



Tel Aviv University
The Lester and Sally Entin Faculty of Humanities
Department of Linguistics

The Formation of Idioms: Evidence from Possessive Datives in Hebrew

MA thesis submitted by

Lior Almog

Thesis Advisors:
Prof. Julia Horvath
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Abstract

The study of phrasal idioms involves fundamental questions regarding the nature of the mental lexicon. On the one hand, these idioms are fixed, conventionalized expressions, suggesting that they form representational units in the lexicon. On the other hand, they seem to involve internal structure, typical of phrases generated in the syntax (Horvath and Siloni, 2009a). Given this inherent contrast, how are phrasal idioms and their internal formation represented in the lexicon? Are there any grammatical constraints on the set of possible idioms and on the licensing of their components?

The current study aims to shed light on these questions by examining the various elements which participate in the fixed part of Hebrew verb phrase (VP) idioms. Based on data collected in a corpus study of such idioms, I formulate the HAMP Generalization, a set of observations detailing the amount and type of information idiomatic listings may contain. My findings reveal that while VP idioms can include the verbal head, its arguments and adjuncts, as well as adjectives and possessors, a particular type of possessor is absent: Alienable Possessive Datives. In contrast, Possessive Datives which are an intrinsic part of their possessed noun (Inalienable Possessive Datives) often appear in these idioms, as do genitive possessors of both types. I argue that this is due to the unique syntactic status of alienable Possessive Datives: While genitives and inalienable Possessive Datives are arguments of their possessee, alienable Possessive Datives are arguments of a functional head. The HAMP Generalization states that only possessors selected by a nominal head may appear in VP idioms, thus excluding alienable Possessive Datives.

The data further show that possessors in VP idioms tend to be open slots, or ‘gaps’, regardless of their type. That is, possessors appearing in such idioms are generally not fixed and not interpreted idiomatically (*break X’s heart, pick X’s brain*). Since possessors are usually animates, I suggest that they are subject to the Animacy Constraint (Horvath and Siloni, 2008b). The constraint is a combination of two independent cognitive principles (observed by Nunberg et al., 1994) which jointly account for the paucity of fixed animates in VP idioms.

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1. Introduction

This study is concerned with the internal formation of phrasal idioms. This issue gives rise to some fundamental questions regarding the human language faculty, and more specifically, the nature of the mental lexicon. Generative approaches to language generally assume a modular model of the grammar. In this type of model, the human language faculty includes several independently functioning components, such as the computational system (the syntax) and the mental lexicon. While there is broad consensus that the former system creates structures by combining lexical items, the exact nature of the mental lexicon, where lexical items are stored, is debated. Some adhere to the view of a non-computational lexicon (e.g. Borer, 2005; Marantz, 1997; Pylkkänen, 2008), while others see it as an active system which involves derivational processes (Horvath and Siloni, 2009a; Reinhart, 2002; Siloni, 2002, among others). Idioms seem to pose a serious challenge to any view.

On the one hand, idiomatic expressions are syntactically fixed and have a conventionalized meaning which is not semantically compositional, suggesting that they should be represented as a unit in the mental lexicon. On the other hand, it is clear that these expressions also possess an internal syntactic structure, much like any compositional phrase generated in the computational system (Horvath and Siloni, 2009a). Given a modular view of the grammar, in which structure is formed post-lexically, how are idioms and their internal formation represented in the lexicon? More specifically, are there any grammatical constraints on the set of possible idioms and on the licensing of their components?

The aim of the current study is to shed light on these questions by examining the various elements which participate in the fixed part of Hebrew verb phrase (VP) idioms. VP idioms are headed by a verbal predicate, and do not include any clausal material such as negation, wh-questions or fixed tense. Following Horvath and Siloni (2008b, 2009a), I assume that these idioms are stored in the mental lexicon as sub-entries of their head, i.e. the main verb. In order to understand which additional components may be included in each sub-entry, a corpus-based study was conducted. Scanning twelve idiom dictionaries, a total of almost 400 Hebrew and English VP idioms were collected. The data reveal an interesting picture. While it appears that idiomatic expressions may contain the verbal head, its arguments and

adjuncts, adjectives and various possessors, a particular type of element is not attested in Hebrew VP idioms: Alienable Possessive Datives.

The Possessive Dative construction has been the focus of much linguistic research in the past few decades (Authier and Reed, 1992; Boneh and Nash, 2010; Borer and Grodzinsky, 1986; Landau, 1999, among others). In this construction, an optional constituent marked by the dative Case (a Case which typically does not mark possessors but rather obligatory goal arguments of ditransitive verbs) is added to an event denoted by a transitive or an intransitive verb (1). The dative constituent appears in a syntactic position usually reserved for verbal arguments. Semantically, however, it exhibits a possession relation not with the verb, but with the nominal object.

- (1) Dan axal le-Dana et ha-ugiya.
Dan ate to-Dana ACC the-cookie
'Dan ate Dana's cookie'

It is therefore unclear what the exact structure of this construction could be, and specifically, how the possessor is licensed. Is it a syntactic argument of the verbal predicate, the nominal head or neither?

These issues become especially interesting for the current study when one considers that many Hebrew VP idioms contain Possessive Datives. An example can be seen below:

- (2) bilbel le-X et ha-moax
confused to-X ACC the-brain
'bothered X with useless chatter'

The occurrence of such idioms means that the grammatical status of the Possessive Dative constituent in non-idiomatic contexts reflects directly on the formation of idiomatic lexical entries. This is due to the fact that whichever syntactic head normally selects this possessor, must therefore be involved in the licensing procedure of idiomatic components.

As already mentioned, the data I collected (see chapter 4 and Appendices) seem to indicate that only inalienable Possessive Datives may appear in Hebrew VP idioms. Inalienable possession is defined in the linguistic literature as a relation in which the possessed noun is an intrinsic part of the the possessor (see Siloni, 2002; Vergnaud and Zubizarreta, 1992, among others). This usually refers to body parts (like in (2)), but also applies to inherent traits or things which are obvious parts of a whole. Alienable nouns, on the other hand, are not an inherently part of their possessor. While this possession relation can certainly form Possessive Datives in non-idiomatic contexts, as is demonstrated by (1) above, no VP idioms containing such a relation were found.

In light of the above, and considering unique syntactic properties which are not shared by

the two possession types (presented in section 4.4), I argue for the need to analyze each type of Possessive Dative separately. Specifically, the current study suggests that while inalienable Possessive Datives are arguments of their possessed noun, alienable Possessive Datives are better analyzed as arguments of a specialized functional head.

