

PART TWO

A Grammatical Blending Account of Hebrew *Binyanim*

Chapter 3:

The Hebrew *binyanim* system

3.0 Introduction: From English Constructions to Hebrew Morphology.

In chapter 1, I presented some of the basic notions of Cognitive Linguistics which form the theoretical background to the grammatical blending framework of analysis. I discussed in particular the theory of Construction Grammar and the notions of Conceptual Blending and Integration. In chapter 2, I presented an analysis of English Caused-Motion sentences as generated through a process of conceptual and linguistic blending between an abstract representation of the Caused-Motion construction (with its associated semantic schema), and a conceived causal sequence of events in the world.

Clearly, if the rather creative examples of the English Caused-Motion construction (and other constructions), studied in Goldberg (1995) and analyzed in Fauconnier and Turner (1996), were isolated cases of linguistic blending, then the whole concept of dynamic linguistic "integration" and "de-integration" processes (as discussed in chapter 2) could have been regarded as a *peripheral* aspect of language processing - a matter of extraordinary rather than ordinary language. In the coming chapters (chapters 4-6), I will suggest that conceptual and linguistic blending operations of the sort discussed in chapter 2, with regard to the English Caused-Motion construction, underlie the processing of even the most prototypical "basic" sentences in Hebrew. While in English it is necessary to discuss rather creative sentences (such as novel instances of the Caused-Motion construction) to highlight the blending operations involved, in Hebrew, I will suggest, the elaborate *morphology* grammatically marks (and thus highlights) the blending operation underlying each

linguistic instance (from the most prototypical to the most creative, novel sentences). The analysis of blending operations underlying creative sentences in English and prototypical sentences in Hebrew sets the stage for the more general hypothesis proposed in this thesis: that blending operations underlie *all language processing* (generation and interpretation), with different sentences differing in the level of entrenchment (or prototypicality) of the blending configuration, and different languages differing in the grammatical tools that are used to formally mark blending operations.

The Hebrew language (as Semitic languages in general) displays *formal* (morphological) blends in almost every word: the vast majority of Hebrew words (the “open class” lexical items) constitute a formal blend of a consonantal root and a morpho-phonemic pattern, the latter consisting of a discontinuous vowel sequence (sometimes also including one or more prefixes and affixes). The root indicates a certain ‘semantic field’ (Junger 1987:12), and the patterns provide the actual form of the word. The verbal morphological patterns are traditionally associated with verbal grammatical functions such as ‘causative’, ‘passive’, and ‘reflexive’.

Since each system (of consonantal roots and morphological patterns) traditionally carries some independent semantic value (at least partially regular), it is assumed that the formal morphological blending of the two systems carries with it a blending of semantic content as well. The analysis in the following chapters suggests however that the morphological blending in Hebrew verbs involves much wider conceptual and linguistic blending operations (beyond the semantic content of the morphemes) which incorporates the whole sentence. The grammatical form of the sentence marks a complex interplay between semantic schemas associated with both syntactic and morphological forms in the sentence.

At a higher level of abstraction, the analysis of blending operations in the Hebrew verbal system reveals that the blending operations underlying the Hebrew *binyanim*

system, are in fact very similar to the ones discussed in chapter 2 with regard to the processing of English caused-motion sentences. The blending analysis therefore provides a common ground upon which to analyze grammatical systems which superficially seem very different (such as English and Hebrew), by pointing to common underlying conceptual schemas and cognitive operations that give rise to both systems. The analysis also points to differences between the two grammatical systems: in particular, the analysis suggests that the Hebrew verbal system grammatically contrasts (or marks) different forms of blending which are left implicit (i.e., unmarked grammatically) in the English system, and vice versa. The common framework of analysis provided by the blending proposal will be used later in the thesis for analyzing translation examples from English into Hebrew (chapter 8).

