. But since it is a default relation, we can simply leave it unspecified in this sketch: ER.

§7.1.2 *Summary: Grammatical Aspect*

This briefest of sketches will serve our purposes in chs. 8 and 9. Although not defended here, the summary in (138) is a substantive proposal for grammatical aspect in universal grammar.

(138)
```
                        ASPECT
         ┌─────────────────┴─────────────┐
     PUNCTUAL                          LINEAR
    (PERFECTIVE)                    (IMPERFECTIVE)
        ER                               │
                            ┌────────────┴───────────┐
                      PROGRESSIVE                 "PERFECT"
                         E=R                        E<R
```
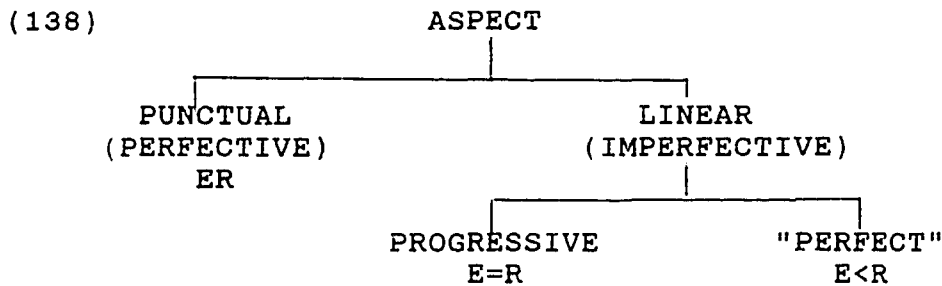
The summary in (138) does not tell the whole story, but it is sufficient for English. Biblical Hebrew has no morphological encoding for the perfect as such, though the passive PASS would arguably have much the same semantic representation. This is one sort of parameter to consider in unfolding such a proposal. Another was mentioned in connection with Japanese: the superordinate category "linear" can have independent expression. But above of all we must consider the question of aspectual default. According to (138), the perfective default is the unmarked case for universal grammar, and this in fact may be what we want (DeCaen forthcoming). Nevertheless, careful consideration will have to be given as to how best to apply (138) to an imperfective default such as Russian or French.

In summary, we have defined two primitives [<] and [=] to

account for the basic aspectual contrast; in addition we have employed points (•) and regions (-----) to graphically interpret this scheme; and introduced the sigla E (event) and R (reference point) defined to simplify discussion. We now turn to several extensions of this model for the more complicated cases of compositional aspect or *Aktionsart* in preparation for the introduction of temporal deixis in §7.2.

§7.1.3 *Compositional Aspect*

We have so far developed the basic approach to the grammatical or "functional" category aspect. In this subsection we extend the approach to lexical representations, and then show how the several sources of aspect can be composed to create derived "event structures" classified according to the now standard Vendlerian scheme.

First we must review the Vendlerian proposal; admittedly there are problems with the proposal (esp. Verkuyl 1993), but it serves our simple needs here. In (139) is presented the hierarchical diagram found in Mourelatos (1981); I have starred the commonly used Vendlerian terms.

(139)　　　　　　　situations
```
           ┌──────────────┴──────────────┐
        states*                      occurrences
                                      (actions)
                          ┌───────────────┴───────────────┐
                      processes                        events
                      (activity*)                   (performances)
                                          ┌───────────────┴───────────────┐
                                    developments                    punctual
                                  (accomplishment*)               occurrences
                                                                 (achievement*)
```
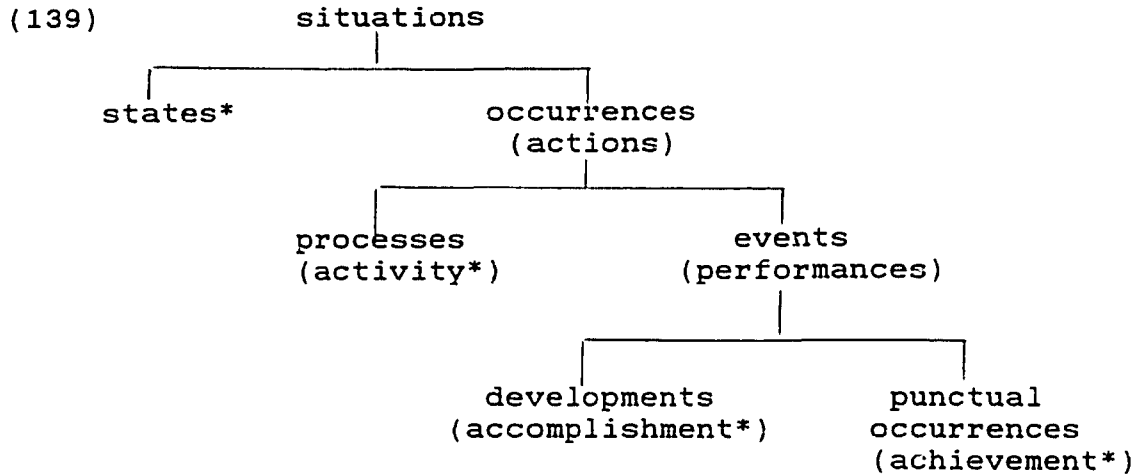
This hierarchical arrangement has great heuristic value and is straightforwardly derived from the lexical representations, samples of which are now given in (140) with comment following.

(140)　　　(a)　*state*　　　　　　　(b)　*activity*

```
        _____              _____
```

　　　　　　　　　KNOW　　　　　　　　　　　RUN

　　　(c)　*accomplishment*　　(d)　achievement

```
        ●───────────●                 ●●
```

　　　　　　　BUILD HOUSE　　　　　　　FLASH
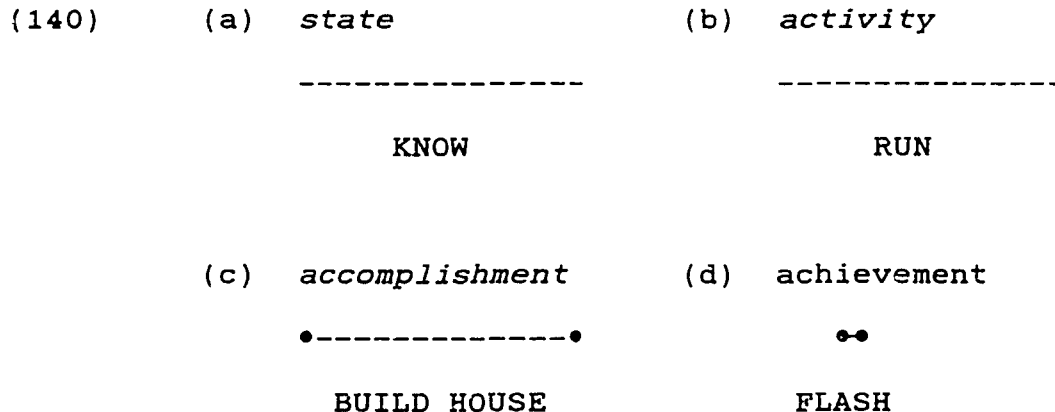
The notion of state should be clear as well as that of activity. Accomplishments and achievements pattern together as bounded structures, and indeed they have much in common. However, achievements are distinguished by a virtual absence of

internal structure, and this absence presents difficulties in the interpretation of grammatical aspect.

Many non-verbal entries in the lexicon can contribute to the internal temporal contours of events, the foremost among wnich are measurements of time. Consider the examples in (141).

(141)   (a)   *continuously*   -----------------

         (b) (i) *hour*   •---------------•
              (ii) *for three hours*

         (c)   *suddenly*   •-•

         (d)   *repeatedly*   •-• •-• •-• •-• •-•

These modifiers can freely combine with, e.g., *run*, creating derived event structures by superimposing their representation on the basic lexeme. Thus, combined with (141bii), the event of *running* now has a clear point of initiation (time zero) and completion (time three hours). For most speakers, the superimposition of (141c) creates an "inception" reading, i.e., *suddenly <u>begin</u> to run*. What is perhaps of more interest is the composition of the inherently imperfective modifiers (141a,b,d) with the achievements *flash* or *die*. While *the light flashed for three hours* must be read as an iteration over the time span as interpreted in (142), *she died for three hours* is decidedly odd if not unacceptable.[63]

---

[63]It is generally the case that with some imagination such odd combinations can be made acceptable with sufficient background or "priming." For instance, given a longer time-span (say three thousand years) and the context of a treatise on

(142)　　•●　　　　•●　　　　　•●　　　　　•●

　　　　　↑　　　　　　　　　　　　　↑
　　　　0.0 hr　　　　　　　　　　3.0 hr

This short survey should indicate the nature of "compositional" aspect as defined over complex "event structures" constructed with the inherent aspect of the verbal lexeme, the inherent aspect of various modifiers as well as the subtle contributions from the nature of the subject and object(s) (which we have omitted here for the sake of simplicity) as briefly considered in §3.2.2.

It now remains for us to extend the use of [<] of [=] and our system of graphic interpretation to tense as the basis for analyzing the finite forms SUFF, PRE1 and PRE2 in chs 8 and 9.

§7.2 GENERATIVE TENSE AND TRUTH EVALUATION

We have already introduced the abstract reference point R that defines the neo-Reichenbachian family of tense theories against other tense-logics. Now we need to capture the temporal deixis involved in anchoring R relative to a fixed point S, the moment of speech.

§7.2.1 *The Moment of Speech*

First, we need to add a second time-line. This time-line differs from the inner time-line in two ways: one point is

---

reincarnation, e.g., the pragmatic oddity could be negated.

privileged, t_0 (read "time index zero"), the moment of speech (S) which anchors the entire tense-aspect structure; and the region that is no longer relevant is discontinuous, extending in either direction as can be seen in (143).

(143)

```
         R                          S
         •--------------------•
         t                          t
          i                          0
```
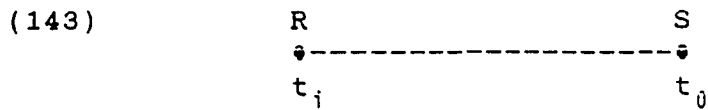
In (143) have been introduced the shorthand labels R (reference point) and S (moment of speech).

§7.2.2 *Possible Tense-Aspect Structures*

As with inner tense or aspect, so with tense there are three possible relations between R and S. R<S is obviously the past tense. R=S, i.e, simultaneity, is the present. An underspecified relation RS is not clearly defined. For this study I will employ it in contrast to R=S as a "subjunctive." These three relations can be hierarchically organized as in (144) as a substantive proposal for tense in universal grammar.

(144)

```
                        TENSE
              ┌───────────┴───────────┐
              PAST                    NONPAST
              R<S                         │
                            ┌─────────────┴─────────────┐
                         PRESENT              "SUBJUNCTIVE"
                          R=S                      RS
```
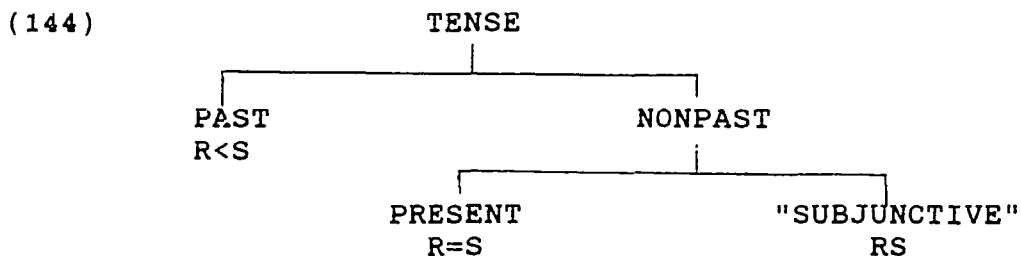
A tense-aspect complex is formed by an association line
linking R to the event-internal time-line. An example of a
graphic interpretation of such a complex structure is provided in
(145) as a semantic representation of the English past perfect
(*had V-en*) construction.

(145)

```
                            R           S
                            •-----------•
                            |
         •-----------•------|------------------
                     E
```
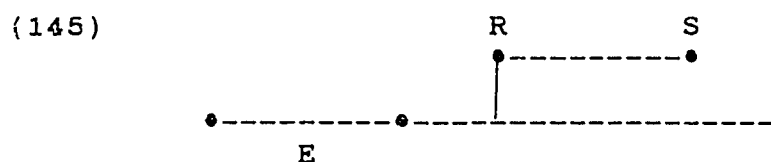

This concludes a somewhat idiosyncratic formulation of neo-
Reichenbachian tense-aspect. The hallmark of such a system is
the intermediate R which mediates the indirect relation between E
and S. In contrast to the original and subsequent formulations,
I have left out the S>R or "future" relation; this is a
substantive claim that I will not defend here. I simply offer
two comments. First, there is no need for such a relation in
Biblical Hebrew. Second, outside of the artificial Esperanto and
kindred inventions, there is apparently no "future" tense that is
not subject to decomposition[64] into tense and/or mood.

The limited set of possible tense-aspects in natural
language under this proposal is given in (146).

---

[64]By decomposition in this context is meant both
morphological decomposition in the sense introduced in §4.2.1 and
also in the sense understood in the phrase "strict
compositionality" explained in §3.1.3.

(146)	PERFECTIVE	PROGRESSIVE	PERFECT
PAST	ER<S	E=R<S	E<R<S
PRESENT	ER=S	E=R=S	E<R=S
"SUBJ."	ERS	E=RS	E<RS

The set in (146) represents a doubly marked situation that is found in English. Many but by no means all systems have a perfect; among those lacking the perfect (in Europe, conspicuously the Slavic systems) is included Biblical Hebrew. The breakdown of the nonpast category into present and subjunctive, while not rare, is still highly marked in cross-linguistic perspective.

The next subsection quickly introduces the rudiments of a "strictly compositional" approach to tense-aspect that is employed in chs. 8 and 9.

§7.2.3 *A Strictly Compositional Approach to Tense-Aspect*

Cowper parts ways with other neo-Reichenbachian theorists (e.g., Hornstein 1990) by insisting that the principle of compositionality be taken seriously. While others define some universal scheme of tenses and then search out the corresponding forms in a given language, Cowper makes the strong claim that all tense-aspect representations can be derived directly from the morphology and syntax of the constructions by simple composition. This claim involves hitching a theory of tense and aspect to a particular theory of syntax, in Cowper's case the Government-

Binding approach. And of course, it should now be clear why we required a basic theory of Biblical Hebrew morphology and syntax in the development of a model of Standard Biblical Hebrew verbal semantics.

7.2.3.1 *The Analysis of Complex Structures.* We shall briefly contrast Cowper's account of the English present progressive (e.g., *she is writing the book*) and present perfect (*she has written the book*) with a more "atomic" approach to verbal semantics found, e.g., in Hornstein (1990). Under Hornstein's approach, a progressive and perfect are universally and independently given for the present tense. It is thus an accident on the latter view that the progressive is realized by the active participle with the present tense of *be*. Similarly, it is a curious accident that the past participle together with the present tense of *have* should correspond to the perfect.

Cowper introduces the mnemonic ↑↓ to represent her simple principle of composition: the semantic elements (with Greek letters as variables) are read subordinated to higher c-commanding[65] elements which we can graphically capture by (147).

---

[65]"C-command" is short for "constituent command" which is a relation that holds between sisters and is technically defined as following.

A node α c-commands a node β if every maximal projection dominating α also dominates β, and α does not itself dominate β (Cowper 1992a: §5.5.3, 85).

Or, as Radford paraphrases,

(147)

```
                    X"
           X              Y"
          ↑α↓          Y        Z"
                      ↑β↓     Z        W"
                            ↑γ↓
                                    δ
```
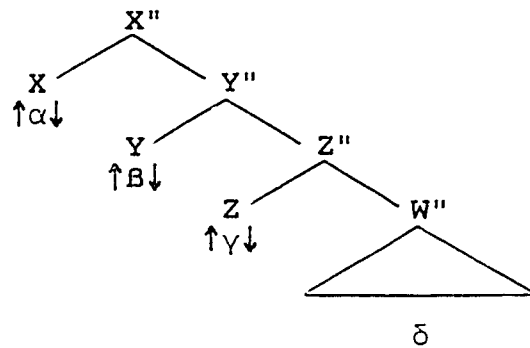
Thus, while others approach the compound "tenses" as semantic atoms that are accidentally related to form, we obtain complex semantic composites under Cowper's approach such as αβγδ, the individual elements of which are obtained directly from the morphosyntax. Under her scheme the present progressive and present perfect are assigned the syntactico-semantics in (148) and (149) together with their graphic interpretations (note that S is always available as a default for the interpretation of tense at INFL).

A node c-commands its sisters, and nieces (and indeed its great nieces, great great nieces, etc.) (Radford 1988: §3.3, (11), 115).

(148)   *English Present Progressive:* she is writing the book

(a)

```
                I"
           I  ╱    ╲ V"
          ↑=↓     V ·╲
                  be    ╲ PRT"
                      PRT╲
                      ↑=↓   ╲ V"
                             ╱ ╲
                            ╱   ╲
                           ╱     ╲
                       she write book
```

(b)

```
              S
    - - - - - - - - - - -•
                         │
                         │
         - - - - - - - - ┼ - - - - - -
                        be
                         │
    •- - - - - - - - - - ┼ - - - - - -•
              write book
```
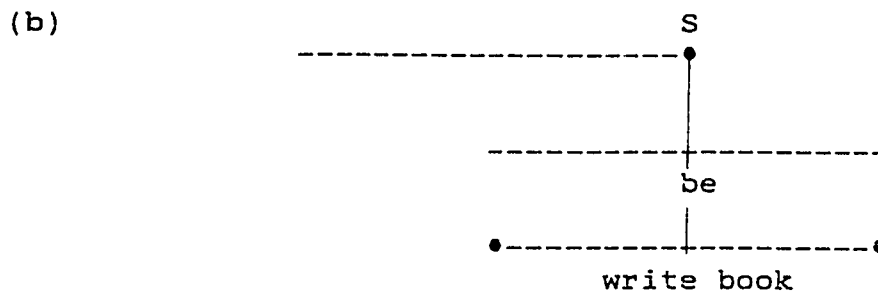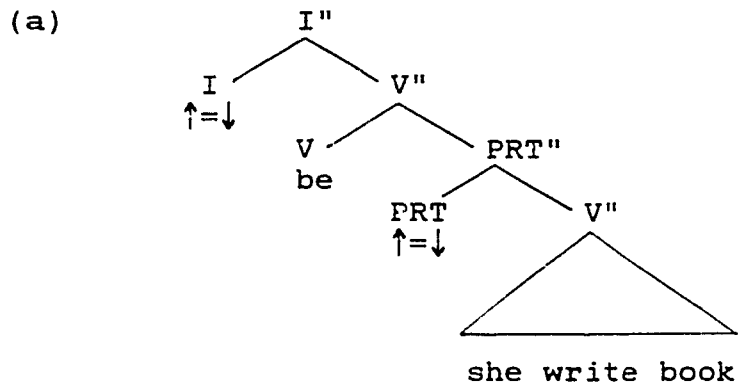
(149)   *English Present Perfect:* she has written the book

(a)

```
                I"
           I  ╱    ╲ V"
          ↑=↓     V ╲
                 have  ╲ PRT"
                      PRT╲
                      ↑<↓   ╲ V"
                             ╱ ╲
                            ╱   ╲
                           ╱     ╲
                       she write book
```

(b)

```
                                              S
    ------------------------•
                                              |
                        ----|----
                              have
                                |
    •---------------•----|----
    write book
```
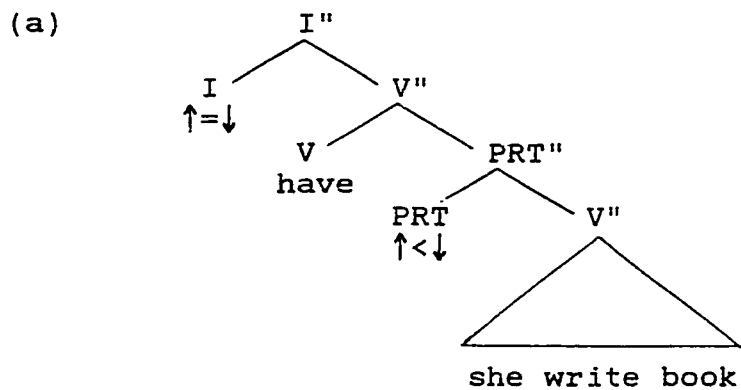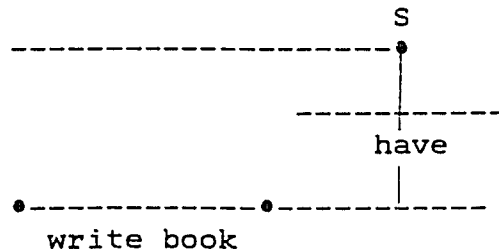
It will be shown that the semantic representations of Biblical Hebrew tense-aspect can be as complicated as the structures in (148) and (149).

7.2.3.2 *Temporal Adverbs.* Just as aspect has many sources inside (and outside) the verb phrase, so too does tense have many possible contributors. We will consider a relatively simple case involving the introduction of the temporal adverb *tomorrow*: *she is leaving tomorrow* with the representation and interpretation in (150).