Returning to VP idioms, I propose that idiomatic formation can be described by ‘*The HAMP Generalization*’. This generalization states that the fixed part of VP idioms, i.e. the lexical entry, can only contain the following: The verbal **H**ead under which the idiom is stored; its **A**rguments or **A**djuncts; **M**odifiers of selected nominal heads; and **P**ossessors which the latter select. According to HAMP, the possible length of VP idioms is restricted, since aside from possessors, which may be licensed by the nominal head which they possess, only the verb licenses its dependents. On the other hand, the generalization allows for more freedom in the choice of elements that comprise such idioms compared to previous approaches (Bruening, 2010; Horvath and Sioni, 2008b, for instance). HAMP also accounts for the absence of alienable Possessive Datives, since the latter are arguments of a functional head which does not participate or select any elements within phrasal idioms.

Finally, my findings reveal that possessors which do appear in VP idioms tend not to be fixed. Instead, they constitute ‘gaps’ which are not interpreted idiomatically. I therefore suggest that idiomatic formation is further determined by the Animacy Constraint (Horvath and Sioni, 2008b), a combination of two independent cognitive principles (observed by Nunberg et al., 1994). These principles jointly account for the paucity of typically animate elements, such as possessors, in the fixed part of idioms.

The study is organized as follows: In chapter 2 I introduce the main subject of this study, verb phrase idioms. A definition for the set of VP idioms is established, followed by a discussion regarding their internal formation and manner of storage in the mental lexicon. In chapter 3 I formulate the HAMP Generalization, based on the idiom data collected for the current study. The findings presented in this chapter support the validity of HAMP, showing that it captures the various possibilities of idiomatic formation. Chapter 4 focuses on data from VP idioms which involve dative or genitive possession. I show that the status of different possessors in such idioms is not uniform and suggest why this is. I also account observation that most of these possessors are not fixed. In chapter 5 I provide further syntactic evidence in favor of a split approach of inalienable and alienable Possessive Datives. I claim that only the former are arguments of their possessed noun and adopt a raising analysis for them. Finally, chapter 6 discusses alienable Possessive Datives, which are suggested to be arguments of a functional head. The low applicative approach is considered.

2. The Mental Representation of Verb Phrase Idioms

This chapter introduces and delimits the main subject of this study, verb phrase (VP) idioms. Such an idiom is exemplified in (3):

- (3) spin a yarn
‘tell a tale, a long story’

When exploring these idioms, two fundamental questions arise: First, what type of expression can be considered a VP idiom? The set of idioms constituting the domain of research is clearly defined in section 2.1. Second, how is the knowledge of such an idiom represented in the minds of speakers? Section 2.2 discusses the manner in which VP idioms and their internal formation are represented in the mental lexicon.

2.1 Verb phrase idioms: Defining the set

Idioms are conventionalized expressions which are not fully compositional, or in other words, have a somewhat unpredictable meaning. However, they differ vastly from each other both syntactically and semantically, and as a result can be difficult to set apart from other types of non-literal expressions. Despite several attempts in the linguistic literature (see Everaert, 2010, and references therein), it seems that no single property is sufficient to characterize the set of expressions traditionally labeled as idioms. These expressions can only be defined using a combination of properties. Nunberg et al. (1994) propose that idioms can be identified as expressions sharing a certain cluster of typical properties. These include a conventionalized meaning, figurative use of language, an inflexible syntactic form and proverbiality (depiction of socially prevalent situations), along with several other properties.

While it is true that these are all tendencies displayed by idioms, most of these properties are not attested in all idioms and are not limited to idioms, as observed by Horvath and Siloni (2009b). Syntactic inflexibility, for example, is not exhibited by all idioms, and is thus neither

a necessary nor a sufficient property which defines the full set of expressions. In light of this, Horvath and Siloni suggest that there are, in fact, two properties that jointly define the set of idioms: conventionality and figuration. In other words, for an expression to be considered as an idiom its meaning cannot be fully predictable from the elements which comprise it (conventionality); and it must contain metaphors or constituents which are otherwise used in a non-literal sense (figuration). To illustrate this criterion, which I adopt in the current study, consider the following examples:

- (4) yaca me-ha-kelim
 went out from-the-dishes
 ‘burst out in anger’
- (5) a. yaca le-pensiya
 went out to-retirement
 ‘retired’
- b. yaca me-ha-ananim
 went out from-the-clouds
 ‘went out of the clouds’
- (6) Imitation is the sincerest form of flattery.

The expression in (4) is an idiom, as it exhibits both conventionality and figuration. In contrast, (5-a) and (5-b) lack figuration and conventionality, respectively, and are thus not considered idiomatic expressions. The first is a simple conventional phrase which can only be understood in the literal sense, while the second could have been an idiom (with a presumed figurative meaning of *‘stopped dreaming’*, for instance) but was never conventionalized this way in Hebrew. The English expression in (6) lacks figuration, and is thus considered a proverb, not an idiom. Only (4) is therefore in the scope of this study.

Finally, the linguistic literature distinguishes between clausal and phrasal idioms (Marantz, 1984; Nunberg et al., 1994). The former have sentential structure, that is, they involve a CP phase, and may contain fixed tense, negation, modals or wh-question (7). Phrasal idioms lack such clausal material, and consist only of a phrase headed by a lexical category (8).

- (7) ma bo’er?
 what is burning
 ‘What is the rush?’ (no need to rush)
- (8) a. ba’ar ke-eš be-acmotav
 burned like-fire in-his+bones
 ‘He was devoted to an idea, enthusiastic to promote it’

- b. ba'ar le-X ba-ecbaot
burned to-X in+the-fingers
'X wanted to do something immediately'

Horvath and Siloni (2009b) observe that clausal idioms are syntactically inflexible, generally not allowing modification (as shown in (9) below), aspectual changes or syntactic operations such as passivization. Phrasal idioms, on the other hand, often exhibit syntactic flexibility, as displayed in (10):

- (9) A (# little) bird in the hand is worth two in the (# thorn) bush / # in someone else's bush.
- (10) a. hang by a slender thread (modification possible)
b. Dan's promotion is hanging by a thread. (progressive aspect possible)

This contrasting syntactic behavior is claimed by Horvath and Siloni to be the result of different lexical storage mechanisms for each type of idiom (see section 2.2.1 for details).

As will become evident in the following section, the manner in which phrasal idioms are stored can shed light on the organization of the mental lexicon and its role in the architecture of grammar. It is for this reason that the current study focuses solely on phrasal idioms, and specifically, phrasal idioms headed by a verb (VP idioms).

2.2 Storage and formation of VP idioms

The conventionality of idioms indicates that each such expression must be represented as a unit in the mental lexicon. Nevertheless, these units also display characteristics similar to those of compositional phrases generated in the syntax. This conflict raises various questions regarding the locus and manner of their storage, and specifically, the question of where idiom information is stored. According to the grammatical approach, knowledge of idioms is part of the human linguistic knowledge. Idiomatic forms and meanings are thus stored in the mental lexicon of speakers, much like other elements of language. The opposing extra-grammatical approach considers knowledge of idioms to be a part of our general knowledge. In this approach, idioms are therefore stored alongside varied data speakers have learned or memorized, independently of their linguistic knowledge.

