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## **Hebrew Labile Alternation**

M.A. Thesis Submitted

by

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## Table of content

Abstract.....	I
Acknowledgements.....	III
1. Introduction.....	1
1.1. Thesis statement.....	4
1.2. Outline.....	5
2. Transitivity, argument structure and labile alternation.....	9
2.1. Transitivity.....	9
2.2. Labile verbs.....	11
2.2.1. Typology of labile verbs.....	12
3. Morphological properties of Modern Hebrew verbal system .....	15
3.1. Word-based approach to the (verbal) lexicon .....	15
3.2. Semitic Morphology .....	15
3.2.1. Morphological characteristics of Hebrew binyanim system .....	16
3.3. Regularity and irregularity in the verbal system .....	18
3.3.1. Derivation in the Hebrew verbal system .....	18
3.3.2. Hierarchy of prosodic markedness .....	21
3.4. Literature Review .....	25
3.4.1. Agency and Voice in the Semitic Templates (Doron 2003) .....	25
i. Analysis of Doron 2003 with respect to the present study .....	28
ii. The relevance of Doron 2003 to the present study .....	31
3.4.2. Roots and Patterns: Arad 2005 .....	33
i. The relevance of Arad 2005 to the present study .....	37
3.4.3. Berman 1993: Productivity in the <i>Binyan</i> system .....	38
3.5. Methodology .....	39
3.5.1. Data collection .....	39
3.5.2. Analysis .....	40
4. Anticausative labile verbs in P5 - Introduction .....	41
5. Morphological properties of labile verbs of Conjugation Class #6 .....	44
5.1. hiCCiC is the template of labiles .....	44
5.1.1. The strictness of Conjugation Classes .....	44

5.1.2. P5 hosts verbs with various argument structures .....	45
5.1.3. P5 lacks a natural paradigmatic counterpart template for lexical derivations ...	45
5.1.4. Morphologically motivated change: the expansion of Conjugation Class #6 ...	47
5.1.5. The case of transfer verbs .....	49
5.1.6. Interim summary .....	50
5.2. Morphology cannot tell the whole story .....	51
5.2.1. Lack of paradigmatic counterparts is not necessary, but contingent .....	51
5.2.2. Lexical redundancy in the derivational paradigm .....	52
5.2.3. Lack of shared stem does not predict labile alternation .....	53
5.2.4. Summary .....	53
6. Semantic investigation of labile verbs in P5 .....	55
6.1. Why semantic? .....	55
6.1.1. Outline of the analysis .....	55
6.2. Causative-inchoative alternation .....	56
6.3. Spontaneous events: Cause Unspecified and Internally-Caused events .....	59
6.4. Theme argument semantics .....	61
6.5. Phase verbs – another case of relatively weak transitivity .....	65
6.6. Degree Achievements .....	66
6.7. The semantics of labile verbs in P5 – summary .....	68
7. The productivity of labile alternation in P5 .....	71
7.1. The notion of productivity applied in this study .....	72
7.2. Usage of synonyms in addition to morphological alternations .....	73
7.3. New coined verbs .....	74
7.4. Evidence from the nominalized template haCCaCa .....	76
7.5. Analysis of the elicited innovations .....	78
8. The second class of verbs: Causative Labile alternations .....	80
8.1. Morphology and syntactic transitivity .....	84
8.2. Why don't we have new causativization patterns P3-P5 and P5-P3? .....	88
8.3. Semantic analysis of Causative labile alternation .....	90
8.4. Causativization of deadjectival transitive verbs in P3 .....	93
8.5. Causative labile alternation – summary .....	95

9. Combining the themes .....	97
9.1. Morphological reasons motivate both phenomena .....	97
9.2. Labile alternations in Hebrew occur where verb's semantic transitivity is weak..	98
9.3. The implications of the findings on <i>binyan hif'il</i> and the verbal system .....	99
9.4. Accelerated change .....	103
9.5. Concluding remarks .....	105
References .....	108
Appendix I .....	114
Appendix II .....	118
Appendix III .....	120

## Abstract

In general theories of systems of grammar, linguists base their analyses on the “big picture”; the common and frequent uses of language find their way inside the theories, while the exceptions, the irregularities and idiosyncrasies are left outside their boundaries. Sometimes, however, close examination of the exceptions might yield a new perspective on the big picture. When speakers use the exceptions in ways contrary to the general rule, and do so productively and innovatively, a need for revision of the general theory arises, which will better describe the changing relationship between rule and exception in the grammar which it wishes to account for.

The present study discusses the relations between the rule and the exceptions of contemporary Hebrew verbal alternations of transitivity. The general rule, stated and repeated in studies of Hebrew verbal system is that Hebrew marks transitivity alternations through morphological alternations, i.e. *binyan* shifts. The exception is when transitivity alternations occur without concomitant morphological change: **labile alternation**.

Morphological and lexical-semantic analyses were applied on natural data of verb formations in Hebrew, which integrated existing and innovative verbs in both transitive and intransitive argument structures to create labile verbs. The analysis testifies to a dramatic increase of the number of labile verbs and the productivity of the labile alternation in recent years, suggesting new and productive regularities of what is considered idiosyncratic and irregular at best, and shows that Hebrew labile alternation reflects systematic, coherent, and by no means idiosyncratic, meaning relations.

Two classes of Hebrew labile verbs are presented and analyzed in this study: (i) anticausative labile verbs in *binyan hif'il*; (ii) causative labile verbs in *binyan hif'il* and *binyan pi'el*.

The study found that several morphological properties of Hebrew verb system motivate the acceptance of labile alternations. The first is the growing tendency of speakers to obey the prosodic markedness hierarchy and use the prosodically unmarked *binyanim*, *Pi'el* and *hif'il*. The second is the strictness of the Conjugation Classes (pairs of *binyanim* used for alternations, Arad 2005). All (non-passive) transitivity alternations in Hebrew take place within one of the six Conjugation Classes, and speakers do not make up new pairings of *binyanim* for transitivity alternations. The third morphological

motivation for labile alternation is the connection between *binyanim* and syntactic transitivity. The study shows that a verb's *binyan* is sometimes a stronger determinant of the acceptability of a transitive construction than its semantics. The result is higher acceptability of labile verbs.

Lexical-semantic properties were found to shape and restrict the classes of Hebrew labile verbs. The class of anticausative labile verbs is used to express a relatively low degree of semantic transitivity, along the scale proposed by Hopper & Thompson 1980. The lack of morphological alternation between the transitive and intransitive expressions of the verbs reflects their conceptual proximity to one another and at the same time brings these concepts closer in the minds of speakers.

The lexical-semantic factor that best describes causative labile alternation is controllability, such that relatively low degree of controllability of the argument of the intransitive verb over the event increases the possibility to conceptualize an external cause for the event, which makes causative labile alternation acceptable.

The study presents evidence for the grammatical productivity of Hebrew anticausative labile alternation and claims that anticausative labile verbs constitute a coherent peripheral-system of lability, which integrates semantic and syntactic properties that characterize labile verbs crosslinguistically. Specifically, the study shows that *binyan hif'il* is productively related to two, rather than one function. It is the preferred *binyan* for causative derivation of other *binyanim*, but also for Hebrew anticausative labile alternations, fully introduced and defined in the present study.

The extent of labile alternation in contemporary Hebrew suggests a decrease in the dependency of argument structure alternations on morphological contrast, previously regarded necessary for derivational processes. This calls for a revision of previous claims regarding the function of the *binyan* system. In a more general note, the study stresses the importance of a thorough investigation of natural data in order to identify phenomena which could go unnoticed if only prevalent facts of linguistic behavior of speakers is considered.

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## **1. Introduction**

In general theories of systems of grammar, linguists base their analyses on the “big picture”; the common and frequent uses of language find their way inside the theories, while the exceptions, the irregularities and idiosyncrasies are left outside their boundaries, and rightfully so. The distinction between the common rule and the exception is necessary for a comprehensive theory that captures the profound characteristics of the system it describes, without many provisos and limitations.

Sometimes, however, close examination of the exceptions might yield a new perspective on the big picture. When speakers use the exceptions in ways contrary to the general rule, and do so productively and innovatively, a need for revision of the general theory arises, which will better describe the changing relationship between rule and exception in the grammar which it wishes to account for. The fine-grained patterning that permeates the field of lexical organization becomes a foundation upon which generalizations of grammar are built. (Du bois 2003:48)

In the present study I aim to show that the current state of Modern Hebrew’s verbal system raises a question regarding the relations between the rule and the exceptions. Specifically, I address the role of verbs’ morphology alternation in transitivity alternation. The general rule is that transitivity alternation of a verb requires a morphological change of that verb. Indeed, the vast majority of verbs in Modern Hebrew (hereafter Hebrew) have only one basic argument structure with respect to transitivity, such that a verb is either transitive or intransitive. When a verb is transitive, its intransitive alternation takes a different morphological form, and vice versa, as demonstrated in the following examples:



- (1) *dan [avar et ha-xalon \ ha-xalon ni]bar*  
 ‘Dan broke the window’ \ ‘the window broke’
- (2) *hamaim ratxu \ ha-ef hirtixa et hamaim*  
 ‘the water boiled’ \ ‘the fire boiled the water’
- (3) *dan kimet et ha-meil \ ha-meil hitkamet*  
 ‘Dan creased the coat’ \ ‘the coat creased’

Transitivity alternation through morphological derivation is such a dominant pattern in Hebrew that it is widely accepted that transitivity alternations in Hebrew *must be* overtly marked through morphological alternations (Doron 2003, Arad 2005, Arad and Shlonsky 2008). This assertion reflects the dominant pattern of Hebrew, but there is a new pattern as well. This study is an attempt to investigate verbal **Labile Alternation**, **Zero-Derivation** or **Zero-Morphology** alternations (Haspelmath 1993, Bat-El 2001), in Hebrew: argument structure alternations without concomitant morphological change, where **the same verb is used both in transitive and intransitive** senses. Examples for labile alternations in Hebrew are given below:

- (4) *ha-tajas **hinmix** et ha-matos \ ha-matos **hinmix***  
 ‘The pilot lowered the aircraft’ \ ‘the aircraft descended,,
- (5) *ha-menaceax **hitxil** et ha-koncert \ ha-koncert **hitxil***  
 ‘The conductor started the concert’ \ ‘the concert started,,
- (6) *netsig ha-ferut **himtin oti** al ha-kav \ **himtanti** al ha-kav*  
 ‘The customer-service advisor made me hold on the line’ \ ‘I held on the line

It is widely accepted that Hebrew does not have systematic labile alternation. Instances of transitivity alternation without morphological alternation in Hebrew are considered rare, negligible in number, and idiosyncratic, or semi-productive at best (Berman 1993, Doron 2003, Arad 2005, Laks 2011). They are therefore mostly overlooked in modern comprehensive grammatical descriptions of Hebrew’s verbal system as a whole. Contrary to the accepted claims, a careful investigation of **natural**

**data of spoken and written Hebrew (conversations, newspapers, internet forums)**

reveals many cases where a single verb is used for transitive and intransitive readings, violating this profound property of the Hebrew verbal system. Detailed gathering and careful analysis of the data accumulate to new categories of verbs, and the links and connections between these categories uncover, to yield a coherent explanation for the phenomenon. My study reveals that these patterns have been gaining productivity in recent years, pointing at new relations between morphology, argument structure and semantics in Hebrew.

The questions addressed in this study have not been addressed in any previous study regarding the grammatical properties of the verbal system of Hebrew. The first question concerns the very existence of labile alternation: how can we account for the occurrence of transitivity alternations with no morphological change, given what is considered a basic property of the Hebrew *Binyan* system, which is alternation via morphological change? I will show that the forces that motivate the phenomena originate in morpho-phonological properties of the *binyanim*.

The second question is the question of productivity versus idiosyncrasy. Are these changes restricted to specific verbs? If so, can we define their characteristics? Are there new, minor regularities to be defined for Modern Hebrew? I will present evidence for the productivity of labile alternations in innovation of verbs and for using existing verbs in new constructions.

The third question concerns the implications of these patterns of use on the interface between various aspects of linguistic competence of speakers, specifically, I will show that the relations between the mechanism that dictates verbal forms and the possible

argument structures of those forms is more complex than previously considered, and that in a growing number of cases, morphological alternation is no longer a necessity.

### 1.1. Thesis statement

Analyses of labile alternations in Hebrew will provide: (i) the first full descriptive account for the phenomena; (ii) an analysis of the factors which motivate such alternations as well as of factors which restrict it to certain groups of verbs; (iii) evidence for the productivity of such patterns in Hebrew; (iv) evidence for new and productive form-function constructions in the verbal system of Hebrew, and (v) arguments pointing at a changing relation between verbal form and possible argument structures in Hebrew.

I hope to shed a new light on the previously overlooked behavior of labile alternations. By taking into account natural examples of labile alternations, the study aims to illustrate new and productive regularities of what is considered idiosyncratic and irregular at best. My analysis of labile alternations will provide the first comprehensive descriptive account for the phenomena, together with abundant evidence for its productivity.

Most of the study focuses on *binyan hif'il* as a morphological pattern productively related to two functions. *hif'il* (hiCCiC, P5) is the causative alternant for verbs in *binyan pa'al* (CaCaC, P1) in adult grammar and during language acquisition (Berman 1993), as well as the causative alternant in three *Conjugation Classes* (see full explanation in 3.4.2). While this function is well known and widely accepted, the present study shows that the other productive form-function relation of *hif'il* is of labile verbs describing *Degree-Achievement* events (see 6.6), fully introduced and defined in the present study.

The extent of labile alternation in contemporary Hebrew suggests a decrease in the dependency of argument structure alternations on morphological contrast, previously

considered necessary for derivation (Doron 2003, Arad 2005). This calls for a revision of previous assertions regarding the function of the *binyan* system.

The study supports the claim that the different *binyanim* are marked for transitivity, and aims to show that the [+transitive] templates of the verbal system of Modern Hebrew can enable the transitive-accusative construction, even for verbs whose semantics does not entail a transitive construction. This behavior was not recognized in the literature until now. The study testifies to the rise of new patterns in the verbal system of Modern Hebrew, which supports this new claim.

My findings corroborate the findings of previous studies regarding the relations between morphology and argument structure in Modern Hebrew (Laks 2011). The same morphological motivations which trigger other types of processes in Modern Hebrew verbs (illustrated elaborately in Laks 2011) are also responsible for the phenomena illustrated here: a tendency towards the use of the prosodically unmarked *binyanim*.

## **1.2. Outline**

The study is organized as follows. The first two chapters lay the theoretical foundations of the study. Chapter 2 presents the general theoretical background for the research; I present and define the notions of *transitivity* and *argument structure alternation* employed in this study (2.1); I discuss *labile alternation* and present a precise definition for labile transitivity alternation as used in this study (2.2).

Chapter 3 outlines the *morphological properties of the verbal system of Hebrew*. I present the structural characteristics of Hebrew verbs which are directly or indirectly relevant to the distribution of labile verbs, in the following order: first, I give a general description of the morphological patterns of Hebrew verbs – the *binyanim*, Semitic

templates, which define the phonological form of every Hebrew verb (3.1-3.2). Then I proceed to discuss certain properties of the verbal system of Hebrew which contribute to the distribution of labile alternation (3.3). These properties shape the areas of regularity and irregularity of the system, where the relations between form and meaning are regular and systematic and where they are unpredictable and irregular. This, in order to establish the verbal system of Hebrew as prone to certain developments, the spread of labile alternation being one of these developments.

Following the presentation I present and discuss previous literature about Hebrew verbal system and their treatment, or lack of, of the issue of this study (3.4). At the end of chapter 3 I briefly describe the methodology I employed for collecting and analyzing the data.

The second part of the study constitutes its core. Chapters 4-7 deal with the major group of Hebrew labile verbs: the anticausatives labile alternation in *binyan hif'il*. Chapter 4 describes the collection of anticausatives labile verbs and defines the noticeable subclasses of the group according to semantic criteria. This will serve as input for the analysis that will be offered in chapters 5-6. In chapter 5 I give the *morphological analysis of anticausatives labile verbs*, I explain why they have the morphology they do and what the factors are that govern the morphological characteristics of labile verbs (5.1). I follow the morphological explanation with the claim that morphological factors alone cannot fully account for anticausative verbs. I will exemplify this claim in 5.2.

Chapter 6 presents the *semantic analysis of the anticausatives labile verbs*. I claim that anticausatives labile alternation in Hebrew is a well-defined semantic class of verbs. This claim is what distinguishes the present study from previous studies with respect to the

grammatical status of labile alternation. the semantic analysis includes introduction to the causative-inchoative alternation and an investigation of the four subgroups of the causative-inchoative alternation based on the verbs' cause arguments, from the most agentive predicates to the most internally-caused predicates (6.2.). I then focus on two subgroups alternation: the cause-unspecified and the internally-caused predicates, and argue that labile alternation in Hebrew is acceptable only for verbs from these subgroups (6.3). I continue the analysis from the perspective of the role of the theme arguments of the labile verbs, based on the prototypical agent and patient roles of arguments, introduced by Dowty 1991 (6.4). I analyze the anticausative labile verbs according to these semantic parameters and present their semantic profiling in 6.5-6.7.

Chapter 7 continues in the same direction in establishing the grammatical status of Hebrew labile verbs, by addressing the *productivity of the class*. I present evidence from newly collected data to establish my claim that labile alternation is actually productive in Hebrew.

In chapter 8 I present the second class of labile verbs: the *causative labile alternation*. This class of verbs is used in a more innovative manner, rarely lexicalized and much less prevalent. In this chapter I present and analyze this previously unnoticed class of verbs. Their very existence in natural discourse points to a major change in the grammar of Hebrew. I discuss the *morphological sources of this phenomenon*; the dependency of possible argument structures of Hebrew verbs on their morphology (8.1-8.2) and the rigidity of the Conjugation Classes (8.3). I continue with introducing *the semantic conditions* which shape the phenomenon (8.4). I analyze a different kind of causative

labile verbs: causativization of transitive verbs, in order to further establish the claims I present in this chapter (8.4).

Chapter 9 ties all the threads together, and offers a unified explanation for the phenomenon with the major conclusions of the study. I describe the morphological motivations for the phenomenon (9.1), and define the semantic environment which labile alternation is most entrenched (9.2). I identify the gaps in the verbal system of Hebrew and show how labile alternations fill them (9.3). I support Ravid's 1995 characterization of Hebrew as a language with an accelerated rate of change, and suggest that the labile alternations we're now witnessing are only the beginning of a dramatic change in the grammar of Hebrew (9.4). I conclude with suggestions for future research of the topic (9.5).

## **2. Transitivity, argument structure and labile alternation**

### **2.1. Transitivity**

Transitivity has recently been understood as a property of a clause, such that an activity is carried-over, or transferred, from one participant ('agent') to another ('patient') (Hopper & Thompson 1980). Linguistic transitivity is divided into two, mutually dependent and mostly correlative notions of semantic transitivity and syntactic transitivity. The purpose of the division is to break down the parameters that shape semantic transitivity and thus to show that transitivity alternation is basically the outcome of some manipulation of one or more parameters, reflected syntactically by alternating the number of arguments or their roles.

Hopper and Thompson (1980) described the components which together define degree of transitivity, only one of which is the presence of a direct object. Other properties, such as kinesis, volition, telicity and agency, are factors for the degree of which an event is understood as more or less transitive. This view of transitivity is scalar and continuous, and every language must divide this continuum into the discrete units of syntactic manifestations of transitivity.

**Grammatical transitivity** is the manifestation of the transitivity of the clause by grammatical means. Such means include the number syntactic arguments, transitivity markers of the patient role such as Direct and Indirect Objects, morphological markers on the verb, and others. What is important to understand here is that grammatical transitivity is a projection of the semantic continuum into discrete grammatical units, therefore grammatical transitivity is not a binary property, but a scale. The syntactic scale must reflect the semantic continuum. For instance,



(7) The hikers climbed the mountain,

where the patient is a Direct Object, is syntactically more transitive than

(8) The hikers climbed **on** the mountain,

where the patient is an Indirect Object, reflecting a difference in telicity which is one of the factors for transitivity described by Hopper & Thompson (1980).

However, syntactic transitivity reflects a binary division: transitive and intransitive clauses. Transitive clauses include verbs with direct objects, while intransitive clauses do not. The classification relies on two factors (Letuchiy 2009):

(i) Valency: the number of syntactic arguments required by the verb (for instance, in

*“I gave John a pen”* the verb give is trivalent, because it must take three syntactic arguments: the agent I, the recipient John and the patient a pen).

and

(ii) Syntactic transitivity: the two fold opposition of verbs taking or lacking a Direct object.

This definition of valency and transitivity allows for intransitive verbs that are not monovalent, if neither of their arguments is a direct object.

Transitivity alternation, on this view, is the construal of situation A' from situation A, which is different from A in the number of arguments and their syntactic role (although semantically close to it). Of course, transitivity alternation must reflect at least some difference in the way an event is construed that is relevant to the semantic properties of transitivity, as determined by Hopper & Thompson (1980). For instance, the semantic property related to transitivity which differs in the pair ‘I broke the stick’ and ‘the stick

broke' is agency (and maybe volition as well). The syntactic alternation thus reflects a reduction in the semantic parameters agency and volition.

## 2.2. Labile verbs

The notion of lability concerns the phenomenon of a single verb participating in both transitive and intransitive argument structure without any change in its formal marking (Haspelmath 1993: 92; Dixon 1994: 18, 54, 217; Letuchiy 2006, 2009). The traditional definition of a labile verb, adopted in typological and descriptive works is: *a labile verb is a verb which can be used transitively or intransitively without any formal change*. Lability was primarily analyzed as one of the ways to express an inchoative/causative opposition (Haspelmath 1993). I adopt Letuchiy's (2009) definition for **labile alternations**, which involves two parameters: transitivity change and change of semantic roles. Letuchiy 2009 postulates the following:

- i) Labile verbs have at least two distinct uses, one transitive and one intransitive;
- ii) The subject in these different uses has different semantic roles: agent or cause in the transitive use, theme or patient in the intransitive one. This classification leads to a revised definition of lability: a labile verb is a verb with two uses, which differ in syntactic transitivity and in the semantic role of the subject.

Lability can also be interpreted as a sort of polysemy, similar to other types of polysemy in natural languages. Crosslinguistically, very often the group of anticausative labile verbs includes verbs with weak semantic transitivity (Letuchiy 2009), and the same will be shown to be true for Hebrew labile verbs.

### 2.2.1. Typology of labile verbs:

Different languages choose different systems of labile verbs, if at all. Lability does not usually spread to all prototypically transitive verbs in a language, but “chooses” a narrow group of verbs, and the semantic mapping of labile verbs differs from one language to the other. This is why we find high variance of classes of labile verbs (Letuchiy 2006).

Labile systems can be divided into diathetic classes, according to the types of alternation they express (Letuchiy 2006): anticausative (and causative), reflexive, converse (see 5.1.4.), passive, and reciprocal. The most common type of lability crosslinguistically is the anticausative type. this is due to the following reasons: (i) almost all verbal systems have reflexive markers, whereas many of them do not have either causative or anticausative markers; (ii) anticausative meaning combines naturally with a wider class of situations than reflexivity or reciprocity; (iii) lability tends to bind two “autonomous” situations, which can be presented as two variants of the same situation. Reflexive, reciprocal and converse types are not only rare, but also hardly predictable (Letuchiy 2006). In this study I argue that in Hebrew there is **a dominant class of anticausative labile verbs**, and **a smaller class of causative labile verbs**. Another type of Hebrew labile verbs is **converse labile verbs** which will be briefly discussed in 5.1.4. Anticausative labile systems can be divided into semantic classes: **core systems** and **peripheral systems** (Letuchiy 2006). In core systems, the labile verbs belong to the prototypically transitive class: they have a prototypical agent or causer and a prototypical patient, which is a material object and changes its properties during the situation.

Core systems are of the following types: (i) *spontaneity-prominent systems* and (ii) *patient-prominent systems*.

In spontaneity-prominent systems, the degree of spontaneity is important. Labile verbs in a particular language will be more probable given higher degree of spontaneity of the event. I use this property to analyze Hebrew labile verbs in 6.3.

In patient-prominent systems characteristics of the participant are more prominent than those of the situation as a whole. Labile verbs in a particular language will be more or less probable given the degree of patientivity of the second argument. I follow this typological characterization I somewhat opposite perspective in 6.4, where I analyze the degree of agentivity of the theme arguments of the labile verbs.

In Peripheral systems, labile verbs do not belong to the prototypically transitive class: they either do not have a prototypical patient or a prototypical agent. The main classes which are labile in peripheral systems are phase and motion verbs, but other verbs with less prototypical transitivity can be found in this class. In this study I will argue that with respect to transitivity, Hebrew labile verbs constitute a peripheral system.

Since lability in some cases is regarded as a gradual feature (Letuchiy 2006), another type of labile verbs recurring crosslinguistically is the **Partially-Labile verbs**. Partially-labile verbs are verbs which have two asymmetric uses, such that one of them is much more frequent than the other, which occurs rarely and in specific contexts. For example, we find occasional transitive uses of Russian and English intransitive verbs, as in:

(9) Extremely hot sun blossomed all flowers (example taken from Wright 2001).