(150) (a)

```
                    I"
              I  /      \  V"
            ↑=↓    A"/      \V"
               tomorrow   V /     \ PRT"
                         be   PRT/     \V"
                              ↑=↓       /\
                                       /  \
                                      /____\
                                   she  leave
```

(b)
```
                                    S
_____•              ?
                                 tomorrow
                                    |
               _____|_____
                                   be
              •_____|_____•
                       leave
```
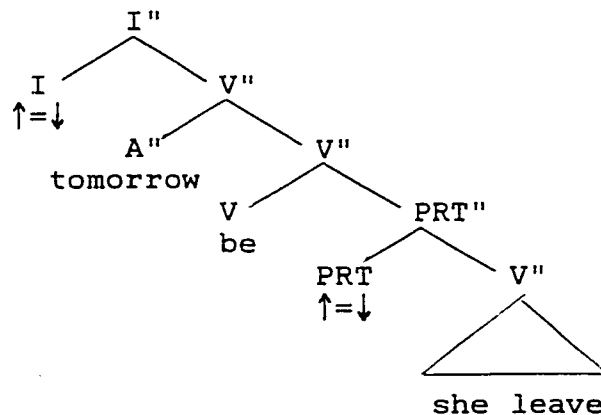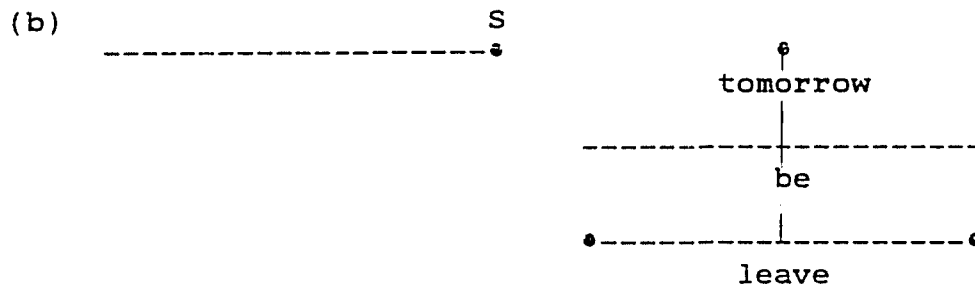
Such complexity draws attention to mismatches which we will not examine in detail here; but a full-blown theory requires a repair strategy to handle possible structures and to act as a filter on impossible ones. What is of interest is the interpretation of *tomorrow* composed with nonpast: it is not that the event occurs at t_0 (the naive interpretation of tense) but that the future event is considered to be true at t_0. All things remaining equal, it is true <u>now</u> that *she will leave tomorrow.* The distinction between the point at which an event actually occurs and the point at which the truth of a proposition regarding that event is evaluated is key to understanding the use of [=] in Biblical Hebrew.

§7.3 ON THE INTERPRETATION OF IRREALIS

A few words are in order regarding the category mood since modal features are incorporated into the model in ch. 9. I stipulate the following organization of the modal component in Biblical Hebrew.

(151)   MOOD
         ┌───────┴───────┐
      REALIS   IRREALIS
        ∅   [IRR]
                   ┌─────┴─────┐
               [+IMP]   [-IMP]
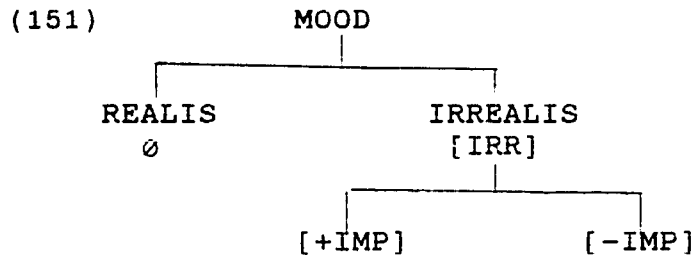
As for the interpretation of (151) and the incorporation into the model for tense-aspect, that is an open question. I have two ideas on how to handle mood. The one is to assign mood to the interpretation of truth at S: e.g., true at S vs. believed true at S, or something along these lines. The other notion is inspired by a consideration of the sources of the future/irrealis, now treated at length in Bybee *et al.* (1994), especially *TO* and *GO*. These suggest the Reichenbachian relation [>] operating over the tense-aspect structures or perhaps on a separate time-line. Johnson (1981) suggests that mood or "status" relates E and S, but it is not clear how this suggestion will help with the theory presented here.

It will be sufficient for our purposes if we understand IRR to represent a general modality and +IMP ("imperative") to indicate deontic vs. epistemic modality. I would guess that the markedness relations between deontic and epistemic mood conforms to the proposed hierarchy.

§7.4 SUMMARY

We examined a substantive proposal for tense and aspect within universal grammar as an extension of the Reichenbachian

S,R,E system. We proposed two primitives [<] and [=] together
with the notion of unspecified features to handle grammatical
aspect or "inner tense," and extended the use of these to a
second semantic field, tense proper. I think that this is the
right sort of theory to explain the types of historical
development treated in Bybee *et al.* (1994). We then surveyed the
strictly compositional approach to English tense, deriving the
semantic constructions directly from morphosyntactic
representations. Finally, the model for mood was quickly
sketched in anticipation of the proposals in ch. 9.

8

THE CORE TENSE-ASPECT SYSTEM

> *Following Kuryłowicz, then, the opposition between the*
> *perfect and the imperfect can be aptly defined as one of*
> *+ ANTERIOR versus – ANTERIOR, with reference point to*
> *be established by context. If the point is not clear*
> *from the context it will automatically be assumed to*
> *be the moment of speaking by default.* (Gropp 1991:
> 54)

> *It is important to note that the time reference of the two*
> *categories in relation to the speaker/narrator is not absolute,*
> *but is conditioned by the time reference of the context in which*
> *the verb form is used. This [the time reference], like the*
> *categories themselves, can be categorized as 'past' or*
> *'present/future'.* (Revell 1989a: §2.2, 4)

> *In Biblical Hebrew the present tense is properly the domain*
> *of the predicative participle [i.e., the participle functioning as*
> *predicate]. Two other verbal forms. . . may be used in present-*
> *tense statements as well, but this use is subject to fairly strict*
> *conditions. . .* (Joosten 1989: 128)

At this point we have a list of verbal morphemes, a basic

outline of a Government-Binding analysis of Standard Biblical

Hebrew clause architecture, and a generative model of semantic

representations for tense and aspect. We have all the essential

ingredients for an integrated model of the Standard Biblical

Hebrew verbal system. The presentation is somewhat lengthy

because of the Hebrew consecutive phenomenon, so the material has been divided into separate chapters: the basic system vs. the more complicated movement structures.

§8.1 THE PROPOSAL IN BRIEF

§8.1.1 *Semantic Representations*

The general view formalized here can be found in the brief treatment of the verbal system by Joüon (1923: §§111-113, 289-306; §121, 338-341), and with respect to the core system, has very much in common with Mishnaic Hebrew (e.g., Segal 1958: §§306-339).

> Generally in MH [Mishnaic Hebrew] the perfect
> coincides with the present [*sic*, read
> "past"], the imperfect with the future, and
> the participle with the present. The perfect
> and imperfect (and also the imperative)
> describe simple acts. Continuous, or
> repeated, or customary action is expressed by
> the participle alone for the present, by the
> participle with the perfect of הָיָה [√hyy,
> "be"] for the past, by the participle with
> the imperfect of הָיָה for the future, and by
> the participle with the imperative of הָיָה
> (=הֱיֵה) for the imperative (Segal 1958: §306,
> 150).

We may translate Segal's comments into the framework adopted here. First, the simple inflectional tense system (SUFF, PRE1, PRE2) excludes the progressive ("describes simple acts"), i.e., it defaults for the perfective. Remember that the default applies in just those cases that have bounded event structures; it does not apply in the case of inherently unbounded lexemes such as "be" or of "walk" (§6.5.4). This difference is crucial

for the model proposed here.

Second, nonperfective aspect is separately encoded by the participle. Since the participle is a nonfinite form (adjectivalization/nominalization), tense is supplied by the auxiliary "be." It is generally the case that the auxiliary is omitted in Standard Biblical Hebrew in the case that R=S, i.e., in the "present," and so the paradigm is not perfectly symmetrical as it is in comparable systems such as English, Welsh, Korean or Japanese.

The proposed assignment of semantic representations for the core Standard Biblical Hebrew verbal system is summarized in the chart in (152).

(152)	PERFECTIVE (ER)	NONPERFECTIVE (E=R)
PAST (R<S)	SUFF	SUFF√hyy + PART
PRES (R=S)	PRE1	(PRE1√hyy) + PART
"SUBJ" (RS)	PRE2	PRE2√hyy + PART

§8.1.2 *The Syntax-Semantics Interface*

The syntactic model sketched in ch. 5 is essentially a verb second (V2) system. We therefore obtain the following prediction: all things being equal, the indicative verbal forms will surface in V2 position in the main or "matrix" clauses. We

also predict that the derivation of the marked V1 constructions, i.e., those constructions resulting from verb movement from INFL to COMP, is forced by formal constraints.

There are two types of formal reasons for such verb movement to COMP within the framework adopted here: some relation that must hold between an element and the verbal construction is blocked (movement allows the relation to hold in satisfaction of formal requirements); or there is some abstract, phonologically null element that must be "lexicalized" or made "visible" (its presence must be registered in the surface structure). The proposal here is that V1 subordinate constructions arise in order to make the INFL-V complex in the embedded clause visible to the higher verb. I assume that COMP, because it is a "closer governor" of the embedded INFL-V complex than the higher V, blocks the government relation between INFL in the embedded clause and the higher V (Minimality Condition: e.g., Cowper 1992a: 145, 193). As well, it will be shown that abstract, phonologically null modal elements at COMP are forcing verb movement: they must be lexicalized.

§8.1.3 *Summary*

We need to be very clear at this point on what is being offered. The proposal is actually a highly abstract generative grammar fragment that is being set in correspondence with the translation values of the actual data of the corpus of Samuel-Kings as secured by the pragmatics of simple narration (§1.3.2).

In other words, the data to be accounted for are primarily modern English translations (e.g, New International Version [NIV], Jewish Publication Society [JPS], etc.) secured by narrative context and corresponding more or less straightforwardly to values obtained in French, German, Russian, etc. The model attempts to derive these translation values by "composition."

This study is not a Biblical commentary. The discussion explains how the model works in general, what it says and predicts. We do not meticulously examine every verbal form, one at a time. Rather, the focus is on classes of problems for the model and the nature of the solutions within the present framework. Granted there may be other explanations, granted they may be more attractive in special cases; but we are only interested here in the properties and potential of this particular model. For instance, there are apparent counterexamples to V2 matrix clauses and V1 subordinate clauses; and there are apparent counterexamples to the tense values assigned, especially in the case of SUFF. The discussion addresses these sorts of questions.

Regarding "particles" and how to count them within this framework, I stipulate the analysis in (153).

(153)

FULL X'' CONSTITUENTS: ʕattɔ "now"
ʔɔz "then," "subsequently"
lɔ-xen "therefore," "for that reason"

CONJUNCTIONS: w– "and," "but"
ʔax "but," "however"
rak' "only"

NOT FORMING INDEPENDENT   lo "not"
X'' CONSTITUENTS: gam "even"

The plan for the remainder of this chapter is as follows.
We concentrate first on the SUFF or simple past form.[66] Most of
the problems for the model involve SUFF forms. As well, once the
interaction of the syntax and semantics is established for SUFF,
it can be straightforwardly extended to the rest of the forms.
Indeed, once the analysis of SUFF is established, we quickly move
on through PRE1 and the PART constructions with and without SUFF.
Ch. 9 picks up the V1 constructions with PRE2, and extends the
general analysis of PRE2 to the consecutive forms.

§8.2   THE SIMPLE PAST TENSE

The presentation of the simple past tense (SUFF) proceeds in
a series of steps. First, we examine the past tense of
inherently unbounded event structures. Second, we introduce the
concept of the perfective default for bounded structures. We
then examine the syntactic and semantic complexity arising in
subordination. The range of problems encountered by the basic
model is examined and solutions are offered. The problems

---

[66]Unless indicated otherwise the term "simple past" refers
to the Hebrew not the English simple past tense. The
interpretation of the Hebrew simple past is always R<S. Since
English has the perfect construction (E<R) while Biblical Hebrew
does not, there is considerable potential for mismatches between
English and Hebrew.

include apparent counterexamples to V2 indicatives and the apparent nonpast readings of SUFF forms. The interaction of form and context is taken up as well in the discussion of "performatives."

§8.2.1 *SUFF in Matrix V2*

The essential notion is that finite verbal forms are V-I complexes derived through the raising of V to I in satisfaction of morphological requirements. It is generally the case that a full X'' constituent raises to spec-I'' under topicalization, thereby giving rise to the unmarked V2 constructions. The simple past, therefore, is formed by the raising of the V to SUFF at I in an overall V2 configuration.

8.2.1.1 *Past with Unbounded Structures.* Recall the strong claim in §6.5.4.1 that there is no perfective counterpart for the lexeme BE in various "aspectual" languages. One of the real strengths of the current proposal is that it can derive the perfective readings of SUFF through the default mechanism and yet account for the combination of SUFF with inherently nonperfective lexemes. The default mechanism distinguishes between bounded and unbounded event structures, and only applies in the case of the bounded. In the case of the unbounded structures the theory therefore predicts that only the simple tense reading obtains.

Of course, the crucial test case in the Hebrew data is √hyy "be"; there are others including √ykl "be able" and as we saw in

§6.5.4.2 √hlk "walk." We will proceed here by presenting
representative examples of SUFF√hγy and then consider the
syntactic parsing and semantic representations assigned to these
constructions in the current theory.

(154)　　u-ɸɔnɛ-hɔ　　　lo hɔγu　　　　lɔ-h　　　ʕoð
　　　　and-faces-her　not SUFF.3pl√be to-her　　still

　　　　"and her face was no longer downcast." (1Sam1:18)

(155)　　wa-YHWH　　hɔyɔ　　　　ʕimm-o
　　　　and-YHWH　　SUFF.3ms√be　with-him

　　　　"and the Lord was with him." (1Sam3:19)

(156)　　mɛ　　hɔyɔ　　　　had-dɔßɔr　　bɘn-i
　　　　what SUFF.3ms√be　DEF-thing　　son-my

　　　　"What happened, my son?" (1Sam4:16)

(157)　　ki ʕal pi ʔaßšɔlom　　　hɔyɘθɔ　　　śumɔ
　　　　for on mouth Absalom　　SUFF.3fs√be　intention

　　　　"for this was Absalom's expressed intention."
　　　　(2Sam13:32)

(158)　　u-xɘ-ʔaßšɔlom　lo hɔyɔ　　　　ʔiš yɔɸɛ
　　　　and-as-Absalom not SUFF.3ms√be　man attractive

　　　　bɘ-xɔl-yiśrɔʔel　　lɘ-hillel mɘʔoð
　　　　in-all-Israel　　　to-INF√praise more

　　　　"And there was not a handsome man throughout all of
　　　　Israel so highly praised as Absalom." (2Sam14:25)

(159)   wə-naʕamɔn šar s'eβɔ mɛlɛx ʔarɔm   hɔyɔ
        and-Naaman chief army king Aram   SUFF.3ms√be

        ʔiš gɔðol...   wə-hɔ-ʔiš   hɔyɔ
        man great   and-DEF-man   SUFF.3ms√be

        gibbor ḥayil   məs'orɔʕ
        soldier strength   PRT.ms√be.leprous

"Now Naaman was a great man... this man was a valiant
soldier, but had leprosy." (2King5:1)

(154)-(159) present a fair sample of the range of V2

constructions. (154), (155) and (159) represent the unmarked

case with the topic coinciding with the subject. In (156) is the

characteristic fronting of the interrogative, and in (157) and

(158) we find typical cases of topicalization.

I now provide a sample parsing of (155) together with the

semantic representation assigned under the theory in (160) and

(161).

(160)

(161)

```
              R           S
    ____•_____•_____
        |
    ____|____
        E
```
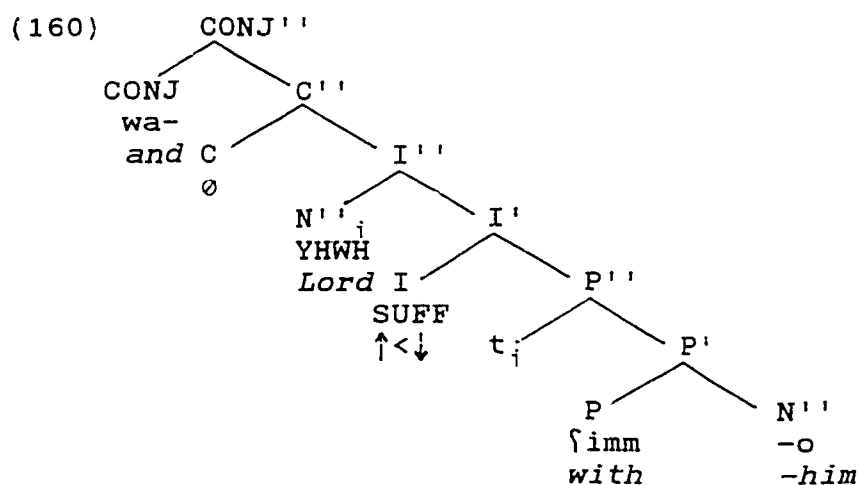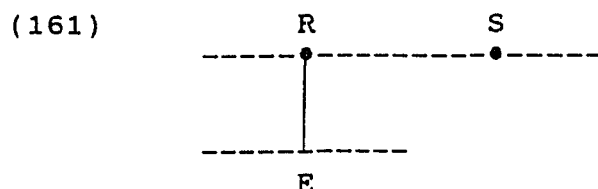
In (160) the topicalization is marked by the coindexing of
YHWH and the trace left at the subject position. Notice also
that I am assuming that the V "be" is not generated in the
syntax, but is supplied in the morphology. The semantic
representation in (161) captures the unbounded nature of √hyy +
X'' and the simple interaction between the event structure and
past tense R<S. The same sort of syntactic and semantic
structures would be assigned the examples of "walk" in §6.5.4.2
and the many tokens of "be able" (though in both cases, there
would be verb raising to INFL).

8.2.1.2 *Past with Bounded Structures.* With bounded event
structures the system defaults for a perfective reading. In
other words we get the perfective aspect "for free" with the past
tense SUFF. The V2 syntax remains constant. Some examples are
now presented with the syntactic and semantic structures given
with comment following.

(162)   wə-hannɔ   lo ʕɔlɔθɔ
          and-Hannah   not SUFF.3fs√go.up

          "And Hannah did not go up." (1Sam1:22)

(163) u-šte ßəne ʕeli   meθu   hɔɸni u-ɸinhɔs
       and-two sons Eli   SUFF.3pl√die   Hophni and Phinehas

       "And the two sons of Eli, Hophni and Phinehas, died."
       (1Sam4:11)

(164) wə-šɛmɛš bɔʔɔ   wə-hemmɔ   bɔʔu
       and-sun   SUFF.3fs√come and-they   SUFF.3pl√come

       ʕað gißʕaθ ʔammɔ
       to hill Ammah

       "And the sun set as they came to the hill of Ammah"
       (2Sam2:24)

(165) ʔeθ ʔuriyyɔ ha-hitti   hikkiθɔ   ß-a-hɛrɛß
       ACC Uriah DEF-Hittite   SUFF.2ms√strike   with-DEF-sword

       wə-ʔɛθ ʔišt-o   lɔk'ahtɔ   lə-xɔ lə-ʔiššɔ
       and-ACC wife-his   SUFF.2ms√take   for-you for-wife

       wə-ʔoθ-o   hɔraɣtɔ   bə-hɛrɛß bəne ʕammon
       and-ACC-him   SUFF.2ms√kill   with-sword sons Ammon

       "You struck down Uriah the Hittite with the sword; and
       you took his wife as your own; and you killed him with
       the sword of the Ammonites." (2Sam12:9)

The examples were chosen for their prototypical bounded
event structures: reach a destination (go up, come), die, kill.
The examples also display the tendency for the subject to surface
at spec-I'' under topicalization; notice the promoting of the
objects in (165) for effect. The first clause in (165) is now
assigned syntactic and semantic representations.