It is quite clear that the extra-grammatical approach cannot be on the right track. Jackendoff (1997) and Marantz (1997) argue that there is no real difference between the special meanings of single words and that of more complex phrases. Indeed, when knowing an idiom speakers are able to associate a certain phrase or sequence of words with a special

idiomatic meaning. Such a task is undoubtedly linguistic in nature, similar to that of associating any simple word with its meaning. This view gains further support from the findings of Horvath and Siloni (2009a). Examining the distribution of various diatheses in Hebrew VP idioms, the authors show that idiom storage is sensitive to grammatical features, such as the diathesis of the main predicate. If idioms were stored in the minds of speakers as general knowledge, why would any grammatical detail influence them? It therefore seems that the knowledge of idioms must be part of speakers' linguistic knowledge. Specifically, idiom storage should occur in the mental lexicon, where the relevant predicates are stored, along with any grammatical information related to them.

2.2.1 The Head-Based Storage Hypothesis

Assuming idioms are indeed part of speakers' linguistic knowledge and as such are stored in the mental lexicon, the next question that comes to mind is how exactly they are represented. One possible answer is that idioms are stored just like words, that is, as single lexical units constituting "big lexemes". As suggested by Horvath and Siloni (2009b), this is the storage manner of clausal idioms. Such idioms are syntactically inflexible (in specific respects, as shown in section 2.1) and involve constructions like wh-questions (e.g. *What's cooking?*), which are known to be formed post-lexically. For such constructions to appear in the lexicon, they need to have acquired a conventionalized idiomatic meaning, along with other elements, which is then stored as a single complex lexeme with rigid structure.

However, this manner of storage seems inadequate for phrasal idioms, which exhibit a more flexible syntactic nature. While the lexical head in such idioms does form an interpretive unit with other elements, giving rise to a specialized figurative meaning, a rigid "big lexeme" is not formed. So how is the unique relation between the different elements comprising phrasal idioms represented? Horvath and Siloni (2009a) propose the following:

(11) The Head-Based Storage Hypothesis

Phrasal idioms are stored as sub-entries of their lexical head.

In order to test this hypothesis, a corpus study of Hebrew verb phrase idioms was conducted. Using idiom dictionaries and online searches, the authors investigated the occurrence of *unique idioms* in three different verbal diatheses (transitive verbs, unaccusatives and verbal passives) as well as in the adjectival passive voice. *Unique idioms* are defined as those idioms whose main predicate has a transitive alternate which does not share the idiomatic meaning. In the case of the transitive diathesis, an idiom is defined as unique when the idiomatic meaning is not shared by the corresponding unaccusative verb. The results of the study

are presented in table 1 below, where each cell indicates the number of predicates found in unique idioms out of 60 predicates sampled in each diathesis.

Table 1: Unique idioms in each diathesis

Verbal passives	Unaccusatives	Transitives	Adjectival passives
0/60	21/60	23/60	13/60

As can be seen, no verbal passive predicate participated in the formation of unique idioms, in sharp contrast to the number of predicates found in other diatheses. The difference between the number of unique idioms headed by verbal passives and those headed by each of the other predicate types is statistically significant (unaccusatives: $\chi^2 = 23.088$, $p < 0.0001$; transitives: $\chi^2 = 26.033$, $p < 0.0001$; adjectival passives: $\chi^2 = 12.423$, $p = 0.0004$). The difference between the number of unique idioms headed by unaccusatives, transitives and adjectival passives is statistically insignificant.

The study draws important conclusions regarding the storage of idioms. First, as already mentioned, the fact that unlike unaccusatives, transitives and adjectival passives, verbal passives do not head unique idioms, reinforces the grammatical approach for idiom storage. The correlation between diatheses and idiom formation would be unexpected if idioms were not stored as linguistic knowledge. Grammatical features like the diathesis of a given predicate are clearly irrelevant for any kind of non-linguistic data stored in speakers' memory.

Moreover, these results show that phrasal idioms are indeed stored as sub-entries of their lexical head, thus supporting Horvath and Siloni's (2009a) Head-Based Storage Hypothesis. It has been independently argued in earlier literature (Baker et al., 1989; Horvath and Siloni, 2008a, among others) that passive verbs are formed post-lexically. Horvath and Siloni argue that if there are no passive verbs in the lexicon, and if phrasal idioms are stored as sub-entries of their lexical head, an idiom which exists exclusively in this diathesis simply has nowhere to be stored. As unaccusatives, transitives and adjectival passives do exist in the lexicon, idioms can be freely listed under them. In other words, the post-lexical formation of verbal passives, in combination with the Head-Based Storage Hypothesis, automatically accounts for the lack of unique idioms headed by the former. If VP idioms are not stored under the verb, but as parts of a separate list or as sub-entries of some other head, the absence of passive verbs from the lexicon should have no influence on unique idiom formation.

The results of the study also provide support for an independent claim regarding the organization of the lexicon. That is, Horvath and Siloni (2009a) demonstrate that the mental lexicon contains full words and not merely their roots, contrary to the present claim in syntactic theories such as Distributed Morphology (Borer, 2005; Marantz, 1997; Pytkänen, 2008). Horvath and Siloni maintain that if verbal roots were the units stored in the lexicon,

then, all other things being equal, one would expect any verbal diathesis or grammatical voice to be similarly available for each extant idiom. This is not the case, however, as it is shown that for a given lexical concept, idiomatic meaning is not necessarily shared by all its possible diatheses. This indicates that for each predicate in a specific diathesis (if this diathesis is formed lexically), a unique lexical entry must exist.

In the current study I adopt Horvath and Siloni’s (2009a) Head-Based Storage Hypothesis for verb phrase idioms. That is, I claim that VP idioms are stored as sub-entries of their matrix verb; and that this verbal head is a full word in a specific diathesis. The focus of the study, however, is not the issue of idiom storage, but that of their internal formation, i.e., the manner in which idiomatic information is represented within a stored entry. Previous theories of idiom formation propose different mechanisms and constraints in their attempt to capture the type and amount of information idiomatic listings in the mental lexicon may contain. These are presented in the next subsection.

2.2.2 Internal formation of idioms: Previous accounts

Early studies held the notion that idioms must form a syntactic unit, at least at some underlying level of representation. However, non-constituent idioms such as in (12), where *X* is interpreted non-idiomatically and can be filled by a non-idiomatic noun phrase, show that this cannot be the case.

- (12) a. bite *X*’s tongue
b. cover *X*’s tracks

Addressing this exact issue by examining English data, O’Grady (1998) maintains that there is indeed no level of representation in which these idioms form constituents. Instead, their formation is restricted by two independent principles: the Hierarchy Constraint and the Continuity Constraint.