3.1 The Hebrew System of Verbal-Patterns: Some Basic Notions.

All Hebrew verbs consist of (a) a skeleton of consonants (the ‘root’), slotted into (b) some vowel pattern, or prefix+vowel pattern (the *binyan* - sg. or *binyanim* - pl., also referred to as *stems* in general Semitic literature). The consonantal root (usually three - CCC) and the pattern do not occur independently but only in combination. The consonants carry the “core meaning” of the verb (or a certain “semantic field”). The vowel pattern carries some ‘grammatical’ value (such as active/passive, causative, reflexive).

There are seven major *binyanim* in Hebrew (the capital C's stand for the root consonants to be inserted): *CaCaC*, *CuCaC*, *CiCeC*, *niCCaC*, *hiCCiC*, *huCCaC*, and *hitCaCeC*, but a given root rarely occurs in all seven. The traditional names for the *binyanim* make use of a "modal" root *p.'l* - ‘to act’ (the Hebrew roots are represented as letters separated by dots): for example, the name for the pattern *CaCaC* is *pa'al*. Each *binyan* is further inflected for tense, number, gender and person, through a system of prefixes and suffixes. The seven morphological forms outlined above are the citation forms. They all mark the Hebrew default (unaffixed) form: past tense, third, singular, and

masculine.

Consider, for example, the root *l.v.sh*. This root occurs in Modern Hebrew in three different active *binyanim*:

(1a) in CaCaC, it becomes *lavash*, meaning ‘to wear’¹.

(1b) in hiCCiC, it becomes *hilbish*, meaning ‘to dress somebody’.

(1c) in hitCaCeC, it becomes *hitlabesh* meaning ‘to dress oneself’.

The root *r.’.h*, as another example, occurs in Modern Hebrew in four different *binyanim*:

(2a) in CaCaC, it becomes *ra’ah*, meaning ‘to see’.

(2b) in niCCaC, it becomes *nir’ah*, meaning ‘to be seen’, ‘to appear’, ‘to seem’.

(2c) in hiCCiC, it becomes *hir’ah*, meaning ‘to show’.

(2d) in hitCaCeC, it becomes *hitra’eh*, meaning ‘to see each other’.

The predicates in each group (1a-1c; 2a-2d) all share the same consonantal root, and hence the same semantic field, but they differ in their actual semantics as a function of the changing vowel pattern. The first verb in each group is in the *pa’al* (CaCaC) form, also termed *qal* (meaning ‘light’), traditionally taken to be the basic form. All other verbs in the group are analyzed (traditionally) as derivations from the basic form.

The partial systematicity in meaning alternation as a function of the changing morphological pattern has been noticed by early grammarians such as Gesenius (1910). A grammatical function has therefore been assigned to each verbal pattern (*binyan*), expressing the change in semantics. For example, the *hif’il* pattern (hiCCiC) is defined as ‘causative’ (examples 1b and 2c); while the *hitpa’el* (hitCaCeC) is defined as primarily ‘reflexive’ or ‘reciprocal’ (examples 1c and 2d).

¹ Note that throughout the thesis I will use the default unaffixed Hebrew form (the past tense, third, singular, masculine form) for decontextualized Hebrew verbs, but the *infinitive* (unaffixed) form for the English translations.

The system of *binyanim* in Hebrew is not grammatically regular. The same function may be expressed by more than one *binyan*, and the same *binyan* may have more than one grammatical function (see however discussion in the next few chapters on the questionable suitability of assigning grammatical ambiguity to *binyanim*). Moreover, the lexicon of Modern Hebrew manifests a large amount of idiosyncrasy, traces of various earlier stages of the language (see discussion in Berman 1978, ch.3). Finding *complete regularity* in the morphosyntactic-semantic characteristics of the Modern Hebrew verbal system is therefore impossible. At the same time, researchers have noted that among the more frequent and salient verbs, a significant degree of regularity in function is preserved, and generalizations are made by Hebrew speakers based on these frequent verbs (Bolzky, 1986; Schwarzwald, 1981).