(166)

```
                    C''
              _____|_____
            C'            I''
            ∅        _____|_____
                  P''ᵢ          I'
            _____|_____    ___|___
          ?eθ ?uriyyɔ ha-ḥitti   I        V''
                           SUFF      ___|___
                           ↑<↓   N''         V'
                                 pro     ___|___
                                      V'         P''
                                   ___|___    ___|___
                                  V      tᵢ   β-a-ḥɛrɛβ
                                h-√nky
```

(167)

```
         R                    S
    - - - •- - - - - - - - - - - •- - - - -
          |
          •
         / \
        /   \
       •_____•
          E
```
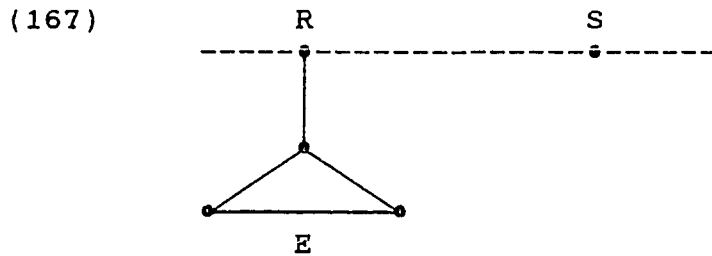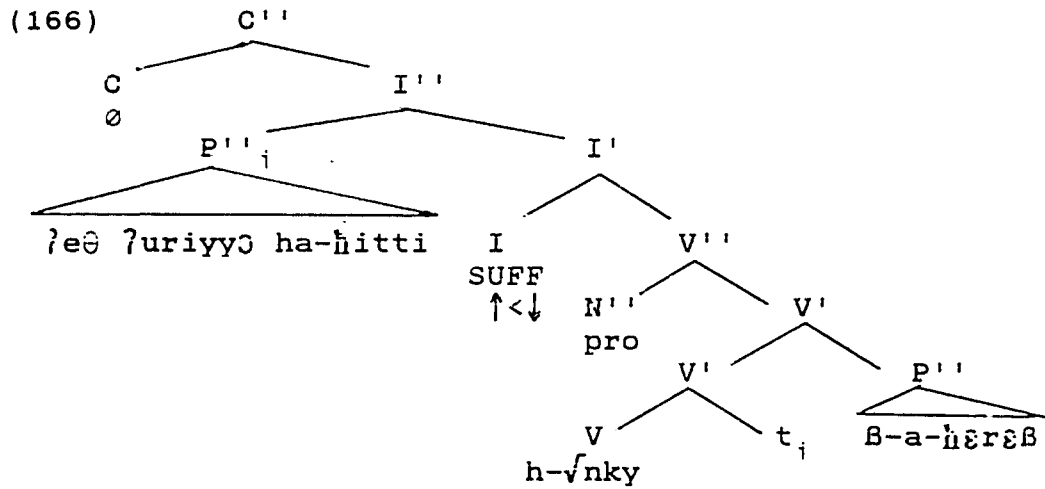
The representation in (166) shows the verb raising by means of the arrow. The difference between the semantic structures in (161) and (167) lies in the bounded structure in (167). The convention with the triangle for the perfective was established in ch. 7 (§7.1.1, (137), 204).

The account so far has been reasonably straightforward. We now come to the complex syntactic and semantic structures involved in clause embedding.

§8.2.2 *SUFF in Subordinate V1*

Two facts regarding the general case of embedding suggest the analysis to be proposed. First, it is generally true that subordinate constructions are V1; and second, it is always the case with V1 subordinate constructions that the finite verbal form is read relative to the time of the higher verb that governs the embedded clause. We will first examine some prototypical V1 subordinate constructions with the relative past tense in (168)-(173) to establish the basic facts.

Past of Past:

(168)   wa-t-tɔšoßnɔ   hɛ-ʕɔrim   ʔašɛr lɔk'əhu
          and-?-PRE2.3fpl√return   DEF-cities   REL SUFF.3mpl√take

          ɸəlištim   me-ʔeθ   yiśrɔʔel
          Philistines   from-ACC   Israel

          "The cities which the Philistines had taken from Israel
          were restored." (1Sam7:14)

(169)   wə-ʔaßšɔlom ʔašɛr mɔšahnu   ʕɔle-nu
          and-Absalom REL SUFF.1pl√anoint   over-us

          meθ   b-am-milhɔmɔ
          SUFF.3ms√die   in-DEF-battle

          "And Absalom whom we (had) anointed over us [as king]
          died in the battle." (2Sam19:11)

Past of Present:

(170)　　ʔoxǝlim　　　　wǝ-šoθim　　　　wǝ-ḥoɣǝɣim
　　　　PRT.mpl√eat　　and-PRT.mpl√drink　and-PRT.mpl√revel

　　　　bǝ-xol　　　　haš-šɔlɔl hag-gɔðol ʔašɛr lɔk'ǝḥu
　　　　over-all　　　DEF-booty DEF-great REL SUFF.3pl√take

　　　　me-ʔɛrɛs'　　pǝlištim
　　　　min-land　　　Philistines

　　　　"[they are] eating and drinking and reveling over all
　　　　the great booty that they took from the land of the
　　　　Philistines." (1Sam30:16)

(171)　　lǝxu　　　　　　šuβu　　　　　　　ʔɛl ham-mɛlɛx
　　　　PRE!.mpl√go　　PRE!.mpl√return　to DEF-king

　　　　ʔašɛr šɔlaḥ　　　ʔɛθ-xɛm
　　　　REL SUFF.3ms√send　ACC-you

　　　　"Go back to the king who sent you." (2King1:6)

Past of "Future":

(172)　　wǝ-hešiβu　　　　　　　ʔɛl libb-ɔm　　　bǝ-ʔɛrɛs'
　　　　and-SUFF.3mpl√return　to heart-their in-land

　　　　ʔašɛr　　nišbu　　　　　　　šɔm
　　　　REL　　　SUFF.3mpl√be.taken　there

　　　　"And if they should have a change of heart while in the
　　　　land into which they (will) have been carried off"
　　　　(1King8:47)

(173)　　nǝhaɣ　　　　　wɔ-lex　　　　　ʔal taʕas'ɔr
　　　　PRE!.ms√drive and-PRE!.ms√go　not PRE2.2ms√restrain

　　　　l-i　　　　li-rkoβ　　　ki ʔim ʔɔmarti　　lɔ-x
　　　　for-me　　to-INF√ride　for if SUFF.1s√say　to-you

　　　　"Drive on! Do not stop riding for me unless I (will)
　　　　have told you!" (2King4:24)

The following account of subordinate constructions is
available under the theory adopted. First, assuming the basic V2
analysis, the V1 constructions can only arise under additional
movement from INFL to COMP, and this movement must be for some
formal reason. Second, we can assume that some relation must
hold between the higher verb structure and the verb-inflection
complex in the embedded clause in order to generate the relative
tense readings. So it would be reasonable to assume that the
subordinate verb is moving to satisfy the formal relation that is
otherwise blocked. The likely source of the blocking of that
relation is COMP, a reasonable assumption in this framework which
includes the Minimality Condition (Chomsky 1986: esp. §§8, 12):
COMP is a "closer governor" of the INFL-V complex of the embedded
clause than is the higher verb, and so the higher verb cannot
directly govern INFL (Cowper 1992a: §§9.4, 12.2.1, esp p. 193).
The verb movement to COMP, deriving the characteristic V1
structure, eliminates the blocking problem, allowing the higher
verb to govern the lower and ensuring the relative tense reading.

It remains to parse an example of the relative tense
subordinate construction and assign it a semantic representation.
The most straightforward example, i.e, with two simple SUFF forms
in (169), is assigned syntactic as well as semantic structures in
(174) and (175).

(174)

```
                        I''
        _____/    \
       /                    I'
                     _____/    _____
                    I                    V''
                  SUFF          _____/    _____
                  ↑<↓          N''                    V'
                               |                   __/  \__
                               N'                 V        P''
                    _____/    _____      √mt    /___\
                   N'                      C''     die   b-am-milhɔmɔ
                   |                    __/   \__         in-the-battle
                   N                   C         I''
                 ʔaßšɔlom           ʔašɛr      _/   \_
                 Absalom            that     I        V''
                                           SUFF     _/   \_
                                           ↑<↓    N''      V'
                                                  pro    _/   \_
                                                       V'        P''
                                                     _/  \_      ʕɔle-nu
                                                    V      N''   over-us
                                                   √mšh    pro
                                                   anoint
```
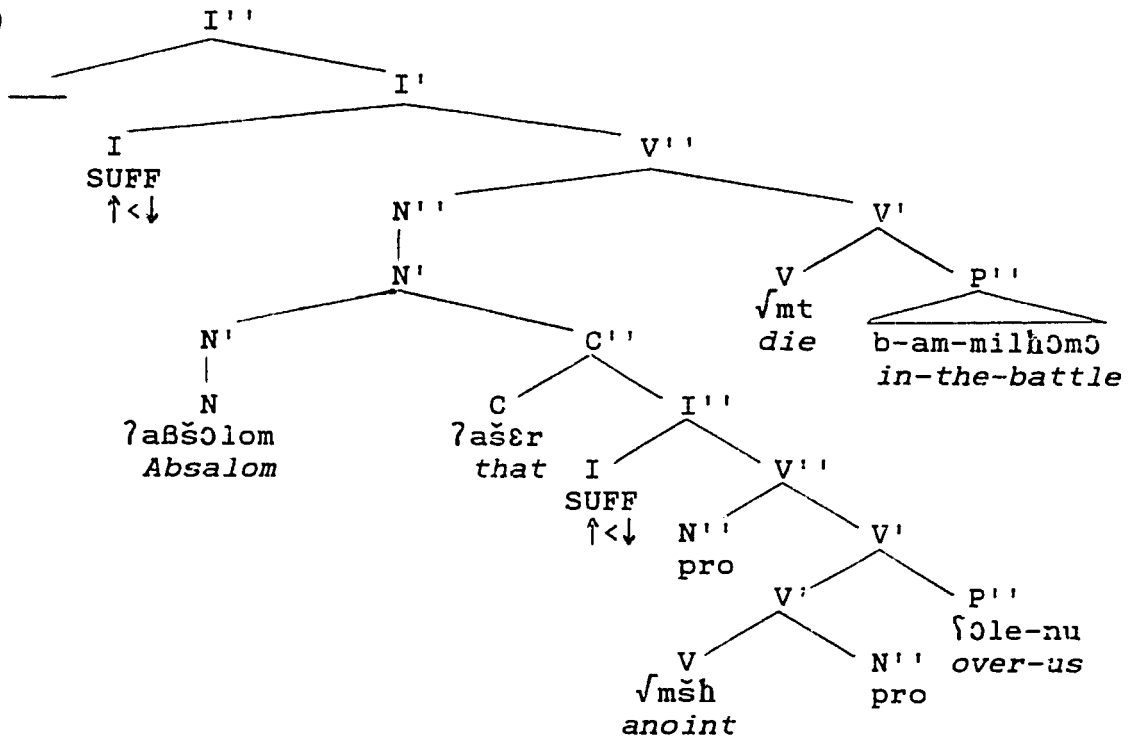
(175)
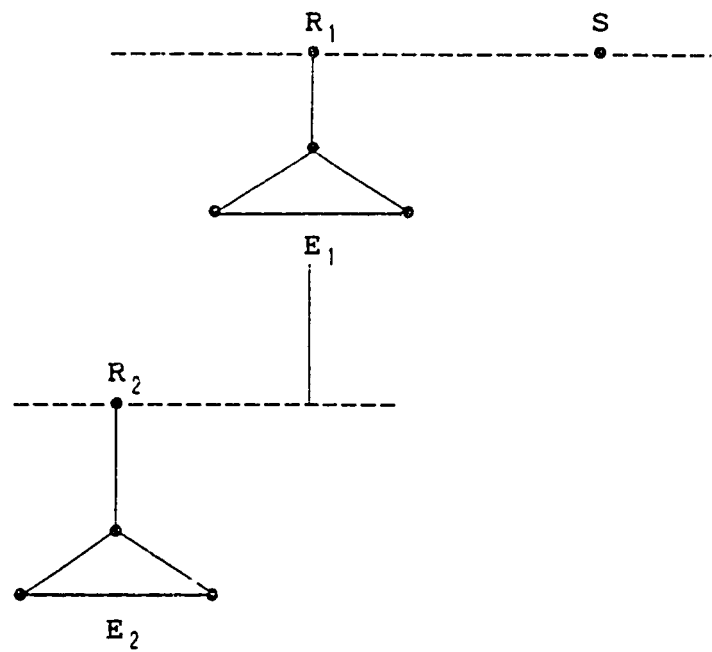
This concludes the most basic outline of the proposal for the Standard Biblical Hebrew verbal system as it applies to the simple past tense, SUFF. In matrix V2 constructions SUFF is read as past tense relative to S (deictic S established by context). Whether SUFF is also read as perfective by the aspectual default mechanism is determined by the overall contour of the event structure derived by composition. In subordination, SUFF is read as past tense relative to the higher event E, and this relative past tense reading is signalled by the derived V1 construction.

§8.2.3 *Formal Difficulties*

There are two types of formal counterexamples: either the verb appears to have moved to COMP contrary to expectation; or the verb apparently fails to move to COMP, again contrary to expectation. The formal framework adopted here also carries with it a method of solving problems. In all such cases, it is "preferable to retain the generalization, if possible" (Cowper 1992a: §2.1, 22).

> By making such a strong claim, we are forcing ourselves to take a much closer look at data that seem to contradict it. Either we will discover that the data can, and should, be analyzed in such a way as to conform to the proposed . . . rule, or we will have to revise the rule. . . . In either case, we will learn something. . . . Without a strong claim, we would have no particular reason to question, or examine more closely, an analysis. . . . (Cowper 1992a: §2.1, 21-22)

If therefore the verb is not expected to move, then it did not. If the verb failed to move, then it was not required to do so. The two cases are now briefly considered.

8.2.3.1 *Zero Topicalization.* The first point to realize is that claims on strict V2 ordering will have to be relaxed in the case of sentences consisting of a lone conjugated verb. The two very common cases found in the corpus are *ḥɔt'ɔθi* "I (have) sinned" and *yɔ̃aʃti* "I know (that...)." Since there is absolutely no reason to assume movement, we should assume instead that nothing has moved to spec-I''. This state of affairs we will term "zero topicalization." The syntactic structure for zero topicalization is presented in (176).

(176)
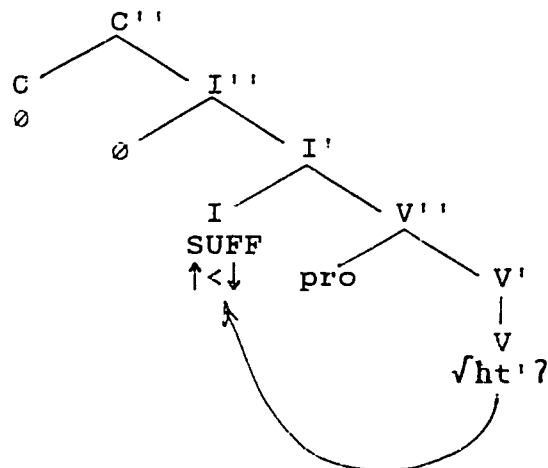
This analysis of zero topicalization establishes a precedent: the default parsing of a finite verbal form is a positioning at I, movement to C must be clearly signalled.

8.2.3.2 *Licensed Zero Topicalization.* It is possible that formal cues can ensure an indicative reading (verb at I) and so neutralize the V2-V1 contrast in matrix clauses. In such cases, variation is permitted; and one would assume that a V2-V1 contrast would have some pragmatico-discourse effect. In the cases of free variation with the complementizers *ha-* Q or yes/no question (patterns with *ha-lo-* rhetorical "is it not the case?") and *hinne* "see, behold," such indeed appears to be a plausible solution. Examples of the contrast follow.

ha- V1:

(177)   ha-βɔ   ʕoð halom   ʔiš
           Q-SUFF.3ms√come   yet hither   man

           "Has the man come here yet?" (1Sam10:22)

(178)   ha-ʔɛʕɛlɛ   ʔɛl pəlištim
           Q-PRE1.1s√go.up   to Philistines

           ha-θittən-em   bə-yɔð-i
           Q-PRE1.2ms√give-them in-hand-my

           "Should I go up [to attack] the Philistines? Will you
           give them into my hand?" (2Sam5:19)

ha- V2:

(179)   ha-ʔattɔ   tiβnɛ li-i   βayiθ lə-šiβt-i
           Q-you   PRE1.2ms√build for-me   house to-INF√dwell-my

           "Are you the one to build me a house to dwell in?"
           (NIV, 2Sam7:5)

(180)   ha-mib-bθli   ʔen ʔɛlohim   bθ-yisrɔʔel   ʔattɛm
               Q-from-want.of lack god   in-Israel   you

               holθxim   li-ðroš bθ-ßaʕal zɛßuß ʔɛlohe ʕɛk'ron
               PRT.mpl√go   to-INF√seek in-Baal Zebub god Ekron

               "Is it for want of a god in Israel that you are going
               to inquire of Baal Zebub the god of Ekron?" (2King1:3)

hinne V1:

(181)   hinne   nɔθan   YHWH ʕale-xɛm mɛlɛx
               see   SUFF.3ms√give YHWH over-you king

               "See! the Lord has appointed over you a king."
               (1Sam12:14)

(182)   wθ-hinne   k'ɔmɔ
               and-see   SUFF.3fs√arise

               xɔl-ham-mišpɔhɔ   ʕal šiɸhɔθ-ɛxɔ
               all-DEF-clan   against servant-your

               "See! the entire clan has risen up against your
               servant." (2Sam14:7)

hinne V2:

(183)   hinne   ʔattɔ   zak'antɔ
               see   you   SUFF.2ms√grow.old

               "See!   You are now old." (1Sam7:5)

(184)   hinne   ßi-hyoθ hay-yɛlɛð   ħay
               see   in-INF√be DEF-child   alive

               dibbarnu   ʔel-ɔw
               SUFF.1pl√speak   to-him

"See! While the child still was still alive, we spoke to him..." (1Sam12:18)

The proposal is that the first clause in (178) and the example in (183) be parsed as follows.

(185)

```
              C''
            /    \
        C          I''
        ha-      /    \
         Q     ∅        I'
                      /    \
                    I        V''
                  /  \      /   \
                 I    V_i  N''     V'
              ʔɛʕɛlɛ       pro   /    \
              go up            V'      P''
                               |      /  \
                               t_i   /____\
                                    ʔɛl pəlištim
                                    to Philistines
```

(186)

```
          C''
        /    \
     C         I''
   hinne     /    \
   see     N''_j     I'
          ʔattɔ    /    \
          you    I        V''
                / \      /   \
               I   V_i  t_j    V'
           zak'antɔ            |
           grown old          t_i
```
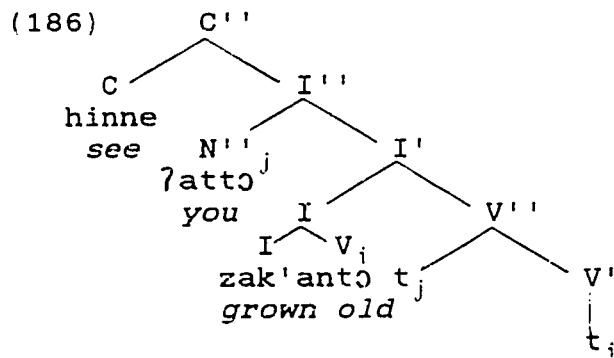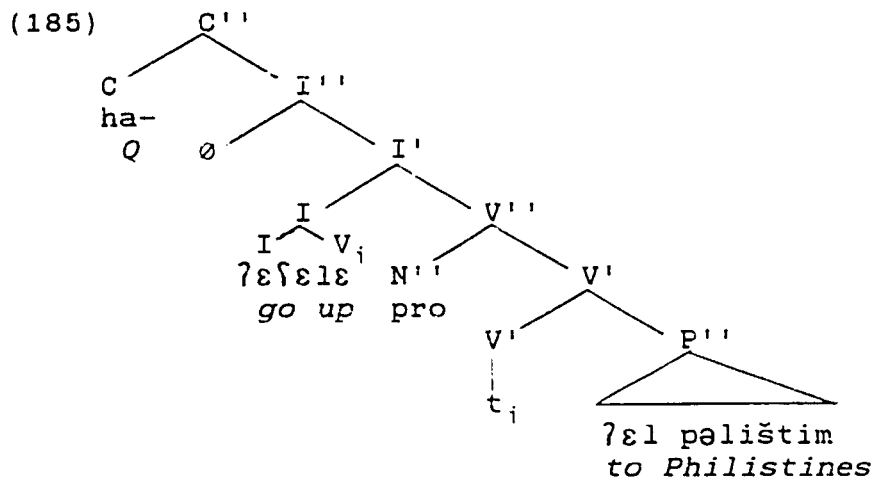

Taking the several cases together, the V1 construction is statistically prevalent and apparently pragmatically unmarked. Those cases of V2 generally are understood to select the

topicalized element for special attention, either questioning

(*ha-*) or highlighting (*hinne*), and frequently are best translated

with the so-called cleft construction in English, e.g., (180)

above.

It is possible, therefore, to relax the strict V2 claims in

the specific, well-defined environments above without abandoning

the V2-V1 generalization in matrix clauses. However, we need not

relax the V2 constraint in the case where verb movement

apparently fails, as is now explained.

8.2.3.3 *Coordinating COMPs*. After subordinating conjunctions

or "complementizers" V1 ordering generally obtains and the tense

of the embedded verb is read relative to the higher tense. We

always find that this is the case following *pɛn* "lest,"

(bə-)t'ɛrɛm "before," *ʔulay* "maybe," and the general relative

particle *ʔašɛr*, with the exception of one idiom (1Sam3:11,

2King21:12, 2King22:13). (There are also of course the many

combinations of preposition or nominal + *ʔašɛr*.) On the other

hand, there is considerable variation following *ʔim* "if/when" and

especially following *ki* "because/when."

Two observations point straightforwardly to a solution.

First, the V2 constructions with *ki* and the V1 with *ʔim* have a

restricted distribution. For instance, *ki* V2 must always follow

the clause that it modifies; such constructions can never be

fronted or "topicalized" (V1 always obtains in this case).