This type of labile verbs will be discussed in chapter 8.

In this study I advance the claim that Hebrew has developed labile systems that have the properties of all four types, with intersections between them. As will be shown in chapters 6 and 8, labile Hebrew verbs comprise of phase verbs (peripheral systems), spontaneity-prominent and patient-prominent verbs (core systems) and instances of occasionally-transitive uses of intransitive verbs (Partially-labile systems). Evidently, the labile system in Hebrew, in addition to its productivity and the high acceptability of the innovative uses it creates, follows universal generalizations found independently regarding lability. The general picture is far from idiosyncrasy, then.

### **3. Morphological properties of Modern Hebrew verbal system**

#### **3.1. Word-based approach to the (verbal) lexicon**

This study adopts the assumptions that words are stored in the mental lexicon together with all their morphological, syntactic and semantic information (Bat-El 1994, McCarthy 2005). This approach asserts that words are created from existing words (Aronoff 1994), and that consonantal roots do not occupy a separate entry in the mental lexicon. Roots, as a part of the speaker's linguistic competence, are a consequence of the notion of stem, the consonantal skeleton of a word, together with the vocalic pattern of the templates. The lexical information is carried by the entire word, and the root is a result of stem modification (Bat-El 1994), and is not the base for the derivations of verbal forms. This stands in opposition to the root and pattern approaches (Doron2003, Arad 2005).

#### **3.2. Semitic Morphology**

Verbs, nouns, and adjectives in Semitic languages are derived from a (tri-)consonantal stem by different templates of syllabic skeletons, vowel sequences, and affixes. The stem is usually the only common element shared by derivationally related forms. For example, the following Hebrew forms share the stem [y][l][d] ‘birth, child’ (examples adopted from Doron 2003)

##### **I. Stem**

- a. [y][l][d] birth, child

##### **II. Verbs**

- a. [y]a[l]a[d] gave birth
- b. [y]i[l]e[d] delivered a child

##### **III. Nouns**

- a. [y]i[l]o[d] beget
- b. [y]e[l]e[d] child (masc.), boy
- c. [y]a[l][d]a child (fem.), girl
- d. [y] a [l]a[d]on small child (masculine), boy
- e. [y]e[l]i[d] native
- f. [y]a[l][d]ut childhood

Roughly speaking, the pattern (including vowels, prefix, and or suffix) provides a template into which the stem consonants can be plugged, in order to get the required meaning.

### 3.2.1 Morphological characteristics of Hebrew *binyanim* system

The verbal system of Hebrew is rather limited and of a distinct character compared to the possibilities for deriving nouns in Hebrew. The prosodic templates, or *binyanim* (literally ‘buildings’, ‘constructions’, *binyan* sg.), are matrixes of vocalic patterns, empty slots for consonants and in some cases also affixes. Hebrew verbs are formed by integrating the stem consonants into the consonantal positions provided by the prosodic templates, resulting in a word which receives its consonants from the stem and its vowels from the template.

The *binyanim* have two functions related to inflection (Bat-El 2011). First, they dictate the shape of verbs; every Hebrew verb must take the form of one of the *binyanim*. The possible syllable structures of Hebrew restrict the possible syllables of the *binyan*, and in turn, the possible structures of the *binyanim* restrict the potential forms of verbs. If a stem

cannot fit into one of the templates, be it for its syllable structure, length or OCP<sup>1</sup> restrictions, the formation of a verb will be prevented. In other words, only when a stem can be plugged into the template resulting with a felicitous syllable structure that can inflect throughout the paradigm of an existent template, can a Hebrew verb be born.

Second, the *binyanim* determine the inflectional paradigm of the verbs; each template has its own inflectional form with respect to tense, person, gender and number. The phonological shape of a verb, unlike that of a noun, is essential for determining the shape of the other forms in the inflectional paradigm (Berman 1978, Bolozky 1978, Bat-El 1989, Aronoff 1994a, 2007). The inflectional paradigm is highly consistent and predictable (McCarthy 2005).

(Table 1) the active *Binyanim*: Inflectional table for tense, 3<sup>rd</sup> p. singular<sup>2</sup>

	<b>CaCaC (P1)</b>	<b>niCCaC (P2)</b>	<b>CiCCeC (P3)</b>	<b>hitCaCCeC (P4)</b>	<b>hiCCiC (P5)</b>
Infinitive	liC.CoC lignmor 'finish tr.'	le.hi.Ca.CeC lehigamer 'finish intr.'	le.Ca(C).CeC leragel 'spy'	le.hit.Ca.CeC lehitragel 'get used to'	le.haC.CiC lehargil 'accostume'
Past	Ca.CaC Gamar	niC.CaC nigmar	Ci(C).CeC rigel	hit.Ca.CeC hitragel	hiC.CiC higil
Present (benoni)	Co.CeC Gomer	niC.CaC nigmar	me.Ca(C).CeC meragel	mit.Ca.CeC mitragel	maC.CiC margil
Future	jiC.CoC yignmor	ji.Ca.CeC yigamer	je.Ca(C).CeC yeragel	jit.Ca.CeC yitragel	jaC.CiC yargil

<sup>1</sup> Obligatory Contour Principle, according to which "Adjacent identical elements are prohibited" (McCarthy 1986). Specifically for the case of Hebrew, the prohibition is against a cluster of two adjacent consonants that share the same manner and place of articulation in the case of /td/, or identical consonants in the case of /tt/ (Laks 2011)

<sup>2</sup> Hebrew verbs are cited in the morphologically simple form of 3<sup>rd</sup> person masculine singular, unless otherwise specified. The stops p, b, and k may alternate with the fricatives f, v and x respectively in different forms of verbs constructed from the same consonantal root.



Two passive *binyanim* CuCCaC (P6) and huCCaC (P7) host derived passive verbs from P3 and P5, respectively:

(Table 2) the passive *Binyanim*: Inflectional table for tense, 3<sup>rd</sup> p. singular<sup>3</sup>

	<b>CuCCaC (P6)</b>	<b>huCCaC (P7)</b>
Active base form	CiCCeC (P3) <i>fixrer</i> ‘release’	hiCCiC (P5) <i>hifmid</i> ‘destroy’
Past	Cu(C).CaC <i>fuxrar</i> ‘release PASS’	huC.CaC <i>hufmad</i> ‘destroy PASS’
Present	meCu(C).CaC <i>meḥfuxrar</i>	muC.CaC <i>muḥfmad</i>
Future	jeCu(C).CaC <i>jeḥfuxrar</i>	juC.CaC <i>juḥfmad</i>

### 3.3. Regularity and irregularity in the verbal system

The choice of *binyan* for a given verb is to some extent predictable, but there is also a great deal of variation and idiosyncrasy in the system. Previous studies have addressed various aspects of the relationship between form and meaning in the verbal systems of Hebrew (Schwarzwald 1975, 1981, Bolozky 1978, 1982, 1999, 2003a, McCarthy 1981, Bat-El 1994, Ussishkin 1999a, 2005, Borochofsky 2001, Doron 2003, 2008, Siloni 2008a, Izre'el 2010, among many others).

#### 3.3.1. Derivation in the Hebrew verbal system

As befits a Semitic language, Hebrew argument structure alternations are expressed by verb morphology, analogous to a few frozen alternations in modern English (e.g. rise vs. raise, sit vs. seat). (Berman 1993). Unlike inflectional processes, derivational relations are much less predictable. Crosslinguistically, alternations of verb meanings tend to be

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<sup>3</sup> Passive *binyanim* do not have an infinitive form.

marked morphologically on the verb (Haspelmath 1993). In Hebrew it is done by associating each alternation with a different pair of *binyanim*.

Different argument structures reflect different values of transitivity. Each *binyan* is associated with a different transitivity, and hence with different possible argument structures. Many languages tend to restrict special morphology to subclasses of transitive and intransitive verbs (Rapaport Hovav et al. 2010). The five non-passive *binyanim* considered above display typical values for syntactic transitivity, where [+trans.] *binyanim* are narrowly defined as occurring in SVO constructions and governing accusative case (i.e., the object nominal takes *et* clitic when definite), while [-trans.] *binyanim* refers to all the rest (Berman 1993). P1 is syntactically neutral, because it is equally available for intransitive and transitive predicates; only some, though not all, verbs in P1, P3 and P5 govern accusative case Direct-Object marked by *et*. P2 and P4 do not host any accusative transitive verbs, and can never take Direct Objects, even if their semantics is transitive (see discussion in 8.1). and, while not available for Direct Objects, verbs in P2 and P4 can be “loosely transitive” because they may require an object argument, for example P2 *nixnas le* ‘enter to’, *nehena me* ‘enjoy (from)’ or P4 *histakel al* ‘look at’. P6 CuCCaC and P7 huCCaC host only passives for P3 and P5 respectively. The connection between template and transitivity is summarized below:

(Table 3) Salient transitivity of the *binyanim*

#	Template	Salient transitivity
P1	CaCaC	Neutral
P3, P5	CiCCeC, hiCCiC	Transitive
P2, P4	niCCaC, hitCaCCeC	Intransitive
P6, P7	CuCCaC, huCCaC	Passive

The connection between template and transitivity receives its prominence from the systematic transitivity alternations, demonstrated here:

(Table 4) Examples for systematic derivational alternations between templates:

Base form	Example	Alternation	Derived form	Example
CaCaC	<i>gamar</i> ‘finish’	decausative	niCCaC	<i>nigmar</i> ‘end’
CaCaC	<i>rakad</i> ‘dance’	causative	hiCCiC	<i>hirkid</i> ‘cause to dance’
CiCCeC	<i>ximem</i> ‘heat’	decausative	hitCaCCeC	<i>hitxamem</i> ‘heat up’

However, transitivity alternations in Modern Hebrew exhibit variable relations among the basic and derived verbs (Bat-El 2011). The *binyan* system is bidirectionally functionally non-unique (Berman 1993); *binyanim* lack specific semantic content, and semantic relations between argument and predicate can be manifested in various *binyanim*.

The functional non-uniqueness is true also for consonantal stems; Not all the verbs that share stem consonants share a derivational paradigm (e.g. *zarak* ‘throw’ and *hizrik* ‘inject’, *nimlat* ‘escape’ and *himlit* ‘give birth (mammals)’), and sharing a derivational paradigm may reflect very different thematic relations (e.g. *ʕijef* ‘tire’ – *hitʕajef* ‘become tired’ are a transitive-unaccusative alternation, while *gileax* ‘shave TR’ – *hitgileax* ‘shave REF’ are transitive-reflexive alternation, and so on). However, the property that is predictable and consistent is the connection between the verbal template of the verb and its transitivity.

A more robust generalization than the distribution of transitivity is that any change in valency is marked by a morphological shift in *binyan* assignment. Arad and Shlonsky (2008) state that not all verbs must share derivational paradigm with other verbs, however

if a verb belongs to a derivational paradigm, all its alternations must appear in different templates. While true for the vast majority of Hebrew verbs, and indeed reflecting a salient property of the template system, this assertion as is is refuted by the findings of the current study, and the study aims to present the conditions under which Hebrew verbs violate it.

### **3.3.2. The prosodic markedness hierarchy**

There are five (active) *binyanim* in Hebrew, but only a few of them are actually used in the formation of new verbs (Bolzky 1978, 1982, 1986 1999, Schwarzwald 1981a, 2002, Berman 1987). Other *binyanim* are used almost exclusively for existing forms. Laks (2011) shows that the process of selecting a *binyan* is based on the interaction of morpho-phonological and syntactic-semantic criteria. Morpho-phonological criteria for *binyan*-selection include the prosodic properties of the *binyanim*, as well as the structure of their inflectional paradigms and their relationship with the morpho-phonological properties of the base from which they are derived.

Thematic-semantic criteria are based on the syntactic valence of the verb and its theta-grid, as well as the semantic field it belongs to. Thematic-semantic criteria are based on verbs' syntactic transitivity and their thematic grids as well as the semantic properties that are typical to some *binyanim*.

The morphology of inflectional paradigms of the *binyanim* creates a hierarchy of prosodic markedness. The term *markedness* has received a great deal of attention and many definitions within the linguistic literature (Haspelmath's 2006 discussion of the term). For present purposes I follow Laks (2011) and use the term only as it applies to the morphological complexity of the prosodic structure of some *binyanim*. Markedness

constraints concern universal markedness and specify either conformity to phonetic generalizations of the specific language or with cross-linguistic generalizations. When satisfied, markedness constraints cause marked structures to be repressed.

The prosodic markedness of Hebrew verbs depends on two parameters; prosodic structure and affixation. P1 (CaCaC) and P2 (niCCaC) alternate their prosodic structure within the inflectional paradigm. This alternation makes P1 and P2 morphologically more complex and less transparent than other *binyanim*. This results in a phonological load expressed by prosodic shifting (Bat-El 2002), so that P1 and P2 can be defined as paradigmatically the most marked *binyanim* in prosodic structure (Laks 2011), whereas P3, P4 and P5, preserve the same syllabic structure across their inflectional paradigm (Schwarzwald 1996, Bat-El 2001). Among the three, P4 and P5 are more marked due to the fact that they have a prefix. The relative markedness of each *binyan* creates preferences regarding the form of Hebrew verbs. The *Binyanim* are ordered hierarchically in the following order (Laks 2011 Schwarzwald 1996):

The prosodic markedness hierarchy of Hebrew *binyanim*

P3 CiCCeC >> P4 hitCaCCeC, P5 hiCCiC >> P1 CaCaC >> P2 niCCaC

The crucial difference in markedness relevant for the present purposes is between the prosodically non-alternating *binyanim*, P3, P4 and P5 on the one hand, and the prosodically alternating *binyanim*, P1 and P2.

Hebrew speakers prefer to coin verbs which are relatively unmarked. One result of this hierarchy is that the rate of innovative verbs is directly influenced by the markedness hierarchy (Schwarzwald 1996). New verbs in Hebrew are coined in a decreasing order of frequency identical to the prosodic markedness hierarchy (Berman 1978, Laks 2009,

2011). Laks 2011 shows that some *binyanim* are highly productive in verb innovation, while other are less frequently used for this purpose or not used for it at all.

(Table 5) Verb innovation in Hebrew (Laks 2011):

<i>Binyan</i>	Number of verbs
P3 CiCCeC	353 (66%)
P4 hitCaCCeC	125 (24%)
P5 hiCCiC	41 (8%)
P1 CaCaC	12 (2%)
Total	531 (100%)

Another result of the importance of the hierarchy is a **morphologically motivated change** in the form of verbs (Laks 2011). this results in a system that is less stable than commonly thought. Laks (2011) shows that occurrences of *binyan* change are motivated by the prosodic markedness hierarchy. Sometimes, a verb of a relatively marked *binyan* changes its morphological form to a less marked *binyan*. Specifically, the forms in P1 and P2 tend to be replaced by forms higher on the hierarchy and lower in markedness:

(Table 6): Morphologically motivated change

Old <i>Binyan</i>	New <i>Binyan</i>	Examples
P2	P4	<i>nirkam</i> ~ <i>hitrakem</i> ‘be embroidered’
		<i>nigla</i> ~ <i>hitgala</i> ‘be revealed’
		<i>neecav</i> ~ <i>hitacev</i> ‘become sad’
P1	P5	<i>takaf</i> ~ <i>hitkif</i> ‘attack’
		<i>taan</i> ~ <i>hitfin</i> ‘load’
		<i>taman</i> ~ <i>hitmin</i> ‘conceal’
P1	P3	<i>nafak</i> ~ <i>nifek</i> ‘kiss’
		<i>kavas</i> ~ <i>kibes</i> ‘laundry’

When a verb in P1 or P2 is replaced by a P5 verb, the result is very often a labile verb that has two different argument structures. In 5.1 I show how the morphologically motivated change has been crucial in the rise of labile alternations.

The prosodic markedness hierarchy stands in some contrast to the morphological markedness of *binyanim*. Historically, P3 and P5 are morphologic markers of intensive and causative agency, respectively (Doron 2003). These functions are active in the synchronic grammar as well. That is, base forms in P1 may receive causative meaning via its derivation into P5:

*katav* ‘write’ *hextiv* ‘dictate’

*axal* ‘eat’ *heʔexil* ‘feed’

Other base forms in P1 receive intensive meanings via derivation into P3:

*kafac* ‘jump’ *kipec* ‘hop, jump iteratively’

*favar* ‘break’ *fiber* ‘shatter’<sup>4</sup>

*rakad* ‘dance’ *riked* ‘dance (intensive)’

*parak* ‘dismantle’ *perek* ‘deconstruct’

This means that new verbs, coined in P3 and P5, already have a “derived” morphology, therefore will never share derivational paradigm with P1 which can only have base, non-derived verbs. This point will be elaborated in 6.7.

The status of P3 and P5 is dual: they host derived verbs from existing P1 verbs, which makes them morphologically marked relative to the base forms, but also serve as independent, prosodically unmarked patterns of inflection for verbs.

The following sections will be dedicated to previous accounts of the Hebrew template system which are relevant for the present work. Each of the theories I review below

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<sup>4</sup> Derivation from P1 CaCaC to P3 CiCCeC requires gemination of second consonant of the stem, turning fricatives into stops.

considers transitivity alternations with no morphological change an idiosyncratic and irregular at best.

### **3.4. Literature Review**

This section presents previous studies which aimed at comprehensive accounts for the Hebrew verbal system, with respect to argument structure alternations. Each of the studies has its own theoretical frameworks, premises and conclusions. Here I intend to provide the principle claims and arguments, and to analyze only the parts which have a direct bearing on labile verbs and alternations. Specifically, I will show that insufficient attention to labile verbs as an important part of the grammar, may have led to overgeneralizations which should be revised, with respect to the necessity of morphological change for transitivity alternation. The same is true for overstated assertions regarding the (low) acceptability and productivity of labile verbs.

#### **3.4.1. Agency and Voice in the Semitic Templates (Doron 2003)**

Doron's account is the most elaborate and systematic formal treatment of the semantic contribution of Semitic templates. As such, it investigates the relations between verb morphology and argument structure alternations. Doron (2003) is interested in a unified analysis for middles and causatives, in line with the typological generalizations of Haspelmath (1993) that causative and middle alternations often share morphological forms across languages.

The point of departure for Doron's discussion is that the lexicon of the language consists of coarse-grained *roots* and that verbs are derived from the roots by merging them with other morphemes realized in the Semitic templates. A verb is thus a complex



entity, which receives its semantics from the two atomic entities, root and template-morpheme.

It is important to state that Doron's (2003) account ascribes the systematic contribution of verbal templates to the notion of morphological contrast; the idea is that only when a root creates more than one morphological word is the semantics contribution of the morphological templates transparent. When no contrast is expressed, the templates of single-occurring verbs are completely uninformative, i.e. the form/meaning correspondence is opaque as in familiar languages with poorer morphology. If a single verb stem exists in the root, it will have no contrastive features and will therefore fit any combination of features which appears in the syntax.

The roots carry the basic semantics of the verb, i.e. event semantics and thematic role for its (internal) argument. Template morphology, according to this account, is a reflection of a semantic-syntactic head which maps verbs along two semantic dimensions: (a) Agency, the thematic role of the verb's external argument, and (b) Voice.

Agency is a thematic domain for a verb's external argument. Its values in Hebrew can be (1) *agent*, where the external argument is a volitional actor in the event; (2) *cause*, where the external argument is the cause for the event; and (3) unspecified. These options correspond to three active templates:

- a. P1 CaCaC simple template, unspecified for agency.
- b. P5 hiCCiC causative template, assigns *cause*.
- c. P3 CiCCeC intensive template, assigns *agent* or *actor*, actively participating in the event.

Transitive verbs are derived by combining the root with a morpheme which contributes an external argument. A morpheme which specifically contributes a cause marks the derived verb with causative morphology. A morpheme which contributes an actor external argument marks the derived verb with intensive morphology. If a root appears in more than one of the active templates, the different verbs correspond to different perspectives of the same event with respect to agent type. The different manifestations of active verbs are given below:

(12)

- a. *dana\ha-ruax favra et ha-xalon*  $\sqrt{\text{br}} + \text{CaCaC}$ , unspecified agency.  
'Dana\the wind broke the glass'
- b. *dana \ \*ha-ruax fibra et ha-xalon*  $\sqrt{\text{br}} + \text{CiCCeC}$ , actor role  
'Dana \ \*the wind smashed (actively broke) the glass'
- c. *baʔalat-ha-bait\ ha-avtala hifneta et ha-dayarim le-li/kat-ha-avoda*  $\sqrt{\text{pnj}} + \text{hiCCiC}$ , cause role  
The landlady / unemployment turned-CAUS the tenants to the employment agency
- d. *baʔalat-ha-bait/ \* ha-avtala pinta et ha-dayarim*  $\sqrt{\text{pnj}} + \text{CiCCeC}$ , actor role  
The landlady / \*unemployment turned-out-INTNS the tenants

The second dimension encoded in the template system is voice. Voice of a verb is a modification of its argument structure with respect to its external argument. Its possible values in Hebrew can be (1) *active*, where an external argument acts; (2) *middle*, where there is no external argument and (3) *passive*, where an external argument is implied.

Passive verbs always have correlating active verbs, while middle verbs may be formed independently of transitive verbs. This leads Doron (2003) to assert that middles may derive from roots, while passives derive from a modification of the active head of an existing verb (similar insights but from different perspectives are found in Arad 2005,

Reinhart and Siloni 2005, Horvath and Siloni 2010, Laks 2011). The middle voice head modifies the argument of the root, unlike the passive morpheme, which modifies the external argument. The middle morpheme may assign the root's argument the thematic role of Agent, which explains why certain middle verbs are interpreted as reflexive.

Voice heads are morphologically realized by different templates, each corresponding to the active templates with respect to prosodic structure. The two-dimensional morphology of the verbal templates' grid presented in (...) mirrors the two orthogonal dimensions of semantic derivation of verbs. A mapping of the different functions of the templates is illustrated below (Doron 2003):

(Table 7) The matrix of the active *binyanim*

	<b>Active</b>	<b>Middle</b>	<b>Passive</b>
<b>Simple</b>	<b>CaCaC</b>	<b>niCCaC</b>	<b>---</b>
<b>Intensive</b>	<b>CiCCeC</b>	<b>hitCaCCeC</b>	<b>CuCCaC</b>
<b>Causative</b>	<b>hiCCiC</b>	<b>---</b>	<b>huCCaC</b>

#### **3.4.1.1. Analysis of Doron 2003 with respect to the present study**

Recall, that Doron's theory predicts systematicity only in alternations. This allows the theory to capture the regularity, without committing to saying that the contribution of the template to a given verb is always predictable. Yet, since Doron 2003 is committed to the notion that (contrastive) morphological form is a manifestation of syntactic heads, and that templates are not merely inflectional classes (Aronoff 1994), a few predictions do follow from the mapping in the matrix above. First, it predicts that morphological template is predictive for verb semantics, i.e. that causative morphology will predict causative meaning, middle morphology will predict middle semantics, and so on, and

also the other way around, i.e. that a causative alternation of a transitive verb will always appear in P5, and that middle alternations of transitive verbs will have the morphology of one of the middle templates.

Second, the gaps in the mapping indicate the following: (i) passive and middle voices derive by different syntactic heads; therefore there is no passive derivation for the simple template, and (ii) there is no middle derivation in the causative templates.

There are several problems with these predictions, and here I point out the important ones from the perspective of the present study. In chapter 9.3 where I discuss my findings, I will argue that they refute Doron's (2003) proposal and render it too restrictive with respect to the connection between morphology and the semantic properties they are claimed to spell out.

Let us look closely at the first prediction, which correlates between the choice of *binyan* and verb semantics. According to the prediction, P4 verbs are middles. However, consider the following P4 verbs:

(13)

a. *hitmace* 'be oriented'; b. *hitgara* 'tease'; c. *hifdaleax* 'excoriate'

The verbs in (13) as well as many others in P4 are not reflexive, their morphology is contrastive (they share consonantal root with other Hebrew verbs), yet there is no independent evidence, other than their template, for a middle character. Indeed, they are PP-taking transitives, and do not have a middle reading as defined by Doron 2003.

Doron's theory predicts that causative alternation will appear in P5. Consider the following pairs of causative alternations:

(14)

a. *kafa – hikpi* ‘freeze’; b. *nirtav – hirtiv* ‘wet’; c. *nifbar – favar* ‘break’; d. *hitxamem – ximem* ‘heat’.

There are (at least) four patterns of the causative alternation in Hebrew, demonstrated in (14). Two of them, represented in (c) and (d) do not include P5. Thus, causative morphology, restricted to P5 according to Doron 2003, is neither sufficient nor necessary for a verb of the causative alternation.