An interesting controversy regarding the notion of *binyanim* is whether or not they are cognitively-real (i.e., whether the *binyanim* system is just a theoretical notion, or whether it actually forms an independent linguistic knowledge for Hebrew speakers). Research shows that native Hebrew speakers perceive the *binyanim* as an organizing principle in their usage of Hebrew verbs. Evidence comes from research on child language, and adult word coinage in controlled tests and in slang. Studies on child language (Berman 1982a) reveal that while two-years-old fail to use verb-pattern morphology for its systematic syntactico-semantic functions, and use verbs mainly as unanalyzed amalgams (even when they already have command of tense and agreement inflections), from around age three, children do show productive knowledge of the *binyanim* system, manifested in creative errors in spontaneous language usage. For example, children may change an existing transitive *pa'al* verb into a non-existing *hif'il* form to emphasize causativity (Berman and Sagi, 1981).

The reality of the verb-pattern system in adult speakers is revealed in examination of recent innovations in Hebrew and in productivity tests reported in Bolzky (1978, 1982). Bolzky (1978) found, for example, that adults choose to realize reflexive and inchoative

predicates as *hitpa'el* (hitCaCeC) almost 100% of the time, and causative verbs as *hif'il* (hiCCiC) 60% of the time (the other 40% are in the *pi'el* stem; see discussion about *pi'el* in chapter 5 of the thesis). These findings support the view that the various functions of *binyanim* are internalized as a special type of linguistic knowledge for Hebrew speakers.

To summarize, the lack of complete regularity in the function of *binyanim* does not mean that no statistical tendencies and/or conceptual motivations for the choice of verbal morphology can be traced in the system. As Bolozky (1982:70) points out “any verb, whether native or borrowed, must be assigned to one of the existing verb patterns... but as these patterns are not arbitrary... realization in a particular pattern implies a choice of some syntactic and/or semantic feature”. One of my goals in providing a blending analysis of the Hebrew *binyanim* system is to provide some conceptual motivation to the partial regularities observed in the system (assuming morphological patterns for verbs in the lexicon reflect choices made through the history of the language). In my analysis, I will also assume that generalizations over these partial regularities are extracted by speakers and used in everyday language processing and in the understanding and coining of novel verb forms.

The blending framework provides a suitable framework for analyzing the Hebrew *binyanim* system, since (in contrast, for example, to computational accounts) it does not assume the existence of a deterministic set of rules that account for all language use, but rather it aims at capturing the various cognitive pressures and conceptual motivations that give rise to repeated instances of language generation and understanding. Language is analyzed as competition across sets of principles and cognitive pressures, whose outcome is never completely predicted².

3.2 Literature Review: principal accounts of the Hebrew *binyanim*

² For similar views, see for example the "competition principles" of Bates and MacWhinney, 1989, suggesting that language arises from competition between obligatory rules and probabilistic tendencies, with no clear dichotomy between the two mechanisms.

system.

Following is a concise review of several principal accounts of the Hebrew verbal system. These accounts represent very different approaches to the system:

(1) Gesenius (1910): Gesenius represents the “ideal” representation of the *binyanim* system as a *regular* semantic system. In Gesenius’ view, the function or sense of each *binyan* can be clearly characterized, so that any given combination of root+pattern will have a clear interpretation, as an automatic consequence of the combination of the meaning of the root with the meaning of the *binyan*. The following is a summary from Junger (1987:14-16) of Gesenius’ characterization of the various grammatical/semantic functions of each *binyan*:

- i. *pa'al* - the basic pattern
- ii. *nif'al* - (a) resembles Greek middle voice: expresses emotions which react upon one’s mind or which one passively accepts; (b) expresses reciprocal or mutual action; (c) active (very few examples); (d) passive of *pa'al* ; (e) passive of *pi'el* or *hif'il* if there is no *pa'al*.
- iii. *pi'el* - (a) intensification, strengthening, and repetition of the action; (b) causative.
- iv. *pu'al* - passive (and participle) of *pi'el*.
- v. *hif'il* - (a) causative of *pa'al*; (b) transitive of intransitive *pa'al* ; (c) inchoative; (d) incipience of a certain condition and its continuation. (e.g., cause to be calm, cause to be quiet); (e) action in some particular mental direction (e.g., cause to be good, improve; cause to do sin); (f) denominative expressing the drawing out, the production of a thing (e.g, cause to be rooted, cause to be fat).
- vi. *huf'al* - passive of *hif'il*.
- vii. *hitpa'el* - (a) primarily reflexive of *pi'el*; (b) equivalent of *pa'al*; (c) reciprocal; (d) middle; (e) passive (but quite rare); (f) inchoative;