Second, in cross-linguistic perspective, the two COMPs in

question have properties that suggest a solution along these lines: in the V2 constructions, the COMPs are playing a coordinating rather than a subordinating role.

In Palmer's treatment of mood (1986), he offers the following explanation.

> it was suggested that a complement clause can, in principle, usually be recognized because it is an essential, often obligatory, element of the main clause. This basic test is not available in the case of oblique clauses because, since they are rather like adverbs or adjuncts, they are often inessential or optional elements of the main clause. It is not always possible, therefore, to distinguish them from quite independent clauses, though there are often language-specific markers. . . .
> There is no general way of deciding whether a particular conjunction is being used for subordination rather than coordination. This is easily illustrated from English, where there is no way of distinguishing the following pairs, though each member is traditionally interpreted in terms of subordination and coordination respectively:

> John came although Mary stayed away

> John came, but Mary stayed away

> He ran away because he had been seen

> He ran away, for he had been seen

> Meaning is of no help here either, since the first two make a very similar kind of contrast, while the second pair both give reasons. It might be argued that a clause with *although* and *because* never stands alone,

but that is true only of the written form,
which merely reflects the traditional view
that these are subordinating conjunctions;
the argument is, therefore, circular.
(Palmer 1986: §5.1: 172-173)

The phenomenon Palmer is grappling with is not restricted to English. Siewierska also notes the shift in German; her example is given as (187) (Siewierska 1988: 90, (2.136)). Note the concomitant word order variation: (187a) V2 as matrix, (187b) verb-final (mark of subordination in German).

(187)　　　(a)　*Er ist weggelaufen, denn er hatte Angst.*
　　　　　　　 He ran away because he was afraid.

　　　　　　(b)　*Er ist weggelaufen, weil er Angst hatte.*
　　　　　　　 He ran away because he was afraid.

The difference between Biblical Hebrew and these two Germanic languages is Hebrew's impoverished complementizer inventory. But word order appears to make up the deficiency. Assume that *ki* subsumes both *denn* and *weil* or *for* and *because*, but distinguishes the two by word order just as in (187). This assumption is not, as far as I can tell, contradicted by the corpus of Samuel- Kings. Often the break occasioned by *ki* V2 is quite clean as indicated in (188) and (189).

(188)　　　ʕɔśo　　　　han-naħal haz-zε　　geβim geβim
　　　　　　INF2√do　　DEF-valley DEF-this ditches ditches

　　　　　　ki xo　　　ʔɔmar　　　　YHWH...
　　　　　　for thus　SUFF.3ms√say　YHWH...

"Make this valley full of ditches. For thus said the
Lord. . . " (2King3:16-17)

(189)   šeβ nɔ φo   ki   YHWH šəlɔḥ-ni
           PRE!.ms√stay please here for   YHWH SUFF.3ms√send-me

           ʕað beθ=ʔel
           to Beth=El

           "Stay here, for/as the Lord has sent me to Bethel."
           (2King2:2)

Notice that on this scenario, the V2 clauses would have

independent reference to S, i.e., their temporal interpretation

would not be subordinated to that of the clause it modifies. It

is hard to see how we might test this with the Biblical data.

But the relative-absolute split is found Japanese, which in

virtually all respects patterns with Biblical Hebrew with regard

to tense-aspect. Nakau provides the following list of Japanese

COMPs with roughly the range of Hebrew *ki* and *ʔim*: class (a) has

independent tense reference corresponding to Hebrew V2, (b)

induces relative tense corresponding to Hebrew V1.

(190)   *class a:*

           node "because", *kara* "because", *nara* "if", *ga* "but",
           keredomo "although", *noni* "although", *to* "if"

           class b:

           mae (ni) "before", *ato (ni/de)* "after", *made* "until",
           made ni "before/by", *uti ni* "before/while", *to* "when",
           toki (ni) "when" *aida (ni)* "while", *ya-ina-ya* "as soon
           as", *totan (ni)* "as soon as", *ta-ra* "if/when", *kekka*
           "as a result".   (Nakau 1976: §2, 434)

Notice the locative *ni* in class (b) corresponding to Hebrew

prepositions in compound COMPs; e.g., *made (ni)* and Hebrew

(bə-)tɛrɛm "before." Also, notice especially how *to* is found in

both lists corresponding to *ʔim*.

A full treatment of this phenomenon deserves an independent

study. The point here is that a solution is available that does

not force us to abandon the generalization on V2-V1. (The

anomaly of V2 objects of √ydʕ "know" is treated at §8.2.4.2.3

below.) A similar strategy is available to deal with variation

after the verb √ʔmr "say."

8.2.3.4 *Saying (That)*. There is a marked preference for V1

constructions following √ʔmr (both as SUFF and INF), and this

conforms to expectations based on other verbs of reporting. An

example with the common lexeme h-√ngd "report" is given in (191)

and parsed in (192); notice the relative tense involved in

(191).

(191)   wa-y-yuggaδ   li-šlomo   ki hɔlax
          and-ʔ-PRE2.3ms√reported   to-Solomon   that SUFF.3ms√go

          šimʕi   mi-rušɔlayim   gaθ
          Shimei   from-Jerusalem   Gath

          "And it was reported to Solomon that Shimei had gone
          from Jerusalem to Gath . . . " (1King2:41)

(192)
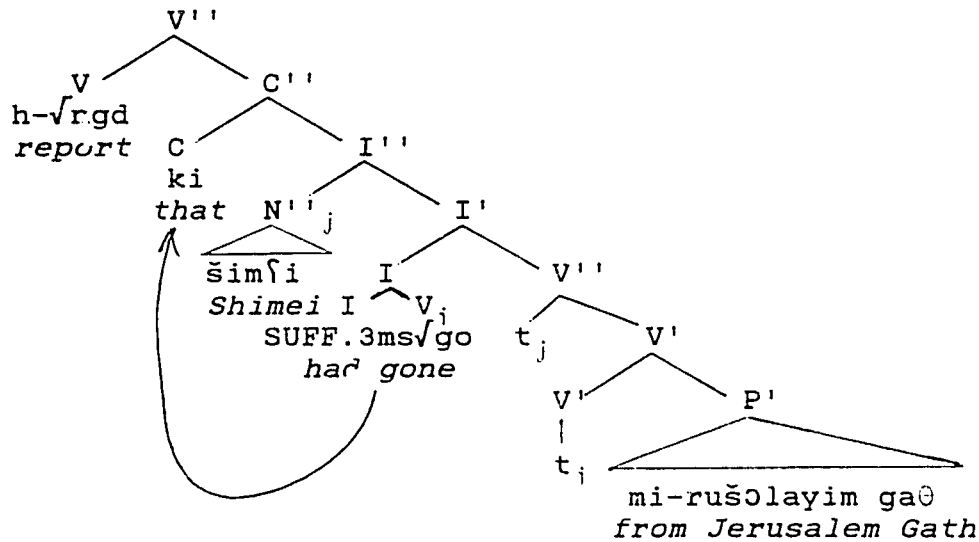
The simplest explanation in this light is that following
√ʔmr the finite verb raises to a phonologically null COMP
selected by √ʔmr. It would follow that in the cases of V2 the
verb is not raising to COMP under government by √ʔmr. The V2
clauses therefore have independent temporal reference. The most
likely explanation in this case is that the V2 construction
represents quoted vs. reported speech: saying "X" vs. saying
that X. The example in (193) would therefore be a direct
quotation on this view.

(193)   wa-y-yomɛr   ʕað hennɔ ʕazɔrɔ-nu YHWH
         and-ʔ-PRE2.3ms√say   to here   SUFF.3ms√help-us YHWH

         "And he said, 'The Lord has helped us so far.'"
         (1Sam7:12)

§8.2.4 *Semantic Mismatches:*
"Preterite-Presents" and Performatives

We have already dealt with the major argument in favour of a tenseless analysis, not only of Biblical Hebrew but of all so-called tenseless languages, viz. the wide range of values of the past tense in subordination (§8.2.2). It can be demonstrated that the variation is systematic: always past relative to the main verb. There is a second major argument that is invoked in the analysis of "tenseless" systems: past-nonpast mismatches (recall §1.2.2.1).

The past-nonpast mismatches come in two varieties: 1) idiomatic-pragmatic; and 2) lexical. The first sort was presented in §1.2.2.1: e.g., Japanese *aa, dekita dekita*, lit. "oh, got done, got done!" for "It's coming!". Japanese also has several lexical mismatches: *wakatta* "I see" (past of *wakar-* "know") or *aa, nodo ga kawaita* "Oh, am I thirsty" (lit. "throat has dried" [Soga 1983: (23b), 58]); cf. Russian *ya ustal*, "I'm tired" (lit. the process "I have become tired.").

The list of counterexamples to the past tense analysis of Biblical Hebrew SUFF fall under one of these two rubrics. Some major classes are now examined by way of explanation.

8.2.4.1 *Idiomatic Mismatches: Thus Says the Lord.* We begin with a common idiomatic mismatch as a token of the sort of pseudo-problems frequently encountered. In Biblical Hebrew, the messenger uses the phrase *ko ʔɔmar YHWH* (i.e., SUFF.3ms√say) in reporting verbatim. In English translation we obtain "Thus says

the Lord."

In fact, the problem here has its source in the English idiom (simple present as performative). The Standard Biblical Hebrew is much more accurate and logical: God/king spoke to X, X reports what God *has said* (relative to the time of reporting). This sort of pseudo-problem is no grounds for abandoning a tense analysis of Biblical Hebrew.

8.2.4.2 *Lexical Representations.* In ch. 7 we introduced the notion of an event-internal contour or time-line, and noted that lexical representations of verbs contribute much to the derivation of compositional aspect or *Aktionsart*. It would appear that one of the parameters required for universal grammar is the choice of that portion of the internal time-line of dynamic-resultative events to be lexicalized.

We quickly review the proposal regarding such event structures and then apply the notion to the several examples of lexical mismatch in Biblical Hebrew. The example used here is the Russian *ya ustal* "I'm tired." Consider an abstract representation of the dynamic-resultative event structure in (194).

(194)   *TIRE:*

    -------------------●-----------------●----------------

        NOT-TIRED   TRANSITION   TIRED
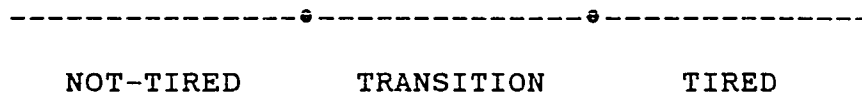
Russian like Biblical Hebrew has no perfect construction
(either of the *be V-en* or *have V-en* variety); Russian like
Biblical Hebrew employs the past tense and derives the resulting
state as a strong implicature. Notice that the difference
between the Russian and English strategies is that the
implicature is defeasible, and this is important in the
understanding of such phenomena. This in turn means that such
past tenses are always ambiguous between past and present
interpretation, and indeed in cross-linguistic perspective this
is what we find generally.

The working assumption is that the Biblical Hebrew lexemes
involved in such mismatches actually encode the transition from
not-X to X. They are not, therefore, equivalent to the
corresponding adjectives encoding X, though the difference can be
subtle (vs., e.g., Isaksson 1987[67]).

8.2.4.2.1 *Verbs of Motion*. Standard Biblical Hebrew differs
systematically from English along the following lines. In
Biblical Hebrew, an object X comes to be positioned at Y (past
tense, resulting position as implicature); whereas, in English
we prefer to say that the object X is now at Y (present tense).
Several examples are given in (195)-(197) to clarify the
difference.

---

[67]"We conclude that there are two ways of expressing static
conditions in Semitic, with little difference in meaning between
them" (Isaksson 1987: §1.2, 24).

(195)   wa-y-yoməru   nɔħɔ   ruaħ ʔeliyyɔhu
         and-?-PRE2.3mpl√say   SUFF.3fs√rest   spirit Elijah

         ʕal ʔɛlišɔʕ
         on Elisha

         "And they said, the spirit of Elijah is resting (NIV)
         on Elisha." (2King2:15)

         Hebrew: has come to rest (and now in resting position)
         English: rests/is resting

(196)   wə-lɔxen   ko ʔɔmar   YHWH   ham-mitt'ɔ
         and-therefore   thus SUFF.3ms√say YHWH   DEF-bed

         ʔašɛr ʕɔliθɔ ššɔm   lo θereδ   mimmɛn-nɔ
         REL SUFF.2ms√ascend there not PRE1.2ms√get.down from-it

         "And therefore, thus says the Lord, 'As for the bed
         that you are lying on (NIV), you will never get up from
         it.' " (2King1:4)

         Hebrew: mounted, ascended (and now on top)
         English: lying on, be on

(197)   u-šne-hɛm   ʕɔməδu   ʕal hay-yarden
         and-two-them   SUFF.3mpl√stand   at DEF-Jordan

         "[where] the two of them [i.e., Elijah and Elisha] were
         standing at the Jordan." (2King2:7)

         Hebrew: take up standing position (and now standing)
         English: be standing

8.2.4.2.2 *Statives as Bounded Transitions.* The bounding of the

perfective, whether the derivational Slavic-Greek type

encountered in ch. 6 or the default perfective of the vast

majority of the world's languages, when combined with a true

stative or an activity can induce an ingressive-accomplishment
reading:

> the combination of perfectivity and stativity
> can only have a rather restricted semantic
> range--reference to a state with its
> inception and termination. . . (Comrie 1976:
> 50-51).

Thus in a variety of languages including, e.g., creoles and
Mandarin in which stems are "verbals," i.e., potentially both
verb and adjective, we get the following contrast (from creole
French): *mur* "is ripe" (adj.) vs. *te mur* "has ripened, i.e., is
ripe" (verb with past tense); cf. Mandarin *tā gāo* "he is tall"
vs. *tā gāo-le* "he became tall, has become tall" (Comrie 1976: 20;
cf. 58). Thus the "anterior" or past tense forces the dynamic
reading with the resulting state as an implicature.

Biblical Hebrew abounds in such "statives." Some of the
more salient examples from the corpus include √ḥzk' "strong,"
√ḥly "weak, ill," √zk'n "old" and √k'šy "difficult, heavy." We
simply assign them the lexical representations of the transition
between states. There is no difference in principle between
Standard Biblical Hebrew usage and the representative Japanese
example *aa, nodo ga kawaita* "Oh, am I thirsty" (lit. "throat has
dried").

8.2.4.2.3 *Verbs of Cognition*. Perhaps the second most popular
counterexample to the past tense analysis of SUFF is the
systematic mismatch in verbs of cognition, the parade example of
which is √ydʕ "know." An explanation of this parade example

extends to the whole class, which in the corpus includes √ḥps' "will, want" √śnʔ "hate," and √ʔhb "love."

We know that there is considerable cross-linguistic variation in the treatment of verbs of perception: they can be treated either as statives (true state ————) or as dynamic achievements (●-●) (Comrie 1976: 35). Thus we obtain in English a contrast between stative *know* and achievement *realize, i.e., come to know* (cf. Comrie 1976: 20). Similarly, in the treatment of tense-aspect in Kikuyu Johnson writes,

> with an inchoative event such as coming to know something, a verb stem may refer either to the change of state (as in English *realize*), or to the resulting state (as in English *know*). (Johnson 1981: 153)

In Japanese, achievements are read as perfects in the form *V-te* (otherwise, the form is ambiguous as to progressive or perfect). "I understand" in Japanese is *(watasi wa) wakat-te iru* (not "I am understanding"; Soga 1983: 59, 62).

To obtain an adequate analysis of Hebrew √ydʕ we need only make the simple assumption that Hebrew like many other of the world's languages treats verbs of perception dynamically as achievements (●-●) rather than states: *coming to know*, or *realize* vs. stative know.[68] On this view, the ensuing state of knowing at some point S is an implicature and not part of any

---

[68] This is apparently one major difference between ancient and modern varieties of Hebrew: according to native speakers, "know" is a stative rather than dynamic event in Modern Hebrew.

semantic representation (and so can be overridden, e.g., in narrative prose[69]). And thus, the systematic tense mismatch follows:

> gam ʔani yɔõaʃti   "I myself know" (2King2:3)
> even I SUFF.1s√know
>
> ha-yɔõaʃtɔ ki. . .   "Do you know that. . ." (2King2:3).
> Q-SUFF.2ms√know that

It is probably no coincidence that the single exception to the V1 rule in complements involves √ydʕ, and the reason is intuitively clear if in fact relative tense correlates with V1. We want the truth of the complement evaluated independently at the moment of speech, not at the backshifted reference point of the higher verb of cognition: hence the V2 ordering of the complement of √ydʕ.

8.2.4.3 *Pragmatic Mismatches: Performatives.* There does not appear to be any special form of the verb in the world's languages for the performative (of course, it should go without saying that the forms are always first person); there is no constant in terms of tense, mood or aspect, and upon reflection there is no reason why there should be if the utterance is the performance.

---

[69]Similarly, *wakatta* is ambiguous between past and present. The implicature can be lost in *kinoo wakatta* "(I) came to know about (it) yesterday." The form is always ambiguous: "It refers to the present state on the one hand, and to the past event on the other" (Soga 1983: §2.2.2, 59-60).

We have already anticipated the problem of performatives in noting the tense mismatch in the reporting of messages (§8.2.4.1). Indeed, we anticipated the problem in the opening pages of the introduction (§1.2.2.1, especially the Japanese data). Before we examine the Hebrew phenomenon, we should first be explicit about a definition of *performative*.

The term *performative* is associated with the name Austin; his own definition runs as follows.

> all [examples to be considered] will have, as it happens, humdrum verbs in the first person singular present [in English] indicative active. Utterances can be found, satisfying these conditions, yet such that
>
> A. they do not 'describe' or 'report' or constate anything at all, are not 'true or false'; and
> B. the uttering of the sentence is, or is a part of, the doing of an action, which again would not *normally* be described as, or as 'just', saying something.
>
> This is far from being as paradoxical as it may sound or as I have meanly been trying to make it sound: indeed, the examples now to be given will be disappointing.
>
> Examples:
> (E.*a*)   'I do (sc. take this woman to be my lawful wedded wife)' --as uttered in the course of the marriage ceremony.
> (E.*b*)   'I name this ship the *Queen Elizabeth*'--as uttered when smashing the bottle against the stem.   .   .   .
>
> What are we to call a sentence or an utterance of this type? I propose to call it a *performative sentence* or a performative utterance, or, for short, 'a performative'. (Austin 1975: 5-6)

The performative so defined certainly comes within the range

of phenomena described by Laude-Cirtautas as triggering the past

tense for present (noted in ch. 1 and repeated here).

> (a) [the event] will take place immediately
> or in the nearest future if the speaker so
> urgently desires or fears the result of the
> action that the action itself is considered
> already fulfilled

> (b) [or is an event] which takes place in the
> present if the speaker attaches strong
> sentiments to it.

> *It is understandable that in these instances*
> *the usage of the past tense is confined to*
> *direct discourses (dialogues):   the loud,*
> *emphatic voicing of an action is considered*
> *part of its execution and manifestation!*
> (Laude-Cirtautas 1974: 152, emphasis mine).

It suffices now to provide examples of the Biblical Hebrew

performative in (198)-(200); notice that all cases are of course

in the first person in either direct or indirect discourse,

usually with God as the speaker, but other authority figures

(e.g., a king) will do.

(198)   kol ʔašɛr   hɔyɔ   lə-šɔʔul ...
         all REL   SUFF.3ms√be   to-Saul ...

         nɔθatti   lə-βɛn ʔaðonɛ-xɔ
         SUFF.1s√give   to-son master-your

         "All that belonged to Saul . . . . , I hereby give it to
         the grandson of your master." (2Sam9:9)

(199)   ki βa-YHWH   nišbaʕti   ki ʔen-əxɔ yos'e
         for by-YHWH   SUFF.1s√swear that lack-your PRT.ms√go.out

"For by the Lord I swear that if you [do not] go
out..." (2Sam19:8)

(200) ?ɔmarti   ?attɔ wə-s'ißɔ
      SUFF.1s√say   you and Ziba

      tahlək'u   ?3θ haś-śɔ̃ɔ̌ɛ
      PRE1.2mpl√divide   ACC DEF-field

"I command you and Ziba to divide up the fields."
(2Sam19:30)

In fact, the performative reading is defeasible, and we can

find paired examples of past vs. performative. The simple past

tense reading of "swear," e.g., can be found in the following.

(201)   ki ka?aš̌ɛr nišba̒ti   lɔ-x   ba-YHWH
        for just.as SUFF.1s√swear   to-you   by-YHWH

"for just as I have sworn to you by the Lord..."
(1King1:30)

§8.2.5 *Summary*

This then concludes the treatment of Standard Biblical

Hebrew SUFF as simple past tense. In the matrix V2 construction

SUFF is read as past tense, translated by the English past tense

or perfect constructions. The perfective reading is obtained

through the posited default mechanism; the perfective reading is

not found with unbounded event structures. In V1 subordinate

constructions, SUFF is read as past relative to the reference

point of the higher event.