Last, the prediction with respect to agentive morphology is also refuted empirically. It predicts that when it comes to the external argument of a verb, P3 verbs will be specified for actors (Arad 2005). However, we do find P3 verbs which do not denote an agent:

(15)

a. *ha-pkakim fitku et ha-ir* ‘the traffic paralyzed the city’

b. *ha-nicaxon simeax et ha-ohadim* ‘the victory cheered up the fans’

Both examples in (15) present causative verbs, where the external argument is not an actor in the event, but rather a pure cause for it. Thus, P3 morphology is **not** predictive for *agent* role.

Let us now look at the consequences of the morphological gap in Doron’s 2003 matrix. According to Doron 2003, P2 is a reflection of a middle morpheme. Thus P2 verbs are interpreted as middles, and not passives. This claim faces dozens of counter-examples of active-passive alternations in CaCaC-niCCaC, e.g. *axal – ne?exal* ‘eat-PASS’; *bala – nivla* ‘swallow-PASS’; *famar – nifmar* ‘guard-PASS’; *lakax – nilkax* ‘take-PASS’.

The verbs above, and many others in P2, are passives, where an external agent for the event is implied (Arad 2005). There is no independent evidence that these verbs are middles. They behave syntactically and semantically like other passives, with respect to

dependency on their matching active verb. This is evidence that morphological form cannot systematically predict a single syntactic or semantic function of a verb. This means that P2 can host both middle and passive verbs. The discussion above shows that the claim that *binyanim* have a functional role in determining semantic properties of agency and voice is at least not always borne out. This is important for the present purposes, because when a verb is labile, it has two contradictive values with respect to both agency and voice. For agency, it is clear that labile verbs in P5 have a cause role in the transitive reading, and lacking it in the intransitive one. For voice, it is clear that *binyanim* are not restricted to a single function. Similarly, based on my findings I claim that labile verbs in P5 have middle voice (see discussion in 9.3). If Doron's account must be rejected on independent grounds, it should be easier to accept that P5 is a two-fold *binyan* for two systematic functions.

#### **3.4.1.2. The relevance of Doron 2003 to the present study**

The problems presented above show that on one hand, Doron's (2003) system is too restrictive with respect to the connection between morphology and the semantic properties they are claimed to spell out. On the other hand, the system does not account for systematic alternations that fall outside voice and agency, e.g. aspectual alternations (*faxav* 'lie' - *nifkav* 'lie down', *ahav* 'love' - *hitpahev* 'fall in love'). What these critiques suggest is that the connection between morphology and semantics cannot be narrowed down to these two functional heads, if any. The functional properties which accompany derivational alternations in Hebrew are too diverse and present an array of idiosyncrasies.

The present study must deal with Doron's (2003) account of the Hebrew template system because the findings regarding to labile verbs clash with two principles of

Doron's (2003) theory, the role of morphological contrast and the templates as reflections of syntactic heads. Doron's account ascribes the systematic contribution of verbal templates to the notion of morphological contrast; the idea is that only when a root creates more than one morphological word is the contribution of the *binyan* to the meaning of the verb systematic. When no contrast is expressed, the *binyanim* of the single-occurring verbs are completely uninformative. If a single verb stem exists in the root, it will have no contrastive features and will therefore fit any combination of features which appears in the syntax. Accordingly, the *binyan* of the verbs might as well be idiosyncratic.

The problem with this assertion is that it is incompatible with transitivity alternations with no morphological contrast: if they are considered single-occurrence verbs, their morphological form is rendered opaque and uninformative. My analysis will argue the opposite. Labile verbs belong to coherent semantic groups, and that P5 is a productive and systematic morphological pattern for such semantics (see 6.6, 7). If, on the other hand, labile verbs are considered not single-occurring but alternating verbs, which under certain circumstances chose the same template for the alternation, then we must explain away the lack of morphological contrast which is claimed to be essential for marking transitivity alternation.

Since Doron (2003) is committed to the idea that morphology is a spell-out of a functional head, the case of labile alternation in the causative template presents a problem for her account. Intransitive verbs such as *hiffir* 'melt' and *hifmin* 'get fat' cannot be classified as middles since they lack a middle morphology. They are treated as

“causative-unaccusatives”, which maintain an external cause interpretation, e.g. “x *hifmin*” means “something caused x to fatten” instead of “x got fat”.

However, my critique of Doron’s theory here suggests that it is not morphology that determines the reading of the verb with regard to voice (or to agency). Moreover, there is no independent reason to assume that intransitive *hifmin* ‘get fat’ is different from the middle *nifbar* ‘break’ with respect to voice. Therefore, I suggest that the templates do not manifest voice systematically, contrary to Doron’s (2003) claims.

### **3.4.2. Roots and Patterns: Arad 2005**

As opposed to Doron 2003, Arad 2005 is not an attempt to capture a systematic contribution of the templates in determining verb semantics, but rather to account for both the regularity and irregularity of the template system, with respect to the great freedom for verbs of the same root in association with different templates and in acquiring different meanings. Like Doron 2003, Arad (2005) adopts the hypothesis that verbs are formed by a combination of roots and verbal features. Arad also shares the view that morphology reflects syntactic structure, i.e., that contrast in form points at a contrast in meaning, and vice-versa.

But contra Doron, who takes template morphology as one-to-one projections of functional heads, Arad claims that Hebrew verbal system exhibits a substantial degree of *syncretism*, where the same phonological exponent marks two or more grammatical properties. Such a many-to-many system cannot be transparent as to the contribution of a single *binyan* to the meaning of the verb.

According to Arad, the simultaneous regularity and irregularity of the system follows from the dual role of the template system. First, it marks argument structure alternations,



which are regular in that they employ systematic *binyan* alternations for specific meaning alternations, such as passive, reflexive, causative-inchoative and so on. Second, it creates multiple verbs from a single root, an irregular process because it involves a degree of syncretism, meaning that the form-meaning relations are not systematic or predictable.

The first role, together with the view that contrast in form reflects contrast in meaning, entails that all the regular argument structure alternations must be expressed through morphological alternations in the template system, a claim to be modified by the findings of the present study.

The regularity of the verbal system derives from three sources according to Arad 2005: the first source is transitivity constraints on the templates, namely that P2 (niCCaC) and P4 (hitCaCCeC) cannot host transitive verbs; the second is passive marking which is transparent and morphologically dependent; and the third is the directionality of verb alternation, expressed through what Arad calls Conjugation Classes.

The second role, together with Arad's claim that roots may acquire multiple meanings in different morphological environments, entail that there will be irregular alternations where a lexical core can be assigned multiple interpretations, which she calls Multiple Contextual Meanings (MCM). An example for MCM is illustrated using the root x.ʃ.v:

(Table 8) Multiple Contextual Meanings

<b><i>Binyan</i></b>	<b>Word</b>
P1 CaCaC	<i>xafav</i> 'think'
P2 niCCaC	<i>nexfav</i> 'be considered'
P3 CiCCeC	<i>xiʃev</i> 'calculate'
P4 hitCaCCeC	<i>hitxafev</i> 'be considerate'
P5 hiCCiC	<i>hexʃiv</i> 'consider'

It is easy to see that there is no way to predict, given the root and *binyan*, what meaning the verb should have.

The irregularity of the system follows from the fact that there is not a single non-passive template for a single type of information. In other words, that the *binyanim* are not restricted to a single function syntactically, thematically or semantically.

On the basis of corpus findings regarding types of verb alternations, Arad's theory divides the types of verbal alternation in an uncommon way. The division is based on the observation of Hebrew verbs with respect to lexical gaps, morphological dependency upon existing verbs, and acquiring unique semantics. On the one hand, single-occurring verbs and MCM acquire meanings freely, they are assigned specific interpretations in the context of specific *binyanim* and do not systematically share their meaning with other verbs of the common root (single occurrence verbs do not share a root with other verbs at all). MCM are sometimes synonymous with other verbs with shared root, for instance two verbs of the root *k.n.ʔ* P3 *kine* – P4 *hitkane* 'be jealous'. Other times, MCM sometimes display a great difference from other verbs of the shared root, e.g. the root *m.c.ʔ* forms the verbs *hitmace* 'be oriented' in P4 and *himci* 'invent' in P5.

On the other hand, passive and reflexive alternations display morphological dependency upon their active counterparts, display no lexical gaps, and do not acquire meanings independently of their active counterparts. It is therefore natural to divide them into two separate groups with respect to internal structure.

The controversial claim Arad (2005) makes concerns other types of argument structure alternations, the causative alternation and the stative alternation, two types of alternation which are formed, according to Arad, not by derivation from other verbs like passive and reflexive, but directly from a root like MCM. Both types of alternations involve a pair of verbs, closely related in meaning, and systematic relations between the two meanings.

Such a behavior resembles the passive and reflexive alternations. However, in Hebrew they exhibit the properties of MCM with respect to lexical gaps, morphological independency and acquiring special meanings.

Based on these observations, Arad (2005) divides the types of alternations into root-derived and word-derived alternations, where passive and reflexive alternations derive from existing verbs, and all the other types of alternation derive directly from roots. This allows the derived verbs to exhibit the freedom and independence discussed above.

The selection of templates depends on the conditions on insertion of templates. P1, P3 and P5 may be inserted only in the context of a root; P2 and P4 may be inserted either in the context of a root or in the context of another template, in such case forming a derived alternation. The result of this condition, together with the observation that the only syntactic constraint on the templates is the [-transitive] mark on P2 and P4, create a very loose system, which may contain almost any type of alternation in any pair of templates.

Arad proposes a theory that simultaneously captures the fact that the verbs of the causative alternation display the morphological freedom attributed to root-derived verbs, as well as the constraints on this freedom since possible alternations are restricted to 6 combinations of templates. The derivation is not from one existing verb to another, but from a single root to a pair of verbs, in the form of a pair of *binyanim* which define roots participating in the causative alternation: a Conjugation Class.

Arad (2005) claims that all the verbs of the causative alternations are listed in one of the following six Conjugation Classes:

Arad's (2005) Conjugation Classes

- a. Conjugation 1 = { niCCaC-INCH, CaCaC-CAUS }
- b. Conjugation 2 = { CaCaC-NON-CAUS, hiCCiC-CAUS }

- c. Conjugation 3 = {niCCaC-INCH, hiCCiC-CAUS}
- d. Conjugation 4 = {hitCaCCeC-INCH, CiCCeC-CAUS}
- e. Conjugation 5 = {hitCaCCeC-INCH, hiCCiC-CAUS}
- f. Conjugation 6 = {hiCCiC-INCH, hiCCiC-CAUS}

This list is not an arbitrary stipulation. It derives from two abstract properties of Hebrew morphology according to Arad (2005): transitivity marking on the *binyanim*; and the division between the geminated *binyanim* P3, P4 (P6) and the non-geminated *binyanim* P1, P2, P5 (P7). I return to these properties in (8.3)

#### **3.4.2.1. The relevance of Arad 2005 to the present study**

The relevance of Arad 2005 to the present study is first and foremost her repeated statement that argument structure alternations must appear in different *binyanim*. I will show this to be empirically flawed. Arad herself discusses an exception for this claim, by acknowledging Conjugation Class no. 6, the P5-P5 causative-inchoative alternation. She refrains from explaining how come such a Conjugation Class is attested despite the strong tendency to avoid conjugation within the same template, and explicitly considers such alternation exceptional and beyond the scope of her study. Arad suggests that “the strong tendency to avoid conjugating a *binyan* within itself [...] may well be purely at the interface of language within communication: without such a principle, Hebrew syncretism would give rise to mass homophony” (Arad 2005, p.225). The fact that according to Arad this class consists of only 11 verbs makes it easier for her to basically ignore the class, and more importantly, its implications on the theory in general, a mission that this study takes upon itself.

The major group of labile verbs I will offer for Hebrew is basically an expansion of Arad's Conjugation Class #6 of the causative alternation, namely, P5-P5. I investigate Arad's Conjugation Classes and the special status of P5 in them, to explain this expansion, in chapter 5. I also show that some verbs have shifted from an alternating Conjugation Class to Conjugation Class #6, a finding that weakens Arad's claim that roots that participate in the causative\inchoative alternation are specified in the lexicon for a specific Conjugation Class.

### **3.4.3. Berman 1993: Productivity in the *Binyan* system**

A different topic that receives attention in the study of the *binyan* system is productivity. The idea of productivity applied in Berman's (1993) analysis of Hebrew *binyanim* is based on transparency of form-meaning relations, and on the role that an existing form plays in determining the form of a meaning not yet represented in the lexicon. This means that frequency by itself is not a factor in determining whether a form is productive. Indeed, due to historical reasons the *binyan* system is unique in separating frequency from productivity. The most frequent *binyan*, P1, being the oldest, includes more than 50% of the verbs in different registers of use. However, because of its prosodic markedness it is not mobilized for new verb formations and innovations. The less marked P3, P4 and P5 are favored for new verb formations instead.

Berman 1993 presents 3 degrees of productivity in the *binyanim* system:

- a. **Non-productive form-meaning relations:** frozen relations such as the intensive alternation of P1-P3 (*rakad* 'dance' – *riked* 'dance (intensive)') and the iterative relation P1-P4 (*rac* 'run' – *hitrocec* 'run around'). Such meaning alternations are not systematic, and need to be learned by rote. The rules that govern such

alternations are not available to speakers, therefore speakers do not innovate new forms along those rules.

- b. **Semi-productive form-meaning relations** are transparent, easily recognizable and include a larger number of items, compared to the previous category. Nonetheless, they constitute closed classes, because they are not favored as a current means for new word formations, and so lack genuine colloquial speaker productivity. Berman (1993) places the causative-inchoative P5-P5 alternation (Conjugation Class #6 in terms of Arad 2005) in this category.
- c. **Actively productive form-meaning relations:** open-ended (potentially infinite) classes of form-meaning relations, which speakers rely on to fill gaps in the contemporary lexicon.

The claim advanced in the present study is that a change in the grammar has taken place, such that the causative-inchoative alternation has taken on some (though not all) of the characteristics of the third category of productivity. Such evidence testifies to a recent change in the contemporary grammar of Modern Hebrew.

### **3.5. Methodology**

#### **3.5.1. Data collection**

A crucial point about this study is that it is based on recent data, specifically of attested examples of new verb formations in Hebrew, collected in the past four years. My data come from two sources: (1) Examples overheard in natural discourse, which I immediately documented; (2) Examples searched for in written periodical publications such as newspapers, magazines, blogs and the *Knesset* records from the years 2004-2005, all available online. A linguistic search engine provided by Ben-Gurion University has

been used, over its grammatically-analyzed data from the archive of the newspaper *Ha'aretz*, the *Knesset records* and the blogs archive of the host site *israblog.com*. Project MILA of the Israeli ministry of science has searchable, morphologically analyzed data corpuses which were fully accessed and searched for examples. I have also conducted a manual search in three dictionaries for Hebrew verbs: Stern 1994, Barkali 2008 and Even-Shoshan 2003, and a comparative search in Biblical and Mishnaic concordance. A Hebrew slang dictionary (Rosenthal 2005) was searched for the same objective.

### **3.5.2. Analysis**

The inventory of verbs and the constructions they appear in was analyzed according to morphological and lexical-semantic criteria. The goal of the analyses is to find a distinct profile that will distinguish labile verbs from morphologically similar verbs which do not show such alternation. The analyses show that morphological properties alone cannot predict whether a verb will be labile or not. The same is true for the thematic criteria, i.e. some verbs of thematic transitive-unaccusative derivation have labile alternation, but others show morphological alternation. The analysis shows that only when the lexical-semantic properties of the verbs are taken into account, distinguishing criteria can be extracted from the data.

#### 4. Anticausative labile verbs in P5 - Introduction

No single generalization can be offered to account for all Hebrew labile verbs. I therefore divide my analysis between two groups of verbs. The first group contains verbs which display transitivity reduction with no morphological change. The theme arguments of these verbs can be the Direct Objects of the transitive VP, or the Subject of the intransitive one: **anticausatives labile verbs** (Letuchiy 2009). The second group of labile verbs is the group of causative labiles, to be discussed later in chapter 8.

The first group of anticausatives labiles in P5 consists of 81 attested verbs and 10 more single-occurrences of innovations, a little more than over 10% of the total of approximately 740 verbs in P5 (the full list and attested examples are given in appendix I-II). Previous studies have found significantly smaller numbers (11 in Arad 2005, 34 in Laks 2011). Arad 2005, as stated above, considered this group an exception, which she left unexplained. The difference between her numbers, Laks' numbers and my own testifies to a dramatic increase in the productivity of this pattern. The entire list is given in appendix I. Here I will present a few examples of the verbs with both their meanings, transitive and intransitive.

**i. Degree-Achievements:** The majority of the verbs discussed in this part of the study are verbs denoting a change of state. They form a labile alternation of causative-inchoative or transitive-unaccusative alternation, such that in their transitive reading, their theme argument is in the direct object position, and in their intransitive reading the theme argument is in the subject position. Most of the change-of-state labile verbs are verbs denoting a special kind of change-of-state: Degree Achievements (DA, Dowty 1979, Hay et al. 1999). These verbs denote a change of state along a gradable scale. As noted by Dowty (1979), these verbs can be telic or atelic, depending on the scale manifest by the



verb's meaning. A basic semantic characteristic of DAs is that their affected argument undergoes a change in some property. Many of the DAs in P5 derive from adjectives, and a few derive from nouns. In adjectival DAs the change is in the property associated with the meaning of the adjectival base (Hey et al. 1999). In the DAs derived from nouns the noun contributes a scalar meaning to the verb's meaning, as in *sulam* 'ladder' - *hislim* 'escalate'. A sub-group of these DA verbs denote a change of color, and these are among the oldest attested verbs having two types of argument structure, dating back to Mishnaic Hebrew.

(Table 9) examples for Degree-Achievement labile verbs:

Verb	Adjective	Transitive reading	Intransitive reading
<i>hifmin</i>	<i>famen</i> 'fat'	'fatten'	'become fat'
<i>hivri</i>	<i>bari</i> 'healthy'	'cure'	'recuperate'
<i>heʔet</i>	<i>leʔat</i> 'slow'	'slow down'	'slow down'
<i>hiffir</i>	<i>pofer</i> 'lukewarm'	'defrost (tr.)'	'defrost (intr.)'
<i>hilbin</i>	<i>lavan</i> 'white'	'make white'	'become white'

**ii. Non Degree-Achievements:** The second subgroup of Conjugation Class #6 consists of verbs which denote other types of events, with no change of state semantics. In their intransitive reading most of the verbs are verbs of emission. Verbs of Emission are a class of intransitive atelic non-agentive verbs describing an event in which the single argument emits sound, light, smell or substance. Their single argument is in subject position. In their transitive reading they are causatives, the theme argument becoming the direct object and an external cause argument is inserted as subject.

(Table 10) Non-Degree-Achievement verbs:

Verb	Transitive reading	Intransitive reading
<i>hivrik</i>	'polish'	'shine, glow'
<i>hisriax</i>	'cause to stink'	'stink'
<i>heriax</i>	'smell'	'smell'
<i>hirʕid</i>	'cause to shake'	'tremble (literary)'
<i>hitʕim</i>	'adjust'	'fit'

<i>hecig</i>	'show'	'play a show'
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### iii. Phase verbs

The third significant group of P5 anticausatives labile verbs is the group of Phase verbs (Letuchiy 2006, 2009) describing phases of events and situations: starting point, endpoint, middle point and so forth. Crosslinguistically, they tend to be labile, such that if a language severely constrains labile alternations phase verbs will be the ones it allows (Letuchiy 2009). To the evident phase verbs *hitxil* 'begin, start', *hifsik* 'stop' and *himfix* 'continue', I add other verbs which can also be interpreted as phase verbs: *hitnia* 'start (a motor), initiate (colloq.)', *hekic* 'wake up' and *hifkim* 'wake up (early)'. I propose that this group contains three verbs in p1 – CaCaC which are also, and somewhat surprisingly, labile: *acar* 'stop, halt', *balam* 'break' and *hafx* 'turn into'.

After introducing the different groups of anticausatives labiles in P5, I proceed to a **morphological analysis of the class.**

## 5. Morphological properties of labile verbs of Conjugation Class #6

### 5.1. P5 is the template of labiles

Previous studies on Hebrew verbal system have found that P5 is morpho-syntactically and semantically less predictable than other templates in Modern Hebrew (Coffin and Bolozky 2005, Doron 2003, Laks 2011 inter alia). In the following sections I will demonstrate this unpredictability, and show how it enables the occurrence of zero-derivation process.

#### 5.1.1. The strictness of Conjugation Classes

##### Arad's 2005 Conjugation Classes (repeated)

- a. Conjugation #1 = P2-P1 {niCCaC-INCH, CaCaC-CAUS}
- b. Conjugation #2 = P1-P5 { CaCaC-NON-CAUS, **hiCCiC-CAUS**}
- c. Conjugation #3 = P2-P5 {niCCaC-INCH, **hiCCiC-CAUS**}
- d. Conjugation #4 = P4-P3 {hitCaCCeC-INCH, CiCCeC-CAUS}
- e. Conjugation #5 = P4-P5 {hitCaCCeC-INCH, **hiCCiC-CAUS**}
- f. Conjugation #6 = P5-P5 {**hiCCiC-INCH**, **hiCCiC-CAUS**}

A careful examination of the Conjugation Classes reveals a few interesting observations: (i) P5 is the transitive alternant in four out of the six classes. The other two transitive *binyanim*, P1 and P3, each have a unique relation to the intransitive P2 and P4, respectively. (ii) P3 and P5 serve only as transitive alternates to other *binyanim*.

What happens when an intransitive verb happens to inflect as P3 or P5? The data I present later on shows that it will either be blocked for transitive alternation, or derive the transitive alternation in the same *binyan*, i.e. a labile alternation.

### 5.1.2. P5 hosts verbs with various argument structures

P5 is traditionally regarded as a causative form. It is also the form in which causative innovations of children occur in (Berman 1978), and P5 verbs have a salient meaning of causation (Berman 1978).

However, the formation of causative verbs is not productive in Hebrew: they are a closed set to which new members are hardly added (Bolzky 1999). A speaker of Hebrew cannot innovate verbs such as *tafar* 'sew' - \**hitpir* 'cause to sew', *xafar* 'dig' - \**hexfir* 'cause to dig', *xatax* 'cut' - \**hextix* 'cause to cut' etc. Still, the most salient meaning associated with P5 is causative: cause to do and cause to become (Coffin and Bolzky 2005). Despite the salient meaning of causation, the syntactic behavior (argument structure) of P5 verbs is diverse. P5 hosts unaccusative intransitives (*hiffir* 'melt'), intransitive verbs with indirect object only (*hikiv le-* 'listen to', *himtin le-* 'wait for'), transitive verbs (*hirgiz* 'anger', *hikpi* 'freeze tr.'), and causative verbs, including most of the very few causative Hebrew verbs which are ditransitive, with two syntactically marked direct objects (*he?exil et ha-tinok daisa* – 'fed the baby porridge'). No other template in Hebrew exhibits such variability.

### 5.1.3. P5 lacks a natural paradigmatic counterpart template for lexical derivations.

P1, P3 and P5 host the majority of basic verbal entries, and all of the transitive verbs in Hebrew. However, there are morphological differences among the three, which, I claim, contribute to the occurrence of labile verbs specifically in P5.

P1 verbs have two natural templates to host their derived counterparts, and valence changing derivations from P1 to other templates are rarely blocked, Causative derivations

usually take the form of hiCCiC, but sometimes CiCCeC (*lamad* 'learn' - *limed* 'teach'). Unaccusative derivations usually take the form of P2.

P3 hosts mainly transitive verbs, whose derived intransitive counterparts are formed in two templates that are morphologically related to P3: the passive P6 CuCCaC (derived in the syntax), and the decausative/reflexive/reciprocal P4. The structural resemblance between the base P3 and its derived forms makes the derivation of intransitives highly transparent and therefore productive and with few to no lexical gaps<sup>5</sup>.

The case of P5 (hiCCiC) is different. This template has only one derived template – P7 (huCCaC), which serves exclusively for the formation of passives in the syntax (Horvath and Siloni 2010). The derivation of huCCaC from hiCCiC (like CuCCaC from CiCCeC) involves only melodic overwriting (replacement of the vocalic pattern). Laks (2011) describes the function of melodic overwriting in Hebrew verbal system as a manifestation of syntactic operation – passivization. Therefore, decausative alternations of P5 cannot occur in P7, which hosts the passive alternations.<sup>6</sup>

In this state of affairs, it is hard for Hebrew speakers to establish a consistent thematic or semantic contribution of P5 to the verbs it hosts, thus it is impossible to relate P5 verbs to a default derivational paradigm, with the exception of causative alternations of P1. Although P5 is predictable for causative alternations of P1, other types of derivational alternations for P5 verbs are much less predictable; some verbs have intransitive alternations in other templates, as demonstrated in the following table:

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<sup>5</sup> The exceptional cases of intransitive P3 verbs sometimes yield causative labiles. Such verbs will be addressed in chapter 8.

<sup>6</sup> Landau (2002) argues that some P7 verbs have only a decausative interpretation and labels them 'fake-passives', while Meltzer (2006) suggests that they are ambiguous and have a passive meaning.