(2) Ornan (1971a, 1971b), Schwarzwald (1974, 1975): Ornan and Schwarzwald represent the opposite extreme view from Gesenius of the Hebrew *binyanim* system as having *no regularity*. The combination of root + *binyan*, in their view, is a single indivisible unit, and neither the root, nor the *binyan* alone can be taken to have an independent value. As convincingly discussed in Berman (1978:91-95), while Ornan's and Schwarzwald's approach has the advantage of eliminating the problem of idiosyncrasy in the lexicon, it denies a clear regularity found in the system both in terms of the semantic relation between words composed of the same root in different *binyanim*, and the salient repeated grammatical-semantic properties of certain *binyanim* patterns.

(3) Generative accounts: Various studies propose universal formal mechanisms to account for particular *binyanim*. For example, Saad and Bolozky (1984) define *hif'il* transitive verbs as the outcome of a "transitivization" (valency increase) process on basic *pa'al* verbs: the *hif'il* verb is characterized semantically as an instance of 'valency increase' of an embedded verb (an additional actant/argument is added to the basic verb), and the role of the morphology is to mark the increase in valency. Junger (1987) similarly suggests that the so-called passive *binyanim* in Hebrew are the outcome of a "detransitivization" (valency reduction) process. Cole (1976, 1983) proposes that *hif'il* sentences are derived through a process of clause-union: a bisentential source is collapsed into a unisentential structure by the rule of clause-union (see a detailed discussion of Cole's account in section 4.2.1).

Berman (1975) provides a transformational account of the *binyanim system*, and identifies for each *binyan* a primary (productive) function and secondary (idiosyncratic) functions, listed in decreasing order of frequency in table 1-1 below. Berman (1978) extends the analysis, suggesting that the Hebrew lexicon should be characterized both by generative rules identifying regularities in the system (as in table 1-1), and by a detailed listing of idiosyncratic properties of roots and lexical entries (root+*binyan* combinations).

Table 3-1: The grammatical functions of the main *binyanim* (Berman, 1975).

binyan	primary function	secondary functions
<i>pa'al</i>	basic (+/- tr)	--
<i>nif'al</i>	passive of <i>pa'al</i>	middle of <i>hif'il</i> basic (intr.) reciprocal
<i>pi'el</i>	basic (+tr)	+tr, or specialized, to <i>pa'al</i>
<i>pu'al</i>	passive of <i>pi'el</i>	--
<i>hif'il</i>	causative of <i>pa'al</i>	inchoative +tr of basic verbs in <i>nif'al</i>
<i>huf'al</i>	passive of <i>hif'il</i>	--
<i>hitpa'el</i>	(-tr), middle of <i>pi'el</i>	reflexive reciprocal inchoative iterative basic.

(4) Waltke and O'Connor (1990): A comprehensive account of Hebrew *binyanim* is found in Waltke and O'Connor's insightful study of Biblical Hebrew (1990)³. Waltke and O'Connor claim that the various *binyanim* cannot be studied independently, but rather all *binyanim* should be studied as one *system*, primarily denoting *voice*. The key to understanding the grammatical-semantic function of the *binyanim* system lies, in the authors' view, in understanding the basic *active:passive* dichotomy together with a notion of *causation*. My blending analysis of the Hebrew verbal system developed in the next few chapters (chapters 4-6) is in accord with many of the results of Waltke and O'Connor, in particular their focusing on the role of *causation* in the system (see discussion in chapter 7).

An important point that Waltke and O'Connor make is that some of the semantic varieties that the Hebrew *binyanim* system mark are not marked (or distinguished) at all in the grammar of English and other European-languages. Therefore bilingual dictionaries cannot always capture the semantic differences between various interpretations of the same root occurring in different stems:

³ Note that there has been very little change in the *binyanim* system across the history of the language. As Rosen (1977:26) notes: "The morphological system of Israeli Hebrew tallies with that of Biblical Hebrew to an extent hardly ever experienced with different stages of the same language".