Some formal and semantic difficulties with this first

approximation were noted, and plausible avenues of explanation were suggested. Of special interest were the past-nonpast mismatches. The key to this phenomenon, it was suggested, was the lexical representation of verbal aspect for classes of "statives": bounded transitions to a resulting state. The pragmatic rather than the semantic treatment of performatives was also offered (Austin 1975; cf. Blakemore 1992, esp. §6.2 "Performatives," 95-100).

The formal and semantic difficulties have now been dealt with at length in the discussion of the past tense or SUFF. We can now assume that similar problems arise with the other tenses and that they receive the same treatment. Any deviations or added complications will be examined under the relevant tense. We now proceed to the treatment of Standard Biblical Hebrew PRE1 as simple present tense.

§8.3 THE SIMPLE PRESENT TENSE

The simple present tense of a perfective default language sounds at first like a paradox. The event is true at the moment of speech but is not actually occurring at the moment of speech. However, we have plenty of living languages to fall back on in considering the semantics of such a form. The default reading of *I eat* or Japanese *taberu* is a generic or timeless or habitual truth. Secondarily, such a form has various modal uses, especially future tense in Japanese; and it is also well suited

to carrying the story line in a narrative.[70]

The semantic representation of the simple present in English and Japanese shown in (202) is that proposed here for the Standard Biblical Hebrew PRE1.

(202)　　　(a) *unbounded*　　　　　(b) *bounded*

```
           R=S                        R=S
     -----●-----              -----●-----
          |                         |
          |                         ●
          |                        / \
     ----------              ●----------●
          E                        E
```

It follows from the representations in (202) that there is an asymmetry in the interpretation of bounded and unbounded events structures, and this is in fact the correct prediction for English, Japanese and other such systems. In Standard Biblical Hebrew, such verbs as √hyy "be" and √ykl "can, be able" will be assigned the representation in (202a).

The use of PRE1 in Standard Biblical Hebrew conforms to the general proposal here; the main uses are listed in (203).

---

[70]The insightful point made in such discourse study of tense-aspect as that by Hopper (1979, 1982b) is that it is the perfective aspect that carries the story line and the imperfective that is background. On this view, both SUFF and PRE1 are suited to carry the story line. As we will see, the progressive in PRT is prototypically backgrounding as would be predicted.

(203)	INDICATIVE	(a)	GENERIC	she arrives
		(b)	NARRATIVE PRESENT	she arrives = she arrived
	MODAL	(a)	IRREALIS	if she arrives when she arrives before she arrives
		(b)	EPISTEMIC/ DEONTIC	she must arrive she will[71] arrive she can/must/etc. arrive

Biblical Hebrew like Japanese and many other systems does not have the expressive power of the modal auxiliaries of, e.g., English or Marathi. Of the four uses listed, the last, epistemic (knowing) and deontic (desiring) modality, is in any case in the minority, and the choice of the English modal in translation is determined by context and English usage. We now briefly examine these four uses.

§8.3.1 *Generic Present*

Of the four uses, the most frequently encountered value of PRE1 in matrix V2 clauses is the generic or timeless truth, several salient examples of which are now provided.

---

[71]There is a persistent misconception that English *will* represents a "future" tense. It can easily be shown that *will* has a variety of other uses. In passing, we can add that in English the general "future" is passing to the *be going to V* construction (unremarkable in light of Bybee *et al.* 1994).

(203) ʕal ken lo yiðrəxu   xohane ððɣon . . .
       on thus not PRE1.3mpl√tread priests Dagon

       ʕal miɸtan ððɣon bə-ʔašdoð   ʕað hay-yom haz-zɛ
       on threshold Dagon at-Ashdod until DEF-day DEF-this

       "For this reason the priests of Dagon . . . do not
       tread on the threshold of [the temple of] Dagon at
       Ashdod to this day." (1Sam5:5)

(204) ki lo ʔašɛr yirʔɛ   hɔ-ʔɔððm
       for not REL PRE1.3ms√see   DEF-man

       ki hɔ-ʔɔððm   yirʔɛ   l-a-ʕenayim
       for DEF-man   PRE1.3ms√see   with-DEF-eyes

       wa-YHWH   yirʔɛ   l-al-leßɔß
       and-YHWH   PRE1.3ms√see   with-DEF-heart

       "For not as man sees [does the Lord see]; man sees
       only what is visible, but the Lord sees into the
       heart." (JPS, 1Sam16:7)

(205) ʕal ken yoməru   ha-ɣam šɔʔul b-an-nəßiʔim
       on thus PRE1.3mpl√say   Q-also Saul among-DEF-prophets

       "For this reason do they say, 'Is Saul also among the
       prophets?'" (1Sam19:24)

(206) hinne lo yaʕaśɛ   ʔɔß-i   dɔßɔr gɔðol
       see not PRE1.3ms√dc father-my thing great

       ʔo dɔßɔr k'ɔt'on wə-lo yiɣlɛ   ʔɛθ ʔɔzn-i
       or thing small and-not PRE1.3ms√reveal ACC ear-my

       "See! My father does nothing great or small without
       telling me." (1Sam20:2)

(207) kaʔašɛr yomar   məšal hək'-k'aðmoni
       just.as PRE1.3ms√say   saying DEF-ancient

       me-rəšoʕim   yes'e   rɛšaʕ
       from-evil.ones   PRE1.3ms√ɣɔ.forth   evil.deed

       "Just as the ancient proverb says, 'From evildoers comes evil deeds.'" (1Sam24:14)

§8.3.2 *Narrative Present*

The PRE1 form can be employed in Standard Biblical Hebrew prose narrative in two ways. First, it can carry the story line as in, e.g., 1Sam1:1-20, 1Sam2:12-26, or the short vignette in 2Sam12:3-4. Two examples follow.

(208) wə-xen yaʕasɛ   šɔnɔ ßə-šɔnɔ....
       and-thus PRE1.3ms√do   year in-year

       "And so it went on year after year." (1Sam1:7)

(209) ken taxʕis-ɛn-nɔ   wa-t-tißkɛ
       thus PRE1.3fs√provoke-her   and-ʔ-PRE2.3fs√cry

       "Thus she provoked her until she cried." (1Sam1:7)

The PRE1 form can also be used in the sort of narrative tense-mixing found, e.g., in Japanese and Korean, to supply background, general or summary statements; since the past tense is already established, the nonpasts are properly interpreted (Soga 1983: appendix §2, esp. 218-219). Such usage is much rarer

in the corpus: e.g., 2Sam12:31 *yaʃaśɛ* PRE1.3ms√do "did";

1King3:4 *yaʃalɛ* PRE1.3ms√offer.up "offered up." Such usage is

frequently encountered with *ʔɔz* "then," e.g., 1Sam6:3, 1Sam20:12;

notice the contrasting pair in 2Sam5:24 with both SUFF and PRE1

with the shift in temporal interpretation.

§8.3.3 *Irrealis*

Many of the so-called "future tense" interpretations of PRE1

are derived by composition with a complementizer that is

inherently irrealis. Examples with *pɛn* "lest," *ʔulay*

"perhaps,"[72] *bət'ɛrɛm* "before, not yet," *ʃaδ (ʔaśɛr)* "until" and

ʔim "if, when."

(210)   hiθhazzək'u... pɛn taʃaβδu   l-ɔ-ʃiβrim
              PRE!mpl√strong lest PRE1.2mpl√serve   to-DEF-Hebrews

              "Be strong. . . , lest you become subject to the
              Hebrews." (1Sam4:9)

(211)   ʔulay yɔk'el   ʔɛθ yɔδ-ɔ   me-ial-xɛm
              perhaps PRE1.3ms√lift   ACC hand-his   from-on-you

              "Perhaps he will lift his hand from you." (1Sam6:5)

(212)   gam bə-t'ɛrɛm yak't'irun   ʔɛθ ha-helɛβ
              even before PRE1.3mpl√burn   ACC DEF-fat

---

[72]There are grounds for considering *ʔulay* an independent
X'', but this does not affect the point here, viz. that the
source of the irrealis reading is not the verbal form PRE1, but
rather other elements in the clause.

"Even before they burn(ed) the fat." (1Sam2:15)

(213) ʕaδ ʔašɛr ʔeδaʕ   ma yyaʕaśɛ li-i ʔɛlohim
       until REL PRE1.1s√knc·ɪ ɪvhat PRE1.3ms√do for-me god(s)

       "until I learn what God will do for me." (1Sam22:3)

(214) ʔim roʔo θirʔɛ   bɔ-ʕɔni ʔamɔθ-ɛxɔ
       if INF2√see FʌE1.2ms√see at-misery servant-your

       "If you look upon the misery of your servant..."
       (1Sam1:11)

In (21ʊ)-(214) we simply invoke the compositional approach
to tense-aspect introduced in §§3.1-3.2: not everything is to be
attributed to the verbal form; tense-aspect readings are derived
over the clause as a whole by composition. The remaining fourth
case falls under the rubric of pragmatics and contextual
interpretation treated in §3.4.

§8.3.4 *Epistemic and Deontic Modality*

No language save the artificial Esperanto has a future tense
that is not subject to decomposition into irrealis and/or nonpast
and/or perfective aspect. Most languages do just fine with the
nonpast covering both present and "future"; and this would
follow from the generative model of tense put forward in ch. 7.
Few languages have the full range of expression of mood provided
by the English modal auxiliary system; most get by with the

simple nonpast supplemented by adverbials.

Biblical Hebrew is such a case; PRE1 is better described as nonpast rather than "present." The epistemic and deontic modal readings of PRE1 are derived from context; the choice of translation is determined by English usage. Representative examples are now given by way of clarification.

(215)   *will (future):*

```
wθ-zε 11-θxɔ hɔ-ʔoθ        ʔašεr      yɔβo
and-this to-you DEF-sign    that.which PRE1.3ms√come

ʔεl šne βɔnε-xɔ...  bε-yom ʔεɦɔš   yɔmuθu šne-hεm
to two sons-your    on-day one      PRE1.3mpl√die two-them
```

"And what happens to your two sons. . . will be a sign for you--they will both die on the same day." (NIV, 1Sam2:34; JPS *shall*)

(216)   *must/ought to (deontic):*

```
wθ-ʔεθ hak-kiβśɔ    yθšallem      ʔarbaʕtɔyim
and-ACC DEF-lamb     PRE1.3ms√repay four.times
```

"He must pay for the lamb four times over" (NIV, 2Sam:6; JPS *shall*)

(217)   *can (epistemic):*

```
ʔex yɔβo            ʔel-ay    ʔaron YHWH
how PRE1.3ms√come    to-me     ark YHWH
```

"How can the ark of the Lord ever come to me?" (NIV, 2Sam6:9; JPS, *can*)

The clear "modal" readings do not affect the case here. The
perceived mismatch between Hebrew and English (and other such
European systems) is more a function of overall configuration of
the systems and the lexicon than tense as such. The perceived
mismatch evaporates when it is recognized that *will, must, can*
are the nonpast tense forms of the English auxiliary verbs.

§8.3.5 *Summary*

The analysis of PRE1 as a simple nonpast or "present" is a
close fit on the assumption of a perfective default in effect.
The difficulty in the past is no doubt largely a function of PRE1
not behaving like a Greek, Latin, French or German present; on
the assumption of the perfective default, we would not expect
PRE1 to do so. There are other factors as well: the assumption
that there is something called a "future tense"; the developed
modal auxiliaries of Romance and Germanic systems; the literary
conventions of the West in the making for several hundred years--
to name a few.

The analysis proposed here for PRE1 has one major
consequence: the "true present" must be encoded
periphrastically. Indeed, all tenses will have a periphrastic
counterpart encoding nonperfective aspect. In contradistinction
to past work on the Biblical Hebrew verbal system, the participle
is promoted from the periphery to the heart of the Hebrew tense-
aspect system. The view promoted here, then, is an extension of
the recent work by Joosten on the participle (1989); but is

implicit in the treatments of the verbal system from Driver down to Lambdin to the present.

§8.4 THE PROGRESSIVE

§8.4.1 *Overview*

The view taken here had its genesis in the work of Joosten (1989); he is the only one in recent years to retrieve the participle from the periphery.

> In Biblical Hebrew the present tense is properly the domain of the predicative participle [participle functioning as predicate]. Two other verbal forms, [PRE1 and SUFF], may be used in present-tense statements as well, but this usage is subject to fairly strict conditions....
> The normal way to form a present-tense statement in Biblical Hebrew is with the predicative participle. In such statements the participle is therefore more than a verbal noun; it has taken its place... in the conjugational system (Joosten 1989: 128).

We notice that Joosten is presupposing much regarding tense-aspect that we have rejected in the present work. Crucially, Joosten does not recognize the possibility of having more than one "present tense."

The proposal, then, is that the participle supported by the auxiliary "be" forms a second but equal "shadow paradigm," encoding both tense and nonperfective aspect. This split down the tense-aspect system is implicit in the work of Driver, and has been a recurring theme down to the present, most notably in the work of Joüon (1923) and Lambdin (1971). However, the

participle has become marginalized in such recent treatments as
Revell (1989a), Eskhult (1990) and Gropp (1991).

As yet the paradox of the imperfective (or nonpast with
Revell and Gropp) excluding the progressive has not been
addressed let alone clearly recognized. We may speculate on why
this should be. The most obvious answer is that the imperfective
already encodes imperfective aspe   the participle is therefore
by definition not an imperfective aspect be   the other line
of answer is the nature of Greek and Russie   aspect: this is the
prototypical conception of the way aspect works, and of course it
does not work this way in Hebrew. As well, Greek/Slavic aspect
is prototypically derivational;   the notion of periphrastic
aspect would be odd indeed in this light.

Each progressive construction has unique properties
depending on whether a language encodes the progressive by means
of a preposition, by verb-stem derivation, by some nonfinite
form;   and on whether an auxiliary is employed to indicate tense.
A subtle difference in dynamic follows from which lexeme is
employed;   the syntactic possibilities and combinations vary
considerably depending on which construction and auxiliary (if
any) is chosen. Added to these basic considerations is the
problem of semantic "decay" or generalization through time. The
progressive is constantly staking out more ground in the
diachronic dimension (Bybee *et al*. 1994), eventually becoming the
tense form in an imperfective default system (e.g., Basque) or
taking up the perfective slot, making way for another

periphrastic progressive (e.g, Hindi-Urdu, Punjabi). In Biblical Hebrew, e.g., the progressive extends to the range of English *V-er* as it does, e.g., in colloquial Welsh or Mohawk; it does have a variety of habitual readings, then, as would be expected. Hebrew, however, is relatively unique in omitting the auxiliary in the present, thereby breaking the symmetry of the twin paradigms found in other such systems.

§8.4.2 *The Semantics of the Progressive*

The semantic representations follow naturally from what has gone before in ch. 7 and here in ch. 8. Crucially, the event E "overlaps" the reference point R in (218); tense, the relation between R and S, is fully independent of aspect on this view.
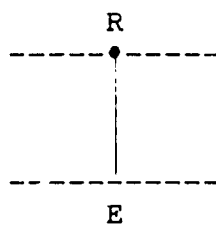
(218)   (a) *activities:*   (b) *accomplishments/*
                                        achievements
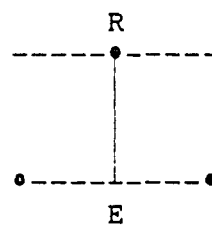
Tense is then supplied by the auxiliary. We now turn briefly to an account of the present progressive and past progressive in Standard Biblical Hebrew.

8.4.2.1 *Present Progressive.* The present progressive has the same range of uses as PRE1: present, narrative present, "modality." And, as has already been pointed out, the auxiliary is omitted in the present; like other "verbless" constructions, it defaults for R=S. A few representative examples follow.

(219)   wə-ʕeli hak-kohen   yošeß   ʕal hak-kisse
          and-Eli DEF-priest   PRT.ms√sit   on DEF-chair

          "Now Eli was sitting on the chair..." (1Sam1:9)

(220)   wə-ʕeli   šomer   ʔɛθ pi-hɔ
          and-Eli   PRT.ms√guard   ACC mouth-her

          "Eli was watching her mouth." (1Sam1:12)

(221)   wə-ħannɔ   hi   məðabbɛrɛθ   ʕal libb-ɔh
          and-Hanna she   PRT.fs√speak   to heart-her

          rak' səφɔθɛ-hɔ   nɔʕoθ
          only lips-her   PRT.fpl√move

          "Now Hannah, she was speaking to herself, only her
          lips were moving." (1Sam1:13)

(222)   ʔiš zɔk'en ʕolɛ   wə-hu ʕot'ɛ məʕil
          man old   PRT.ms√go.up and-he PRT.ms√wear robe

          "An old man is coming up and he is wearing a robe."
          (1Sam28:14)

(223)   hab-bayiθ haz-zɛ   ʔašɛr ʔattɔ ßonɛ
                DEF-house DEF-this   REL you PRT.ms√build

                "As for this temple that you are building,..."
                (1King6:12)

8.4.2.2 *Past Progressive.* The past progressive combines the syntactic and semantic behaviour of SUFF and PRT as shown in (224)-(226). The abstract representations are straightforwardly derived and will not be repeated here. (Notice that the PRE2 + PRT construction is not treated here; it is assumed that once the syntactic and semantic representations of PRE2 are established in §9.1, the combination of PRE2 + PRT can be derived in analogous fashion.) We may note in passing, that constructions with the auxiliary, whether SUFF or PRE2, and PRT, cluster in the second half of the corpus (60-70% of instances), especially in 2King. The significance for dialectology is dubious in light of the historical present narrative favoured in the first half of the corpus. (There is, however, a peculiar consecutive construction treated in ch. 9 that clusters in the last chapters of 2King, and I am prepared at least to consider it as a signal of a later dialect.)

(224)   wɔ-ʔaßner hɔyɔ miθħazzek'   bɔ-ßeθ šɔʔul
                and-Abner SUFF.3ms√be PRT.ms√strengthen in-house Saul

                "And Abner was consolidating [his position] in the house of Saul." (2Sam3:6)

(225)   gam təmol gam šilšom   hɛyiθɛm məβak'šim
            even yesterday even before   SUFF.2mpl√be PRT.mpl√seek

           ʔɛθ dawiδ   lə-mɛlɛx   ʕale-xɛm
           ACC David   for-king   over-you

           "For some time now you have been seeking David as king over you." (2Sam3:17)

(226)   u-mɛlɛx ʔarɔm hɔyɔ nilħɔm   bə-yiśrɔʔel
   and-king Aram SUFF.3ms√be PRT.ms√fight against-Israel

           "Now, the king of Aram was fighting against Israel." (2King6:8)

§8.4.3 *Extensions of the Progressive*

There are two sorts of extension of the progressive that can be explained by a compositional aspect, contextual interpretation, and regularization or lexicalization.

8.4.3.1 *Future.* Consider the representation in (227) and (228) of a present progressive with a bounded event structure.

(227)   (a) Sarah is arriving.   R=S
        (b) Sarah is dying.   -----•-----
                              |
                         •---------•
                           → E
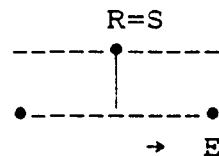
(228)   (a)   Sarah is coughing.   R=S
          (b)   Sarah is blinking her eyes.   -----●-----
                                                     |
                                               -●-●-●-●-●-
                                                     E
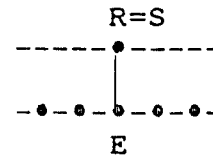
First, we should recognize that the iteration in (228) is derived from our knowledge of the real world, i.e., is *pragmatic*, and not from the semantic representation. The reading is defeasible, i.e., can be overridden: with some imagination we can picture Sarah in the process of coughing in, e.g., a slow-motion anatomy film (Comrie 1976: 42-43) or in some temporal anomaly in a science fiction plot. (228) then should pattern semantically with (227).

The reading of (227) becomes clearer if we add a temporal focus: *Sarah is arriving at three o'clock* (Saurer 1984: 11). It is not yet three o'clock, but the arrival will take place at three o'clock. However, the progressive is in no way equivalent to *Sarah will arrive at three o'clock*. The difference seems to be this: there are events under way at S such that allowed to unfold naturally they will culminate with the arrival at three o'clock; this notion of something transpiring at S is decidedly missing from the simple "future." Thus a pilot lowering the landing gear will felicitously utter, *I am landing now*. Similarly, some unfortunate, upon being told of inoperable cancer or the contraction of AIDS, may correctly utter, *I am now dying*.

An examination of the use of the progressive with bounded event structures in Standard Biblical Hebrew conforms to this

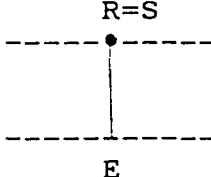general picture. Two representative examples are provided in (229)-(230).

(229)　　　wə-han-nośɛ　　　　　　bɔ　　　　　　　lɔ-k'ahaθ
　　　　　　and-DEF-creditor　　　PRT.ms√come　　to-INF√take

　　　　　　ʔɛθ　šne　　yəlɔð-ay　　l-o　　　　　la-ʕaßɔðim
　　　　　　ACC　two　　sons-my　　to-him　　　to-slaves

　　　　　　"And the creditor is coming to take away my two sons as
　　　　　　his slaves!" (2King4:1)

(230)　　　hinə-ni　　meßi　　　　rɔʕɔ
　　　　　　┗olʕ-i　　PRT.ms√bring　evil

　　　　　　ʕal ʝ ⁻ʸⁿᵃ.łayim　　w-ihuðɔ ...
　　　　　　on Je⁻ ⁻⁻łem.　　　and-Judah

　　　　　　"See, I aʍ gᵛⁱⁿʒ ⁻ bring ɯown disaster on Jerusalem
　　　　　　and Judah. . . " (2ᵏᵢⁿɡ21:12)

8.4.3.2　*Habitual*. The second reading is available in the
semantic representation of the progressive, especially in the
case of the unbounded event structure. Consider again the
representation of the present progressive of an unbounded event
structure given in the abstract in (231).