(Table 11)

P5 Base form	Intransitive alternation	Example
<i>hirtiv</i> ‘wet’	P2 niCCaC	<i>nirtav</i> ‘get wet’
<i>hirciz</i> ‘annoy’	P4 hitCaCCeC	<i>hitragez</i> ‘get angry’
<i>hikpi</i> ‘freeze’	P1 CaCaC	<i>kafa</i> ‘freeze intr.’

However, on other occasions, the alternation is labile:

(Table 12)

P5 labile verb	P5 labile verb
<i>hitxil</i> ‘start tr.\intr.’	<i>hivri</i> ‘make\become healthy’
<i>hitnia</i> ‘start (a motor) tr.\intr.’	<i>hiffir</i> ‘defrost tr.\intr.’
<i>hislim</i> ‘escalate intr.\tr.’	<i>hiktsin</i> ‘make\become extreme’
<i>hexlid</i> ‘rust intr.\tr.’	<i>hivrik</i> ‘shine, glow \ polish’
<i>hešemik</i> ‘make\become deep’	<i>hivfil</i> ‘ripen intr.\tr.’

#### 5.1.4. Morphologically motivated change: the expansion of Conjugation Class #6

Laks (2011) shows that changes in *binyan* are motivated by the prosodic markedness hierarchy (described in 3.3.2). Sometimes, a verb of a relatively marked *binyan* changes its morphological form to a less marked *binyan*. The result of this process is the occurrence of synonyms in two different *binyanim*:

(Table 13) morphologically motivated change (Laks 2011):

Old <i>Binyan</i>	New <i>Binyan</i>	Examples
P2	P4	<i>nirkam</i> ~ <i>hitrakem</i> ‘be embroidered’
		<i>nigla</i> ~ <i>hitgala</i> ‘be revealed’
		<i>neecav</i> ~ <i>hitacev</i> ‘become sad’
P1	P5	<i>takaf</i> ~ <i>hitkif</i> ‘attack’
		<i>taan</i> ~ <i>hitšin</i> ‘load’
		<i>taman</i> ~ <i>hitmin</i> ‘conceal’
P1	P3	<i>nafak</i> ~ <i>nifek</i> ‘kiss’
		<i>kavas</i> ~ <i>kibes</i> ‘launder’

In the examples in Table 13, prosodically unmarked forms are preferred over marked forms, and the result is in line with the typical argument structure of the patterns. In other words, intransitive verbs in P2 change to P4, and transitive verbs in P1 change to P3 or P5.

However, there are verbs which change their *binyan* due to the morphological pressure for non-markedness, where the change is not in line with the typical argument structure of the target *binyan*. These are intransitive verbs of P1 and P2, which already have a transitive counterpart in P5. Never-the-less, their prosodically marked alternation is less preferred, and the intransitive reading merges with the morphological form of the transitive, resulting in a labile verb. Such cases are exemplified in the following table:

(Table 14) morphologically motivated labile verbs

Intransitive verb	P5 transitive verb	Additional new meaning of P5 verb
<i>pasak</i> 'stop intr.'	<i>hifsik</i> 'stop'	<i>hifsik</i> 'stop'
<i>faman</i> 'grow fat'	<i>hifmin</i> 'make fat'	<i>hifmin</i> 'grow fat'
<i>raza</i> 'become thin'	<i>hirza</i> 'make thin'	<i>hirza</i> 'grow thin'
<i>nimfax</i> 'continue intr.'	<i>himfix</i> 'continue'	<i>himfix</i> 'continue'
<i>calax</i> 'come out successful'	<i>hicliax</i> 'succeed in doing'	<i>hicliax</i> 'come out successful'
<i>xafxax</i> 'darken intr.'	<i>hexefix</i> 'darken'	<i>hexefix</i> 'darken'
<i>niglad</i> 'heal' (wound)	<i>higlid</i> 'heal'	<i>higlid</i> 'heal'
<i>jakac</i> 'wake up intr.'	<i>hekic</i> 'wake up'	<i>hekic</i> 'wake up'
<i>xaxam</i> 'become wise' (biblical)	<i>hexkim</i> 'make wise, enlighten'	<i>hexkim</i> 'become wise'
<i>kadar</i> 'become obscure, gloomy'	<i>hikdir</i> 'darken, make gloomy'	<i>hikdir</i> 'become obscure, gloomy'

The result of this process is a convergence of two verbs into a single verb, with two different argument structures. Such changes show that this morphologically driven process occurs even when it contradicts the generalization of Arad 2005 regarding the manifestation of alternation by two distinct morphological forms.

I propose that the morphological motivation for low prosodic markedness applies in all the cases I presented, regardless of whether the result is two synonymous verbs (table 13), or a labile verb with two types of argument structure (table 14). Among the different outcomes, it is the specific characteristics of P5 which I presented that enable the manifestation of verbs with two types of argument structure.

#### 5.1.5. The case of transfer verbs – converse labile verbs

There is yet another group of verbs, which behave like the verbs in table 14. Laks (2011) cites them as further support for the claim that the prosodic markedness hierarchy shapes the verbal lexicon, motivating changes of *binyanim*. These are verbs which share a consonantal root and are semantically related. The prosodically marked P1 verbs change their form to the prosodically unmarked P5 form, to yield **converse labile verbs** (Letuchiy 2009), where both readings of the verbs denote the same situation with the same number of arguments, but the participants have different syntactic/semantic status.

(Table 15) verbs of transfer<sup>7</sup>

P1 CaCaC	P5 hiCCiC	P5 ambiguous form
<i>saxar</i> 'rent'	<i>hiskir</i> 'let'	<i>hiskir</i> 'let \ rent'
<i>lava</i> 'borrow money'	<i>hilva</i> 'lend'	<i>hilva</i> 'lend \ borrow'
<i>faʔal</i> 'borrow'	<i>hiʔil</i> 'lend'	<i>hiʔil</i> 'lend \ borrow'
<i>xaxar</i> 'lease (from)'	<i>hixkir</i> 'lease (to)'	<i>hixkir</i> 'lease to \ from'

Syntactically, the new merged verbs have only one argument structure: Subject+Direct Object+Indirect Object. However, each verb has two close but different **meanings**. The only way to disambiguate a full sentence with one of these verbs (apart from using the

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<sup>7</sup> I have encountered at least two occurrences of a fifth verb of transfer which showed similar change: *hitrim* 'raise fund' in the meaning of *taram* 'donate', however I have not attested it systematically.



context), is according to the preposition heading the PP in the utterance (*hilva le-* 'lend to' vs. *hilva me-* 'borrow from'). I claim that this process testifies to the tendency of speakers to tolerate ambiguous P5 verbs more so than P1 verbs, also due to prosodic markedness of P1. This contributes to the decrease of the dependency of meaning variation on morphological alternation, thus facilitating the use of P5 labile verbs.

#### 5.1.6. Interim summary

The various ways in which existing verbs take on new forms, or merge with existing ones, contribute to the high degree of semantic and syntactic variability of P5.

1. P5 hosts verbs of various types and thus cannot be given a consistent syntactic and thematic characterization.
2. P5 does **not have a paradigmatic counterpart** for valence-changing operations (except passive).
3. P5 is prosodically less marked, thus preferred over P1 and P2, for innovations **and for replacing existing forms**.

The result of the above is that P5 verbs are the most probable ones to have two types of argument structure, or labile alternation. The combination of low prosodic markedness and unpredictability with respect to argument structure provides a motivation for the acceptance of P5 labile verbs.

As shown above, while the *binyanim*, as a system, still typically carry inherent semantic meaning, morphological properties are changing the mechanism of choosing a *binyan* for new verbs, thus decreasing the regularity of the semantics of the *binyanim*, making them less and less transparent. This clash between morphology and semantics makes it especially difficult for P5 verbs, lacking a morphological match which is not

strictly passive, to alternate due to valence change. In sum, it is hard to derive intransitive verbs from P5 transitive verbs. The morphology will prevent it, or make it appear as passive. Nevertheless, we do find verbs that overcome these limitations, and manifest a new strategy in Hebrew: labile alternation. Apparently, the cognitive cost of violating the morphological restrictions placed on the *binyanim* system is lower than the cost of disambiguating different valences occurring in the same word.

## 5.2. Morphology cannot tell the whole story

We have so far reviewed various morphological motivations which contribute to the existence of verbs with two different argument structures. I will now show that although morphological motivations have a crucial role in the formation of dual-structured verbs, the phenomenon cannot be fully explained based solely on morphological and thematic principles. I will show that for every morphological motivation that contributes to the occurrence of labile alternation in some cases, there are cases in which this outcome is prevented. The goal of this section is to lay the foundations for further exploration of the phenomenon, in other domains of grammar, for a sufficient explanation for its internal logic.

### 5.2.1. Lack of paradigmatic counterparts is not necessary, but contingent

While it is true that P5 has no natural counterpart for lexical valence changing operations, many P5 verbs do share a derivational paradigm with verbs of other templates. Examples are given in the table below:

(Table 16) Conjugation Classes with P5

Conjugation Class	Semantic relations	Basic entry	Derived entry
#3 P5 – P2	causative-inchoative	<i>hirtiv</i> 'wet'	<i>nirtav</i> 'get wet'
#3 P5 – P2	transitive-reflexive	<i>hicmid</i> 'stick tr.'	<i>nicmad</i> 'stick oneself'
#5 P5 – P4	causative-decausative	<i>hirgil</i> 'accustom'	<i>hitragel</i> 'become accustomed'

#5 P5 – P4	causative-inchoative	<i>higiz</i> 'anger'	<i>hitragez</i> 'get angry'
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Given the existence of verbs that do have derived alternations in other templates, morphological reasons alone cannot account for why some verbs do not manifest such an alternation. For verbs like *hifsik* 'stop', *higlid* 'make a scab' and *hilbin* 'make\become white' there is no morphological or thematic reason to block derived alternation in P4, for example.

### 5.2.2. Lexical redundancy in the derivational paradigm

Taking a closer look at Conjugation Class #5 reveals that this type of derivation is consistent both with prosodic markedness preferences and with the typical transitivity of the *binyanim* P4 and P5, for instance, *higiz* 'annoy' – *hitragez* 'get mad' and *higil* 'accostume' – *hitragel* 'get used to'. It is expected, therefore, that when a verb conjugates in Class #5, it will follow the generalization regarding morphological contrast, and will not be labile. However, in some cases we do find verbs of Conjugation Class #5 which can also behave as labile P5 verbs:

(Table 17) synonym verbs in P4 and P5

P4 Intransitive verb	P5 transitive-intransitive
<i>hitʔadem</i> 'redde'	<i>heʔedim</i> 'redde'
<i>hitmaʔex</i> 'lasted, continue'	<i>himʔix</i> 'continue'
<i>hitkareax</i> 'become bald'	<i>hikriax</i> 'become bald'
<i>hizdaken</i> 'grow old'	<i>hizkin</i> 'make\grow old'
<i>hitbaʔer</i> 'brighten'	<i>hivʔir</i> 'brighten'
<i>hitkader</i> 'become gloomy'	<i>hikdir</i> 'make\become gloomy'

Such facts mark a deep contradiction to the assertion about Hebrew verbal system, that if a stem has both causative and inchoative alternations, the verbs will take different morphological forms, i.e. will occur in different *binyanim* (Doron 2003, Arad 2005). It is

therefore important to ask why speakers keep using labile P5 verbs instead of abandoning them in favor of intransitive forms of P4.

### **5.2.3. Lack of shared stem does not predict labile alternation:**

What about the case of single-occurring verbs? Should we always expect that a P5 verb which does not share its stem consonants with any other verb in the lexicon be labile? Had the constraint on lability been only morphological, we might have expected that. The labile verbs *heʔet* 'slow down', *hivrik* 'polish / glow', and *hitxil* 'start' do not share their consonantal stem with any other verb in the lexicon, and indeed they are labile. In other similar cases, however, lability is not available. For instance, the verbs *heʕik* 'oppress' and *hecik* 'annoy' do not have derived forms. They also do not have an intransitive reading, i.e. they only have one type of argument structure. This means that we have to look for a different generalization for the (non)occurrence of labile verbs in P5.

### **5.2.4. Summary**

So far, we have seen that morphological motivations have the power to overcome the requirement for morphological alternation and create labile verbs. However, there are verbs that meet the morphological and thematic conditions conducive to the labile pattern, but do not exhibit a change of *binyan* into creating a single labile P5 verb nonetheless. Unlike the unaccusative verbs *pasak* 'stop', *nimfax* 'continue' and *faman* 'get fat', the unaccusative verbs *kafa* 'freeze', *nirtav* 'get wet' and *nexrav* 'destroy INTR' do not change form to their transitive counterparts in P5, and do not create verbs with two types of argument structure (e.g., *hirtiv* wet \ \*get wet). In other words, morphological pressures which cause change of *binyan* for some verbs do not cause this change for others.

As mentioned earlier, P5 hosts verbs of various types and thus cannot be morphologically/syntactically characterized. It exhibits several types of idiosyncrasy and inconsistency. In this section I presented some of the inconsistent behaviors of P5 verbs: some of them belong to a derivational paradigm with other templates, and some do not; some of them have two types of argument structures, and some do not; some of the verbs which have two types of argument structure violate powerful grammatical generalizations of Hebrew verbal system; there is no systematic morphological or thematic mapping that can predict which verbs will have two types of argument structure and which verbs will not.

All the above suggests that in order to provide a comprehensive explanation for the existence of labile verbs we must search other domains of grammar and look for other effects on speakers' linguistic competence regarding such verbs.

## **6. Semantic investigation of P5 labile verbs**

### **6.1. Why semantic?**

So far, investigating morphological properties of P5 labile verbs resulted with more questions than answers regarding the grammatical rules which determine the occurrence and features of anticausative labile verbs of Conjugation Class #6. The goal of the following chapter is to show that the lexical-semantics approach to argument structure provides an adequate perspective for accounting for the boundaries of the phenomenon. It can also explain the shared properties that distinguish labile verbs from other morphologically similar verbs.

#### **6.1.1. Outline of the analysis**

The analysis I offer will proceed as follows: first, I will analyze the semantic properties of the events denoted by verbs in Conjugation Class #6 with respect to spontaneity, or, the likelihood to occur spontaneously (6.2-6.3). I will compare labile verbs to non-labile P5 verbs based on spontaneity, and show that when a P5 verb describes a non-spontaneous, or externally-caused event, it will not be a labile verb, and will require morphological derivation for its intransitive meaning.

Then, I will analyze the properties of the theme argument of the labile verbs, namely, the argument that can either be subject of the intransitive reading or direct object of the transitive one (6.4). Based on the ideas of proto-agent\proto-patient properties proposed by Dowty 1991, I will show that lability is felicitous in cases where the theme arguments of the verbs tend to be in the middle – not prototypical agent nor patient arguments.

The next step will be to account for phase verbs, a relatively small, but well defined group of P5 labile verbs which shed further light on the labile class as a whole (6.5). Finally, I examine the case of Degree-Achievement verbs, and show that they perfectly realize the semantic principles I analyze: they manifest a relatively low transitivity in

both theme-argument properties and event properties. This makes them the largest and most coherent class of anticausatives labile verbs in Hebrew (6.6). I will conclude with the proposal that relatively weak transitivity is what enables and determines anticausative labile verbs in Hebrew (6.7).

## **6.2. Causative-inchoative alternation**

The causative-inchoative alternation is a lexical alternation that characterizes pairs of verbs which stand in a semantic relation to each other such that the transitive use of a verb V means roughly ‘cause to V-INTRANSITIVE’. It is a pair of verbs that express the same basic situation (generally a change of state, more rarely an on-going state of affairs) and differ only in that the causative verb meaning includes an agent participant who causes the situation, whereas the inchoative verb meaning excludes a causing agent from the conceptualization of the event (Haspelmath 1993, Pinon 2010).

The inchoative member of an inchoative/causative verb pair is semantically similar to the passive of the causative (‘the stick broke’ - ‘the stick was broken’), but it crucially differs from it in that the agent is not just unexpressed; rather, the situation is conceived as occurring without an agent. This does not mean that there cannot be an agent in the objective situation, of course:

(16)

(a) *hatabax hirti'ax et hamaim* ‘The cook boiled the water’

(b) *hamaim ratxu* ‘The water boiled’

(c) *hamaim hurtexu* ‘The water was boiled.’

In 16b and 16c, the boiling process is presumably caused by the same factors as in 16a, but only in 16b is the process conceptualized without specification of an external cause (Haspelmath 1993).

I claim that in order to ask which Hebrew verbs can be labile, we must first define the verbs that can undergo the causative-inchoative alternation. There is cross-linguistic variation in terms of the verbs of the alternation, but it is clear that meaning is relevant to the variation in the following way: how the event is brought about, determines the availability, or non-availability of the alternation.

Haspelmath 1993 proposes the following condition for a verb to appear in the causative-inchoative alternation: a verb meaning that refers to a change of state or an ongoing event may appear in an inchoative-causative alternation, unless the verb contains agent-oriented meaning or other highly specific meaning components that make the spontaneous occurrence of the event extremely unlikely (Haspelmath 1993a, 94).

The ways that the event is brought about were divided by Alexiadou et al. (2006) into the following four classes of predicates:

- a. Agentive (murder, assassinate)**
- b. Externally caused (destroy, kill)**
- c. Cause unspecified (break, open)**
- d. Internally caused (blossom, wilt)**

These classes differ in terms of the way in which the events they describe are conceptualized. With agentive predicates the bringing about of the event requires the presence of an agent; with internally caused predicates the cause of the change of state event is linked to properties inherent to the argument undergoing change; with externally caused predicates the change of state is brought about by an external cause; finally, with cause unspecified predicates there is no specification of internal vs. external cause.

Based on the four types of causation specified above, it is expected that agentive verbs are the least expected to alternate from transitive into intransitive (and expected to



become passive instead), as they require the presence of an agent. It is also expected that internally-caused events (blossom-type) will not tend to alternate from intransitive into transitive. However, in some cases we do find causative alternations for internally-caused events. Internally-caused verbs causativize in two conditions: in periphrastic causative constructions and when they have causers but not agents as external arguments (Wright 2002):

(17)

- a. The heat caused the crops to rot.
- b. The heat rotted the crops.
- c. \*The farmer rotted the crops

The idea is that what enables causativization of internally-caused events is the property of Direct Causation (Pinon 2001, Alexiadou 2010). In Hebrew, we expect to find all the causative-inchoative alternations within Conjugation Classes. Indeed, all three acceptable types of alternation are attested in the various Conjugation Classes which include P5:

Externally-caused: P5 *hirtiv* – P2 *nirtav* ‘wet tr.intr’

P5 *hirtiax* – P1 *ratax* ‘boil’

Cause unspecified: P5 *hemis* – P1 *namas* ‘melt’

P5 *hitbia* – P1 *tava* ‘drown’

P5 *hikcin* – P5 *hikcin* ‘make\become extreme’

Internally-caused: P5 *hirkiv* – P5 *hirkiv* \ P2 *nirkav* ‘rot’

P5 *hivfil* – P5 *hivfil* ‘ripen’

We have now established that causative-inchoative alternations occur in Hebrew. At the same time, it is clear that not all causative-inchoative verbs in P5 are also labile. I propose that we can narrow down the types of verbs predicted to be labile: 6.3 shows that only cause-unspecified and internally-caused events can be labile in Hebrew.

### 6.3. Spontaneous events: Cause Unspecified and Internally-Caused events

Now, let us take a closer look at the labile verbs of Conjugation Class #6. It is obvious that the events denoted by the verbs in Conjugation Class #6 can occur without an external agent. The events are spontaneous change-of-state events. As such, they are either **Cause Unspecified or Internally-Caused events**.

(Table 18) Cause Unspecified verbs (sample)

<i>hivri</i> ‘recuperate’	<i>hexlim</i> ‘heal’	<i>hifbiac</i> ‘improve’
<i>hitnia</i> ‘start (motor)’	<i>hifsik</i> ‘stop’	<i>heʔet</i> ‘slow down’

(Table 19) Internally Caused verbs (sample)

<i>hivʔil</i> ‘ripen’	<i>hivrik</i> ‘glow’	<i>hexmir</i> ‘worsen’
<i>hikriac</i> ‘bald’	<i>hirza</i> ‘make\become thin’	<i>hexrif</i> ‘worsen’

The verbs in Conjugation Class #6 must denote spontaneous events. Events which require external force are very unlikely to belong to Conjugation Class #6. This does not mean that cause-unspecified and internally-caused events are always labile. They’re not. In fact, most of the causative-inchoative alternations, regardless of the nature of their causation, belong to one of the other five Conjugation Classes described by Arad 2005. This is the prototypical Hebrew pattern: pairs of verbs in two *binyanim*, which denote intransitive and transitive readings of the same event.

But we're here focusing on exceptions: P5 verbs which have both the transitive and intransitive readings. And we're trying to understand what it is that enables their evolution.

We can think of the four semantic classes of causative-inchoative events as participating in a hierarchy of semantic transitivity, in line with Hopper & Thompson's 1980 proposal, such that agentive predicates are the most transitive, followed first by the externally-caused predicates, then by cause-unspecified predicates and finally by the internally-caused ones. Crosslinguistically, this hierarchy is expressed in the grammar in various ways (Haspelmath 1993, wright 2001, McKoon and Macfarland 2000): Haspelmath (1993) rated typical causative-inchoative verbs on a scale of likelihood of spontaneous occurrence. He found that spontaneous change-of-state verbs are more likely to have an intransitive base form and a derived causative alternation than verbs denoting non-spontaneous events. Alexiadou (2010) makes a similar claim that if externally caused verbs alternate, they appear in a marked morphological pattern (Alexiadou 2010, 199). Haspelmath (1993) proposes that these generalizations reflect Givon's (1991:106) principle that "Categories that are cognitively marked tend also to be structurally marked".

I propose that we can think of a conceptual gap between the intransitive and transitive readings of a certain event, and we can imagine the morphological alternation as a bridge over this gap. The larger the gap, the more complex the bridge must be. For agentive predicates (e.g. murder) the conceptual gap is large, and indeed, Hebrew speakers must use a passive alternation as a bridge. For the relatively smaller, but significant gap between the events denoted by intransitive and transitive verbs depicting externally-

caused events speakers use one of the five alternating Conjugation Classes. For Cause-Unspecified predicates, the gap is small (consider the not very large difference between the events depicted by transitive and intransitive *hiffir* ‘melt’), so it does not require a morphological bridge over it. Speakers use the same form for both readings, then.

But what about the least transitive Internally-Caused predicates? Thinking in terms of the conceptual gap reveals that there is here a significant gap between the transitive and intransitive readings of Internally-Caused predicates. But the gap is reversed: unlike Agentive and Externally-Caused predicates, here the intransitive reading is the one easy to conceptualize, whereas the transitive one is the conceptually marked one. Hence, it indeed needs to be marked morphologically, by a causative indicator. However, when the Internally-Caused event itself occurs in P5, there is no other *binyan* it can alternate with, because it so happens that **P5 is the causative marked *binyan* in Hebrew**. The result is a causative labile verb (Letuchiy 2009). I further analyze causative labile verbs in chapter 8.

#### **6.4. Theme argument semantics**

In the previous section we analyzed labile verbs on the basis of the event they denote. Specifically, I argued that the way the event is caused realizes a degree of transitivity which can contribute to the likelihood of the verb becoming labile. There is another way to describe spontaneous events, and that is by means of relatively high agentivity of their theme argument. In order for an event to occur without an external causer, the participant that undergoes the event must have some power to bring it about. In other words, it has to have some agentivity. I will show that this property of the argument affects the acceptability and grammaticality of labile verbs. Agentivity is best explained by Dowty

(1991), who developed the theory of thematic-proto-roles in facing the problem of Argument Selection, namely, what are the principles which govern grammatical relations between predicate and arguments.

Dowty's point of departure is that 'thematic roles' are 'sets of entailments'. To illustrate, 'x does a volitional act' is an entailment shared by 'x murders y', 'x nominates y', 'x interrogates y' but it is not shared by 'x kills y', for instance, as 'x' might have killed 'y' by accident. The term *lexical entailment* denotes "the implication that follows from the meaning of the predicate in question alone" (Dowty 1991:552). The domain on which Dowty focuses on is *argument selection* and he aims to account for only and all semantic distinctions that can be shown to be relevant to argument selection.

Crucially, Dowty's account shows evidence for the fundamental role that events denoted by verbs play in determining the semantic content of the thematic roles assigned to their complements. Moreover, under this view roles are not treated as discrete primitive categories, but rather they form some sort of a continuum between the two extreme cases of a *Proto-agent* and a *Proto-patient*.

Dowty (1991) analyzed the semantic properties of arguments and sorted these properties to typically-agentive versus typically-patientive clusters of properties.

#### I. Properties of Agent Proto-Role:

1. Volitional involvement in the event or state.
2. Sentience and/or perception.
3. Causing an event or change of state in another participant
4. Movement.
5. Existence independently of the event named by the verb.