The Hierarchy Constraint, first suggested by Kiparsky (1987), is taken by O’Grady (1998) to be strong tendency but not an absolute restriction on VP idioms. According to this constraint, when a verb heads an idiom, its arguments which are interpreted idiomatically must be lower in the thematic hierarchy (*Agent* > *Theme* > *Goal/Location*) than those which are not. The hierarchy itself was independently proposed (e.g. Baker, 1989; Larson, 1988) as a mechanism which determines the mapping of a verb’s arguments. As shown by O’Grady (1998), the constraint predicts correctly many patterns of possible vs. impossible idioms in English regarding idioms headed by multiple-argument verbs. For example, it predicts the existence of numerous VP idioms which involve the verb and its theme argument (like (13-a))

or a locative phrase (as in (13-b)), which are both lower in the thematic hierarchy than the missing agent (for a discussion of locative phrases, see section 3.2.2). When not taken as an absolute restriction, the constraint also predicts the paucity of idioms which contain just the verb and its subject, which is typically an agent, while excluding a hierarchically lower internal argument. A rare example of such an idiom is shown in (14).

- (13) a. X dropped a bombshell
b. X skated on thin ice

- (14) A little bird told X that...
(Horvath and Siloni, 2008b, ex. (11-a))

The second constraint proposed by O’Grady (1998), the Continuity Constraint, states that the components of an idiom must form a continuous chain of syntactic heads, regardless of the thematic structure. Each head in the chain may license “dependent” elements, such as arguments, modifiers or specifiers, via their head. Only such licensed elements may participate in the idiom and be interpreted idiomatically. This constraint predicts correctly the non-existence of certain kinds of VP idioms, e.g. idioms that contain a verb and the noun phrase within its PP complement without the preposition itself. These are expected to be illicit, since there is no head-to-head relation between the verb and the nominal head. Indeed, in idioms like (15) the preposition is not interchangeable, rendering all the options in (15-b) ungrammatical.

- (15) a. beat around the bush
b. beat *next to/*from/*behind the bush

Although many of the constraint’s predictions prove to be successful, especially when combined with the Hierarchy Constraint, it does not appear to be restrictive enough, allowing for unlimited head selection by each head.¹ This implies that the length of possible idioms should be unbounded, a fact that has neither been substantiated nor is likely, given that idioms are stored in the mental lexicon.

Expanding on the ideas of O’Grady (1998), Bruening (2010) attempts to formulate idiomatic interpretation in terms of categorical selection. In his account, two elements may be interpreted idiomatically only if one selects the other. Bruening further states that if the selected element is a lexical category (V, N, A or Adv), then all of its selected arguments must also be interpreted as part of the idiom. This does not seem to be the case when it comes to Possessive Datives, however, as displayed by (16).

¹Thanks to Julia Horvath and Tal Siloni (p.c.) for pointing this out.

- (16) a. macac le-X et ha-dam
 sucked to-X ACC the-blood
 ‘abused, took advantage of X’
- b. nipeax le-X et ha-sexel
 inflated to-X ACC the-brain
 ‘told X many unfounded, purposeless things’

In the above examples, the verb selects a noun phrase, headed by the lexical category N (*the blood* or *the brain*). The inalienable possessor in each case, which is considered in most analyses to be an argument of the nominal head (I argue in favor of such an analysis in chapter 5. See also Boneh and Nash (2010); Landau (1999)), is not interpreted idiomatically. In other words, the possessor is not included in the fixed part of the idiom, contrary to Bruening’s proposal. It is an open slot that can essentially be filled by any noun phrase. As my findings reveal, this is the case with most possessors in VP idioms.

Possessors, to which I turn the attention in the following chapters, seem to pose an even bigger challenge for the analysis by Bruening (2010). The author suggests the following distinction: Inalienable possessors (possessors whose possessed element is an inherent part of them, e.g. their body part) behave on par with adjectives and adverbs, each selecting the category they possess or otherwise modify.² Other possessors can be interpreted idiomatically only if they are selected by a nominal head, by virtue of being its thematic argument. To illustrate this last point, consider the following examples:

(17) play the devil’s advocate

(18) cook X’s goose

In (17) above, Bruening (2010) claims that the possessor is an argument of *advocate* and must therefore be interpreted idiomatically with it. They form an idiomatic unit which is in turn selected by the verbal head. In the case of (18), however, the genitive is a simple possessor which is not selected by any predicate, allowing it not to be interpreted idiomatically. It can then function as an open slot, waiting to be filled with noun phrase. But why should this be the case? What reason is there to believe that an *advocate* selects its possessor as an argument but a *goose* does not? I take this contrast between a fixed possessor and an open slot to be unaccounted for. A further, even more general problem in Bruening’s account, is

²Bruening (2010) suggests that in idioms like ((i)) below, the adjective *hot* selects the noun *water*, and not the other way around. This is a case of categorical selection: Adjectives select nominal heads to modify, while adverbs select verbs to modify. Similarly, inalienable possessors select a nominal head to modify.

- (i) be in hot water
 ‘be in trouble or experience great difficulty’

that it provides no restriction on the length of possible idioms. Again, like in the proposal by O’Grady (1998), as long as every element within an idiom is selected by another, the idiom is licit regardless of its length. As already noted, such an assumption is not plausible for phrases stored in the mental lexicon.

A possible solution to this problem can be found in a proposal by Horvath and Siloni (2008b). As mentioned earlier, the authors claim that VP idioms are stored as sub-entries of the lexical head, the verb. What is interpreted idiomatically is therefore strictly determined by the verb and must be licensed by it. Licensed elements, the heads of which are selected by the verbal head, can be either its arguments (including optional arguments of the type discussed in subsection 3.2.1) or secondary predicates. If these elements have any lexical or functional material associated with them, such as possessors or determiners, the latter may also be part of the idiom. This proposal thus restricts the length of possible VP idioms, as the licensing comes to an end with the verb’s licensees. It also limits the amount of information stored under each idiomatic entry in the lexicon by suggesting that only the heads of each licensed constituent actually appear in the lexical representation.

Horvath and Siloni (2008b) go on to suggest that the type of argument a VP idiom may or may not include is determined by the Mapping Hierarchy of arguments (unrelated to the thematic hierarchy proposed in Kiparsky’s (1987) Hierarchy Constraint). As each argument merges with a given verb, an interpretive unit is formed. An idiomatic expression is formed when a certain interpretative unit has been used consistently enough in specific contexts, leading to the conventionalization of a special metaphorical meaning. It is therefore predicted that an argument which typically merges first in a certain language will be able to form an idiomatic unit with the verb, excluding arguments that merge later, but not the other way around. This prediction seems to be borne out in both Hebrew and English, two languages that vary with respect to the exact hierarchical order of argument merging.