(231)　　　　　　　　　R=S
　　　　　　　-----●-----
　　　　　　　　　　│
　　　　　　　-----┼-----
　　　　　　　　　　E

Notice in (231) that there are no fixed boundaries for the event E. It is natural, therefore, that such a representation should have as a possible interpretation *usually V-ing* or *keep V-ing*, tokens of which are given in (232) and (233).

(232)   hinne nɔ ham-mɔk'om ʔašɛr ʔanaħnu yošəßim šɔm
         see please DEF-place REL we PRT.mpl√sit there

         "See! the place where we sit... [i.e., always are
         sitting]." (2King6:1)

(233)   hem   maggišim   ʔelɛ-hɔ
         they   PRT.ms√bring to-her

         wə-hi   mos'ɔk'ɛϴ
         and-she   PRT.fs√pour

         "[and pour (oil) into all of these jars, setting aside
         the full ones. . . .] They kept bringing (the jars) to
         her, and she kept pouring." (2King4:5)

From here, it is a short step to the regularization or lexicalization of such representations. Some examples from the Samuel-Kings corpus include, in no particular order,

roʕɛ	causing to graze > shepherd
šomer	guarding > guard
yošeß	dwelling > inhabitant
hozɛ	seeing > seer
soɸer	writing > scribe
yoðeaʕ	learning > expert, specialist

§8.5 *Summary*

In this chapter we have examined a proposal for the core tense-aspect of Standard Biblical Hebrew. In brief, the model is that of a perfective default system; for the simple tenses, therefore, we also obtain a perfective reading in those cases where the compositionally derived event structure is bounded. The progressive is separately encoded in a parallel system consisting of the tense forms of the auxiliary "be" plus the active participle.

This chapter concentrated on the syntactic and semantic representations of the past tense, SUFF. The treatment was extended to the nonpast or present tense PRE1. Finally, the second shadow paradigm of auxiliary + PRT was introduced and the semantic representation of the progressive was briefly considered with special attention to the extensions of the present progressive, viz. the future reading of bounded events and the habitual reading of unbounded.

The third inflectional form, PRE2, was left for the following chapter. From its more complex syntactic and semantic behaviour, we can develop a unified treatment of the puzzling consecutive constructions.

9

VERB MOVEMENT AND MODALITY

*Very briefly, though there have been a variety of modifications of
the theme, this [doctrine of Waw Conversive] states that the "and-
Waw 1" appearing before the first of a series of consecutive
Hebrew Verbs in the Imperfect Tense, if preceded by a Hebrew Verb
in the Perfect Tense, indicates that all of them should be read or
taken as Perfects (instead of what they really are: Imperfects)
and vice versa.... Now this strange phenomenon is found in no
language on earth.* (Barnes 1965: 4-5)

*In several languages, there is a rule whereby within what would
otherwise be a sequence of like tenses within a sentence, only the
first verb shows the expected tense, while all subsequent verbs
are in a single tense category, irrespective of the tense of the
first verb (and thus the time reference of the later verbs).*
(Comrie 1985: §5.1, 102)

The remainder of the Standard Biblical Hebrew verbal system
can be treated by formalizing the "neglected point of Hebrew
syntax" (Niccacci 1987), viz. the distinction between V2-PRE1 and
V1-PRE2 and the latter's connection with modality, and then
extending this basic analysis of PRE2 to the so-called
consecutive phenomenon, thereby deriving Joosten's "generalized
modality (Joosten 1992; cf. Zuber 1986).

This chapter is organized as follows. The first section outlines the treatment of PRE2. This analysis is extended to the so-called purpose/result construction, wPRE2. The bulk of the chapter then takes up the tense neutralization phenomenon, first in general cross-linguistic terms, and then moving to the Hebrew constructions. We consider the distribution of Hebrew's two consecutive constructions and their possible semantic and syntactic representations; we then look at the two individually, and finally, we consider the possibility of the combination of the two into the complex chaining construction which clusters in 2King21-25. The summary then brings to an end the proposal for the Standard Biblical Hebrew verbal system.

§9.1 ON JUSSIVES AND IMPERATIVES

The analysis of the modal forms is contained in embryo in §3.1.2. An abstract, phonologically null modal element sits at COMP, and the verb must move to "lexicalize" it. We first begin by looking at two examples of the V1-V2 contrast.

(234)　　　yišpot'　　　YHWH　　　　　ben-i u-ßen-ɛxɔ
　　　　　　PRE2.3ms√judge YHWH　　　　between-me and-between-you

　　　　　"May the Lord judge between me and you!" (1Sam24:13)

(235)　　　YHWH　　　yišpot'　　　　ben-i u-ßen-ɛxɔ
　　　　　　YHWH　　　PRE1.3ms√judge between-me and-between-you

　　　　　"The Lord judges/will judge between me and you"
　　　　　(adapted from 1Sam24:13)

(236)   tɔβo nɔ   tɔmɔr ʔaħoθ-i
         PRE2.3fs√come please Tamar sister-my

         "Let Tamar my sister come...!" (2Sam13:6)


(237)   tɔmɔr ʔaħoθ-i   tɔβo
         Tamar sister-my   PRE1.3fs√come

         "Tamar my sister will come." (adapted from 2Sam13:6)

    The observed effect is no different in principle from the

oft-repeated example in (238).

(238)   (a) Hebrew word order does make a difference.

         (b) Does Hebrew word order make a difference?

The treatment of (234)-(237) is essentially that generally

extended to (238) within the general framework adopted for this

study: a phonologically null element is posited. In the Hebrew

case, we can posit an abstract IMP (for "imperative") and derive

the surface structure by verb movement from I to C. Underlying

and surface structures for the verb movement are now given for

(234) (topicalization to spec-I'' is already assumed).

(239)

(240)
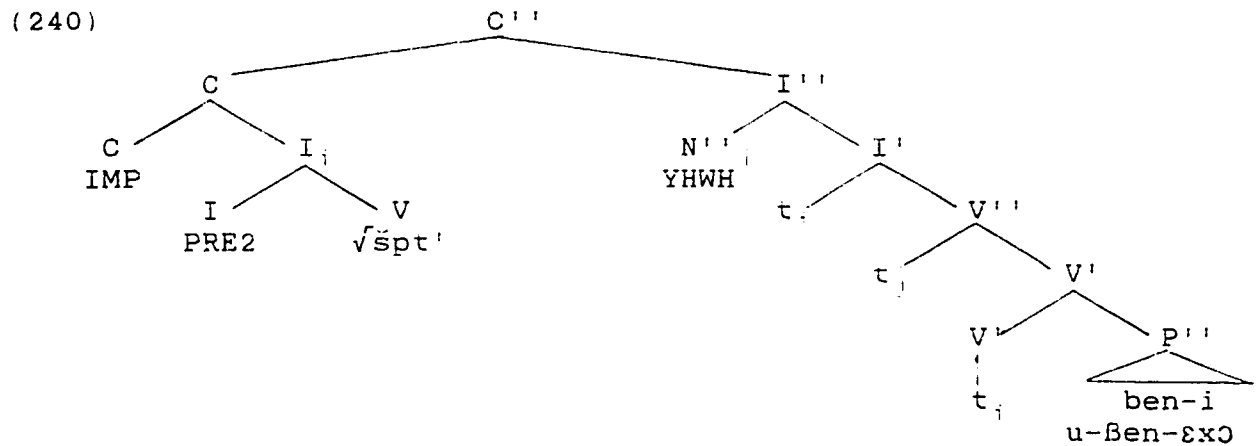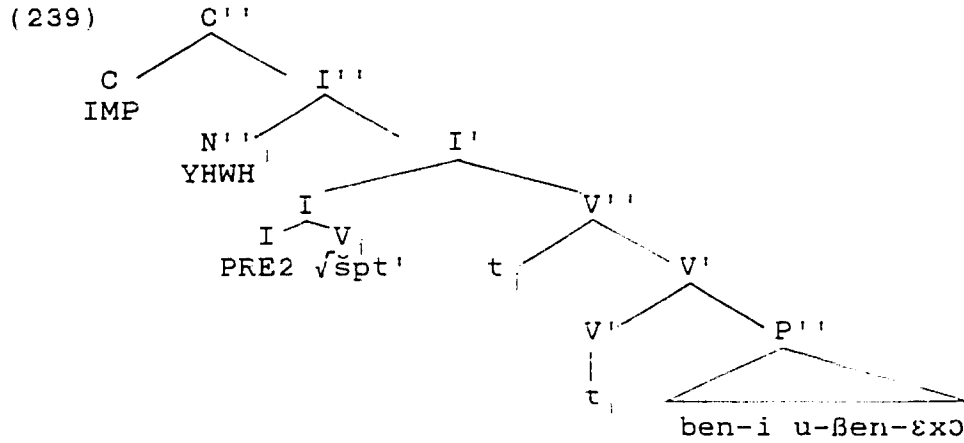
The pre-movement V2 construction is found in (239). The verb has made its obligatory move to INFL and the topicalized subject is lodged in spec-I''. In (240) the verb-inflection complex has made a second jump to lexicalize the abstract IMP at C. This two-step movement creates the complex head-adjoined construction which is then spelt out by the morphology as *yišpot'*. This is the most basic syntactic analysis of PRE2 modal

constructions. Several further clarifications are now in order.

First, the V1-V2 contrast is not an absolute distinction, at least in terms of simple linearization. In those cases where PRE2 has a different phonological shape from PRE1, the verbal form will automatically be parsed as sitting at C. It is possible, therefore, to get the *casus pendens* construction with such a modal form, creating an apparent V2 ordering on the surface. Nevertheless, minimal pairs such as those that were given back in (85)* in §5.4.6 will be assigned different syntactic structures as in (241)-(242).

(241)   hay-yom ha-hu   yəhi   hošɛx
         DEF-day DEF-that   PRE2.3ms√be   darkness

         "That day, may it be darkness!"
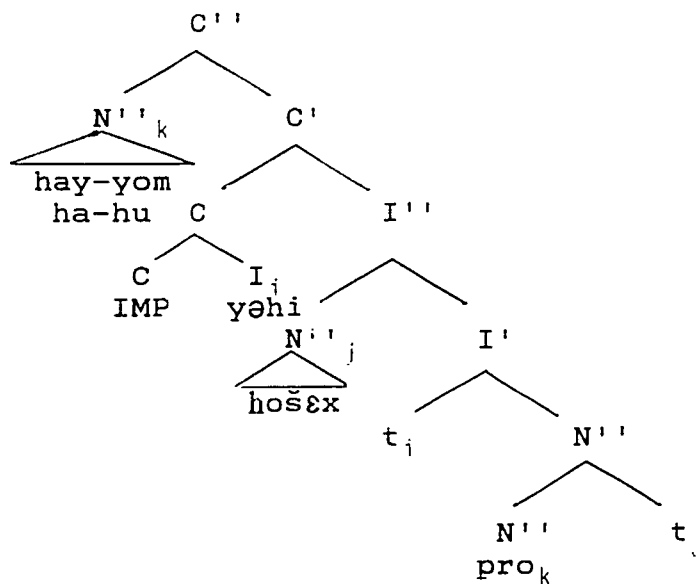
(242)   hay-yom ha-hu   yihyɛ   ḥošɛx
        DEF-day DEF-that   PRE1.3ms√be   darkness

"That day will be darkness."
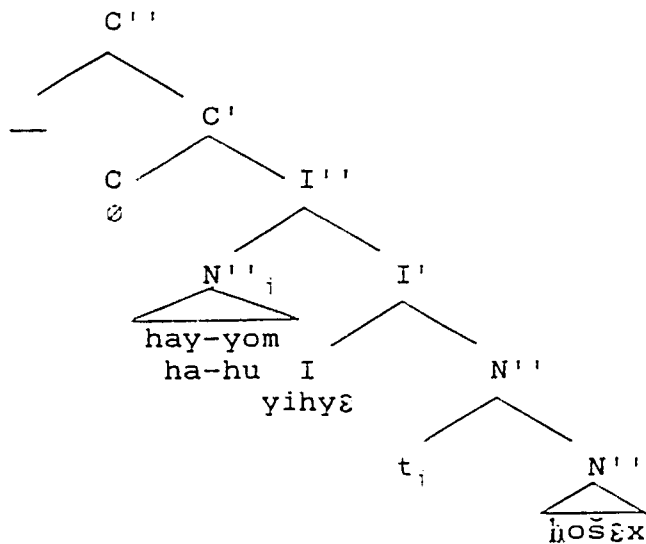
In (241), the distinct PRE2 form signals its position at C. The pre-verbal constituent can only be in spec-C'', the home of the *casus pendens*, i.e., a focussed constituent that is generally coindexed with a resumptive pronoun. In contrast, (242) is the familiar V2 construction; the pre-verbal constituent is therefore in spec-I''.

As for the formal definition of PRE2, it is intuitively clear that we require an inflectional form, and that the form must default for the perfective where applicable. PRE2 does not appear to contribute any temporal substance, and yet the moment of speech must be available as a reference point, just as in the case of the verbless clause. Recall that we assigned the simple

past tense the representation ↑<↓ and the simple present tense
↑=↓. It would appear that the right sort of properties would
obtain if we assigned PRE2 an underspecified ↑↓, a "subjunctive"
--at least in the sense of the English subjunctive. We can then
round out the Standard Biblical Hebrew inflectional system as
summarized in (243); it now conforms to the Burmese- and
English-style ternary inflectional system (§2.1.4.1, (9a), 46;
§1.3.4.2, (8a), 32).

(243)

```
                            INFL
                             |
        ┌────────────────────────────────────────┐
      PAST                            NONPAST
      ↑<↓                              ↑≮↓
     (SUFF)
                         ┌───────────────────────────────┐
                     PRESENT                        SUBJUNCTIVE
                      ↑=↓                              ↑↓
                     (PRE1)                           (PRE2)
```
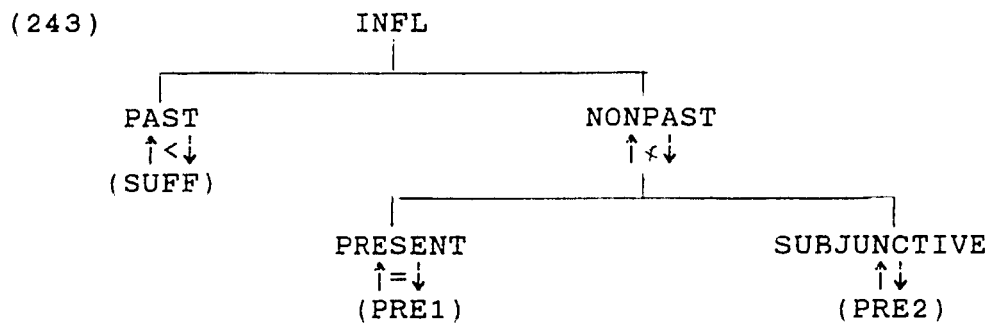
Finally, for this account to work, we will have to invoke
the notion of "selectional restrictions" under the standard
Government-Binding theory. Simply put, a syntactic head may
select properties of the head of its sister, i.e., the
constituent it immediately governs (e.g., Cowper 1992a: 66-67).
In the case under consideration, we must say that IMP selects the
inflectional head PRE2; notice, that it does not follow that if
PRE2 is selected it is selected by IMP (as would be assumed in a
traditional account of the verbal system). The dropping of
person agreement in the second person must also be licensed by

IMP. In the case of "pro-drop," we should stipulate that the
omission of the person agreement only co-occurs with IMP.

§9.2 PURPOSE AND RESULT

The brief account in ch. 4 already indicated how we will
deal with the so-called purpose-result clause, examples of which
are presented in (244) and (245).

(244) təni   ʔɛθ makke   ʔɔhi-w
       PRE!fs√give   ACC PRT.ms√strike brother-his

       u-nəmiθ-ehu   bə-nɛɸɛš ʔɔhi-w
       and-PRE2.1pl√kill-him   in-"soul" brother-his

       "Give over the one who struck down his brother, so that
       we may kill him for the life of his brother... "
       (2Sam14:7)

(245) mi yəɸattɛ   ʔɛθ ʔahʔɔß   wə-yaʕal
       who PRE1.3ms√lure ACC Ahab   and-PRE2.3ms√go.up

       wə-yippol   bə-rɔmoθ gilʕɔð
       and-PRE2.3ms√fall at-Ramoth Gilead

       "Who will entice Ahab so that he will march and fall at
       Ramoth-gilead?" (JPS, 1King22:20)

Where the prefixed forms are distinguished (diagnostics in
§4.4.4), it is generally true that in the purpose-result clause
we obtain PRE2. Recall that on the basis of the extra semantic
burden (purpose-result), a second form, a wPRE2, has been posited
in many traditional accounts. But as indicated in §3.3.3, we can

derive the added semantic content (where required) by a strong

conversational implicature: "there is a tendency to assume that

conjuncts are causally or temporally related, if the events

described are such that they can be so related under normal

assumptions" (Cann 1993: 224). In other words, we simply assume

that the syntactic and semantic representations of, e.g.,

u-nəmiθ-ehu "so that we may kill him" are identical to those

given for the IMP-constructions in §9.1; such is indicated in

(246) (notice that the topicalization of the P'' has not yet

occurred).

(246)

```
              CONJ''
            /       \
        CONJ         C''
          C  /    \  I''
         IMP        /    \
            _      I'
                  /    \
               I'       V''
              PRE2      /    \
              ↑↓   N''        V'
                   pro      /      \
                        V'          P''
                      /    \       /_____\
                     V      N''   bə-nεφεš ʔɔhi-w
                  h-√mt    -hu
```
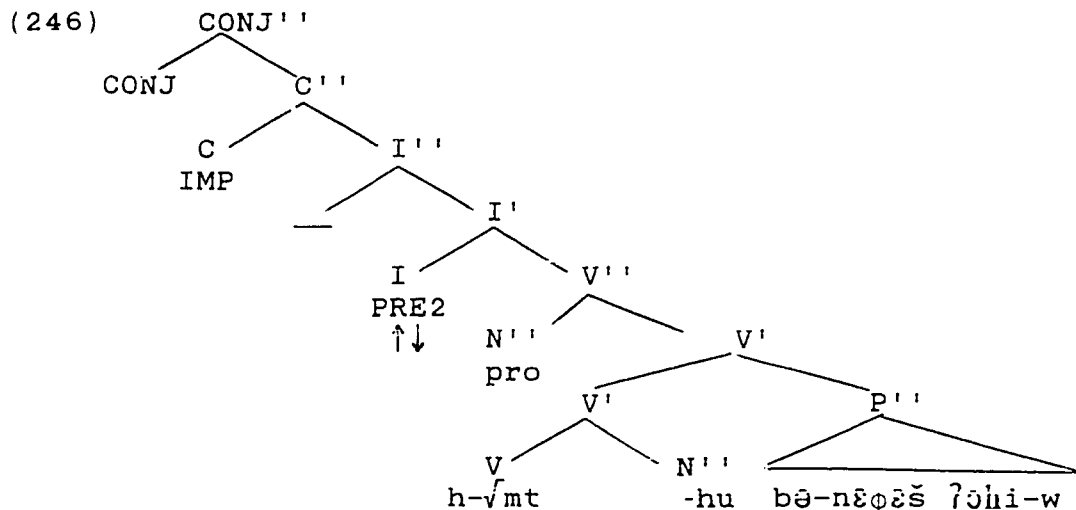
§9.3 UNDERSTANDING TENSE NEUTRALIZATION

Despite sporadic comments such as, "It could be interesting

to notice that sequential forms are present in Cushitic and Bantu

languages of Eastern Africa, as an evidence that this verbal

category is very productive even outside the considered area of

Afroasiatic" (Loprieno 1980: 16), Hebraists still labour under
the mistaken impression that, as Barnes put it in the first
epigraph to this chapter, "this strange phenomenon is found in no
language on earth." While the phenomenon of tense neutralization
is best known from the systems of Africa, it is in fact scattered
about the planet. Here, then, is a parade example of where the
end of the isolation of Hebrew studies can break the impasse over
the Biblical Hebrew verbal system.

In this subsection we look at the simplest sort of tense
neutralization system found in many Bantu systems such as Swahili
and Zulu. We then consider the two-term tense neutralization
system found in Fula (with Wolof in the West Atlantic group of
Niger-Congo). The determining factor, the difference between
realis and irealis in the head of the neutralization chain,
suggests the analysis of Biblical Hebrew tense neutralization.
In §9.4, we formalize the suggestion, capitalizing on the work of
Peckham (nd, 1994) and his definition of the Biblical Hebrew
"sentence."

We shall begin with the *-ka-* sequential form in Swahili.
Generally, the form is used in sequences headed by the *-li-* or
past tense, an example of which is provided in (247) (the
relevant formatives are underlined).