Because English and other European-language verbal systems are impoverished in morphological treatment of transitivity, causativity, and reflexivity, most modern Hebrew lexicons also fail to show adequately the subtle differences in meaning among the verbal stems. The lexicographers are often forced to assign similar "meanings" of a verb to the different verbal stems. (Waltke and O'Connor 1990:359)

Waltke and O'Connor give as an example the various English translations for the root *n.k.m* in different *binyanim* (3 below), which they claim fail to show subtle differences in meaning among the various root-*binyan* combinations (translations are from W. Holladay's lexicon *A Concise Hebrew and Aramaic Lexicon of the Old Testament*, 1971⁴):

(3) <i>n.k.m</i>	<i>Pa'al</i> :	take revenge
	<i>Nif'al</i> :	be avenged, take revenge, avenge oneself
	<i>Pi'el</i> :	avenge
	<i>Hof'al</i> :	be avenged, suffer a vengeance
	<i>Hitpa'el</i> :	take one's vengeance.

Waltke and O'Connor go on to suggest that "prejudiced categories, dictated by the 'cruder' English structures, are inadequate for interpreting the Hebrew categories; we must be guided by the Hebrew forms and usages rather than by those of English" (p.359). The analysis of Hebrew blending operations in this study will similarly suggest that it may be a mistake to impose the European verbal grammatical categories on the *blending* and *construal schemas* (to be defined in the next chapters) marked by Hebrew *binyanim*. The different grammatical marking systems overlap to some extent, but also differ in many respects.

3.4 Literature review: grammatical voice and related categories

The review of different accounts of the Hebrew *binyanim* system in the previous section suggests that at least a general agreement between Hebrew grammarians exists that the verbal *binyanim* system primarily denotes grammatical *voice* and related categories

⁴ The authors do not suggest, however, that there is any simple, straightforward, and practical translation alternative for Holladay's lexicon.

(e.g., 'passive', 'middle', 'reflexive', and 'causative'). Crystal's *Dictionary of Linguistics* (1991) defines grammatical *voice* as follows:

Voice is a category used in the grammatical description of sentence or clause structure, primarily with reference to verbs, to express the way sentences may alter the relationship between the subject and object of a verb, without changing the meaning of the sentence. The main distinction is between active and passive. In other languages further contrasts in voice may be encountered, e.g., the 'middle' voice of Greek (which included verbs with a reflexive meaning), and there are several other types of constructions whose role in language is related to that of voice, e.g., 'reflexive', 'causative', 'impersonal' constructions. (p.375)

In this section, I will very briefly discuss voice and related grammatical categories. The presentation in this section is not intended to provide a comprehensive account of the vast literature and current approaches to characterizing these grammatical categories. In particular, it is not the goal of this section to discuss the details of the debates between different approaches (such as the syntactic vs. the lexicalist accounts). The goal is rather to survey the fundamental grammatical notions and terminology shared among the various frameworks, as a background for the discussion of the grammatical functions of *binyanim* in the coming chapters.

3.4.1 Grammatical Voice: active, passive, middle, and reflexive

Discussion on voice phenomena in the linguistics literature has suffered from the lack of a clear concept of grammatical voice (Shibatani, 1988). Nevertheless, voice phenomena, especially the relationship between the *active* and the *passive* voice, have played an important role in the development of Chomskyan transformational generative grammar, and in motivating the concepts of deep and surface structures.

The basic assumption in most modern investigations of voice phenomena such as passive and middle, as well as the related voice phenomena of reflexive and causative, is that these categories are expressed by “complex” verbs that are generated through grammatical operations (derivations) from more “basic” verbal forms. Morphological

(synthetic) and syntactic (analytic) complex verbs are typically treated as different aspects of the same linguistic phenomena. The complex verb is understood as one that has undergone some sort of derivation to alter the form, meaning, or argument structure of the base verb.