## II. Properties of Patient Proto-Role:

1. Undergoes change of state.
2. Incremental theme.
3. Causally affected by another participant.
4. Stationary.
5. Does not exist independently of the event named by the verb.

The argument selection principle dictates that subject (and similarly, object) selection opts for the argument for which the predicate entails the greater number of Proto-agent (or Proto-patient) properties. This allows combinations of properties from the two lists and thus locating a participant somewhere within the scale between one of the two extreme ends. Dowty 1991 showed that agentive roles will map into subject position, while patientive roles will map into object positions. This means that in human languages, a predicate like 'build', which takes a very agentive entity as a subject, and a prototypical patient as the Direct Object will be prevalent, while a predicate which reverses the grammatical roles to mean roughly "is built by" will be rare, if existing at all. He also proposed the idea of alternation: less prototypical arguments may map into both positions. This means that predicates which have less prototypical arguments would occur in alternation between their grammatical roles. This is why it is reasonable to have the low-agentivity predicates such as 'like' and 'please' alternating their arguments between the grammatical roles, as in the pair of sentences: *John likes Mary* – *Mary pleases John*.

Typologically, where labiality competes with anticausatives, intransitive uses of labile verbs have semantic features which are not characteristic for anticausative verbs.

Anticausatives tend to have patientive subjects (Haspelmath 1993), while intransitive uses of labile verbs can have agentive or autonomous subjects (Letuchiy 2009). My idea is based on the finding that theme arguments of the labile verbs present both proto-agent and proto-patient characteristics, with more proto-agent properties than proto-patient ones in most cases. This is what motivates their alternation between grammatical roles. The other way around is also true: when speakers use labile verbs, they attribute a certain degree of agentivity to the theme argument. Compare:

(19)

*a. ha-oto lo hitnia* ‘the car didn’t start’

to

*b. \*lo sovavti et ha-mafteax az ha-oto lo hitnia* ‘i didn’t turn the key so the car didn’t start’

It is clear that despite being the theme argument of the verb, “the car” has certain agentivity in preventing itself to start.

Moreover, in the following examples, the intransitive version of the labile verb is acceptable **only** with relatively agentive theme arguments. When we cannot attribute agentivity, the process is impossible:

(20) *Ha-naheget he?eta et hamexonit \ ha-mexonit he?eta*

‘The driver slowed the car down’ \ ‘The car slowed down’

(21) *Ha-naheget he?eta et ha-mehirut \ \*ha-mehirut he?eta*

‘The driver slowed the speed down’ \ \*‘The speed slowed down’

(22) *ha-tajas hinmix et ha-matos \ ha-matos hinmix*

’ ‘The pilot lowered the plane’ \ ‘The plane descended’

(23) *hinmaxnu et ha-cipiot \ \*ha-cipiot hinmixu*

‘We lowered the expectations’ \ \*‘The expectations lowered’

- (24) *ha-geshem hifsik* \ *\*ha-avoda hifsika*  
'The rain stopped' \ the work stopped

To sum up this section, we see that the theme argument of P5 labile verbs must denote some degree of agentivity. This non-prototypicality of the theme argument further contributes, I claim, to the relatively weak transitivity of the labile verbs in Hebrew.

### 6.5. Phase verbs – another case of relatively weak transitivity

A specific subgroup of verbs which denote events that are cause-unspecified by their nature are Phase verbs (Letuchiy 2006, 2009).

#### P5 Phase verbs

*hitxil* 'begin, start', *hifsik* 'stop' and *himfix* 'continue'

*hitnia* 'start (a motor), initiate (colloq.)',

*hekie* 'wake up'

Phase verbs denote a phase of an event, which means that the argument of the phase event is, itself, an event. When we say "the rain stopped", we mean that an event of raining has terminated. It is clear, then, why theme arguments of phase verbs are neither agent- nor patient-prototypical. As for the cause for the phase event, it is unspecified. It can have an external cause, as in "the host started the ceremony", or lack one – "the ceremony started". This makes phase verbs non-prototypical transitive\intransitive verbs.

Typologically, phase verbs tend to be labile in languages that allow "peripheral lability", i.e. where labile verbs do not belong to the prototypically transitive class (Letuchiy 2006). It is of no surprise, then, that phase verbs are part of the relatively small class of Hebrew labile verbs.

### 6.6. Degree Achievements



Up till now we have established that spontaneous verbs, nonprototypical with respect to transitivity, are acceptable as labiles in Hebrew. While the previous sections analyzed semantic properties that are shared by all the verbs of Conjugation Class #6, a more refined, accurate, and therefore interesting generalization is valid for most of the verbs, although not all of them. Crucially, this generalization best describes the productivity of the pattern. I claim that innovation within Conjugation Class #6 will only form verbs which follow the semantic profiling hereby described: Degree Achievements, derived from adjectives or nouns, describing a change along some scale of physical property (and metaphorical interpretations of the property).

The majority of P5 verbs which have both a transitive and an intransitive meaning denote a change of state of their theme argument with respect to a specific property: Degree Achievements (DA) (Dowty 1979, Hay et al. 1999). Degree Achievements derive from **gradable adjectives**. They are associated with the meaning of the base adjective, such that the change of state is in the property associated with the meaning of the adjectival base. For example:

(Table 20) Gradable adjectives and their derived Degree-Achievements:

<i>zaken</i> - <i>hizkin</i> 'old' - 'become old'	<i>afel</i> - <i>heʔefil</i> 'dark' - 'become dark'	<i>kereax</i> - <i>hikriax</i> 'bald' - 'become bald'
<i>xamuts</i> - <i>hexmits</i> 'sour' - 'sour'	<i>xaxam</i> - <i>hexkim</i> 'wise' - 'become wise'	<i>sexel</i> (N) – <i>maskil</i> (Adj) - <i>hiskil</i> 'wit, brains' - 'become enlightened'

Evidence for the plausibility of this characterization can be found through a comparison of labile verbs and other P5 verbs, which lack the property of gradualness or scalarity. The following verbs belong to a causative-inchoative alternation, and they denote change-of-state events. Yet, all of them have an intransitive alternation in P1 or P2, and their P5 form cannot denote the unaccusative intransitive reading:

(Table 21) Non Degree-Achievements in P5:

<b>transitive alternation</b>	<b>inchoative alternation</b>
<i>hidlik</i> 'turn on, light'	<i>nidlak</i> 'light (INTR.)'
<i>hivšir</i> 'burn'	<i>bašar</i> 'burn (INTR.)'
<i>hixpil</i> 'double'	<i>huxpal</i> 'double (PASS.)'
<i>hikxid</i> 'eradicate'	<i>nikxad</i> 'become extinct'
<i>hirdim</i> 'put to sleep'	<i>nirdam</i> 'fall asleep'
<i>hirtiv</i> 'wet'	<i>nirtav</i> 'get wet'
<i>hexbi</i> 'hide'	<i>nexba</i> 'was hidden' \ <i>hitxabe</i> 'hide (REFL.)'

If a verb is derivationally related to a non-gradable adjective, the verb cannot conjugate in Class #6. Consider the following adjectives: *kafu* 'frozen', *roteax* 'boiling' and *kaful* 'double'; all three are not gradable, i.e. there cannot be a scale of "frozenness" or "doubleness". Indeed, their derived transitive verbs cannot have an intransitive reading:

(25) *ha-kor hikpi et ha-agam \ ha-agam kafa ~ \*ha-agam hikpi*  
'The cold froze the lake' \ 'the lake froze'

(26) *ha-ef hirtixa et ha-maim \ ha-maim ratxu \ \*ha-maim hirtixu*  
'The fire boiled the water' \ 'the water boiled'

(27) *ha-xevra hixpila er ha-revax \ ha-revax huxpal \ \*ha-revax hixpil*  
'The company doubled the profit' \ 'the profit doubled'

Note, that the passive *huxpal* is grammatical while intransitive *hixpil* is not, although semantically there is no implied agent for the event of doubling. Moreover, the felicitous way to describe an event of doubling with no specified agent is by using a reflexive marker as a D.O.: *ha-revax hixpil et acmo* 'the profit duplicated itself'. This is evidence for the validity of the relatively low semantic transitivity of scalar degree achievements as a property necessary for grammatical lability in P5.

This shows that the broader semantic property of denoting a Change-of-state event, argued as predicting whether a verb may participate in the causative-inchoative or unaccusative alternation (Levin 1993, Levin and Rappaport-Hovav 1995, Potashnik to appear), is not sufficient for predicting whether a P5 verb will be labile. Such alternation is predictable for Degree Achievements, which show all of the semantic profiles analyzed in previous sections.

### 6.7. The semantics of labile verbs in P5 – summary

I propose that Conjugation Class #6 is restricted as follows: when a transitive verb in P5 does not denote a degree-achievement, nor is its theme argument highly agentive, it cannot have an intransitive reading. For instance: *hidlik* ‘light, ignite’ \ \*‘be lit’; *hivfir* ‘burn’ \ \*‘burn INTR’; *hirtiv* ‘wet’ \ \*‘get wet’.

What is common to all types of labile verbs of Conjugation Class #6 is relatively weak semantic transitivity. Whether it is cause-unspecified or internally-caused events, phase verbs, Degree achievements, or verbs with non-prototypical, highly agentive theme arguments – all of them share a relatively low degree of semantic transitivity, along the scale proposed by Hopper & Thompson 1980. The lack of morphological alternation between the transitive and intransitive expressions of the events reflects their conceptual proximity, and at the same time brings these concepts closer in the minds of speakers.

It turns out that the properties of (anticausatives) labile verbs in P5 is in line with labile typology across languages (Letuchiy 2006, 2009, Haspelmath 1993), although they are considered idiosyncratic, few and non-productive. They constitute a **coherent**

**peripheral-system of lability**, and integrate semantic and syntactic properties that characterize labile verbs crosslinguistically.

Accurately characterizing the group of P5 labile verbs as non-prototypical, relatively low-transitivity, Degree-achievement verbs, helps us shed light on the question of its expansion, namely, why speakers have adopted such a pattern

The choice of *binyan* also turns out to be coherent and not at all surprising: P5 hosts many derived verbs, and has affixation which is a morphological marker of derivation in Hebrew. It is a preferred *binyan* for derivational processes. Most labile verbs in P5 indeed derive from adjectives (and sometime nouns) which create the basis for the Degree-Achievement interpretation of the verbs. This finding is in line with typological characteristics of labile verbs, as classes of derived labile verbs from adjectives exist in other languages, e.g. French deadjectival verbs (Letuchiy 2006):

(28)

grandir ‘make/get bigger’;

grossir ‘make/get thicker’;

refroidir ‘make/get colder’

baisser ‘make/get lower’;

chauffer ‘make/get hotter’;

hausser ‘make/get higher’

It is now clearer that deriving verbs from adjectives is compatible with a *binyan* that has the property of derived morphology (affixation) and that many of its entries derive from a base form in P1 into causatives in P5. Deriving gradable adjectives into P5 verbs is just a different kind of derivation, and P5 is the natural result of such a process. Thus,

while decreasing the regularity of the *binyanim* on one hand, the P5 Degree-Achievement verbs contribute to the regularity of the derivational system of Hebrew on the other hand.

## 7. The productivity of labile alternation in P5

The next step in the study will be to show that the patterns that I observed in the previous chapters have a grammatical, rather than merely statistical status in current Hebrew grammar. In other words, I would like to show that the proposed category of P5 labile verbs results from productive rules of Hebrew grammar. In order to do that, I will present data collected from various sources of colloquial and literal Hebrew in which speakers innovate verbs in P5. My point is that these innovations which share the semantic properties I described in the previous chapter. If so, the group of P5 labile verbs is not a closed, idiosyncratic class of verbs, but an ever-growing, open class.

The present chapter is structured as follows: first, I will define the notion of linguistic productivity I use for present purposes. I will compare the notions of productivity and frequency, show that sometimes the productive processes are not necessarily the frequent ones. I will also explain the **Hapax Legomenon rule** (Baayen 1992) that helps identify productive processes when they are still under-generalized and not frequent enough (7.1.).

Second, I introduce the various examples for innovation of P5 labile verbs; some of the innovations show the use of an existing verb in an innovative way with respect to transitivity; some of them show the coinage of a new lexical item which has the properties of the P5 labile class; Yet others are coinages of new denominal forms which derive from the labile patterns and share their semantic properties (7.2-7.5).

Finally, I will return to Berman 1993 and call for a revision in the current status of labile verbs. My claim is that this class of verbs is productive, and reflects the availability of a current process for Hebrew verbal innovation (7.6).

### **7.1. The notion of productivity applied in this study**

Speakers understand not only the words listed in their lexicon but also new words (made up words or neologism) that they coin or encounter during discourse. Such innovations follow rules that govern word formation. When we want to know whether a rule is productive, it is often measured by the extent to which it functions in forming new words. In other words, the number of existing words derived by a particular process is not necessarily a reflection of its productivity.

Measuring type frequency in a corpus (i.e. how many different P5 verbs occur in a corpus) tells us something about the degree of generalization of a morphological process, but this too does not tell us much about the current availability of the process, because it does not say anything about potential words, only on existing words. So, in order to find out the degree of productivity of a morphological process we must look for something else.

Following Bauer (2001), this study uses the Hapax Legomenon rule (Baayen 1992) to measure productivity. The Hapax Legomenon Rule is based on the intuitive notion regarding innovations: “we must expect to find relatively large numbers of words which are used infrequently formed by the most productive processes” (Bauer 2001: 147). In other words, the more available a process is, the more innovations will emerge from applying the process. The idea is that the rarity testifies to the innovation, which testifies to the rule being "alive", rather than the pattern learnt by rote. The way to identify this type of productivity is to find whether a particular process actively applies only once to a particular base in a given database. The rule measures the number of words formed by the morphological process occurring in a corpus precisely once (the hapax legomena, or the

shorter version “hapaxes”) relative to the total token frequency of words created by that morphological process.

Hapaxes are helpful to distinguish productivity of a morphological process from generalization of that process, since a widely generalized process will generate high token frequency for its types. Since we deal here with a process which, I claim, gained productivity and prominence very recently, we cannot expect a high token frequency of labile alternation. For this reason, the notion of productivity adopted in this study is the availability of the process to verb innovations.

Productivity is not a binary matter; it is a continuum, and a process can be fully productive, not productive at all, or anywhere in between (Bauer 2001). In this study, my goal is to show that there is evidence for the productivity of the labile alternation in P5, and that the form-meaning relation it creates is causative-inchoative degree-achievements derived from adjectives and nouns. As already noted by Bolozky (1986:39), since speakers look for transparent generalizations in word-formation processes, innovators tend to reflect certain tendencies associated with the *binyanim*. Such tendency, I claim, is intransitive\transitive degree achievements in P5, and here I present evidence for this claim. The following sections will present three types of examples, where a new labile verb is coined, denoting a degree-achievement.

## **7.2. Usage of synonyms in addition to morphological alternations**

There are transitive verbs which have intransitive derivations in other Conjugation Classes. Despite that, speakers sometimes use the originally transitive verbs as intransitives, creating labile alternations. Such verbs include *hizkin* - synonymous to



*hizdaken* 'grow old'<sup>8</sup>, and *heʕefir* – synonymous to *hitʕafer* 'become rich'. The consequence of such uses is that in some cases, Hebrew speakers use a form that contradicts their knowledge about the derivational paradigm. Speakers prefer to create an ambiguous form instead of using an existing alternant form. The conclusion of such uses is that Conjugation Class #6 has some sort of semantic function which speakers wish to convey. If so, this is evidence for its productivity.

### 7.3. New coined verbs

The following section presents attested instances of innovative uses of intransitive Degree-Achievements in P5. This shows that not only is Conjugation Class #6 productive for Hebrew speakers, its productivity is in line with the analysis given in the previous chapters.

Attested innovations of internally-caused Degree Achievement events:

- (29) *ha-xoma ... magbiha*                      *ve-holxet*<sup>9</sup>  
the-wall ... raise-INT.PRS.SG.F and-go.PR.SG.F  
'The wall ... is becoming higher'
- (30) *Obama hicfir*                                  *be-kama ʕanim*<sup>10</sup>  
Obama rejuvenate-INTR.PST.3SG LOC-few years  
'Obama became a few years younger'

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<sup>8</sup> "דוד הזקין בעקבות היראה בעת מגפת הדבר, כשפגש במלאך שחרבו שלופה בידו נטויה על ירושלים. עלי הכהן הזקין מפני צערו על חטאי בניו. יהושע הזקין מפני המלחמות הרבות שעשה, ושלמה המלך הזקין Hatsofe website "בשל נשיו הרעות"

<sup>9</sup> "החומה שמפרידה בין הצהרות בנוסח 'אנחנו באים עם ממשלה מאוחדת לירושלים המאוחדת', שהשמיע אתמול ראש הממשלה בנימין נתניהו לבין המציאות בשטח, מגביהה והולכת ככל שחולף הזמן".  
<http://www.haaretz.co.il/opinions/editorial-articles/1.1712502>

<sup>10</sup> <http://www.ynet.co.il/articles/0,7340,L-4293271,00.html> גילו שאובמה הצעיר בכמה שנים

- (31) *ha-singel ... matlil u-maslia*<sup>11</sup>  
the-trail ... steep.PRS.SG and-rocky.PRS.SG  
'The trail becomes steep and rocky'
- (32) *holxim u-mafbixim mi-mofa le-mofa*<sup>12</sup>  
go.PR.PL and-improve.PRS.PL FROM-show TO-show  
'Improving from show to show'
- (33) *panav hizsifu od joter, im ze effari*<sup>13</sup>  
face.POS.3SG frown.PST.3PL. still more, if it possible  
'His face frowned even more, if that is possible'
- (34) *la-acvut jef beemet netia lehamrir im ha-fanim*<sup>14</sup>  
the-sadness has really tendency become-bitter.INF with the-years  
'the sadness really tends to grow bitterer with the years'
- (35) *ha-tekes hirhiv me-az*<sup>15</sup>  
the-ceremony astonish-INTR.PST.3SG LOC-then  
'The ceremony has become more spectacular since then'
- (36) *ha-falav haze fe-ha-jadaim matxilot lehasfir*<sup>16</sup>  
the-phase this that-the-hands start.PR.F.PL be-hairy-INF(innovative)  
'This phase that the hands start to become hairy'
- (37) *kax mitbaheret (o ... maxfixa) ha-tmuna*<sup>17</sup>  
thus become-clear.PR.F.SG or darken. PR.F.SG the-picture  
'Thus the picture becomes clear (or becomes dark)'

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<sup>11</sup> הסינגל מתחיל בשבילון - אבל אח"כ מתליל ומסלע

<http://www.groopy.co.il/trackinfo.aspx?pid=595>

<sup>12</sup> דינאמיקה בימתית מקורית ומצחיקה. הביצוע אדיר. הולכים ומשבחים ממופע למופע

[www.tzavta.co.il/entertainment.asp?p=1690](http://www.tzavta.co.il/entertainment.asp?p=1690)

<sup>13</sup> [img.tapuz.co.il/forums/10706375.doc](http://img.tapuz.co.il/forums/10706375.doc) פגנו הזעיפו עוד יותר, אם זה אפשרי

<sup>14</sup> (Yossef Babliki Facebook page) לעצבות יש באמת נטייה להמריר עם השנים

<sup>15</sup> <http://www.haaretz.co.il/news/education/1.1173576> הטקס הרהיב מאז (הארץ 11.5.11)

<sup>16</sup> השלב הזה שהידיים מתחילות להשעיר Private conversation 11.12.14

<sup>17</sup> כך מתבהרת (או שמא יש לומר <http://www.ha-makom.co.il/post/madhom-aviramagolan> מחשיכה) התמונה הכוללת של מה שאפשר כבר בהחלט להגדיר כשיטה

- (38) ... *fe-mavgir be-fita fel 200% ec xada*<sup>18</sup>  
 that-mature.PR.M.SG(innovative) in-method of 200% wood new  
 ‘..that ages in a method of 200% new wood’

The innovative examples above vary with respect to their incorporation into the working grammar of adult speakers of Modern Hebrew. Nevertheless, they are fully intelligible in their natural contexts, and were accepted as legitimate innovations among speakers I consulted with. All of them share the grammatical features analyzed in the sections above: they are intransitive P5 verbs which derive from gradable adjectives and denote spontaneous Degree-Achievements along a scale.

#### 7.4. Evidence from the nominalized template haCCaCa

The nominal template haCCaCa is the paradigmatic template for nominalization of P5 verbs. The nouns of this template derive from the verbs, and they are morphologically and syntactically dependent of their respective verbs, demonstrated below:

- (39)
- a. *hafmana* ‘fattening’
  - b. *haxlama* ‘healing’
  - c. *hakcana* ‘radicalization’

The morphological dependency is realized by the following: (i) there are no independent nouns in this template. A noun of haCCaCa entails the existence of a matching verb (apart from innovations I present and discuss shortly). (ii) The nouns of haCCaCa share the consonants of the stem and affix with their base verbs. (iii) The nouns share prosodic structure with their base verbs with respect to the first syllable boundary:

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<sup>18</sup> דוגמה מצוינת לכך היא יין הדגל של היקב, אלכסנדר הגדול, שמבגיר בשיטה של 200% עץ  
 חדש <http://www.haaretz.co.il/food/wine/premium-1.2762047>

(40) *hixtiv* ‘dictate’ – *haxtava* ‘dictation’

hVC.CVC – hVC.CV.CV

The semantic dependency of the nouns on their base verbs can be tested by semantic entailment. An event denoted by a P5 verb entails the event denoted by the matching noun, and vice versa:

(41) *ha-cava hifcic et ha-bait* ‘the army bombed the house’  $\Leftrightarrow \exists e$  s.t. event  $\langle e \rangle$  is denoted by the NP [*hafcacat ha-bait* ‘the bombing of the house’].

$\exists e$  s.t. event  $\langle e \rangle$  is denoted by the NP [*havraʔat ha-xole* ‘the recovery of the patient’]  $\Leftrightarrow$  *ha-xole hivri* ‘the patient recovered’.

These observations reinforce the assumption that the nominalizations receive their morphological and semantic properties from their base verb.

However, I have found five innovations of haCCaCa nouns with no base verb form in P5:

(42)<sup>19</sup>

- a. *haxvaca* ‘shrinking’ - *\*hixvic* \ *hitkavec* ‘shrink’
- b. *haktava* ‘polarization’ - *\*hiktiv* \ *kitev* ‘polarize’
- c. *hadata* ‘becoming (more) religious’ – *dat* ‘religion’ \ *\*hedit*
- d. *hagzaʔa* ‘becoming (more) racist’ - *gizʕan* ‘racist’ \ *\*higzia*
- e. *hagraʔa* ‘worsening’ – *garuaʔ* ‘very bad’ \ *\*higria*

With no base verb to derive from, the nouns in (42) receive their stem consonants from verbs of different forms (42a,b) , from nouns (42c) or from adjectives (42d,e) . The important point made by the examples in (42) is that all five innovations denote a gradual

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<sup>19</sup> The full quotations are given in appendix III

change of state without an external cause. The chosen nominal template is intriguing especially in examples 42a and 42b since their base verbs actually do have their paradigmatic nominalizations, in different *binyanim*:

(43)

- a. *kitev* ‘polarized’ - *kituv* ‘polarization’ (P3)
- b. *hitkavec* ‘shrink int.’ - *hitkavcut* ‘shrinking’ (P4)

It appears, then, that the innovators of examples (43a,b) chose the form of haCCaCa over the existing nominal forms precisely in order to highlight the internally-caused change of state.

This shows that in the innovations in (42), haCCaCa contributes the semantics of internally-caused Change-of-state degree achievements. Since haCCaCa receives its semantics from the P5 verb, as demonstrated in (42), I claim that this is evidence that the semantics of the degree achievement is entailed by P5. The events denoted by the nouns in (42) receive their semantics from potential P5 verbs, phonologically unrealized, with the semantics of internally-caused change of state degree achievements.

### **7.5. Analysis of the elicited innovations**

Another, possibly more intuitive way to identify productivity of morphological processes, and more intuitive perhaps, is in terms of rate of additions. We need to measure the occurrence of innovations in a given period of time (Bauer 2001). As another proof for its productivity, the result of my count compared with previous counts, shows that in the last 20 years there were about 50 additions to Conjugation class #6, tripling its type number. Type frequency of the innovations is still very low, as almost every example drawn from the data sources is a hapax legomenon, and every example for innovation of a labile verb

has the semantics of Degree-Achievement. I therefore claim that not only is the group more significant in size than previously recognized, it is productive in Hebrew.

Turning back to Berman 1993, that rated the productivity of processes related to the *binyanim* and divided them into three productivity classes, based on properties she analyzed in her study: (i) Is the process transparent? That is, are the form-meaning relations reflected by the process are easily recognizable to speakers? (ii) Is the process functional in new verb formation? (iii) Is the process restricted to a closed-class of existing verbs or is it open-ended? (iv) Is the process available in genuine colloquial registers or is it restricted to normative use, preferred by language establishments? (v) Do speakers rely on the process in spontaneous innovations?