In English, it has been claimed (Larson, 1988) that the goal argument is hierarchically closer to the verb than the theme argument, i.e., the goal merges with the verb first. Indeed, while there are many idioms which include the verb and its goal argument, like those in (19), idioms which consist of the verb, a fixed theme argument and an open slot goal are not as common, and usually exist only if they have an alternation involving the Double Object Construction, like in (20) below (Bruening, 2010).³

³According to Bruening (2010), there are only two idioms of this type which do not alternate:

- (i) a. give it to X
 - b. give rise to X
- (Bruening, 2010, ex. (45))

See Mishani (2012) for an investigation of such alternations in Hebrew idioms with ditransitive verbs.

- (19) a. send X to the showers
 b. throw X to the wolves
 c. feed X to the lions
 (Bruening, 2010, ex. (53-a),(53-b),(53-e))
- (20) a. throw X a bone \sim throw a bone to X
 b. read X the riot act \sim read the riot act to X
 (Bruening, 2010, ex. (47-a),(47-b))

This phenomenon does not seem to arise in Hebrew, a language in which the theme and goal arguments have been argued not to have a fixed order of merger with respect to each other (Preminger, 2006). Since these arguments can merge with a verb in any order, and all other things being equal, the Mapping Hierarchy predicts a similar number of open theme and open goal arguments. This prediction is borne out: Mishani (2012) reports that out of 33 ‘*partial*’ ditransitive VP idioms in Hebrew (idioms which include an open slot), around half involve an open theme argument (21-a), while the other half involve an open goal (21-b).

- (21) a. daxak et X la-pina
 pushed ACC X to+the-corner
 ‘put X in a tough situation, left him no choice’
- b. hifna le-X et ha-gav
 turned to-X ACC the-back
 ‘refused to support X’

The proposed Mapping Hierarchy (Horvath and Siloni, 2008b) also accounts for the paucity of phrasal idioms with a fixed external argument. Horvath and Siloni (2010) argue that semantic interpretation is a gradual process, proceeding in a node-by-node fashion. Every syntactic unit formed by the verbal head and its argument thus constitutes an interpretive unit. As already mentioned, an idiomatic expression is formed when an interpretive unit has been used consistently in certain contexts, giving rise to the conventionalization of a special meaning. The authors assume that internal arguments of any kind regularly merge with a verb before the external argument does, regardless of the language-specific hierarchy between them. Therefore, internal arguments often form an interpretive unit with the verb which excludes the external argument, and may acquire an idiomatic meaning. As the external argument cannot form such a unit with the verb (excluding the internal argument), idiomatic expressions that involve just these elements are predicted to be scarce. Indeed, like English (see 14 above for a rare example) Hebrew has very few such idioms.

- (22) a. ha-goral he'ir le-X panim
 the-fate lit up to-X face
 'X was lucky'
- b. ha-ruax nasa et X
 the-wind carried X
 'X disappeared'

Following Nunberg et al. (1994), Horvath and Siloni (2008b) argue that idiomatic formation is further limited by two independent cognitive principles: First, idioms describe abstract situations in concrete terms. Second, animate noun phrases tend to preserve their animacy even when used in non-literal contexts, i.e. under metaphoric transfer. Thus, fixed parts of idioms will hardly ever include any animate or human noun phrases, as these cannot figuratively represent abstract entities. These principle jointly account for an interesting finding regarding possessors in VP idioms: Since possessors of all kinds tend to be animates, they generally constitute an open slot. In other words, most possessors in idioms are neither fixed nor interpreted idiomatically. This issue will be further discussed in section 4.2.

While the proposal by Horvath and Siloni (2008b) gives a more accurate account regarding possible idioms and their limited length than that of O'Grady (1998) or Bruening (2010), it seems to be too restrictive at times. This is because it rules out idiomatic interpretation of any constituent not licensed by the head verb or its arguments (other than secondary predicates). The biggest challenge in this respect are adjuncts. These elements are never selected by a verb or its arguments, but can often occur in the fixed part of VP idioms, as shown in (23):

- (23) bana migdalim ba-avir
 built towers in+the-air
 'made unrealistic plans, expected improbable things'

The locative phrase *ba-avir* is not an argument of the verb, and would have been optional in non-idiomatic context. In this case, however, its omission would result in a loss of the idiomatic meaning.

In the following chapter I present the idiom data collected for the current study, providing further evidence for the need of a more inclusive approach to idiom formation, but one that will restrict the length of possible idioms. It is on the basis of these data I suggest a revised, elaborated generalization regarding the internal formation of VP idioms.

3. Internal Formation of VP Idioms: The HAMP Generalization

In the preceding chapter, several recent accounts regarding idiom formation were introduced. While these do shed light on the possible architecture of idioms, it was shown that each account has its shortcomings. In an attempt to gain a further understanding of the constraints that may apply to idiomatic listings in the lexicon, I conducted a corpus-based study of Hebrew verb phrase idioms. The corpora included eight dictionaries of Hebrew idioms and phrases (Arbel, 2009; Avneyon, 2002; Cohen, 1989; Dayan, 2004; Fruchtman et al., 2001; Levanon, 1981; Rosenthal, 2009; Sévenier-Gabriel, 2004). These were alternately scanned several times, with each scan focusing on a different relevant element within idioms. A total of around 300 Hebrew VP idioms were collected.

On the basis of these data (to be discussed in detail in the following sections), and building mainly on the ideas of Horvath and Siloni (2008b), I suggest the following generalization captures the internal formation of VP idioms in Hebrew:

(24) The HAMP Generalization

Phrasal idioms may contain:

- a. A **H**ead;
- b. Dependents of (a): **A**rguments and/or **A**djuncts;
- c. **M**odifiers of (b);
- d. **P**ossessors selected by nominal heads in (b).

The generalization may apply to any type of phrasal idioms. Since the focus of this study is VP idioms, let us see how each part of (24) applies to them. First, the fixed part of a VP idiom must contain the verbal head. This is obligatory, since according to the Head-Based Storage Hypothesis, it is under this head that the entire idiomatic listing is stored. The head may license its selected arguments or any kind of adjunct which is semantically related to it. This includes adverbial modification. Modifiers of the verb's licensees, namely adjectives, may also appear in the fixed part of the idiom. Finally, nominal licensees may select possessors of

various types. Functional material related to each of the elements forming a given idiom is also allowed. I follow Horvath and Siloni (2008b) in assuming that this information is specified as features of the relevant lexical heads, and as such does not need to be explicitly stated by HAMP.

The HAMP Generalization is not a constraint on idiom formation, but rather a set of observations detailing the amount and type of information idiomatic listings may contain. It offers a solution for two major issues that concern, or should concern, any theory of idiom formation: Restricting the possible length of phrasal idioms; and predicting what elements can participate in such idioms. The length of idioms is limited since licensees are essentially determined by the verb. While material selected by the verb can be modified, it cannot select any further arguments other than possessors. As for the elements that comprise phrasal idioms, according to HAMP they are more diverse than was previously assumed. In the following sections I examine the different elements found in Hebrew VP idioms, providing evidence for the generalization.