For example, the *active* and *passive* voices, that have traditionally been associated with alternations in view point (Klaiman, 1991⁵), have been accounted for by "linking" rules from a logical (argument-structure) level of predicate and arguments to the clause-level verb and nominal structure. The assumption in such accounts is that the "normal" or "unmarked" form of the verb is the one in which the verb occurs with its basic argument structure configuration. A "marked" voice (i.e., the "non-basic" form of the verb - e.g., its *passive* form) is the result of alternation on the normal predicate-argument structure relations.

In early Transformational Generative Grammar, passive constructions (morphological or syntactic) were derived from active constructions (the basic 'unmarked' form). The link between 'active' and 'passive' voice has been expressed by means of a "passive" rule which demotes the subject NP of the active form to an oblique relation in the passive, or deletes it and simultaneously promotes a non-agentive NP to subject. Fillmore (1968), suggested that voice phenomena (such as passive) mark the "disruption" of the basic relations of a verb to its core argument structure (in his Case Grammar model). The lexicalist tradition (e.g., Lexical Functional Grammar, cf. Bresnan, 1982) prefers instead to generate both active and passive verb forms independently and relate the two forms in the lexicon by means of a lexical rule. In Functional Grammar (cf., Dik, 1978), the relation active:passive is seen not as one of syntactic derivation, but rather as a shift of perspective (as in the traditional view). Dik suggests that active predicates describe a certain state of

⁵ According to Klaiman (1991:3), the active voice in traditional accounts "devolves from the standpoint of the most dynamic party involved in the situation, typically the Agent". The passive voice "devolves from the standpoint of the nondynamic, typically static participant in the situation, such as the Patient of a transitive verb".

affairs from the Agent's point of view, whereas passive predicates describe the same State of Affairs, but from the point of view of the Goal.

The category of 'passive' turns out to be a very 'elusive' concept: not everything encoded in passive morphology is considered to be "really" passive, and many passives do not necessarily show up with passive morphology or syntactic attributes (Chomsky, 1981, already suggests that what is called 'passive' may not be a homogenous entity; see also Junger, 1987, on morphological passives in Hebrew). Aside from 'core' passive (viewpoint) constructions, other categories are also considered passive, as in impersonal verbs and involuntary acts (e.g., body functions). Some of these verbs have passive morphology in some languages (e.g. in Classical Latin).

A third voice category, the *middle* voice, is sometimes characterized as a "compromise category" between *active* and *passive* (Klaiman 1991:3), displaying a viewpoint which "is active in that the action devolves from the standpoint of the most dynamic (or Agent-like) participant...but the same participant has Patient-like characteristics as well, in that it sustains the action's principal effects". Kemmer (1993:1) notes that "at present, there is no generally accepted definition or characterization of middle voice, let alone a satisfactory account of the relations among the various phenomena that have been given that name". Kemmer quotes a general semantic definition for middle voice (from Lyons 1969:373) as denoting "the action or state [that] affects the subject of the verb or his interests". As Kemmer points out, this definition is general enough to include what is considered to be *reflexive* as well. Indeed, we find that the distinction between middle, passive, and reflexive categories is blurred, as suggested by various linguistic categories defined in the literature on voice phenomena of "medio-passive", "quasi-reflexive", or "pseudo-reflexive" constructions.

Reflexive and reciprocal verbs or constructions generally form an independent category in linguistics literature. In the traditional definition, *reflexive* constructions involve the

subject acting on itself while *reciprocal* constructions involve a variety of individual subjects performing actions on each other (Waltke and O'Connor, 1990:349). Studies suggest, however, that reflexive and reciprocal categories have strong links to voice phenomena (as suggested also in the quote from Crystal above). Numerous studies have reported an overlap in grammatical marking between reflexive/reciprocal, middle, and passive marking in different languages (as is true for Hebrew *binyanim* as well, see discussion in chapter 6). These studies also suggest that the grammatical overlap is not accidental but motivated linguistically. Langacker and Munro (1975), for example, point that reflexive and passive share in common the identity of the grammatical subject and the thematic object. Shibatani (1985:840) suggests a semantic motivation for the overlap, by noting that reflexive and passive both express a situation where the subject is affecting itself rather than others. Kemmer (1993) suggests that all these grammatical categories (reflexive, reciprocal, middle, and passive) form in fact a single cognitive 'radial category' (in the sense of Lakoff, 1987).