(247)   *Tu-li-kwenda mji-ni   tu-ka-mw-ona   Ali,*
          we-Past-go   village-to we-Cons-him-see Ali

          tu-ka-sema   na-ye,   tu-ka-ondoka,
          we-Cons-speak with-him   we-Cons-go.away

> *tu-ka-rudi   kw-etu.*
> we-Cons-go.back with-us
>
> "We went to the village and saw Ali and spoke with him,
> and came away and returned to our home."
> (adapted from Perrott 1957: §17, 51)

Some properties of this phenomenon should be immediately obvious. First, the chain of forms is "headed" by a regular Swahili tense form. This notion of "headedness" is crucial to the account of the Hebrew constructions. Second, it is in the very nature of the phenomenon that the special, highly marked forms should outnumber the regular tense forms, to the point of marginalizing them. In (247), e.g., we find a representative ratio 4:1 (80%) which compares favourably with Schneider's average of 75% for Biblical Hebrew (Schneider 1978: §48.1.2.1).

A point that is not obvious is that the *-ka-* is almost always used with the past tense. "It is most commonly found after the past LI [simple past] tense, and is much used in stories and narrations" (Perrott 1957: §17, 51). It would be tempting, therefore, to assume that it is a "past sequential" form. And in this case, we would be led down a false path on the basis of this typical usage (just as we are for the Hebrew "past sequential" or "preterite" examined below). In fact, the *-ka-* can be used with all the Swahili tenses. (248) shows the use with the present-progressive (again relevant formatives underlined).

(248)   *Iwapo   mtu mmoja a-na-jenga*
           if   man one   he-Prog-build

> na mwenz-ake   a-ka-bomoa,
> and companion-his   he-Cons-break.down
>
> je, faida yao ni nini?
> well, profit their is what?
>
> "If one man is building and his companion is breaking
> down, what profit have they?"
> (adapted from Perrott 1957: §45, 140)

Finally, and this point must be stressed as well, there is a distinction between indicative and "subjunctive" sequential forms. In Swahili, the distinction between indicative and non-indicative is indicated by the final vowel of the verbal form: -a for indicative, -e for subjunctive. A final example is given in (249) (the subjunctive ending is also underlined).

(249)　　　A-mw-ogesh-e   mtoto
　　　　　　she-him-bathe-Subj   child

　　　　　　a-ka-m-fut-e   kwa kitambaa.
　　　　　　she-Cons-him-wipe-Subj   with towel

　　　　　　"Let her wash the child and dry him with a towel."
　　　　　　(adapted from Perrott 1957: §45, 141)

Swahili was chosen because the formatives are straightforwardly identified and the semantics are relatively clear. However, the precise morphosyntactic analysis of -ka- is not immediately clear. Where we can find some indication of the nature of the sequential formative in other such systems, it is generally associated with mood and not tense. Thus in Zulu, e.g., the relevant past sequential form combines both past tense and mood (Ziervogel et al. 1981: §34.4, 149: narrative form as "subjunctive past").

We now move onto a more complicated case, that of the distinct two-way split in the neutralization system in Fula (language of a nomadic people in northern Nigeria; the language is classified with the West Atlantic branch of the Niger-Congo family). Fortunately, Arnott is quite clear on the basis for the split: the modal nature of the head of the chain; the general picture is sketched by means of a chart in (250) adapted from Arnott (1970: §56.1, 326; cf. §54.22, 312-314).

(250)   Past Sequential   Non-Past Sequential
           [relative past]   [subjunctive]

           general past   general future
           emphatic past   relative future
           relative past   negative future
           negative past   continuous [habitual sense]

                                     desiderative
                                     subjunctive
                                     imperative

Two examples which are highly relevant for the usage in Samuel-Kings are given in (251) and (252) with the endings underlined. Notice again the ratio of sequential forms in (251): 5:1.

(251)   tò weetii,   Ali yah<u>ay</u> ladde,   teen<u>a</u> leɗɗe
           in the morning Ali would go to bush   collect wood

           rimnd<u>a</u> wamnde muuɗum,   wart<u>a</u>,   soor<u>a</u>,
           load his donkey   come back   sell (it)

           sood<u>a</u> nyaamdu
           (and) buy food (adapted from Arnott 1970: §54.22, 313)

(252)   ɓidɗo doggi,   waadi kiirtaari,   baaba nyaami,
         the child ran   (and) brought supper   the father ate

         haari,   looti juuɗe muuɗum, wi'i
         (and) was filled   washed his hands   (and) said...

         (adapted from Arnott 1970: §56.4, 327)

In (251) is the *would V* construction, frequently occurring
in certain Hebrew passages, which takes the general modal or
"subjunctive" (nonpast sequential); while in (252) we find a
technically "headless" sequence used in narrative and apparently
defaulting for the past--as might straightforwardly be expected.
Such "headless" structures in Standard Biblical Hebrew are
relatively common, especially at the beginning of new
"paragraphs" (e.g., 1Sam1:1, 1:9, 1:19, 1:24, 2:11, 2:27, etc.),
defining the stylistics of the classical Hebrew prose narrative.
In both Fula and Hebrew the narrative context is sufficient to
establish the reading of the headless construction.

§9.4   TENSE NEUTRALIZATION IN STANDARD BIBLICAL HEBREW

The sequential forms in Standard Biblical Hebrew conform to
the general model in §9.3. The forms of the core tense-aspect
system serve as heads of sequential chains; the special
sequential forms outnumber the core tense-aspect forms between
roughly 3:1 and 5:1 (at least in the Samuel-Kings corpus); and
the two-way split in the neutralization system follows a general
realis-irrealis contrast (cf. Zuber 1986).

The Biblical Hebrew sequential forms, wSUFF and wayyPREC,

already received an initial analysis in ch. 4. Recall that we rejected the positing of separate forms: e.g., wSUFF (w for *wa-* "and") was analyzed as simply conjunction and SUFF; however, it was noted that the construction is also V1 in contrast to the standard matrix V2. Similarly, wayyPRE2 is subject to decomposition. We posited an extra formative /-ʔ-/, surfacing between conjunction and verbal form in the analysis of wayyPRE2, with a promise to assign it meaning at this later stage.

Representative tokens of the two sequential constructions from the corpus are presented in (253)-(256).

(253)   wə-han-naħal ha-hu   yimmɔle   mɔyim
           and-DEF-wadi DEF-that   PRE1.3ms√fill   waters

           u-šəθiθɛm   ʔattɛm u-mik'ne-xɛm u-βəhɛmtə-xɛm
           and-SUFF.2mpl√drink you and-cattle-your and-animal-your

           wə-nɔk'al   zoθ   bə-ʕene YHWH
           and-SUFF.3ms√easy   this   in-eyes YHWH

           wə-nɔθan   ʔɛθ moʔɔβ   bə-yɛ◌-xɛm
           and-SUFF.3ms√give   ACC Moab   in-hand-your

           wə-hikkiθɛm   kɔl ʕir miβs'ɔr....
           and-SUFF.2mpl√strike   all city fortification....

"but this valley will fill with water and you and cattle and animals will drink--for this is an easy thing in the sight of the Lord--and he will give Moab into your hand and you will destroy every fortified city...." (2King3:17-19)

(254)   u-məʕil k'ɔt'on   taʕaśɛ ll-o   ʔimm-o
           and-robe little   PRE1.3fs√make for-him   mother-his

           wə-haʕaləθ   l-o   miy-yɔmim yɔmimɔ...
           and-SUFF.3fs√bring   to-him   from-days days

u-ßerax   ʕeli ʔɛ̆ ʔɛlkʼɔnɔ̄ wə-ʔɛ̆ ʔišt-o
and-SUFF.3ms√bless   Eli ACC Elkanah and-ACC wife-his

wə-ʔɔmar.....   wə-hɔləxu   li-mkʼom-o
and-SUFF.3ms√say   and-SUFF.3pl√go   to-place-his

"From year to year his mother makes [would make] him a
little robe to take to him.... And Eli blesses
Elkanah and his wife and says.... Then they go home."
(1Sam2:19-20)

(255)   wa-y-yɔßoʔu   ha-msʼorɔʕim hɔ-ʔellɛ
        and-?-PRE2.3mpl√come   DEF-PRT.mpl√leprous DEF-those

        ʕað kʼəsʼe ham-mahanɛ
        to edge DEF-camp

        wa-y-yɔßoʔu   ʔɛl ʔohɛl ʔɛhɔð
        and-?-PRE2.3mpl√come   to tent one

        wa-y-yoxəlu
        and-?-PRE2.3mpl√eat

        wa-y-yištu   wa-y-yiśʔu   miš-šɔm
        and-?-PRE2.3mpl√drink   and-?-PRE2.3mpl√take   from-there

        kɛsɛφ wə-zɔhɔß u-ßəɣɔðim   wa-y-yeləxu
        silver and-gold and-clothes   and-?-PRE2.3mpl√go

        wa-y-yatʼminu   wa-y-ɔšußu
        and-?-PRE2.3mpl√hide   and-?-PRE2.3mpl√return

        ʔɛl ʔohɛl ʔaħer   wa-y-yiśʔu miš-šɔm
        to tent other   and-?-PRE2.3mpl√take   from-there

        wa-y-yeləxu   wa-y-yatʼminu.....
        and-?-PRE2.3mpl√go   and-?-PRE2.3mpl√hide....

"The men who had leprosy arrived at the edge of the
camp and entered one of the tents, and ate and drank
and carried off silver, gold and clothes, and went and
hid [them]. Then they returned and entered another
tent and carried off [more items], and went and hid
[them]....." (2King7:8)

(256)   wə-hɔ-ʕawwim   ʕɔśu.... [list of gods]
              and-DEF-Avvites   SUFF.3pl√make

             wa-y-yihyu yəreʔim   ʔɛθ YWHW ....
             and-?-PRE2.3mpl√be PRT.mpl√worship ACC YHWH

             wa-y-yihyu ʕośim   lɔ-hɛm
             and-?-PRE2.3mpl√be PRT.mpl√make   for-them

             bə-ßeθ hab-bɔmoθ
             in-house DEF-high.place

             "The Avvites made [list of gods]... but they were
             worshipping the Lord.... [and their priests] were
             serving at the shrines of the high places."
             (2King17:31-32)

The sample covers the basic possibilities. The wSUFF form typically follows a PRE1 form, at least in prose narrative, whether in the irrealis sense (253) or in the historical present narrative, again with an irrealis overtone (254). The headless stream of wayyPRE2 that can dominate a narrative passage is shown in (255). In (256) is added the possibility of sequential progressive forms.

§9.4.1 *Distribution of Sequential Forms*

There is a quite definite pattern to the distribution of sequential forms in Standard Biblical Hebrew prose. The pattern of head-sequential relations is set out in chart form in (257) (notice that "verbless" includes the present progressive with omission of "be").

(257)   <u>wSUFF</u>   <u>wayyPRE2</u>

                   PRE2   SUFF

Non-Past   PRE1 (irrealis)   PRE1 (narrative)
                  verbless (irrealis)   verbless (narrative)

                  (wayyPRE2??)

Default in
Headless   =PRE1 (irrealis)   =SUFF
Construction
(Narrative)

Generalization SEQUENTIAL   SEQUENTIAL
               IRREALIS   REALIS

This distribution conforms to the expectations based on the
Swahili and Fula data. We must now develop formal syntactic
analyses for these two constructions.
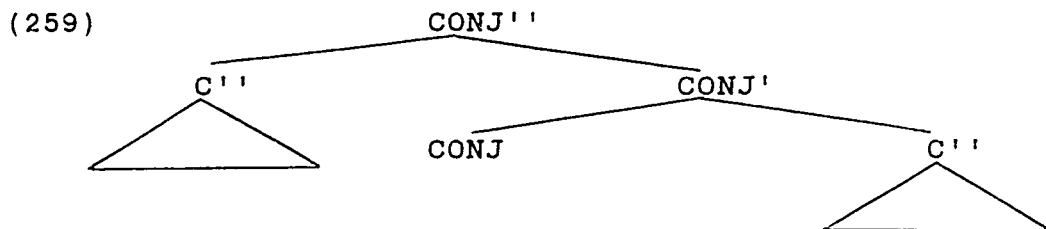

§9.4.2 *Syntactic Representations*

The matter requires further investigation and cross-
linguistic survey, but the general shape of the analysis for
Standard Biblical Hebrew within the current framework is
reasonably clear. The analysis follows from two facts: the
distribution appears to follow from selectional restrictions
holding between the head clause and the sequential chain; and
the actual selection of the sequential clause type will have to
be accomplished by a syntactic head immediately dominating the
sequential C''(s). This head will have to have its own

functional projection above the C''.

Peckham (nd, 1994) has suggested that the sentence be redefined for Hebrew to encompass the consecutive or sequential phenomenon. This suggests that C'', traditionally held to define the sentence, will be governed by another head X projecting an X'' that will then take up the role of defining the "sentence." In reviewing the dominant role of *wa-* in sequencing, it seems natural to assume that the extra head is CONJ (conjunction). The structure of a sentence then is that in (258).

(258)

```
            CONJ''
          /
    __---/   \CONJ'
             /    \
          CONJ    \C''
                  /___\
```
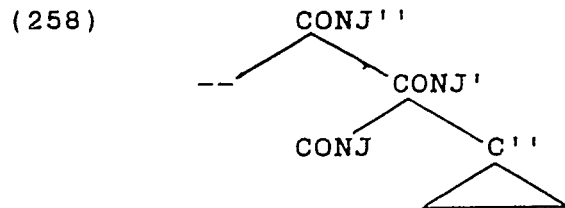
It seems reasonable to extend the conjunction schema to cover the basic sequential construction as in (259).

(259)

```
              CONJ''
          ___/        \___
    C''  /                 \  CONJ'
   /___\                   /      \
              CONJ    ___/        \C''
                                  /___\
```

Finally, we require some mechanism that allows the head clause in spec-CONJ'' to spread its specification for (ir)realis to CONJ, which in turn selects the properties of the lower C,
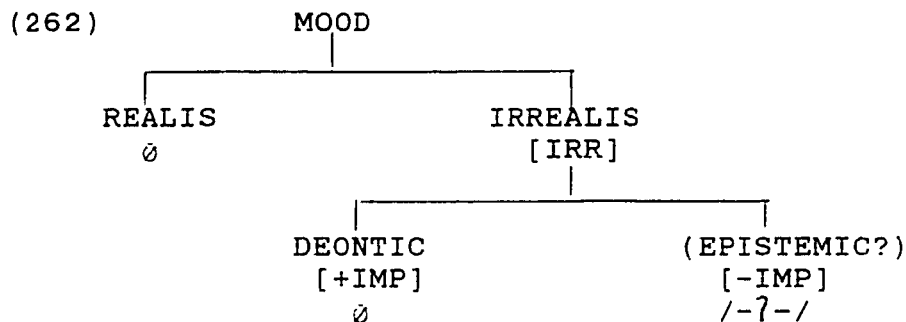
which in turn may select the properties of I. In the Government-
Binding framework, there is a mechanism known as "spec-head
agreement" (e.g., Cowper 1992a: 145). The head of the
consecutive chain can transmit its feature (either [+irrealis] or
[-irrealis]) to CONJ, which then can select a special C as
indicated in (260).

(260)
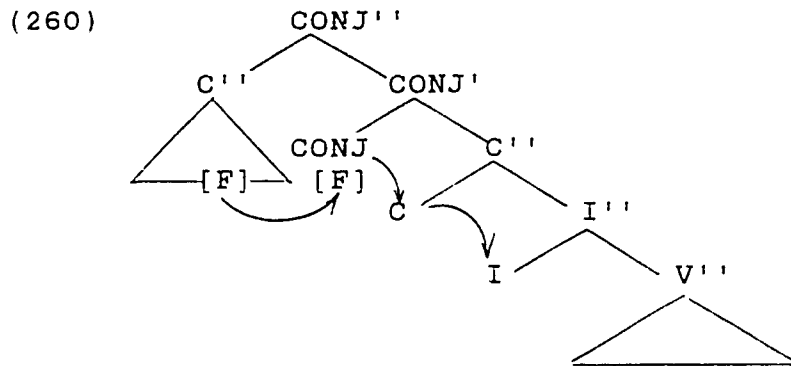
This mechanism will have to iterate to maintain the sequence
of tenses throughout a complex chain. If CONJ selects another
CONJ'' as in (261), it can select for properties of the lower
CONJ; the feature then spreads by spec-head agreement. This
right-branching structure can be extended as far as required.

(261)
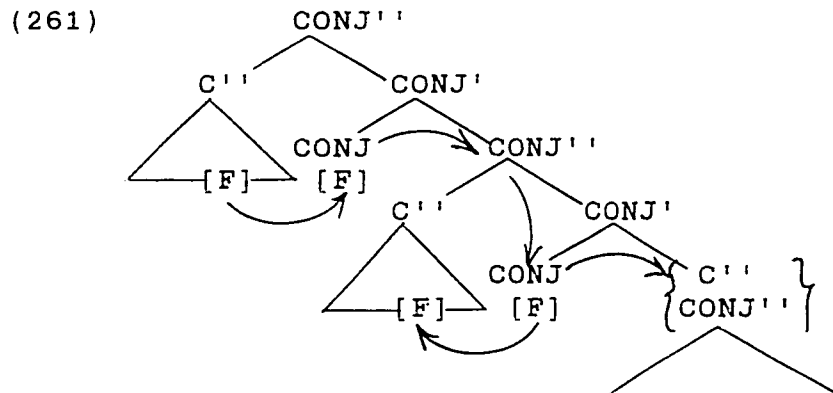
The mechanisms invoked will ensure that CONJ receives the correct specification and that it will correctly select the proper COMP. It still remains to posit two special COMPs that will then impose their selectional restrictions on INFL. We have already posited one such abstract COMP, IMP. We can posit a second such as IRR to take care of the irrealis specification. It is not clear what to do about the realis construction; moreover, it will select PRE2 just as IMP does. We would prefer a unified account of the selection of the special subjunctive PRE2 form. In this light, I propose the following hierarchical arrangement of modal complementizers.
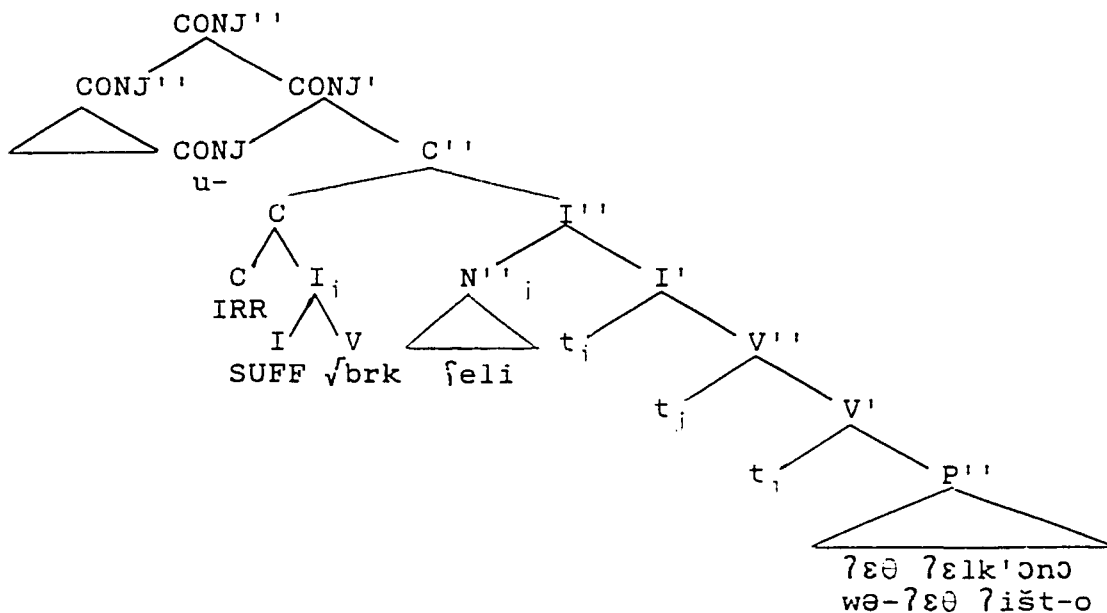
(262)

```
                        MOOD
                         |
        ┌────────────────────────────────┐
     REALIS                          IRREALIS
       ∅                              [IRR]
                                        |
                           ┌────────────────────────┐
                        DEONTIC              (EPISTEMIC?)
                        [+IMP]                  [-IMP]
                          ∅                     /-ʔ-/
```

On this view, the abstract formative /-ʔ-/ of the wayyPRE2 is analyzed as a COMP bearing the modal feature [-IMP]. We therefore obtain a unified treatment of PRE2: we can say that PRE2 is selected by [±IMP]. (McGinnis 1993 proposes a similar account for English modals: deontic [+IMP], epistemic [-IMP].)

Finally, we then stipulate the selectional restrictions holding between [IRR] and [-IMP] and the INFL heads they govern.

[IRR] obligatorily selects SUFF; while [-IMP] obligatorily selects PRE2. We can now generate the correct consecutive constructions.

9.4.2.1 *wSUFF*. The irrealis sequential construction is assigned the following syntactic representation on this account.