Berman (1993) positions the labile alternation of causative-inchoative in P5 within the middle category – semi-productive, because it belongs to a closed-class of verbs and is not used for innovations. The three categories, however, compose a continuous scale, and a process can have the properties of more than one category. Specifically, my data show that labile alternation in P5, however semantically restricted along the lines I sketched in chapter 6, is a process that speaker of various registers (re-)prefer in spontaneous innovations. We see that classifying P5 labile verbs in the semi-productive category is no longer obvious, and that recent developments in the grammar have shifted its status, I claim, to a more productive, available and generalized category in Hebrew. It is not actively productive, yet, for it is still small in size, under-generalized and semantically (but not lexically) restricted to degree-achievements. However not fully generalized, Conjugation class #6 is productive in the sense adopted in this study.

## 8. The second class of verbs: Causative Labile alternations

(44) *toda raba, **hismakt oti***

'Thank you, you "blushed me" (made me blush)

(45) *Daphni Leef lo haita kayemet im lo hayinu **mevaabeim et** ha-fetax*

'Daphni Leef would not have existed had we not bubbled up the field'

The second and smaller type of labile alternation consists of verbs which undergo the opposite process, of increasing transitivity, again with no morphological change. The verbs which are used in this pattern have two properties in common. First, they belong to either one of two templates P3 and P5. Second, they are verbs of low transitivity, either full-fledged intransitives or else PP-taking transitive. When they are integrated into a transitive construction with Direct Objects and the accusative marker *et*, the subject of the intransitive is placed in the Direct Object position and a causative meaning emerges.

The causative labile verbs divide into two subgroups, based on their degree of lexicalization. The first group is the internally-caused verbs in P5 (already discussed in 4.1.), where the intransitive reading is easy to conceptualize, and the transitive one is the cognitively less salient, and hence the one to be marked morphologically, by a causative alternation which occur in P5. This subgroup is relatively acceptable in the grammar of Hebrew speakers.

(Table 22) Internally-caused verbs in P5

#	Verb	Nominal stem	Intransitive meaning	Causative meaning
1	<i>hivrik</i>	<i>barak</i> 'glow'	shine, glow	polish
2	<i>hexlid</i>	<i>xaluda</i> 'rust'	rust	rust
3	<i>hisriax</i>		stink	cause to stink
4	<i>hiv?if</i>		rot	rot
5	<i>hivfil</i>	<i>ba?el</i> 'ripe'	ripen	ripen

6	<i>hexvir</i>	<i>xiver</i> 'pale'	become pale	make pale
7	<i>hexlim</i>		recuperate	Cure
8	<i>hexmic</i>	<i>xamuc</i> 'sour'	become sour	make sour
9	<i>hikriax</i>	<i>kereax</i> 'bald'	become bald	make bald
10	<i>higlid</i>	<i>geled</i> 'scab'	scab	make a scab on a wound

The verbs in table 22 denote internally-caused degree-achievement verbs. The verbs in rows 1-6 are also verbs of emission, denoting an internally-caused emission of substance or quality.

In contrast with the verbs of Conjugation Class #6, with a relatively well-defined form-function relation, the second subgroup of causative labile alternation is more innovative, rarely lexicalized and somewhat surprising to Hebrew speakers I have consulted with. Nevertheless, the following examples, all attested, are coherent and acceptable in the contexts they occurred in.

(Table 23) Examples for innovative causative labiles

	Verb	original Meaning	Accusative Transitive	Attested example
11	<i>himtin</i>	wait, hold	cause to hold	<i>netsig ha-ferut himtin oti al ha-kav</i> <sup>20</sup> The customer-service advisor waited ACC.1.sg on the-line
12	<i>hismik</i>	blush	cause to blush	<i>toda raba, hismakt oti</i> <sup>21</sup> 'thank you, you made me blush
13	<i>xilxel</i>	permeate	cause to permeate	<i>hitxalnu lexalxel et ze le-xayehem</i> <sup>22</sup> 'we began to permeate it to their life'
14	<i>dileg</i>	'hop'	transfer	<i>hu dileg et taxanat ha-isuf ha-gdudit</i> <sup>23</sup> he transferred the medical logistics station'

<sup>20</sup> Overheard at Orange Communication center, Tel-Aviv. 24.11.11

<sup>21</sup> [www.tapuz.co.il/forums2008/forummaavaron.aspx?forumid=110&MessageId=146161389](http://www.tapuz.co.il/forums2008/forummaavaron.aspx?forumid=110&MessageId=146161389)

<sup>22</sup> Israeli channel 10, 25.6.11

<sup>23</sup> [www.refua.atal.idf.il/1312-he/Refuah.aspx?PageNum=9&lang=he&SortDir=ASC](http://www.refua.atal.idf.il/1312-he/Refuah.aspx?PageNum=9&lang=he&SortDir=ASC)



15	<i>tifked</i>	perform, function	place in duty	<i>leta<b>tfked</b> oto kcat kadima</i> <sup>24</sup> 'to place him a little bit forward'
15	<i>biabea</i>	'bubble up'	cause to bubble, stir	<i>D.L. lo haita kayemet im lo hayinu mevaabeim et ha-fetax</i> <sup>25</sup> 'D.L. would not have existed had we not stirred up the field'
16	<i>hifsid</i>	Lose	cause to lose	<i>ima dai at mafsida oti!</i> <sup>26</sup> 'Mom, stop, you make me lose!'
17	<i>exer</i>	be late	postpone	<i>pit?om atem rocim le?axer et ha-hacba?a?</i> <sup>27</sup> 'Suddenly you want to postpone the vote?'
18	<i>dida</i>	waddle	cause to waddle	<i>mutar ledadot ota</i> <sup>28</sup> 'It is allowed to make it waddle'
19	<i>tirgel</i>	practice	train	<i>Madua lo metargelim otanu bepinui ha?ir?</i> <sup>29</sup> 'Why don't they train us in evacuation of the city?'
20	<i>pixpex</i>	trickle	cause to trickle	<i>tefaxpexu et ha?ahava</i> <sup>30</sup> 'Make your love flow'
21	<i>hidhed</i>	echo	echo	<i>ve-ani somex alexem fe-tehadhedu et ha-meida halaa</i> <sup>31</sup> '...and I trust you to echo the information onward'
22	<i>sijer</i>	tour	guide a tour	<i>tov ani amfix lesajer otxem</i> <sup>32</sup> 'ok I'll continue to give you the tour'
23	<i>xijex</i>	smile	cause to smile	<i>xijaxti otax ?</i> <sup>33</sup>

<sup>24</sup> <http://debuzzer.sport5.co.il/prossner/archives/4514>

<sup>25</sup> <http://www.haaretz.co.il/magazine/1.1774818>

<sup>26</sup> Overheard in Tel-Aviv 28.2.2014

<sup>27</sup> ? פתאום אתם רוצים לאחר את ההצבעה? [knesset.gov.il/tql/.../20031105@03398704@001.html](http://knesset.gov.il/tql/.../20031105@03398704@001.html)

<sup>28</sup> <http://chabad.org.il/Magazines/Article.asp?ArticleID=9253&CategoryID=1702>

<sup>29</sup> ? מדוע לא מתרגלים אותנו בפינוי העיר? (<http://www.mynet.co.il/articles/0,7340,L-4118318,00.html>)

<sup>30</sup> Overheard at a wedding, 17.5.2012

<sup>31</sup> ואני סומך עליכם שתהדהדו את המידע הלאה

[www.facebook.com/friendsofgeorge/posts/837113206313525](http://www.facebook.com/friendsofgeorge/posts/837113206313525)

<sup>32</sup> In a private conversation 6.12.14

<sup>33</sup> Private conversation, 25.11.14 ? הייכתי אותך?

				‘Did I make you smile?’ <i>ha-ceva ha?adom mexajex et ha-bait</i> <sup>34</sup> ‘the color red makes the home smile’
24	<i>miher</i>	hurry	cause to hurry	<i>aval lama at memaheret oti?</i> <sup>35</sup> ‘But why do you hurry me?’
25	<i>tipes</i>	climb\rise	cause to climb\raise	<i>betax od xodfaim hem jetapsu et ha-mexirim</i> <sup>36</sup> ‘surely in two months they will raise the prices’
26	<i>hegiv</i>	react	cause to react	<i>be-tahalix exothermi anaxnu megivim ota</i> <sup>37</sup> ‘by an exothermal process we cause it to react’
27	<i>nimnem</i>	doze	cause to doze	<i>zo trufa fe-menamnemet ota</i> <sup>38</sup> ‘It’s a medicine that makes you sleepy’
28	<i>nifev</i>	blow (wind)	cause to blow	<i>ha-doko-realiti ... menafev et ha-ruxot be-israel</i> <sup>39</sup> ‘the documentary-reality show reflects the spirit in Israel’
29	<i>livlev</i>	blossom	cause to blossom (allegoric: encourage,develop)	<i>ha-diun...melavlev et ha-siax ha-ciburi</i> <sup>40</sup> ‘the discussion “blossoms” the public discourse’

The verbs in Table 23 show no semantic resemblance to each other, in the sense discussed earlier in this paper. Some of them are activities, others denote change-of-state; they do not share aspect, agentivity or any other semantic properties. The only thing they

<sup>34</sup> הצבע האדום מחייך את הבית ואת החיים <http://www.haaretz.co.il/food/dining/.premium-1.2904652>

<sup>35</sup> [Overheard](#) 26.6.14 אבל למה את ממהרת אותי?

<sup>36</sup> [Overheard](#) 24.12.14 המקום בהרצה, בטח עוד חודשיים הם יטפסו את המחירים

<sup>37</sup> [Private conversation](#) 25.7.15 בתהליך אקזותרמי אנחנו מגיבים אותה

<sup>38</sup> [Overheard](#) 20.8.15 זו תרופה שמנמנמת אותך

<sup>39</sup> <http://www.haaretz.co.il/gallery/television/tv-review/.premium-1.2734274> הדוקן-ריאליטי החדש "חיים חדשים" מנשב באופן מדויק את הרוחות בישראל

<sup>40</sup> הדיון שנמשך כבר יותר משבוע רצוף מבלבל את השיח הציבורי בישראל 12.4.16 <http://timeout.co.il/>

have in common is that they are intransitive verbs in P3 or P5 which speakers successfully inserted into a transitive construction to denote a causative event.

The next sections will continue as follows: In 8.1 I will discuss the morphological sources of this phenomenon. Specifically, I will show that syntactic transitivity in Hebrew is a phenomenon with heavy morphological conditions, where verb's *binyan* is sometimes a stronger determinant of the acceptability of a transitive construction than its semantics.

Another morphological property of Hebrew verbal system which shapes causative labile alternation is the rigidity of the Conjugation Classes. In section 8.2 I will show that the morphological reasons which prevent speakers from creating new Conjugation Classes are crucial in understanding why causative labiles have gained productivity in recent years.

In section 8.3 I will discuss the semantic properties which shape the phenomenon. I will analyze the data with respect to the concept of **controllability**, or simply **control**, and show that a relatively low degree of controllability of the original argument of the intransitive verb over the event is the semantic property which makes causative labile alternation acceptable.

In section 8.4 I will analyze a different kind of causative labile verbs: causativization of transitive verbs, in order to further establish the claims I present in this chapter.

Finally, in section 8.5, I sum up the chapter and highlight its conclusions.

### **8.1. Morphology and syntactic transitivity**

I have argued that the only property shared by all of the causative labile verbs is morphological: they all have the form of either P3 or P5. We should then ask what it is in

the morphology of these two *binyanim* that contributes to the existence of such alternations.

Previous studies looking for a systematic relation between morphology and grammatical properties of the template system (Berman 1978, Doron 2003, Arad 2005, Laks 2011) are in agreement only with respect to transitivity. That is, the only grammatical property which is consensual to be reflected systematically by the different templates is whether the verb may or may not be transitive. It is agreed that the three active *binyanim* P1, P3 and P5 are marked [ $\pm$ TRANS], so transitive verbs can take their forms, and that P2 and P4 (niCCaC and hitCaCCeC) are marked [-TRANS] or [-ACCUSATIVE CASE], since no verb in P2 and P4 is transitive.

Note, that this descriptive claim may reflect two different analyses of the relation between morphological form and syntactic transitivity. It is either that P2 and P4 cannot host transitive verbs (Berman 1978, Arad 2005), or that verbs in P2 and P4 are syntactically intransitive (Doron 2003).<sup>41</sup> The first claim suggests that the templates merely reflect the intransitivity of their verbs, which comes from independent sources such as derivational valence-reducing operations or lexical semantics. Such an analysis is suitable for passive templates in Hebrew and for verbs with *se-* clitics in romance languages: the valence-reducing operation is responsible for reducing of the number of arguments that the verb takes (Laks 2011). The morphological form only reflects this alternation. The second, stronger claim suggests that whatever a P2 and P4 verbs mean,

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<sup>41</sup> Doron (2003) holds that view, but with respect to the middle property, i.e. she treats all the verbs in P2 and P4 as middles, regardless their semantics.

they cannot assign accusative case to an argument, and this is strictly because of its *binyan*.

In a completely derivational system, where every base verb has a derived counterpart, the two options would have converged, for every P2 and P4 verb would have been the intransitive alternation of a transitive verb of the active verbs. However, the verbal system of Hebrew is everything but a perfectly regular system, so we need to decide between the two claims.

Examining pairs of verbs leads to an interesting insight regarding the interface between semantics, morphology and argument structure in Hebrew. Consider the following:

*hitšalel* ‘abuse’ and *šina* ‘torture’ are semantically very close, and indeed, as in English, both ‘abuse’ and ‘torture’ are transitive. Nevertheless, they appear in different *binyanim*:

(46) *šina* ‘torture’: ‘P3’ template, preferred for transitives.

*dan ina et axiv*

dan tortured ACC brother-POS

‘Dan tortured his brother’

(47) *hitšalel* ‘abuse’: P4 template which cannot be an accusative-transitive.

*dan hitšalel be-axiv* \ \**dan hitšalel et axiv*

‘Dan abused LOC-his-brother’ \ ‘Dan abused ACC his-brother’

This distinction holds for several pairs of verbs, where the verb in P1, P3 or P5 takes accusative Direct Objects, but the synonym in P2 or P4 cannot:

(48) *hitšabel* ‘mourn’ (P4) and *bika* ‘lament, mourn’ (P3).

(49) *hitnaḳef* ‘assassinate’ (P4) and *racax* ‘murder’ (P1).

This discussion reinforces the second claim regarding *binyanim* and transitivity, and advances the claim that what dictates possible argument structures in Hebrew is not only the idiosyncratic semantics of each verb, but also its *binyan*.

I maintain that this is evidence for the effect of the *binyanim* on the construction that a verb can occur in. While the fact presented above regarding the blocking of the transitive structure by the middle templates is well documented (Arad 2005), the other way round is not that obvious. What I will try to claim is that the active *binyanim* P3 and P5 enable, if not encourage, a transitive argument structure, regardless of their semantic transitivity.

As described earlier in 3.1.2, the prosodic markedness hierarchy creates restrictions which change the mechanism of choosing a template for new verbs, thus decreasing the regularity of the semantics of the templates. New stems tend to integrate into P3, and the rest tend to occur in P5 and P4. It is important to note that in such a state of affairs, semantics plays only a minor role in determining the form of a new verb; the number of stem consonants and the syllable structure of the stem are better predictors than the semantics of the stem for which form the verb will take. For instance, stems with more than 3 consonants will inflect in P3 or P4, the geminated *binyanim*. Four consonant stems will inflect in P5 only if the base word has a prosodic base of CCCVC, as in *hi/price* ‘spray’ (Borochovsky 2001).

At the same time, P3 and P5 themselves are associated with typical semantics with respect to the subject role. P3 is associated with an agentive subject and P5 with causative role. These associations are responsible for *binyan* changes in analyzed by Laks 2011 (discussed earlier in 3.3.2). I suggest that these associations make the transitive argument structure available to speakers, when they use a verb in P3 or P5.

Since the changes in productivity of the verbs result in decrease of semantic regularity of the templates on one hand, and the connection between morphology of the *binyanim* and argument structure of the verbs is very salient on the other hand, the data I present here suggest that *binyanim* that are related to transitive constructions (P3 and P5) enable causative labile alternation for intransitive verbs.

Hopper & Thompson (1980) found that crosslinguistically, if a grammatical marker that entails an increase or a decrease of transitivity occurs in a phrase, other obligatory grammatical markers in the same phrase will mark a same level of transitivity. Since P3 and P5 morphologies are related to agentive verbs to begin with, they may mark high semantic transitivity. Adding a direct object to the argument structure of the verb correlates with the increase in transitivity as well, suggesting that the resulting meaning of the construction will entail a higher degree of transitivity.

## **8.2. Why doesn't Hebrew have new causativization patterns P3-P5 and P5-P3?**

As discussed earlier in (3.3), the status of P3 and P5 is dual: they are derivational markers, therefore marked, as well as independent, prosodically unmarked patterns of inflection for verbs. P3 and P5 are morphological markers of intensive and causative agency, respectively (Doron 2003). This explains why the direction of the causative derivation is always from P1 to P3 or P5, and never backwards. We need to ask, then, why do speakers prefer causative labiles over causative alternation between P3 and P5?

Morphologically, P3 and P4 are geminated, that is, they have four slots for consonants in the template, usually geminating the second with the third, yielding a special morpho-phonology. Even though Hebrew speakers do not phonetically geminate, this feature makes P3 and P4 available for stems with four and more consonants, while P5 is non-

geminated, and lacking the properties described above. This is why Hebrew speakers avoid mixing P5 and P3 in a Conjugation Class. (Arad 2005). There is, however, a Conjugation Class of P5-P4, but it is less frequent and felicitous because P4 is syntactically intransitive, contrary to P3. P3 and P5 are both transitive templates, i.e. they serve as the transitive counterparts of all six Conjugation Classes. There exists only one P3-P5 causative alternation: *zinek* ‘start (a race)’ – *hiznik* ‘start a race CAUS. Evidently it is less costly for speakers to causativize in the same *binyan* than to derive causatives in a new, less natural Conjugation Class.

To sum up the morphological factors that motivate causative labile alternation:

- i. The *binyanim* are marked for transitivity, such that the intransitive *binyanim* P2 and P4 verbs cannot be integrated into a transitive argument structure with Direct Object. P1 is neutral with respect to transitivity, and P3 and P5 are considered the “transitive *binyanim*” although they host many intransitive verbs. All in all, Hebrew morphology affects syntactic transitivity no less than semantic factors do.
- ii. Since P5 and P3 are targets for transitive alternations, when speakers use verbs in P3 and P5, the transitive argument structure is already available.
- iii. Since speakers tend to avoid alternation between geminated and non-geminated *binyanim*, the result is that P3 and P5 serve as target forms for causative alternations of verbs in the very same *binyan* – the causative labiles.

We now turn to the second part of the analysis and ask what are the semantic properties that the causative labiles share.



### 8.3. Semantic analysis of Causative labile alternation

Causatives are defined as events/situations with an additional, external component, where the additional component profiles a specific relation to the existing situation and its internal constituents it brings about the occurrence of the event. However, the original event is looked at from a different viewpoint which might trigger a shift into a different situation type. Causatives are often discussed in connection with agency. Doron (2003) formalizes this notion in her account of the Semitic templates and defines causative constructions as ones that contribute an additional agent participant in the sense of Dowty's proto-agent (Dowty 1991). In this work I assume that the additional cause element introduces an additional agent-participant. However, we will not be concerned with the specific kind of agency involved and specific entailments (in the sense of Dowty's proto-agent list).

The causative labile alternation is much more innovative than the anticausatives labile alternation, and a well-defined semantic analysis cannot as yet be given. However, the nature of causativization here attributes the cause role of the event to an external actor. It is only in such cases that the integration of the verb into a transitive construction is felicitous. The semantic component that best explains when causative labile alternation is felicitous is **Control** (Smith 1970, Levin 1995, McKoon and Macfarland 2000, Wright 2001): the degree to which an event can be externally manipulated. An externally controlled event is characterized by the fact that 'external control of the change can be assumed by an agent' (Smith 1970), whereas an internally controlled event is under the control of the entity engaged in the event, so control cannot be given up to another entity (Smith 1970). Consider the following example:

(50) *be-tahalix exotermi anaxnu megivim ota*<sup>42</sup> *hegiv* 'react', 'react-CAUSE (innovative)'  
 'by an exothermal process we cause it to react'

A chemical reaction is the hallmark of an internally-caused event. However, the conversation from which this example was taken described a technological invention which allowed for gaining control over the process and causing it to happen. This control was reflected in the choice of verb. It is hard to imagine this use, though, in describing an event of human reaction to something, because it is difficult to conceptualize external control over human reaction.

That the difference in Control reflects the difference in the felicity of causative labile alternation is best illustrated by the group of emission verbs in P5 (Doron 2003):

(Table 24) Verbs of Emission

External control	Internal control
<i>hivrik</i> 'shine, glitter'	<i>hirʕif</i> 'emit noise'
<i>hisriax</i> 'stink'	<i>hiʕtin</i> 'urinate'
<i>hismik</i> 'blush'	<i>heki</i> 'vomit'
<i>hirkiv</i> 'rot'	<i>hezia</i> 'sweat'

For the verbs in the left column, it is more probable to conceptualize an externally controlled event. We can polish a shoe to make it shine, and say something embarrassing to make someone else blush. However, it is less probable to give up control of a urinating event or a vomiting event to an external actor, nor it is easy to conceptualize external control over the emission of noise. The difference in conceptualization reflects a difference in grammar. The verbs in the left column of table 24 are verbs that speakers were attested to use as causative labiles, while the verbs in the right column are not acceptable as causative labiles.

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<sup>42</sup>Private conversation 25.7.15 בתהליך אקזותרמי אנחנו מגיבים אותה

Another domain where external control over an event can be easily conceptualized is the military domain, where a command from an external actor has the power to cause an event. Indeed, many examples of the verbs in the corpus are taken from military, specifically aviation jargon:

(51)

- a. *dileg* ‘hop’ \ transitive: ‘transfer’ (military)
- b. *himtin* ‘circle’ \ transitive: ‘order to circle’ (aviation)
- c. *himri* ‘take off’ \ transitive: ‘order to take off’ (aviation)
- d. *tipes* ‘ascend’ \ transitive: ‘order to ascend’ (aviation)

The prevalent use of the verb *tipes* is intransitive<sup>43</sup>, which takes a non-obligatory PP complement, as in "*tipasnu al ha-har*" ‘we climbed on the mountain’. In aviation jargon, the sense of *tipes* predicated on airplanes is to ascend, and it is intransitive. In this jargon, the transitive construction of *tipes* yields the meaning of "instructing\commanding one to ascend". This is a notion of causation, but not only does *tipes* not have the typical causative morphology, the notion of the causation here is restricted to the world of commanding hierarchies, where a command is all that one has to do in order to cause the action.

In sum, the semantic factor that best predicts whether an intransitive verb in P3 or P5 can be causativized without morphological alternation is the possibility to conceptualize an external cause for the event. Evidently, causative lability in Hebrew is a semantic

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<sup>43</sup> There is a transitive construction of the verb, as in "*tipasti et ha-tavor*" (I climbed Mt. Tabor) which distinguishes between the activity of climbing in "*tipasti al ha-tavor*" (I climbed on the Tavor) and the accomplishment of reaching the top. Similarly, *himtin* has the same accusative construction implicating an accomplishment over an activity, as in "*himtanti et kol ha-sha'a*" ‘I waited the whole hour’. This aspectual transitive construction is not part of the current discussion.

mirror image of anticausative lability, where we saw in 6.4 that highly agentive theme arguments yield internally-caused, spontaneous events.