3.4.2 Causative

Another principal grammatical category that is associated with the *binyanim* system (and is strongly linked to voice phenomena) is *causative*. In traditional accounts, causative verbs are defined as grammatical alternation on "basic" verb stems (just like 'passive', 'middle', or 'reflexive' verbs discussed above). In fact, it seems that cross-linguistically the most common applied grammatical alternation on verbs is the 'causative' alternation (Klaiman 1991:51). A verb is identified as morphological or syntactic causative when there is a specific grammatical encoding of causativity within the verb. The causative "marked" form is commonly associated with an additional core argument (the causal agent) which is added to the set of the "unmarked" core set of arguments assigned by the corresponding non-causative ("base") verb. The argument structure of a causative verb is typically derived from an underlying complex structure: [Agent CAUSE [embedded-clause]]. The verb in the

embedded clause is the "base" verb. In *analytic* (syntactic) causative, the predicate that expresses the idea of causation is separate from the predicate of the situation (Comrie, 1985). In *synthetic* (morphological) causative, the predicate of causation and the predicate of the situation are part of the same word (but can be separated into two morphological objects).

Most accounts of grammatically marked causative constructions derive the causative form by "collapsing" a bisentential clause structure into a single clause (by mechanisms of "raising rules" or "clause union"⁶). Kemmer and Verhagen (1994) suggest instead that (at least in some languages) causative forms are "built up" by extending simpler linguistic (and conceptual) clause structures. Kemmer and Verhagen's analysis is very much in line with Fauconnier and Turner's blending analysis of the English Caused-Motion construction (discussed in chapter 2) which, they suggest, is derived by blending novel causal sequences of events with a basic clause structures (the argument structure of lexical caused-motion verbs such as *throw*).

In addition to grammatically marked causative constructions (morphological or syntactic), there are also *lexical* causatives: Generative Semantics treatments of causatives posit complex underlying embedding structures (of the form described above) also for many lexical transitive verbs (cf. Lakoff, 1972). For example, the English verb 'kill' is a lexical causative of a corresponding non-causative form "die". Thus, the treatment of lexical causatives in generative semantics is highly similar to the treatment of "productive" grammatical causatives. In the generative semantics account, a similar underlying representation would be assigned for all the following verbal clauses: *kill*, *cause to die*, *cause to become dead*, and *cause to become not alive*.

Talmy (1976, 1985) discusses various semantic distinctions involved in causation,

⁶ See Newmeyer, 1976, Fauconnier, 1983, and Gibson and Raposo, 1986. For Hebrew accounts of causative *hif'il*, see Cole, 1983 (for a "clause union" analysis), and Resto, 1989 (for a "predicate raising" analysis).

such as whether an immediate connection or a mediated chain of events is implied (as in 'kill' vs. 'cause to die') A link is suggested between the use of analytic causative constructions vs. synthetic causative forms, and the expression of mediated causal events vs. immediate causation, respectively (see also Haiman, 1983, on iconic reflection of causative contact, and an extensive discussion in Croft, 1991). In Hebrew, we actually find three levels of expression of causation as in the analytic form *garam lamut* ('caused to die'), vs. the synthetic causative *hif'il* form *hemit* (die-CAUSE), vs. the lexical *pa'al* form *harag* ('kill'). These three forms also correspond to different levels of *integration* of the causative event (see discussion in chapter 5 on the difference in *conceptual integration* underlying the use of *pa'al* vs. *hif'il* transitive verbs, as well section 8.4.4 on the translation of mediated English caused-motion events). Comrie (1985) suggests that the difference between the marking of the 'causee' as a direct or indirect object imply different degrees of coercion of the causee in the causal event.