3.1 The verbal head and its arguments

The verbal head is the key element in every VP idiom. This is an inherent property that stems from the very definition of certain idioms as “VP idioms”, i.e., idiomatic expressions in which a verb is hierarchically the highest selecting head. As mentioned above, the Head-Based Storage Hypothesis attributes an even more central role to the verb, as the entire idiomatic expression is assumed to be stored under it (Horvath and Siloni, 2009a).

The smallest possible idiomatic unit usually consists of a verb and at least one licensee, most frequently its argument.⁴ The term ‘*argument*’ here refers to a constituent which is selected by the verbal head and is assigned a θ -role by it. The following are some examples of Hebrew VP idioms consisting of a verb and a single argument:

- (25) Transitive verb with a direct object:
- a. daxaf et ha-af
 pushed ACC the-nose
 ‘became involved in something unrelated to him’
 - b. kataf et ha-peyrot
 picked ACC the-fruit
 ‘enjoyed success following his efforts’

⁴Single words, such a verbal head, can acquire a special meaning by undergoing semantic drift. However, while the special meanings of phrasal idioms raise questions regarding the lexical storage mechanism, those of single words do not (Tal Siloni, p.c.). Therefore, I will not investigate the latter.

- c. ximem meno'im
warmed up engines
'got ready for an important event'

(26) Intransitive verb with an oblique argument:

- a. diber el ha-kir
spoke to the-wall
'spoke while no one listened to him'
- b. histalek min ha-olam
left from the-world
'died'
- c. nidbak la-kise
stuck to+the-chair
'refused to leave a job'

While idioms of the form displayed in (25) and (26) are very common, more arguments can participate in idioms. For instance, a ditransitive verb may select both of its internal arguments, as shown in (27):

- (27)
- a. hosif šemen la-medura
added oil to+the-fire
'aggravated a (tense) situation'
 - b. sam et ha-klafim al ha-šulxan
put ACC the-cards on the-table
'said things frankly, as they are'

However, in about two-thirds of Hebrew VP idioms headed by ditransitive verbs, a different pattern seems to emerge: Only one argument appears as a fixed part of the idiom, while the other remains an open slot (Mishani, 2012).

- (28)
- a. hixnis et X la-tmuna
bring in ACC X to+the-picture
'included X in a certain matter, filled him in'
 - b. horid me-X et ha-masexa
took off from-X ACC the-mask
'revealed X's hidden intentions, his hypocrisy'

As was shown in the previous chapter, the open slot, or gap, can be either the direct object (28-a) or the oblique argument (28-b). Moreover, in English there are certain idioms with a dative goal which appear only in the Double Object construction and others that appear in the Prepositional Dative construction, or alternate (see examples (19)-(20) and the preceding discussion). There have been various attempts to account for possible and impossible

idiomatic patterns involving ditransitive verbs (Bruening, 2010; O’Grady, 1998 for English; Mishani, 2012 for Hebrew). While this is an important issue that must be dealt with if a full understanding of idiom architecture is to be achieved, I will not explore it further here, as it is irrelevant for the HAMP Generalization. The generalization simply states that a verb and its arguments can appear in the fixed part of idioms, regardless of the number or type of arguments, hence capturing the various options in this respect.

3.2 Adjuncts in VP idioms

The assumption that VP idioms can consist of the verbal head and its argument(s) is quite uncontroversial. Adjuncts, on the other hand, were not usually considered as elements which participate in such idioms (e.g. Bruening, 2010; Horvath and Siloni, 2008b).⁵ I use the term ‘*adjunct*’ to denote a constituent which is both syntactically and semantically optional. Unlike arguments, adjuncts simply modify the verbal head, which can be a well-formed, coherent constituent without it (Dowty, 2003). It seems plausible that if adjuncts are not lexically encoded on a given predicate (via its θ -grid, for example), they should not be available to participate in VP idioms stored under it in the lexicon. However, the idioms presented in the following subsections suggest the opposite, at least for Hebrew.

3.2.1 Thematic adjuncts and the non-core thematic domain

Rákosi (2006) suggests that adjuncts can be divided into two separate categories: Thematic adjuncts (sometimes labeled ‘optional arguments’) and ‘true’ adjuncts. While the latter display the properties listed above in my definition of adjuncts, the former typically have more in common with arguments. In fact, the term ‘*thematic adjunct*’ applies to constituents that bear a circumstantial or non-core θ -role. In order to explain exactly what this means and illustrate the difference between the two types of adjuncts, let me first introduce the non-core thematic domain.

In the Theta System (Reinhart, 2002), goal and benefactive participants share the same feature cluster, namely [-c]. These are usually dative or other PPs that are conceptually related in the sense that they do not cause the event in question (hence [-c]) but do denote its endpoint. When examining benefactive and locative goals, Marelj (2004) noticed that despite their similar thematic encoding, these constituents sometimes display a different syntactic behavior. Specifically, only the former can undergo dative shift in English:

⁵Horvath and Siloni (2008b) allow for optional arguments and secondary predicates, but do not discuss other types of adjunction.

- (29) a. Max sent a book **to Lucy**. \Rightarrow Max sent **Lucy** a book.
 b. Max sent a book to **London**. \Rightarrow *Max sent **London** a book.

Moreover, Marelj (2004) shows that the benefactive and locative goals can co-occur in the same clause:

- (30) Max sent **Lucy** a book **to London**.

In the linguistic literature, it is generally assumed that two identical θ -roles cannot be realized in a single clause as arguments of the same verb (for different formulations of this idea, see e.g. Pesetsky, 1995; Reinhart, 2002). In (30) above, the fact that the two goal arguments can co-occur is problematic for this assumption, if both are indeed verbal arguments.

These and other findings have led Marelj (2004) to argue that while benefactive goals are arguments of the verb, locative goals are actually adjuncts which receive a θ -role. These kinds of adjuncts are labeled ‘*thematic adjuncts*’ and are part of the non-core thematic domain. Arguments and thematic adjuncts are thus elements of two distinct thematic domains: The ‘regular’ thematic domain contains arguments that are represented on the θ -grid of the verb. The non-core thematic domain includes thematic adjuncts which are introduced later in the derivation. They are licensed in the presence of a specific type of argument, not by the verb itself.⁶ Rákosi (2006) shows that in terms of their syntactic behavior, thematic adjuncts sometimes pattern with arguments (e.g. they cannot be iterated in the same clause), but most of their properties are in accordance with adjuncts (they are optional and can appear with various prepositions).