#### 8.4. Causativization of deadjectival transitive verbs in P3

There are transitive P3 verbs which turn into adjectives in their present tense form (participle *benoni*, Doron 2000). They do so by losing the Direct Object and by not inflecting with respect to tense. Examples are given in the following table:

(Table 25) derived adjectives in P3 *benoni*

P3 Verb	Verbal construction	adjective	Adjectival construction
<i>fišamem</i> ‘bore’	<i>ha-sefer fišamem oti</i> ‘the book bored me’	<i>mefašamem</i> ‘boring’	<i>ha-sefer haja mefašamem</i> ‘the book was boring’
<i>pinek</i> ‘pamper’	<i>ima pinka et dan</i> ‘mom pampered Dan’	<i>mefanek</i> ‘pampering’	<i>ha-malon haja mefanek</i> ‘the hotel was luxurious’
<i>biʔes</i> ‘upset, depress (slang)’	<i>ha-seret biʔes oti</i> ‘the movie depressed me’	<i>mevaʔes</i> ‘depressing’	<i>ha-seret haja mevaʔes</i> ‘the movie was depressing’

In some cases, the verbal form becomes less frequent, while the adjective replaces it in most of the utterances. The adjective *mevadeax* ‘amusing’ derives from a verb that has almost disappeared from use:

(52) *ze haja mevadeax* \ \**ze bideax oti*  
It was amusing \ it amused me

I have found instances where speakers use the verbs in a causative construction, to yield a meaning of “causing something to become X”, where X is an adjective derived from a P3 verb:

- (53) ... *kedei levaes lexa et ha-tiul*<sup>44</sup>  
 in-order-to upset.INF DAT.2SG.M ACC the-trip  
 '... in order to make the trip upsetting (ruin your trip)'
- (54) *ha-pitaron hu lefa'amem et ha-txanim*<sup>45</sup>  
 the-solution COP bore.INF ACC the-contents  
 'The solution is to dull the contents'
- (55) *fmona tipim fe-jefanku laxem et ha-xoref*<sup>46</sup>  
 eight tips that-indulge.FUT.3PL DAT.2PL ACC the-winter  
 'Eight tips to make the winter more indulging (pleasant)'
- (56) *ha-nose haze fe-at kcat mevadaxat oto*<sup>47</sup>  
 the-matter this that-you.F slight amuse.PR.SG.F ACC.3SG  
 'This matter that you make a little ridiculous'

The definition of labile alternation used in this study states that a labile verb is a verb with two uses, which differ in syntactic transitivity and in the semantic role of the subject (Letuchiy 2009). In the examples above, the original verbs are transitive; therefore, they do not fulfill the conditions for a pure labile alternation. However, from the perspective of the linguistic process, what happens here is similar to the causative labile alternation of intransitives: adding an external causer to a verb without changing its morphology, to yield a causative meaning. I therefore claim that this is another type of causative labile

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<sup>44</sup> אני מציע בכל זאת להיזהר, כי מספיק שזה קורה לך פעם אחת כדי לבאס לך את הטיול וההרגשה מהפסטיבל באופן כללי.

[http://hydepark.hevre.co.il/topic.asp?topic\\_id=2211195&forum\\_id=6282](http://hydepark.hevre.co.il/topic.asp?topic_id=2211195&forum_id=6282)

<sup>45</sup> הפתרון הוא לשעמם את התכנים וכך יהיו פחות גולשים וכך הביצועים יהיו יותר טובים

<http://www.tapuz.co.il/blog/viewEntry.asp?EntryId=1919593>

<sup>46</sup> [http://www.kadmoni.com/2014/11/blog-post\\_5.html](http://www.kadmoni.com/2014/11/blog-post_5.html) שמונה טיפים שיפנקו לכם את החורף

<sup>47</sup> הנושא הזה שאת קצת מבדחת אותו 21.9.15 Private conversation

alternation, since it satisfied both the morphological characteristics and the semantic conditions of this alternation.

### 8.5. Causative labile alternation – summary

I suggest that the form-function relation in causative labile alternations is between the **morphological template and the syntactic construction**. The morphological form – *binyanim* P3, P5 - enables the integration of verbs into a direct-object transitive construction, yielding a causative meaning. If an intransitive verb happens to inflect in a transitive template, it is vulnerable to change just because of its *binyan*. This is why such intransitive verbs are prone to be innovated into transitive verbs, unlike equally semantic intransitives which occur in a *binyan* that is either intransitive or has no consistent correlation with transitivity.

Arad's (2005) claim that the Conjugation Classes in Hebrew are a closed class receives support by the existence of causative labile alternation. P3 and P5 serve as the transitive counterpart for transitivity alternations, and overwhelmingly avoid conjugating between one another. Speakers prefer the uncommon labile alternations, which is even strange to the Semitic DNA of Hebrew, over breaking the rules of Conjugation Classes.

The semantics of causative labile alternation is quite simple; if the event is easily conceptualized as externally-caused, that is, if the speaker can attribute the semantic property of **control** over the event to an external participant, the alternation will be felicitous.

Unlike causative-inchoative semantics, where the causative meaning is cause-to-be, or cause-to-become events, the causative semantics of the “cause-to-do” type is not common in Hebrew, and not productive in adult language. There are only a handful of cause-to-do

verbs, and no new verbs have been introduced (see the discussion in 5.4.3) other than the verbs *heʕevɪd* ‘make one work’, *hirkid* ‘make one dance’, *hicfid* ‘make one march’, *heʔexil* ‘feed’, and a few others (Bolzky 1999) . The preferred construction for denoting cause-to-do events is periphrastic, using the verb *garam* ‘cause’. It is somewhat surprising, then, to encounter instances where speakers do causativize verbs, and especially in a labile alternation. Nevertheless, causative labile alternation is gaining productivity. In fact, during the time in which I studied this topic, more additional innovations of causative labile verbs were found, which I didn't encounter at the beginning of the research, than were in the first place. This fact suggests that once this strategy for causativization attained a certain hold in the linguistic repertoire of speakers, it has started to be more common and more acceptable.

At this point I would like to note that a construction-grammar approach may be adequate for analyzing the causative labile alternation. construction grammar approaches (Goldberg 1995, 2006; Croft 2001) deal best with issues of non-compositional meaning of high-level categories, since they attribute parts of utterance meaning to the syntactic construction itself, not only to its components. Causative labile alternations put existing intransitive verbs in an innovative Direct Object transitive construction to yield a new causative meaning, without any other change in the lexical items themselves. Due to space restrictions and for the cohesion of the analysis I leave this perspective open for further research.

## 9. Combining the themes

The previous chapters of this study introduced, analyzed and explained the two types of labile alternation in Hebrew: the anticausative labile alternation in P5 and the causative labile alternation in P3 and P5. In this chapter I will combine the analyses of both types of labile alternations in order to give a coherent explanation for the motivations, restrictions and outcomes of the expanding patterns of labile alternation in Hebrew.

### 9.1. Morphological reasons motivate both phenomena

In this study I identified two morphological forces which I claim motivate the use of labile alternations. The first is the growing tendency of speakers to obey the prosodic markedness hierarchy and use **the prosodically unmarked *binyanim*, P3 and P5**. This tendency is also responsible for types of processes in Hebrew verbal system such as the morphologically motivated change of *binyan* for existing verbs (elaborated in Laks 2011). New verb forms derived from existing words or loanwords take the forms of P3 or P5, rather than of the most frequent form, P1.

The second morphological force is the strictness of the Conjugation Classes (Arad 2005). All (non-passive) transitivity alternations in Hebrew take place within one of the Conjugation Classes, and speakers do not make up new pairings of *binyanim* for transitivity alternations. The Conjugation Classes are strict especially with respect to two generalizations, both of them tightly related to the motivation of labile alternations: (i) In every class they participate (i.e., all but Conjugation Class #1), P3 and P5 are the transitive alternant. Both P3 and P5 are associated with transitive argument structure. P5 is also associated with derivational morphology because it has a prefix. This means that for speakers it is very hard to conceive of a Conjugation Class in which P3 or P5 will be



the intransitive alternant, and that some other *binyan* will take the transitive meaning. (ii) Conjugation Classes between geminated and non-geminated *binyanim* are rare and disfavored. The consequence of both generalizations together is that speakers prefer the labile alternation over a Conjugation Class of P3-P5.

## **9.2. Labile alternations in Hebrew occur where the verb's semantic transitivity is relatively weak**

It is clear that the grammatical transitivity that allows labile alternation to occur within its boundaries is not prototypical and relatively weak, on the scale of transitivity proposed by Hopper & Thompson 1980. Labile alternations are not acceptable in Hebrew when highly transitive, such as the core transitives “cut break destroy kill” type of verbs (Levin 1999), but to verbs which describe events of gradable properties, or events which occur without a prototypical agentive participant. It is where the conceptualized control over the event can be easily transferred from one participant to another that labile alternations occur in Hebrew.

This finding regarding the connection between labile alternation and relatively weak semantic transitivity are in line with typological findings regarding labile alternations. Crosslinguistically, verbs with lower semantic transitivity are more likely to have labile transitivity alternations (Haspelmath 1993, Letuchiy 2009). The lack of morphological alternation between the transitive and intransitive expressions of the events reflects the conceptual proximity of the two versions, as well as bringing both of them closer.

It is interesting to note that *binyan* alternations mark alternations of several grammatical properties in Hebrew. Transitivity is definitely the most salient property but it is not the only one. Aspect, volition and other properties play a role in such alternations

as well (Arad 2005, Tzarfaty 2004). I suggest that The Labile alternation is a new systematic way for speakers to mark a specific kind of transitivity alternations; the non-extreme transitivity alternations.

### 9.3. The implications of the findings on *binyan hif'il* and the verbal system

First, the study shows that labile alternations exist, that their magnitude is larger than was realized before, and that they are more productive than previously assumed. They reflect a recently emerged systematic transitivity alternation, with coherent, and by no means idiosyncratic, meaning relations. This includes the Degree-Achievement Causative-inchoative labile alternation in P5, and the causative labile alternations in P3 and P5. The first and most important claim that results from this research is that **systematic meaning alternations do not always require changes of form**. This is, of course, a direct contradiction of previous claims, particularly by Doron 2003 and Arad 2005, about the dependency of meaning alternations on formal alternations. I maintain that a study of the Hebrew verbal system of can no longer count as complete if it ignores labile alternation as a part of the linguistic competence of Hebrew speakers.

Second, the study supports the claim that the different *binyanim* are marked for transitivity, and aims to show that the [+transitive] *binyanim* P3 and P5 enable the transitive-accusative argument structure, even for verbs whose semantics does not entail a transitive construction. This behavior has not previously been recognized in the literature. The study testifies to the rise of new patterns in the verbal system of Modern Hebrew, which supports this new claim.

Third, this study deals thoroughly with P5 – *binyan hif'il*, and suggests that P5 serves as a morphological template for two systematic form-function relations. The first is well

known: the causative alternant in four out of six Conjugation Classes. The second, newly discovered function is the intransitive *binyan* for cause-unspecified and internally-caused degree-achievements. Why is that important? Let us return to Doron 2003 and Arad 2005.

Recall, that Doron's theory predicts systematicity only in *binyan* alternations. This allows the theory to capture the regularity, without committing to saying that the contribution of the template to a given verb is always predictable. Yet, since Doron 2003 is committed to the notion that (contrastive) morphological form is a manifestation of syntactic heads, and that templates are not merely inflectional classes (Aronoff 1994), Doron maps the *binyanim* according to voice and agentivity:

	<b>Active</b>	<b>Middle</b>	<b>Passive</b>
<b>Simple</b>	<b>P1 CaCaC</b>	<b>P2 niCCaC</b>	<b>---</b>
<b>Intensive</b>	<b>P3 CiCCeC</b>	<b>P4 hitCaCCeC</b>	<b>P6 CuCCaC</b>
<b>Causative</b>	<b>P5 hiCCiC</b>	<b>---</b>	<b>P7 huCCaC</b>

I here repeat the predictions which result from this mapping (as discussed in 3.4.1):

- Middle templates will have middle semantics. The reflexive reading of a middle verb results from the middle morpheme assigning an agent thematic role to the root's argument.
- Passive voice is a different functional head, spelled out by templates P6 and P7. P2 verbs are interpreted as middles because morphology reflects voice.
- In systematic alternations, P5 will be causative, and P3 will be agentive.

The problems discussed in 3.4.1 were that on one hand, Doron's (2003) system is too restrictive with respect to the connection between morphology and the semantic

properties they are claimed to spell out. On the other hand, the system does not account for systematic alternations that fall outside voice and agency, e.g. aspectual alternations (*faxav* ‘lie’ - *nifkav* ‘lie down’, *ahav* ‘love’ - *hitʔahev* ‘fall in love’). What these critiques suggest is that the connection between morphology and semantics cannot be narrowed down to these two functional heads, if any. The functional properties which accompany derivational alternations in Hebrew are too diverse, and present an array of idiosyncrasies.

These problems are reflected in Doron’s mapping of *binyanim* according to function, where there are empty slots with no *binyan*. The first empty slot is of a passive simple *binyan*. Historically there was a simple passive form for P1 verbs, and this form is still preserved in the *benoni savil* form (Doron 2000) – the present participle nominal category, as in the following examples:

*katav* ‘write’ *katuv* ‘written-NOM’; *patax* ‘open’ *patuax* ‘opened-NOM’

For the verbal form, however, P2 has taken the role of the simple passive. Thus, speakers use P2 for two, not one function – middle and passive voices. Speakers use an existing form for an additional function instead of limiting a single function to a single form, as Doron claims.

I would like to propose the same phenomenon characterizes the second empty slot in Doron’s mapping: the causative-middle. According to Doron’s theory, there is no *binyan* that can denote causative function and middle voice. I suggest that there is a *binyan* where speakers use an existing form to “fill the gap” in the paradigm. My study shows beyond doubt that P5 is a productive *binyan* for intransitive, inchoative verbs of specific

semantics. The anticausative labile alternation in P5 has a middle voice for its intransitive reading, because of the mixed properties of the subject role.

Arad's (2005) theory too contains a "logical gap" in the paradigm. According to Arad, *binyanim* are either "-insertable above  $v$ ", i.e. derived from a root\stem, or " $\pm$ insertable above  $v$ ", i.e. may be derived from a verb or from a root\stem. Verb-derived verbs must involve some voice alternation, which in Hebrew involves de-transitivization such as reflexivization or passivization.

This means that Hebrew has two types of *binyanim*: (i) the  $\pm$ transitive which are also root derived (P1, P3, and P5), and (ii) -transitive *binyanim* which are also verb derived, (P2 and P4). However, Arad states that "it remains as a logical possibility to allow a *binyan* which is marked specifically for non-transitive, root-derived verbs, but we can see also the logic behind Hebrew's decision to avoid such forms" (Arad 2005: 225).

The present study shows that this logical possibility is actually realized with the increased mobilization of Conjugation Class #6 labile alternation. The degree-achievement verbs derive from nominal stems and not from a different verb, they take the P5 form, which Arad specifically indicates as root-derived *binyan*, and they have an intransitive reading. This fills exactly the logical possibility pointed out by Arad 2005 in the very precise way.

The gaps in the morphological paradigm pointed out by Doron 2003 and Arad 2005 are solved by turning P5 to a two-fold template, hosting two form-function constructions rather than just one. The outcome is:

(Table 26) Revised matrix of the active *binyanim*

	Active	Middle	Passive
Simple	P1 CaCaC	P2 niCCaC	P2 niCCaC
Intensive	P3 CiCCeC	P4 hitCaCCeC	P6 CuCCaC
Causative	P5 hiCCiC	P5 hiCCiC	P7 huCCaC

I propose that instead of creating a new form to fill in the paradigm, speakers use existing forms in new ways, which is a well-known *mobilization process* in grammaticization (Ariel 2008). The labile alternation is preferred over other possible strategies, even though it goes against the dominant pattern of the Semitic system of alternations. It therefore increases the degree of verbal irregularity of the *binyan* system. However, profiling accurately the group of P5 anticausative labile verbs as relatively low-transitivity, Degree-achievement verbs, helps us shed light on the question of linguistic evolution: how come such pattern came to be?

It is now clearer that deriving verbs from adjectives comports with P5: a *binyan* that has the property of derived morphology (affixation) and that many of its entries derive from a base form in P1 into causatives. Deriving gradable adjectives into P5 verbs is just a different kind of derivation, and P5 is the natural result of such a process. Thus, while decreasing the regularity of the *binyanim* on one hand, the P5 Degree-Achievements contribute to the regularity of the derivational system of Hebrew on the other hand.

#### 9.4. Accelerated change

It was only ten years ago that previous studies made the claim that morphological alternations are a necessity in Hebrew. Indeed, labile alternations were not easy to encounter in natural data. Causative labiles especially are absent from any study of the language. It seems that this phenomenon is new. How can we explain the fact that labile

alternations have changed from almost absent to acceptable and productive in such a short period? One response can be the accelerated rate of change in Modern Hebrew (Ravid 1995).

Since its revival in the 19<sup>th</sup> and 20<sup>th</sup> century as a product of a number of historical layers rather than a continuum of diachronic development, Modern Hebrew has displayed great structural variety. The variety was a result of the constant development and growth of the population of its speakers, starting with the few thousands of speakers of the first generation in the beginning of 20<sup>th</sup> century in pre-state Israel and up to the 7 million speakers (native and non-native) nowadays. According to Ravid (1995), The Hebrew-speaking community in Israel constitutes an immigrant society, with Modern Hebrew as the only common means of communication. Consequently, there is first of all, always a great variability in the linguistic competence between generations. In addition, Hebrew faces a constant “languages in contact” situation as well as a process of consolidation of the colloquial vernacular. This extreme variability, according to Ravid (1995), is responsible for several properties of accelerated change of all facets of Modern Hebrew structure. Forms and usages attested to occasionally in earlier stages of the language have become a widespread and productive part of the grammar later on. I suggest that the phenomenon here discussed is no different, and that we are now witnessing yet another example of the rapid changes in certain areas of Hebrew grammar.

This study describes an ongoing change in the grammar. Even the few years that this research took shape witnessed many new examples, and the rate of innovation is constantly increasing. However, both types of labile alternation go against the dominant patterns of semantic alternations within the verbal system of Hebrew, and this is why

both types are (still) heavily restricted. Labile alternations are restricted to specific semantic characteristics, discussed above. Causative labile alternations are further restricted with respect to the grammaticality of the innovations: in some cases they do not (or have not yet) become part of the lexicon, and receive the causative meaning from the entire argument-structure construction.

However, the system is no longer stable, and the principles which were found active in shaping this developing phenomenon can alter and change in the future. For instance, I predict that the anticausatives labile alternation might be able to incorporate new verbs that will not be degree-achievements, and the causative labile alternation might not be limited to a low degree of control. However, the principles identified and analyzed in this study are the main forces which make labile alternation in Hebrew expand and gain productivity. I do not suggest that *binyan* alternations are going to disappear from the language, but I do believe that labile alternations will become acceptable in more environments. This suggestion will have to be revisited at a later point in time.

### **9.5. Concluding remarks**

This study has aimed to provide an in-depth description of the previously overlooked phenomenon of labile alternation in Modern Hebrew and determine the sources and structural motivation of the development of lability in the language. By taking into account natural, authentic examples of labile alternations, the study illustrated new and productive regularities of what is considered idiosyncratic and irregular.

Specifically, it presents P5, *biynan hif'il*, as a morphological pattern productively related to two functions. As the causative alternant in three Conjugation Classes, P5 is the causative *binyan* for P1 in adult grammar and during language acquisition (Berman



1993). The other productive form-function relation of P5 is Degree-Achievements, fully introduced and defined in the present study.

The extent of labile alternation in contemporary Hebrew suggests a decrease in the dependency of argument structure alternations on morphological contrast, previously regarded necessary in derivational processes (Doron 2003, Arad 2005). This calls for a revision of previous claims regarding the function of the *binyan* system.

I believe that this study calls for several lines of further research. First, an experimental validation and quantification of the productivity of the patterns discussed should prove very fruitful. I have in mind acceptability questionnaires, response time experimentation to innovative forms etc. Another interesting line of investigation should look into the contribution of language in contact, older versions of Hebrew, and other diachronic aspects to the growing number and productivity of labile alternation. A third research direction is cognitively oriented and will probe how the labile verbs are stored in the lexicon, whether as two homonymic lexical representations or as one which is associated with two argument structures. Shetreet et al. (2010) studied Hebrew verbs with optional complements, i.e. verbs which alternate their argument structures but not their transitivity. They found support for the idea that verbs with optional complements have only one representation in the lexicon, and not two homonymic representations. I do find it more plausible that there is only one lexical entry associated with the two possible argument structures, but this question must remain open.

Finally, I hope to have successfully exemplified the importance of a thorough investigation of natural data in order to identify phenomena which could go unnoticed if

only prevalent facts of linguistic behavior of current Hebrew speakers is considered. I believe that the small details affect the bigger picture in ways yet to be fully discovered.

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## Appendix I:

The verbs with two types of argument structure of Conjugation Class #6 are divided to two groups, based on their original (attested earlier in history) reading.

### (1) Originally intransitive P5 verbs with two argument structures

Verb	Hebrew script	Stem (if existing)	Transitive meaning	Intransitive meaning	Synonym for intransitive in a different template
1 <i>heʔedim</i>	האדים	<i>adom</i> 'red'	Redden	Redden	<i>hitʔadem</i>
2 <i>heʔemir</i>	האמיר	<i>amir</i> 'top'	increase (cost)	increase (cost)	
3 <i>heʔefir</i>	האפיר	<i>afor</i> 'grey'	make grey	become grey	
4 <i>hivxil</i>	הבחיל		ripen artificially	ripen artificially	
5 <i>hivkir</i>	הבכיר		ripen early	ripen early	
6 <i>hivrik</i>	הבריק	<i>barak</i> 'glow'	Polish	shine, glow	
7 <i>hidrim</i>	הדרים	<i>darom</i> 'south'	turn southward	turn southward	
8 <i>hivrid</i>	הווריד	<i>varod</i> 'pink'	make pink	become pink	
9 <i>hizhiv</i>	הזהיב	<i>zahav</i> 'gold'	make golden	become golden	
10 <i>hexlid</i>	החליד	<i>xaluda</i> 'rust'	Rust	rust	<i>nexlad</i>
11 <i>heimin</i>	הימין	<i>jamin</i> 'right'	Turn right \ make right	Turn right \ become right	
12 <i>hikxil</i>	הכחיל	<i>kaxol</i> 'blue'	make blue	become blue	
13 <i>hilbin</i>	הלבין	<i>lavan</i> 'white'	make white	become white	
14 <i>hisriax</i>	הסריח		cause to stink	stink	
15 <i>hichiv</i>	הצהיב	<i>cahov</i> 'yellow'	make yellow	become yellow	
16 <i>hicxin</i>	הצחין		cause to stink	stink	
17 <i>hicpin</i>	הצפין	<i>cafon</i> 'north'	turn northward	turn northward	
18 <i>hifzif</i>	השזיף	<i>fazuf</i> 'tan'	-	become tan \ brown	<i>hifʔazef</i>
19 <i>hifxim</i>	השחים	<i>faxum</i> 'dark brown'	make dark brown	become dark brown	
20 <i>hifxir</i>	השחיר	<i>faxor</i> 'black'	make black	become black	
21 <i>hifkim</i>	השכים		wake up	wake up	

22	<i>hismil</i>	השמאל	<i>smol</i> 'left'	Turn left\ make left	Turn left \ become left	
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The second group consists of verbs which their original meaning was transitive, and gained the second intransitive reading sometime in the development of Hebrew:

(2) Originally transitive P5 verbs with two argument structures

27) Originaly transitive verbs with two argument structures

Verb		Hebrew script	Stem (if existing)	Transitive meaning	Intransitive meaning	Synonym for intransitive in a different template
23	<i>heʔet</i>	האט	<i>at</i> 'slowly'	slow down	slow down	
24	<i>heʔefil</i>	האפיל	<i>afel</i> 'dark'	darken	darken	
25	<i>hivʔif</i>	הבאיש		rot	rot	
26	<i>hivhir</i>	הבהיר	<i>bahir</i> 'bright'	brighten	brighten	<i>hitbaher</i>
27	<i>hivri</i>	הבריא	<i>bari</i> 'healthy'	cure	recuperate	
28	<i>hivʔil</i>	הבשיל	<i>bafel</i> 'ripe'	ripen	Ripen	
29	<i>higbia</i>	הגביה	<i>gavoha</i> 'tall'	raise	Ascend\grow tall	
30	<i>higlid</i>	הגליד	<i>geled</i> 'scab'	make a scab on a wound	scab	<i>niglad (obsolete)</i>
31	<i>hidmim</i>	הדמים	<i>domem</i> 'still'	shut down	become shut	<i>damam</i>
32	<i>hizkin</i>	הזקין	<i>zaken</i> 'old'	make old \ look old	become old \ appear older	<i>hizdaken</i>
33	<i>hexvir</i>	החוויר	<i>xiver</i> 'pale'	make pale	become pale	
34	<i>hexkim</i>	החכים	<i>xaxam</i> 'wise'	make smart	become smart	
35	<i>hexlim</i>	החלים		cure	recuperate	
36	<i>hexmic</i>	החמיץ	<i>xamuc</i> 'sour'	make sour	become sour	<i>nexmac</i>
37	<i>hexmir</i>	החמיר	<i>xamur</i> 'grave'	make worse, grave	become worse, grave	
38	<i>hexrif</i>	החרیف	<i>xarif</i> 'pungent'	make worse, grave	become worse, grave	
39	<i>hexfix</i>	החשיך	<i>xofex</i> 'dark'	darken	darken	<i>xafax</i>
40	<i>heifir</i>	הישיר	<i>jafar</i> 'straight'	turn directly	turn directly	
41	<i>hixbid</i>	הכביד	<i>kaved</i> 'heavy'	make heavy	become heavy	<i>kavad</i>
42	<i>himfix</i>	המשיך		continue	continue	<i>nimfax</i>