Kemmer and Verhagen (1994) summarize three semantic parameters which are relevant cross-linguistically for grammatical causativity (based on Shibatani (1973, 1976) and Talmy (1976, 1988)): physical vs. non-physical causation; direct vs. mediated causation; and cause *per se.* vs. enablement and permission. The authors suggest that in many languages, different causative constructions exist, each typically associated with different semantics along the above-mentioned three parameters. My analysis of expression of causation in Hebrew (chapter 4-6) will focus only on morphological-synthetic and lexical expression of causation. The distinctions to be focused on in my analysis is in terms of the *highlighting* (through blending operations) of different sub-events within a given causative macro-event, rather than in terms of fine semantic distinctions of force-dynamics parameters in causation.

3.4.3 Valency increase and reduction

Another central notion in Generative Grammar analyses of complex verb formation (which also comes up in many accounts of Hebrew *binyanim*) is the notion of *valency*. The

number of essential arguments in the “basic” active form of a verb determines the verb’s valency. Comrie (1985) identifies the following three degrees of valency: (a) Intransitive (no object); (b) Monotransitive (one direct object); (c) Ditransitive (direct object and indirect or ‘oblique’ object). In this context, several basic types of grammatical “functions (or voice) changing operations” are defined for deriving the “complex” or “marked” forms of a verb from its “unmarked, basic” form:

(1) *Valency reduction*: Non-transitive voice categories, such as passive, middle, and reflexive, are characterized as the result of a *detransitivization* process applied to the corresponding active-transitive form (i.e., the transitive active verb undergoes syntactic rules that result in a reduced number of arguments). These rules leave a marker of detransitivization (which is the voice morphology, cf. Klaiman, 1991:45). In Junger (1987:82), who studies Hebrew within the Functional Grammar framework, detransitivization, or valency reduction, and passive voice marking are distinguished as two separate phenomena. Passive voice is characterized by a change of perspective. Valency reduction is described by a formal rule which takes as an input a predicate V with two arguments (X1, X2), and produces the output predicate with only one argument (X1).

(2) *Valency Increase*: The opposite operation to valency reduction or detransitivization is a process of “*transitivization*” which involves an increase in valency. This process is often linked to the alternation of a “basic” verb into a “causative” verb (cf., Comrie, 1985, or Junger, 1987, and Saad and Bolozky, 1984 for Hebrew *hif'il* causative). Since the causative “marked” form is associated with an additional argument (the causal agent), that is added to the set of the “unmarked” core set of arguments, the causative alternation is analyzed as a valency increase process of one argument (Comrie, 1985).

3.5 Summary

The study of the Hebrew *binyanim* system and its grammatical function is at the heart of most research on Semitic languages. However, defining the function of the verbal stems, their level of regularity, and their cognitive reality is constantly under debate (section 3.3). Aggravating the problem of analyzing the system is the fact that the very basic grammatical functions commonly associated with the *binyanim* system (e.g., 'passive', 'middle', 'reflexive') already suffer from lack of clear definition in the general linguistics literature (section 3.4).

In the next three chapters (4-6), I will develop a blending analysis of the Hebrew *binyanim* system. The analysis clearly cannot provide a solution for all the problems associated with the system. The blending analysis is rather a proposal for an alternative way of studying the Hebrew *binyanim*: as morphological forms for marking conceptual blending operations. The role of the *binyanim* in this view is to provide grammatical cues to the hearer in reconstructing the communicated event. The blending analysis provides a simple account for the superficially complex set of grammatical functions associated with each *binyan*, and the links between the different *binyanim*. The whole morphological *binyanim* system is explained as the outcome of a small number of *blending schemas*. One outcome of the analysis is that the so-called grammatically “ambiguous” *binyanim*, (such as *nif'al* and *hitpa'el*) which are traditionally associated with more than one grammatical function (section 3.2), are shown to be non-ambiguous: each *binyan* grammatically marks a *single* blending schema. However, as with any blending process, the linguistic blend provides only partial information about the communicated event, and much is left for the hearer to infer from context and background knowledge (see discussion in chapter 2). The different conceptual representations that emerge from the basic schema marked by the *binyan* reflect the multiple grammatical functions traditionally associated with the *binyan*.