The limits of the non-core domain are often unclear, since tests detecting adjunct vs. argument status are not always conclusive. Nonetheless, Rákosi (2006) claims that this domain is reserved mainly for constituents of the following types:

- (31) a. He was eating his meat **with my fork**. INSTRUMENT
 b. He was eating his meat **with my sister**. COMITATIVE
 c. He was eating his meat **for his mum**. BENEFACTIVE
 (Rákosi, 2006, Chapter 4 ex. (8))

⁶Instrumental thematic adjuncts, for instance, are only licensed in the presence of an agent, whether syntactically present or implied.

- (i) a. John repaired the roof with a hammer.
 b. The roof was repaired with a hammer.
 c. *I knew the answer with my encyclopedia.
 (Rákosi, 2006, ex. (35))

While this phenomenon regarding instruments was observed in earlier literature (e.g. Reinhart, 2002), Rákosi (2006) suggests that comitatives and benefactives are also generally licensed only in the presence of an agent.

Note that locative goals and sources, which were discussed by Marelj (2004) as evidence for the existence of the domain, are shown by Rákosi (2006) to behave more like ‘true’ adjuncts. He therefore does not include them in his specific account of the non-core thematic domain. Whichever definition of this domain one chooses to adopt, VP idioms with thematic adjuncts are attested in Hebrew. Following first the definition by Rákosi, I believe that the next sets of idiomatic phrases all include thematic adjuncts:

(32) Idioms with an INSTRUMENT thematic adjunct:

- a. daxa be-kaš
rejected with-straw
‘refused with unfounded explanations’
- b. he’ela be-xakato
raised with-his+fishing rod
‘found’

(33) Idioms with a COMITATIVE thematic adjunct:

- a. halax im ha-eder
went with the-herd
‘acted like everyone else, without thinking’
- b. saxa im ha-zerem
swam with the-current
‘acted like everyone, conformed to popular opinion’

(34) Idioms with a BENEFACTIVE/MALEFACTIVE thematic adjunct:

- a. paras lifney X šatiax adom
spread before X carept red
‘publicly expressed his respect towards X’
- b. patax piv la-satan
opened his+mouth to+the-devil
‘made something bad happen by speaking of it’

There are even more idioms with elements from the non-core thematic domain if it is taken to include locative goals and sources, à la Marelj (2004).⁷ For example:

(35) Idioms with a locative goal:

- a. kafac la-mayim
jumped to+the-water
‘dared to experience something new and unfamiliar’ (usually difficult)

⁷Rákosi (2006) does not include locative goals and sources in his account of the non-core domain. According to such an account, the idioms in these examples involve ‘true’ adjuncts.

- b. kafac al ha-agala
jumped on the-bandwagon
'joined something after it started'

(36) Idioms with a locative source:

- a. histakel al X mi-lemala
looked on X from-above
'treated X with arrogance'
- b. akar min ha-šoreš
uprooted from the-root
'destroyed or eliminated something' (usually negative)

If these were the only cases in which non-argumental material appeared in VP idioms, it would be possible to conclude that elements which participate in such idioms must be θ -marked by the verbal head. Horvath and Siloni (2008b) indeed propose that arguments and what they label 'optional arguments' (i.e. thematic adjuncts) are licensed in a similar manner and can thus appear in the fixed part VP idioms. It turns out, however, that 'true' adjuncts also participate in Hebrew VP idioms. In fact, the findings of my corpus study indicate that the vast majority of adjuncts found in Hebrew VP idioms cannot be considered thematic adjuncts. Idioms with the latter (including locative goals and sources) make up merely 14.29% of the 98 of VP idioms which include an adjunct in my corpus.

3.2.2 'True' adjuncts

Most known tests that are used to distinguish 'true' adjuncts from arguments, as well as those suggested by Rákosi (2006) to detect thematic adjuncts, cannot apply in the case of idioms. For instance, when an element appears in the fixed part of a VP idiom it can never be optional, regardless of its thematic status. Even when dealing with 'true' adjuncts, omitting them will result in a loss of the idiomatic meaning. Likewise, it is considered common knowledge that arguments are thematically unique and cannot be reiterated, contrary to adjuncts. This is argued to be the case for thematic adjuncts as well (Rákosi, 2006). In idioms there is no option of adding multiple PPs in order to check whether they are thematic or 'true' adjuncts, since the content of a given idiom is fixed.

That said, there is still a group of elements which, following Rákosi (2006) and Marelj (2004), I take to be 'true' adjuncts: Place, time and manner phrases. Even these are included in the non-core thematic domain in certain approaches (e.g. Fillmore, 1994). But since almost any event can in principle be placed in a certain location or point in time, and can occur in a certain specifiable manner, these phrases can generally be added (and omitted) freely in

non-idiomatic contexts. This property implies that these constituents are not dependent on a specific verb or any of its arguments, do not receive even an optional θ -role, and are hence truly adjuncts. While examples of VP idioms with a fixed time phrase appear to be rare, they do exist, as is shown in (37):

- (37) amad le-X bi-š'at daxako
 stood to-X in+the-hour his+pressure
 'helped X when X was in trouble'

As for locative phrases, I have found them to be very common in Hebrew VP idioms, occurring in about a third of the idioms which include an adjunct in my corpus. The following are a few examples:

- (38) a. sovev et X al ha-ecba ha-ktana
 twisted ACC X on the-finger the-small
 'manipulated X to do as he pleased'
 b. akaf et X ba-sivuv
 passed ACC X in+the-turn
 'obtained an advantage over X' (usually using deceptive means)
 c. asa šminiyot ba-avir
 performed figure-eights in+the-air
 'went through great efforts to achieve something'

Finally, out of 98 VP idioms with adjuncts found in my corpus, around 30 include adverbial adjuncts in their fixed part (an almost similar number to the number of idioms containing a locative phrase). These can be simple adverbs, like *yafe* ('well'), or more complex manner PPs. Both types of adverbial modifiers are common in Hebrew, and can form idiomatic expressions with the verb even when no argument is present:

- (39) a. ala yafe
 rose well
 'succeeded, worked according to plan'
 b. yašav be-xibuk yadayim
 sat with-hugged hands
 'did nothing, was idle'

The type of setting in (39) seems to be the most prevalent for adverbial modification in Hebrew VP idioms, exhibited by 70% of the idioms containing adverbials in my corpus. However, adverbs and manner PPs are not limited to such minimal idiomatic units. They may also appear with transitive verbs in idioms that involve verbal arguments. In most attested cases, such arguments constitute an open slot, to be filled by non-idiomatic content:

- (40) a. hexzik et X kacar
 held ACC X short
 ‘supervised X firmly, gave him no freedom’
- b. hexzir le-X be-ota matbe’a
 returned to-X with-same coin
 ‘answered X with similar claims’

As can be seen in (40-b) above, adverbial manner phrases can contain modification themselves (*ota*). Note, however, that the verbal head is semantically related only to a single adjunct, namely the manner PP containing this modifier. Following both O’Grady (1998) and Horvath and Siloni (2008b), I assume that such complex constituents are selected via their lexical head, which also appears as part of the idiomatic listing in the lexicon.