(263) u-ßerax   ſeli ʕɛθ ʕɛlk'ɔnɔ wə-ʕɛθ ʕišt-o
       and-SUFF.3ms√bless Eli ACC Elkanah and-ACC wife-his
       (from 254)

```
                    CONJ''
              ┌───────┴───────┐
          CONJ''            CONJ'
         ╱─────╲         ┌────┴────┐
        ╱───────╲ CONJ          C''
                  u-      ┌───────┴───────┐
                      C                   I''
                    ╱ ╲              ┌─────┴─────┐
                  C   Iᵢ          N''ⱼ          I'
                 IRR ╱ ╲        ╱────╲      ┌────┴────┐
                    I   V      ╱──────╲ tⱼ         V''
                  SUFF √brk    ſeli          ┌─────┴─────┐
                                            tᵢ          V'
                                                   ┌─────┴─────┐
                                                  tᵢ          P''
                                                        ╱──────────╲
                                                       ╱────────────╲
                                                  ʕɛθ ʕɛlk'ɔnɔ
                                                  wə-ʕɛθ ʕišt-o
```
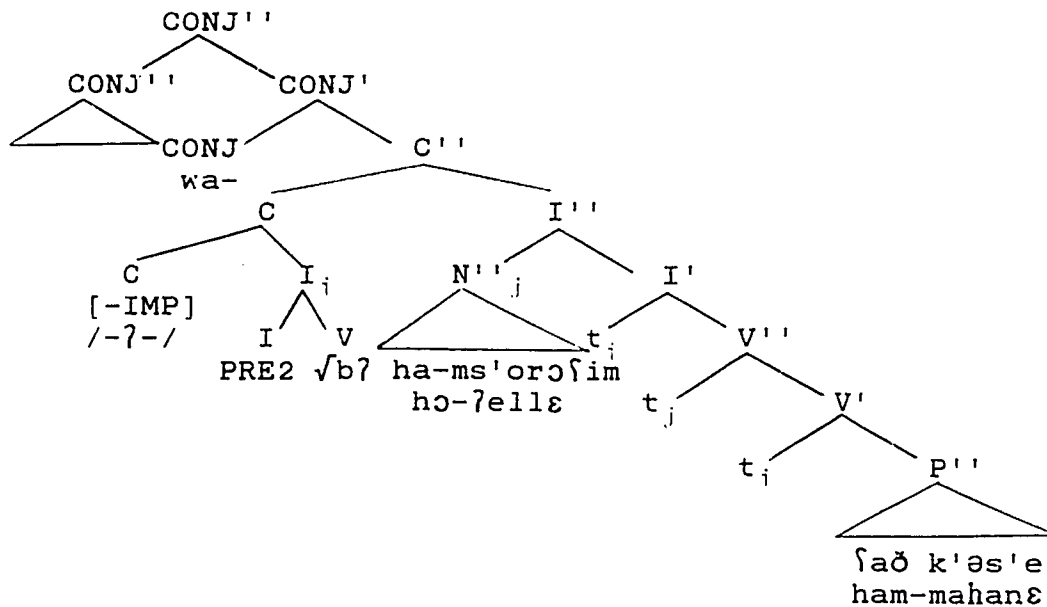
In (263) we see the complex head-adjoined construction formed by the abstract COMP [IRR] and raised I-V complex.

9.4.2.2 *wayyPRE2.* The syntactic representation of the realis construction follows the analysis of wSUFF.

(264)   wa-y-yɔßoʔu   ha-ms'orɔʕim hɔ-ʔellɛ
           and-ʔ-PRE2.3mpl√come   DEF-PRT.mpl√leprous DEF-those

           ʕað k'əs'e ham-mahanɛ
           to edge DEF-camp   (from 255)

This time [-IMP] selects PRE2, triggering the same type of complex movement and head-adjunction.

9.4.2.3 *Negation and Sequence.* We must stipulate that negation, specifically the negative clitic *lo,* blocks the selection by the modal COMPs of their special forms, SUFF and PRE2. This is perhaps not entirely surprising: cross-linguistically it is often the case that special exceptions and

constructions are associated with negation. In the Standard

Biblical Hebrew case, we obtain the same verbal form in the

sequential clause as that found in the higher clausal head of the

sequence chain. The difference, of course, between the regular

V2 matrix clause analyzed in ch.8 and the V1 sequential

construction under consideration here is that in the latter the

verb movement is forced in order to lexicalize the abstract modal

COMPs. An example is provided in (265) to clarify the situation.

(265)   ʔim rɔʔo θirʔɛ   bɔ-ʕɔni ʔamɔθ-ɛxɔ
         if INF2√see PRE1.2ms√see at-misery servant-your

         u-ø-zəxarta-ni
         and-IRR-SUFF.2ms√remember-me

         wə-ø-lo θiškaħ   ʔɛθ ʔamɔθ-ɛxɔ
         and-IRR-not PRE1.2ms√forget ACC servant-your

         wə-ø-nɔθattɔ   la-ʔamɔθ-ɛxɔ zɛraʕ ʔanɔšim...
         and-IRR-SUFF.2ms√give   to-servant-your seed men

         "If you will look upon the misery of your servant and
         remember me and not forget your servant and give your
         servant male offspring..." (1Sam1:11)

```
                    CONJ''
              ┌───────┴───────┐
          CONJ''            CONJ'
          ╱────╲          ┌────┴──────────┐
        ╱────────╲ CONJ              C''
                    wə-        ┌──────┴──────────────────┐
                    and  C                              I''
                      ╱──┴──╲                     ┌──────┴──────┐
                    C        I_i              P''_j            I'
                    IRR    ╱──┴──╲        ┌─────┴─────┐    ┌────┴────┐
                         I        V                   t_j        V''
                       PRE1     ╱──┴──╲                        ╱──┴──╲
                            NEG^73     V  ʕɛθ ʕamɔθ-ɛxɔ     N''      V'
                             lo     √škh  servant-your      pro    ╱──┴──╲
                            not    forget                   t_i        t_j
```
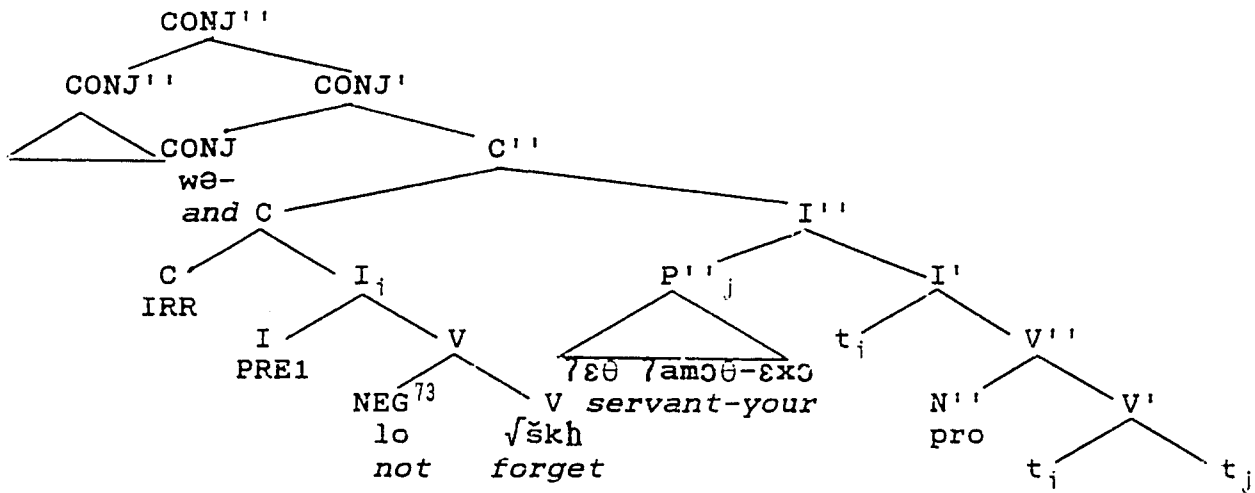
In (265) the entire inflection-negative-verb complex moves to lexicalize IRR at COMP, creating a V1 structure as it moves past the topicalized object at spec-I''.

9.4.2.4 *wayyPRE2 Heading wSUFF?* There is finally one wrinkle on the tense neutralization in Standard Biblical Hebrew, and it is perhaps best introduced by an example given in (266).

(266)   wa-y-yɔs'ɔm   dɔwiδ   s'om
         and-[-IMP]-PRE2.3ms√fast David   fast

         u-ßɔ   wə-lɔn
         and-SUFF.3ms√come   and-SUFF.3ms√spend.night

         wə-šɔxaß ʔɔrs'ɔ
         and-SUFF.3ms√lay ground

---

[73] I assume for convenience the adjoined structure here with NEG in absence of evidence to the contrary. Some such as Pollock assume that NEG is a head projecting NEG'': others assume an adverbial construction.

"...and David fasted and went [home] and spent the
night laying down on the ground." (2Sam12:16)

Other such examples occur at 2Sam13:18, 2King14:14, 18:7,

21:4, 21:6 (4x), 23:4-5 (2x), 23:12, 23:15, 24:14, 25:29 (2x) for

a total of 16 occurrences, 75% of which are found in 2King21-25.

Now, since these examples cluster on the one side of a major

divide occurring at 2Sam9 (2Sam9ff constituting the traditional

"court history"), I would be prepared to consider these somewhat

odd sequential forms a sign of dialectal difference. Of more

immediate interest, though, is what we should make of these.

Since we have assigned the "realis sequence" (wayyPRE2) the

special [-IMP] complementizer (notice, a division within

IRREALIS), we might speculate that such a construction itself may

serve as the clausal head of an "embedded irrealis chain"

(wSUFF)--in effect a sequential chain within a chain. Moreover,

we have a ready explanation as to why there is only one such

complex layering (e.g., SUFF-wayyPRE2-wSUFF). Neither of the

special *irrealis* complementizers, [IRR] and [-IMP], can select a

realis chain, i.e., select the [-IMP] complementizer. There is

only one selection possible: an irrealis sequence (i.e., the

[IRR] complementizer). The asymmetry in embedded chaining, then,

simply follows from the general account.

In any case, it is preferable to pursue such a solution

rather than allow a major semantico-syntactic exception in the

model--without, indeed, any clear explanation available.

Moreover, by claiming such a solution, we save the sequential

analysis of such wSUFF clauses, rather than analyzing them as
perhaps simple conjoined SUFF clauses. The doubly embedded
chaining would also appear on the surface, then, to be the more
descriptively adequate route to take.

§9.5 SUMMARY

The analysis of the Standard Biblical Hebrew imperative
construction in PRE2 is rather straightforward within the
framework adopted in this study. We simply posit an abstract
complementizer, IMP, that is able to select PRE2 and that
requires verb movement to be lexicalized. The same construction
is posited for the so-called purpose-result clauses on the
assumption that conversational implicature takes care of the
added semantic burden where required.

The same strategy is adopted in the analysis of Hebrew tense
neutralization. Admittedly, the account here is somewhat
technical and speculative. Nevertheless, the structures can be
properly generated with the required semantics, and we can
account for the general distribution of the two sequential
constructions. Moreover, the possibility of the layering of such
chains is highly restricted by the general account, allowing just
that one that is apparently attested.

The account of these complex modal constructions can be
added to the core system sketched in ch. 8. Chs. 8 and 9
combined constitute the proposal for the Standard Biblical Hebrew
verbal system.

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CONCLUSION

Natural languages, like the human immune system or economies or the brain, are complex systems. And like other complex systems, languages are in constant flux, subject to myriad evolutionary pressures. The Standard Biblical Hebrew tense-aspect is complex too; and it is as unique as a snowflake. The American descriptivists were right to stress the infinite variety inherent in human language.

But complex systems can be modelled. The snowflake can be reduced to a handful of equations. The key here is the idea that complexity arises from the interactions of a large number of interacting subsystems and from equations with a large number of related variables. Complexity can be broken down into simplicity, and variation can be parameterized.

The basic working assumption behind the present study is that language, and especially the verbal semantic component, can be broken down into smaller and smaller components described by simple models and constrained interactions. Moreover, each component can be parameterized to account for variation.

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Depending on how we set a series of formal, lexical and discourse-functional parameters, we obtain the tense-aspect system of Samoan or Inuktitut or Norwegian.

The proposal here is that Standard Biblical Hebrew can be derived from a handful of formal parameters, some assumptions about the structure of its lexical representations, and from somewhat arbitrary literary convention. The crucial parameter is the setting for an aspectual default. Hebrew, in all attested stages, defaults for the perfective. In addition, Standard Biblical Hebrew has a ternary inflectional system; has several "preterite-presents" in the lexicon, including the verb "know"; has an adjectivalization encoding the progressive, the range of which extends to *V-er* with Mohawk, Fula and Welsh, among others; and the narrative stylistics in Standard prose conforms to the sort of literary conventions encountered, e.g., in Japanese and Korean narrative. Into this mix is added tense neutralization, distinguishing between realis-irrealis, encountered in many systems around the world but especially in Africa.

Of course, if such a model is accepted, the ramifications are many. Exegetical work can be firmly grounded in an explicit, formalized grammatical model. The discourse analysis of Biblical Hebrew also receives new life with an explicit model of aspect, the discourse-structuring grammatical category, and with a model of tense-mixing and its various functions attested in living systems. But I think these considerations are relatively minor in the bigger picture.

The important point is that Biblical Hebrew and Semitic systems generally have so much in common with that half of the world's languages considered "tenseless," especially the aspectual properties accounted for by the aspectual parameter posited here for universal grammar. It is assumed that in principle the approach adopted in this study--rigorous analysis of morphology, syntax, consideration of lexical representations, the separation of semantics from pragmatics--can be extended to these systems and can yield similar results. It is assumed that the constrained, parameterized tense-aspect system for universal grammar suggested here can be extended *mutatis mutandis* to all attested languages. This study is just the tip of the iceberg.

Appendix 2

POETRY IN SAMUEL-KINGS

*Poetry has its own rules concerning the use of tense and,
unfortunately, they are still mysterious; they cannot be derived
from prose and vice versa* (Niccacci 1990: 10).
*Unfortunately, the fact remains that in contrast with prose,
poetry offers a very limited number of linguistic markers for
identifying the function of individual forms and verbal
constructions in a text. As a result, the problems a scholar has
to face are more complex* (Niccacci 1990: 12).

*Although Blau (1976: 86) suggested that the use of tenses is
different in poetry, this seems not to be true. It is rather that
poetry and prose exploit different possibilities in language
including, besides grammatical and syntactic options, such non-
grammatical and non-syntactic elements as accent, stress, tone,
cadence, rhythm, balance and harmony that distinguish written,
recited and sung texts* (Peckham nd: 69, n. 13).

The four poetic sections omitted from the main corpus of

this study are #1) 1Sam2:1-10, #2) 2Sam1:19-27, #3) 2Sam22:1-51,

and #4) 2King19:21-28 (for convenience, henceforth referred to by

number). The claim is that the model developed in this work can

in principle be extended to the treatment of poetry. Such indeed

appears to be the case, and the following comments indicate the

direction that the analysis of the poetry would take.

§A2.1 OVERVIEW

We can identify two distinct styles, Style 1 (##1, 2, 4) and Style 2 (#3). Passages #1 and #2 no doubt come from the same hand; while #4 bears a family resemblance. On the other hand, #3 deviates quite radically and poses a challenge, I would think, for any model of Standard Biblical Hebrew grammar.

§A2.1.1 *Style 1*

With minor and easily handled variation, Style 1 can be described as prose minus the ubiquitous wayyPRE2. As a percentage of finite forms, wayyPRE2 is limited to 6% in #1 and 5% in #2; it jumps slightly to 10% in #4. In compensation, the use of SUFF and PRE1 rises and V2 ordering predominates (V2/V3: 72% in #1, 60% in #2; down to 38% in #4). This is in stark contrast to roughly 35-50% PRE2 for #3 (depending on how we count PRE2 forms; see below), approaching the 60%+ of Standard prose.

In passages #1 and #2, we find the same twists with the same frequencies. In both, e.g., we find a "V3" ordering (3x each: 1Sam2:5, 9, 10 [=17% matrix]; 2Sam1:19, 22, 25 [=18% matrix]; cf. once in #3, 2Sam22:28, and in #4, 2King19:23); in four of the six cases the initial constituent is the Subject. The question in these six cases is whether the phenomenon approximates (267a) or (267b).

(267a)   *The three little kittens, they lost their mittens.*

(267b)   *Our mittens we have found.*

If the first (267a), then we are dealing with the *casus pendens* construction (first constituent in spec-C'' coindexed with resumptive pronoun). If the second, we would have an adjunction structure not encountered in the prose, but easily handled by the syntactic model nonetheless. Because of the two cases of fronted non-Subjects without resumption, the latter option is preferred. An I''-adjunction analysis of 2Sam1:22 is offered in (268).

(268)   mid-dam ḥalɔlim   me-ḥelɛß gibborim
              from-blood slain   from-flesh mighty

              k'ɛśɛθ yəhonɔʊɔn   lo nɔśoγ
              bow Jonathan   not SUFF.3ms√turn.back

            "From the blood of the slain, from the flesh of the mighty, Jonathan's bow did not turn back." (2Sam1:22)
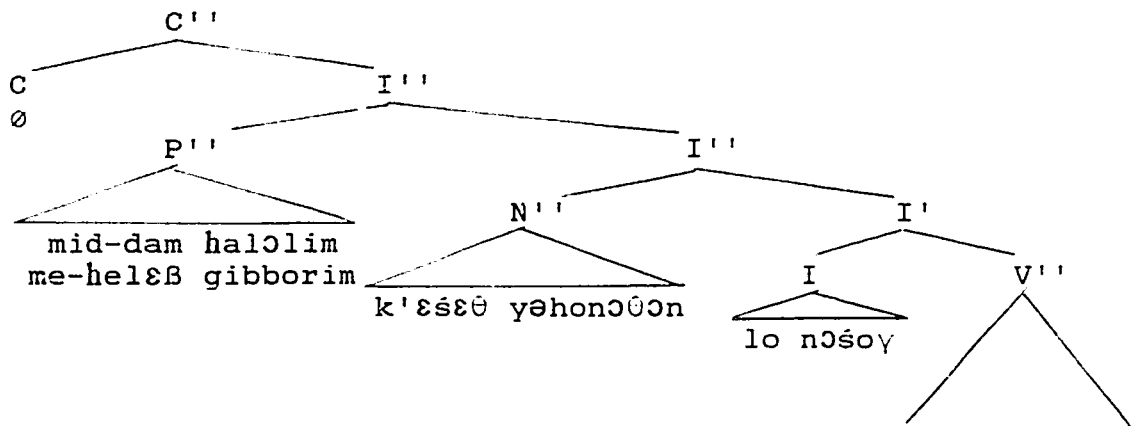
In addition to the V3 adjunction construction, V1 matrix and conjoined structures are frequently encountered. These V1 structures would be parsed as "zero topicalization" structures. We would predict therefore that any overt subject will surface

immediately after the finite verb. The principal difference between ##1-2 on the one hand and #4 on the other is the number of V1-(w)SUFF constructions (2King19:22, 24, 25, 26*bis*). If these five cases were instead V2, a 60% V2 count would obtain, thereby bringing #4 into line with the usage of ##1-2.

§A2.1.2 *Style 2*

Passage #3 has a completely different cast. The passage is characterized by the alternation between V2-PRE1 and V1-wayyPRE2, which in itself is not unusual. The percentage of wayyPRE2 is of course noteworthy in light of Style 1. The real difficulty lies in the high frequency of "bare" V1-PRE forms, and it is not at all clear how we should deal with them (though we can assume that they are not jussives).

The model does lay great stress on the V1-modal vs. V2-indicative contrast. If we were to pursue the strong claim in this regard, we would be forced to parse all bare V1-PRE in #3 as PRE2 (selected by a null COMP which in turn forces verb movement). We are led to posit wayyPRE2 forms lacking the "wayy." In scanning the PRE forms, there is little to decide the case. However, we should note the extended first-person PRE2 form *wɔʔɛštammərɔ* in 2Sam22:24 and the corresponding bare form in v.38, *ʔɛrdɔɸɔ*: apparently these are the only cases where the distinction could be realized, and in both cases we find the diagnostic PRE2 extension.

§A2.2 ON TENSE MIXING

It was noted in §8.3.2 that PRE1 could be mixed in for

effect once the tense had been set. We would expect in this

light that if tense mixing were employed for the sake of

variation in bi-/tricola, SUFF would be found in the first colon

and PRE1 in the following. In fact this is what is obtained in

the four cases of tense mixing: 2Sam1:22; 2Sam22:5, 9, 13-14

(notice again how #3 stands out). Crucially, we would predict

that the variation would not be reversed, i.e., PRE1 followed by

SUFF (the reading of PRE1 would not be guaranteed in that case).

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CLS	Chicago Linguistics Society
HAR	*Hebrew Annual Review*
HS	*Hebrew Studies*
JNWSL	*Journal of Northwest Semitic Languages*
JSS	*Journal of Semitic Studies*
LI	*Linguistic Inquiry*
NLLT	*Natural Language & Linguistic Theory*
SS	Syntax and Semantics
TWPL	*Toronto Working Papers in Linguistics*
ZAH	*Zeitschrift für Althebraistik*

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