43	<i>hinmix</i>	הנמיך	<i>namux</i> 'low'	lower	descend	<i>namax</i>
44	<i>hislim</i>	הסלים	<i>sulam</i> 'ladder' (opaque)	escalate	escalate	
45	<i>hismix</i>	הסמיך	<i>samix</i> 'thick'	thicken (liquid)	thicken (liquid)	
46	<i>heʕexir</i>	העכיר	<i>axur</i> 'obscure'	make obscure	become obscure	<i>hitʕaxer, neʕexar</i>
47	<i>heʕemik</i>	העמיק	<i>amok</i> 'deep'	make deep	become deep	
48	<i>heʕecim</i>	העצים		intensify	become intense	<i>hitʕacem</i>
49	<i>heʕeʕir</i>	העשיר	<i>aʕir</i> 'rich'	make rich	become rich	<i>hitʕaʕer</i>
50	<i>hifsik</i>	הפסיק		stop	stop	<i>pasak, nifsak</i>
51	<i>hiffir</i>	הפשיר		melt	melt	<i>niffar (obsolete)</i>
52	<i>hecig</i>	הציג		perform a show	be shown	
53	<i>hicliax</i>	הצליח		succeed	come out successful	<i>calax</i>
54	<i>hicʕir</i>	הצעיר	<i>caʕir</i> 'young'	rejuvenate, make one appear younger	rejuvenate, appear younger	
55	<i>hecer</i>	הצר	<i>car</i> 'narrow, tight'	Narrow, tighten	Narrow, tighten	<i>car</i>
56	<i>hikdiar</i>	הקדיח	<i>kadax</i> 'burn'	burn a dish	to get burned	<i>kadax</i>
57	<i>hikdir</i>	הקדיר	<i>koder</i> 'gloomy'	make dark, gloomy	become dark, gloomy	<i>kadar</i>
58	<i>hekie</i>	הקיץ		wake up	wake up	<i>jakac</i>
59	<i>hiklif</i>	הקליש	<i>kaluf</i> 'scant'	weaken (hair, color)	weaken (hair, color)	
60	<i>hikcin</i>	הקצין	<i>kiconi</i> 'extreme'	make extreme	become extreme	
61	<i>hikcif</i>	הקציף	<i>kecef</i> 'foam'	make foam	foam	
62	<i>hikriax</i>	הקריח	<i>kereax</i> 'bald'	make bald	become bald	<i>hitkareax</i>
63	<i>hikrif</i>	הקריש	<i>karif</i> 'clot'	solidify	solidify	<i>nikraf, hitkaref</i>
64	<i>hikʕiax</i>	הקשיח		make stiff	become stiff	<i>hitkaʕeax</i>
65	<i>hikʕif</i>	הקשיש	<i>kaʕif</i> 'old'	make old \ look old	become old \ appear older	
66	<i>hirza</i>	הרזה	<i>raze</i> 'slim, thin'	make thin	make thin	<i>raza</i>

67	<i>hirxik</i>	הרחיק	<i>raxok</i> 'far'	distance	become distant	<i>raxak, hitraxek</i>
68	<i>heriax</i>	הריח	<i>reax</i> 'smell'	smell	smell	
69	<i>herea</i>	הרע	<i>ra</i> 'bad'	make worse	become worse	
70	<i>hirʕid</i>	הרעיד	<i>raʕad</i> 'tremble'	shake	tremble	<i>raʕad</i>
71	<i>hirpa</i>	הרפה	<i>rafuy</i> 'loose'	loosen	loosen	
72	<i>hircin</i>	הרציץ	<i>recini</i> 'severe'	make serious	become serious	
73	<i>hirkiv</i>	הרקיב	<i>rakuv</i> 'rotten'	rot	rot	<i>nirkav</i>
74	<i>hiʕbiax</i>	השביח	<i>ʕevax</i> 'praise, improve- ment'	improve	improve	<i>hiʕtabeax</i>
75	<i>hiʕxit</i>	השחית		corrupt	become corrupt	<i>niʕxat</i>
76	<i>hiskil</i>	השכיל	<i>sexel</i> 'wit'	enlighten	become enlightened	
77	<i>hiʕmin</i>	השמין	<i>ʕamen</i> 'fat'	make fat\ cause to appear fat	become fat\ appear fat	<i>ʕaman</i>
78	<i>hiʕpil</i>	השפיל	<i>ʕafel</i> 'low'	lower	lower	<i>hiʕtapel</i>
79	<i>hitʕim</i>	התאים	<i>toʕem</i> 'fit'	adjust	fit	<i>taʕam</i>
80	<i>hitxil</i>	התחיל		start	start	
81	<i>hitnia</i>	התניע		start a motor	start a motor	

## Appendix II

(1) Attested innovations of internally-caused Degree Achievement events, along a physical property:

1. *ha-xoma ... magbiha ve-holexet*<sup>1</sup>  
the-wall ... raise-INT.PRS.SG.F and-go.PRS.SG.F  
'The wall ... is rising'
2. *Obama hicfir be-kama fanim*<sup>2</sup>  
Obama rejuvenate.PST.3SG.M LOC-few years  
'Obama appeared to be few years younger'
3. *ha-singel ... matlil u-maslia*<sup>3</sup>  
the-trail ... steep.PRS.SG.M and-rocky.PRS.SG.M  
'The trail becomes steep and rocky'
4. *holxim u-mafbixim mi-mofa le-mofa*<sup>4</sup>  
go.PRS.PL and-improve.PRS.PL FROM-show TO-show  
'Improving from show to show'
5. *panav hizfifu od joter, im ze effari*<sup>5</sup>  
face.POS.3SG frown.PST.3PL. still more, if it possible  
'His face frowned even more, if that is possible'
6. *la-acvut jef be'emet netia lehamrir im ha-fanim*<sup>6</sup>  
the-sadness has really tendency become-bitter.INF(innov.) with the-years  
'the sadness really tends to grow bitterer with the years'
7. *ha-tekes hirhiv me-az*<sup>7</sup>  
the-ceremony astonish-INT.PST.3SG LOC-then

<sup>1</sup> <http://www.haaretz.co.il/opinions/editorial-articles/1.1712502> עם "אנחנו באים עם החומה שמפרידה בין הצהרות בנוסח 'מגביהה והולכת ממשלה מאוחדת לירושלים המאוחדת', שהשמיע אתמול ראש הממשלה בנימין נתניהו לבין המציאות בשטח, ככל שחולף הזמן.

<sup>2</sup> <http://www.ynet.co.il/articles/0,7340,L-4293271,00.html> הצופים גילו שאובמה הצעיר בכמה שנים

<sup>3</sup> <http://www.groopy.co.il/trackinfo.aspx?pid=595> הסינגל מתחיל בשבילון - אבל אח"כ מתליל ומסליע

<sup>4</sup> [www.tzavta.co.il/entertainment.asp?p=1690](http://www.tzavta.co.il/entertainment.asp?p=1690) דינאמיקה בימתית מקורית ומצחיקה. הביצוע אדיר. הולכים ומשבחים

<sup>5</sup> [img.tapuz.co.il/forums/10706375.doc](http://img.tapuz.co.il/forums/10706375.doc) פניו הזעיפו עוד יותר, אם זה אפשרי

<sup>6</sup> Yossef Babliki Facebook page לעצבות יש באמת נטייה להמריר עם השנים

<sup>7</sup> <http://www.haaretz.co.il/news/education/1.1173576> הטקס הרהיב מאז

'The ceremony became more spectacular since then'

8. *ha-falav haze fe-ha-jadaim matxilot lehasfir*<sup>8</sup>  
the-phase this that-the-hands start.PR.F.PL be-hairy-INF(innov.)  
'This phase that the hands start to grow hair'

9. *kax mitbaheret (o ... maxfixa) ha-tmuna*<sup>9</sup>  
thus become-clear.PR.F.SG or darken. PR.F.SG the-picture  
'Thus the picture becomes clear (or becomes dark)'

10. ... *fe-mavgir be-fita fel 200% ec xadaq*<sup>10</sup>  
that-mature.PR.M.SG(innov.) in-method of 200% wood new  
'..that ages in a method of 200% new wood'

(2) Attested innovations of internally-caused Degree Achievement nominals in  
**haCCaCa**

11. *adam be-sakanat haxvaca*<sup>11</sup>  
man in-risk shrinking(innov.)  
'A man in a risk of shrinking'

12. ... *mevi?a bifnei ha-kor?im tekst haktava*<sup>12</sup>  
..bring.PR.F.SG. before the-readers text polarization(innov.)  
'...brings to the readers a polarization (political separation) text'

13. *ex mitmodedim im hadata?*<sup>13</sup>  
how cope.PR.M.PL with become-more-religious(innov.)  
'How do we deal with the process of becoming more religious?'

14. *ha-cionut avra tahalix fel hagza?a*<sup>14</sup>  
the-zionism undergo.P.F.3SG process of becoming-more-racist(innov.)

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<sup>8</sup> Private conversation 11.12.14 השלב הזה שהידיים מתחילות להשעיר

<sup>9</sup> <http://www.ha-makom.co.il/post/madhom-aviramagolan> כך מתבהרת (או שמא יש לומר מחשיכה) התמונה הכוללת של מה שאפשר כבר בהחלט להגדיר כשיטה

<sup>10</sup> דוגמה מצוינת לכך היא יין הדגל של היקב, אלכסנדר הגדול, שמבגיר בשיטה של 200% עץ חדש  
<http://www.haaretz.co.il/food/wine/premium-1.2762047>

<sup>11</sup> <http://www.haaretz.co.il/opinions/1.1710873> אדם בסכנת הכווצה

<sup>12</sup> הס, כמו פוליטיקאי-שוליים בתקופת בחירות, מביאה בפני הקוראים טקסט הקטבה  
[http://eishton.wordpress.com/2013/04/07/eyes\\_wide\\_open\\_7\\_4\\_2013/](http://eishton.wordpress.com/2013/04/07/eyes_wide_open_7_4_2013/)

<sup>13</sup> <http://10tv.nana10.co.il/Article/?ArticleID=1178941> איך מתמודדים עם הדתה?

<sup>14</sup> <https://idanlandau.com/2013/01/24/no-vision-people-revenge/> הציונות הקולוניאליסטית עברה תהליך של הגזעה ולכן הסוכנות היהודית וההסתדרות הציונית חייבות להתאדות ולהתכלות

‘The zionism undergo a process of becoming more racist’

15. *ha-ʔahava avra hagraʕa*<sup>15</sup>  
the-love undergo.P.F.3SG worsening(innov.)  
‘Love has undergone worsening’

### Appendix III

Attested innovations of causative labile alternation:

1. *...letaʕked oto kcat kadima*<sup>16</sup>  
function.INF ACC.3SG.M bit forward  
‘... to place him a little it forward’
2. *hu dileg et taxanat ha-isuf ha-gdudit*<sup>17</sup>  
he hop.PST.3SG.M ACC station the-assembling the-regimental  
‘He transferred the medical logistics station’
3. *hitxalnu lexalxel et ze le-xayehem*<sup>18</sup>  
begin.PST.1PL permeate.INF ACC it DAT-lives.POS.3PL  
‘we began to permeate it to their life’
4. *toda raba, hismakt oti*<sup>19</sup>  
thank much blush.PST.2SG.F ACC.1SG  
‘Thank you, you made me blush’
5. *D.L. lo haita kajemet im lo hajinu mevaabeim et ha-fetax*<sup>20</sup>  
D.L. not be.PST.3SG.F exist.SG.F if not be.PST.1PL bubble.PRS.PL ACC the-field  
‘D.L. would not exist hadn't we stirred up the field’

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<sup>15</sup> <http://www.haaretz.co.il/magazine/the-edge/.premium-1.2898664?=&ts=1465309970107> האהבה עברה הגרעה

<sup>16</sup> <http://debuzzer.sport5.co.il/prossner/archives/4514> לתפקד אותו קצת קדימה

<sup>17</sup> [www.refua.atal.idf.il/1312-he/Refuah.aspx?PageNum=9&lang=he&SortDir=ASC](http://www.refua.atal.idf.il/1312-he/Refuah.aspx?PageNum=9&lang=he&SortDir=ASC) הוא דילג את תחנת האיסוף הגדודית

<sup>18</sup> Israeli channel 10, 25.6.11 התחלנו לחלחל את זה לחייהם

<sup>19</sup> [www.tapuz.co.il/forums2008/forummaavaron.aspx?forumid=110&MessageId=146161389](http://www.tapuz.co.il/forums2008/forummaavaron.aspx?forumid=110&MessageId=146161389) תודה רבה, הסמקת אותי

<sup>20</sup> <http://www.haaretz.co.il/magazine/1.1774818> דפני לא היתה קיימת אם לא היינו מבעבעים את השטח

6. *ha-natsig himtin oti al ha-kav*<sup>21</sup>  
the-representative wait.PST.3SG.M ACC.1SG on the-line  
'The customer-service advisor made me hold the line'
7. *pit?om atem rocim le?axer et ha-hacba?a?*<sup>22</sup>  
suddenly you.PL want.PRS.PL. be-late.INF ACC the-vote  
'Suddenly you want to postpone the vote?'
8. *hu jaxol lefarper et ha-kadur haze la-refet*<sup>23</sup>  
he can.SG.M quiver.INF ACC the-ball this to.DEF-net  
'He can cause this ball to quiver inside the net'
9. *ima dai at mafside oti!*<sup>24</sup>  
mom stop you lose ACC.1SG  
'Mom, stop, you make me lose!'
10. *mutar ledadot ota*<sup>25</sup>  
allowed waddle.INF ACC.3SG.F  
'It is allowed to make it waddle'
11. *madua lo metargelim otanu bepinui ha?ir?*<sup>26</sup>  
Why no practice ACC.1PL LOC-evacuation the-city?  
'Why don't they train us in evacuation of the city?'
12. *tefaxpexu et ha?ahava*<sup>27</sup>  
trickle.2PL.FUT ACC the-love  
'Make your love flow'
13. *ve-ani somex alexem fe-tehadhedu et ha-meida halaa*<sup>28</sup>  
and-I trust on-you that-echo.2PL.FUT ACC the-information onward  
'...and I trust you to echo the information onward'

<sup>21</sup> Overheard at Partner Communication center, Tel-Aviv. 24.11.11 הנציג המתין אותי על הקו

<sup>22</sup> [knesset.gov.il/tqi/.../20031105@03398704@001.html](http://knesset.gov.il/tqi/.../20031105@03398704@001.html) פתאום אתם רוצים לאחר את ההצבעה?

<sup>23</sup> Israeli radio station "Reshet Bet" 22/1/2012 הוא יכול לפרפר את הכדור הזה לרשת

<sup>24</sup> Overheard in Tel-Aviv 28.2.2014! אמא די את מפסידה אותי!

<sup>25</sup> <http://chabad.org.il/Magazines/Article.asp?ArticleID=9253&CategoryID=1702> מותר לדנות אותה?

<sup>26</sup> <http://www.mynet.co.il/articles/0,7340,L-4118318,00.html> מדוע לא מתרגלים אותנו בפינוי העיר?

<sup>27</sup> Overheard at a wedding, 17.5.2012 תפכפכו את האהבה

<sup>28</sup> [www.facebook.com/friendsofgeorge/posts/837113206313525](http://www.facebook.com/friendsofgeorge/posts/837113206313525) ואני סומך עליכם שתהדהדו את המידע הלאה



14. *tov ani amfix lesajer otxem*<sup>29</sup>  
good I continue tour.INF ACC.2PL  
'ok I'll continue to give you the tour'
15. *ani makdima otax kcat*<sup>30</sup>  
I precede.PR.F.SG ACC.2SG.F slight  
'I move you a little earlier'
16. *xijaxti otax ?*<sup>31</sup>  
smile.PS.1SG ACC.2SG.F  
'Did I make you smile?'
17. *aval lama at memaheret oti?*<sup>32</sup>  
but why you.F hurry.PR.F ACC.1SG  
'But why do you hurry me?'
18. *betax od xodfaim hem jetapsu et ha-mexirim?*<sup>33</sup>  
surely more month.DU they climb.FUT.3PL ACC the-prices  
'surely in two months they will raise the prices'
19. *be-tahalix exothermi anaxnu megivim ota*<sup>34</sup>  
in-process exothermal we react.PR.PL.M ACC.3F  
'by an exothermal process we cause it to react'
20. *zo trufa fe-menamnemet otxa*<sup>35</sup>  
this.F medicine that-doze.PR.SG.F ACC.2M  
'It's a medicine that makes you sleepy'
21. *ha-diun ... melavlev et ha-siax ha-ciburi*<sup>36</sup>  
the-discussion blossom.PR.SG.M ACC the-discourse the-public  
'the discussion "blossoms" the public discourse'

<sup>29</sup>In a private conversation 6.12.14 טוב אני אמשך לסייר אתכם

<sup>30</sup>Email correspondence, 17.11.14 אני מקדימה אותך קצת

<sup>31</sup>Private conversation, 25.11.14 הייכתי אותך?

<sup>32</sup>[Overheard](#) 26.6.14 אבל למה את ממהרת אותי?

<sup>33</sup>[Overheard](#) 24.12.14 המקום בהרצה, בטח עוד חודשיים הם יטפטו את המחירים

<sup>34</sup>Private conversation 25.7.15 בתהליך אקזותרמי אנחנו מגיבים אותה

<sup>35</sup>[Overheard](#) 20.8.15 זו תרופה שמנמנמת אותך

<sup>36</sup>12.4.16 הדיון שנמשך כבר יותר משבוע רצוף מלבב את השיה הציבורי בישראל <http://timeout.co.il/>

22. *ha-doko-realiti ... menafev ... et ha-ruxot be-israel*<sup>37</sup>  
 the-docu-reality blow.PR.SG.M ACC the-winds in-Israel  
 'the documentary-reality show reflects the spirit in Israel'
23. *ha-nose haze fe-at kcat mevadaxat oto*<sup>38</sup>  
 the-matter this that-you.F slight amuse.PR.SG.F ACC.3SG  
 'This matter that you make a little ridiculous'
24. *... kedei levaes lexa et ha-tiul*<sup>39</sup>  
 in-order-to upset.INF DAT.2SG.M ACC the-trip  
 '... in order to ruin your trip'
25. *ha-pitaron hu lefašamem et ha-txanim*<sup>40</sup>  
 the-solution COP bore.INF ACC the-contents  
 'The solution is to dull the contents'
26. *šmona tipim fe-jefanku laxem et ha-xoref*<sup>41</sup>  
 eight tips that-indulge.FUT.3PL DAT.2PL ACC the-winter  
 'Eight tips to make the winter more indulging (pleasant)'

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<sup>37</sup> <http://www.haaretz.co.il/gallery/television/tv-review/premium-1.2734274> הדוקו-ריאליטי החדש "חיים חדשים" מנשב באופן מדויק את הרוחות בישראל

<sup>38</sup> Private conversation 21.9.15 הגושא הזה שאת קצת מבדחת אותו

<sup>39</sup> אני מציע בכל זאת להיזהר, כי מספיק שזה קורה לך פעם אחת כדי לבאס לך את הטיול וההרגשה מהפסטיבל באופן כללי  
[http://hydepark.hevre.co.il/topic.asp?topic\\_id=2211195&forum\\_id=6282](http://hydepark.hevre.co.il/topic.asp?topic_id=2211195&forum_id=6282)

<sup>40</sup> הפתרון הוא לשעמם את התכנים וכך יהיו פחות גולשים וכך הביצועים יהיו יותר טובים  
<http://www.tapuz.co.il/blog/viewEntry.asp?EntryId=1919593>

<sup>41</sup> [http://www.kadmoni.com/2014/11/blog-post\\_5.html](http://www.kadmoni.com/2014/11/blog-post_5.html) שמונה טיפים שיפנקו לכם את החורף

## תקציר

בבואם לתאר מערכות דקדוק, בלשנים נוטים ליצור תיאוריות כלליות המבוססות על "התמונה הגדולה". התמונה הגדולה מכילה את השימושים הנפוצים והתכופים בשפה ומותירה מחוצה לה את היוצאים מן הכלל. אולם, בחינה מעמיקה של היוצאים מן הכלל עשויה להוליד פרספקטיבה חדשה על התמונה הגדולה. כאשר דוברים משתמשים ביוצאי הדופן בצורה חדשנית ופרודוקטיבית מתעורר צורך בבחינה מחודשת של התיאוריה הקיימת ויצירת תיאוריה חדשה שתתאר בצורה נאמנה את היחסים המשתנים בין הכלל ליוצאים מן הכלל.

מחקר זה עוסק ביחס בין הכלל ליוצאי הדופן בחילופים בין פועל יוצא לפועל עומד בעברית עכשווית (Transitivity Alternations). לפי הכלל, פעלים בעברית משנים את מובנם מפועל עומד לפועל יוצא ולהיפך באמצעות שינוי מורפולוגי של החלפת בניין. היוצא מן הכלל הוא כאשר שינוי כזה מתרחש ללא שינוי בניין. במקרה כזה נוצר פועל כפול בעל מובן עומד ומובן יוצא המכונה פועל לאבילי (Labile Verb, הספלט' 1993). המחקר מתבסס על ניתוח מורפולוגי וניתוח סמנטי-לקסיקלי של דוגמאות אותנטיות לשימוש בפעלים לאבילים בעברית מתחילת העברית המודרנית ובעיקר מהעת האחרונה. ממצאי המחקר מצביעים על עלייה דרמטית במספר הפעלים הלאבילים ובפרודוקטיביות (פוריות) של השימוש בפעלים מסוג זה בשנים האחרונות ומעידים על כך שיוצאי הדופן הופכים בהדרגה לסדירות דקדוקית חדשה.

במחקר זה מוצגות שתי קבוצות של פעלים לאבילים: הראשונה, פעלים לאבילים אנטי-קוזטיביים (Anticausative) בבניין הפעיל, והשנייה, פעלים לאבילים קוזטיביים (Causative) בבניינים הפעיל והפעיל. המחקר מצא כי תפוצתם העולה של הפעלים הלאבילים מונעת ממספר תכונות מורפולוגיות של מערכת הפועל העברית: הראשונה היא נטייתם הגוברת של דוברים לציית לכללי מסומנות פרוזודית של הבניינים ולהעדיף את הבניינים פיעל והפעיל על פני בניין קל; השנייה היא היצמדות של דוברים לשישה זוגות קבועים של בניינים עבור החלפות בין פועל יוצא לפועל עומד (Conjugation Classes) והעדפת פועל שאינו מתחלף על פני יצירת זוגות חדשים; והשלישית היא הקשר בין בניינים לבין טרנזיטיביות תחבירית – לעיתים צורת פועל (הבניין) תשפיע על אפשרות היותו פועל עומד או יוצא יותר מאשר הסמנטיקה שלו.

ממצא נוסף מלמד כי קבוצות הפעלים הלאבילים בעברית מוגדרות ומעוצבות על-ידי הסמנטיקה הלקסיקלית שלהם. קבוצת הפעלים הלאבילים האנטי-קוזטיביים מבטאת טרנזיטיביות סמנטית נמוכה על-פי הסולם של הופר ותומפסון (Hopper & Thompson 1980). היעדרו של שינוי מורפולוגי בין הפועל היוצא לפועל העומד משקף את הקרבה הקונספטואלית בין השניים ובד בבד מחזק אותה (את הקרבה הקונספטואלית). המרכיב הסמנטי שמתאר את קבוצת הפעלים הלאבילים-קוזטיביים הוא שליטה (Control), כלומר, ככל

שנושאו של הפועל העומד הוא בעל יכולת שליטה נמוכה יותר באירוע שהפועל מבטא, כך גדלה הסבירות שפועל זה יהיה פועל לאבילי-קוזטיבי.

המחקר מציג ראיות התומכות בכך שקבוצת הפעלים האנטי-קוזטיביים היא מערכת סדורה וקוהרנטית המשלבת תכונות סמנטיות ותחביריות המאפיינות פעלים לאבילים בשפות העולם. בפרט, המחקר מלמד כי בעברית עכשווית בניין הפעיל הוא בעל שני תפקודים דקדוקיים ולא תפקיד אחד. בניין הפעיל מוכר במחקר כבניין המועדף לגזירת פעלי גרימה. המחקר להלן חושף מהות חדשה של בניין הפעיל – בנינים של הפעלים הלאבילים האנטי-קוזטיביים.

היקף התופעה של פעלים לאבילים בעברית עכשווית מצביע על ירידה במידת התלות של אלטרנציות טרנזיטביות בשינוי מורפולוגי אשר נחשב עד ימינו הכרח בתהליכי גזירה של פעלים. ממצא זה קורא לבדיקה מחודשת של הטענות בדבר תפקידיהם של הבניינים. זאת ועוד, המחקר הנוכחי מדגיש את חשיבותה של חקירה דקדקנית של המציאות הלשונית, וזאת על מנת לזהות תופעות לשוניות שחורגות מגבולות העובדות המוכרות על השימוש בשפה.

הפקולטה למדעי הרוח ע"ש לסטר וסאלי אנטין  
החוג לבלשנות

## **האלטרנציה הלאבילית בפועל העברי**

חיבור זה הוגש כעבודת גמר לקראת התואר  
'מוסמך אוניברסיטה' (M.A.) באוניברסיטת תל-אביב

על-ידי:

**שאול לב**

העבודה הוכנה בהדרכת:

**פרופ' מירה אריאל**

יוני 2016