While most adverbial PPs appear with the preposition *be-*, which in Hebrew corresponds to either *with* or *by* (among others), my search yielded some idioms with other prepositions:

- (41) a. avad al rek
 worked on empty
 ‘put in effort with no results’
- b. rakad lefi ha-xalil šel X
 danced according to the-flute of X
 ‘suited himself to the will of X, did as X wanted’

As can be seen in (41-b), adverbials may include open slots that need to be filled by non-idiomatic material, like the genitive possessor (*šel X*). Such possessors are discussed in section 4.3. For now, recall that according to HAMP, possessors appear in VP idioms if they are selected by a nominal head, be it an argument of the verb or part of an adjunct.

The data in this section clearly demonstrates that under most approaches to adjuncts, both thematic and ‘true’ adjuncts can appear in phrasal idioms. This is stated by HAMP. It is interesting to note, however, that adjunction in idioms is not an entirely free process as it is in non-idiomatic contexts. As already mentioned, idiomatic expressions do not allow the addition (or omission, for that matter) of many PPs. It seems plausible to claim that when participating in VP idioms, adjuncts must be represented under the corresponding verb in the mental lexicon, much like arguments.⁸ This accounts for the fact that idiomatic adjuncts are not free in type, number or content. Specifically, I found only two cases in which two optional constituents appear in the same VP idiom and at first glance seem to be related to the verb. I claim that in both cases, the verb has only one dependent:

⁸While it is clear that the lexical representation of any adjunct, be it thematic or ‘true’, does not involve the verbal head’s θ -grid directly, the particular mechanism governing the appearance of these elements in phrasal idioms remains to be explored.

- (42) a. ba [ke-šemen be-acmotav]
 came like-oil in-his+bones
 ‘enjoyed something, became joyful’
- b. amad [ke-ani ba-petax]
 stood like-poor in+the-entrance
 ‘behaved hesitantly, with shyness’

The idioms above include an equative comparative *ke-* and a locative phrase, both optional constituents which do not receive a θ -role from the verbal head of the idiom. However, it seems likely that the locative phrases actually modify the nominal head within the comparative and not the verb itself. This complex nominal is selected by the preposition *ke-*, head of the equative comparative phrase licensed by the verb. If so, one could argue that the capacity of VP idioms is limited with respect to adjuncts, in that only one adjunct may be directly licensed by the verb. This requires further research. It is already clear, however, that Nominal heads within such adjuncts can include certain types of modification, as indeed noted in the HAMP Generalization. I now turn the attention to this type of modification.

3.3 Nominal Modification: Adjectives

As stated in the HAMP Generalization, not only the verb can be modified in VP idioms, but any other constituent as well. Specifically, when nominal heads are selected to participate in a given idiom, adjectives modifying them can also appear in the fixed part of that idiom. When they do, they are no longer optional as in non-idiomatic contexts, and are no less important for the idiomatic meaning than any other component of the idiom. In other words, the idiomatic meaning of the entire expression is lost if they are omitted, like in the case of fixed adjuncts. Consider the following examples:

- (43) a. hoci et ha-kvisa ha-meluxlexet
 took out ACC the-laundry the-dirty
 ‘publicly revealed the problems or disputes in his group’
- b. taxan kemax taxun
 ground.V flour ground.ADJ
 ‘dealt with a topic that was already concluded, to no use’
- c. hixnis et rošo be-kolar panuy
 put in ACC his+head in-collar unoccupied
 ‘got himself into unnecessary trouble’

The idioms in (43) all consist of a verb, its nominal argument(s) and an adjective modifying one of these arguments. The adjective can be an adjectival passive, like in (43-b). My

corpus search also yielded idioms in which the modified noun phrase is not an argument (or part of an argument) but is part of a ‘true’ adjunct (like (44-a)) or an equative comparative (in (44-b)). Recall that nominal heads in equative comparatives can also be modified by a locative phrase, as shown in the previous section.

- (44) a. halax al xevel dak
 walked on rope thin
 ‘performed a sensitive or dangerous action’
 b. ra’ad ke-ale nidaf
 trembled like-leaf falling
 ‘was very scared’

Interestingly, I have not found cases in which more than one adjective modifies a single noun phrase. Again, this may suggest a restriction on the length of idioms due to their lexical representation. However, as shown in (45), the number of adjectives is not limited to one per idiom, but to the number of modifiable elements (in this case two).

- (45) hixnis roš bari le-mita xola
 put in head healthy to-bed sick
 ‘got into unnecessary trouble’

The last clause of the HAMP Generalization states that possessors may also modify nominal heads, as long as they are selected by appropriate licensees within an idiom. In fact, possession seems to be the most common form of nominal modification in VP idioms, at least in Hebrew. In idioms such as (46) below, the possessor is not fixed, but is an obligatory part of the idiom as an open slot.

- (46) a. yarad le-xayav šel X
 came down to-the+life of X
 ‘methodically abused X’
 b. ala le-X be-xayav
 cost to-X with-his+life
 ‘caused X to die’

While the vast majority of possessors in VP idioms expressions constitute such a ‘gap’ (see Appendices) and are not interpreted idiomatically, the status of different possession types in these idioms is not uniform. This fact, which is the focus of the next chapter, raises questions regarding the nature of possession and the architecture of idioms.

4. Possession in VP Idioms

In the previous chapter I presented the idiom data which upon which the HAMP Generalization is based. The data show that in Hebrew, VP idioms can contain the verbal head and various types of its dependents, as well as adjectives modifying selected nominal heads. Possessors of different types also modify the latter, participating in 113 Hebrew VP idioms in my corpus (see Appendices A and B) and 83 English ones (Appendix C). In the current chapter I present the findings of my study with respect to possessors and discuss two puzzling phenomena: The rarity of fixed possessors and the lack of alienable Possessive Datives in Hebrew VP idioms.

4.1 Possessive Datives in VP idioms

The corpus-based study conducted revealed around 100 Hebrew VP idioms involving different types of non-subcategorized dative constituents: Possessive Datives; Reflexive Datives, which are linked to the external argument of a verb and introduce a slight change in its meaning (for more on these, see Borer and Grodzinsky, 1986); and other types of optional datives which were not classified. Idioms with datives that are obligatory goal arguments of the verb were not collected, as their occurrence falls under the second and most basic clause of the HAMP Generalization (see (24)). Out of all the VP idioms with datives collected, 72 have been identified as clear cases of idioms containing Possessive Datives (as open slots).

The major issue raised by the Possessive Dative Construction involves the grammatical status of the possessor, an optional constituent (in non-idiomatic contexts⁹) marked by the dative Case, like *Dana* below:

- (47) Dan axal le-Dana et ha-ugiya.
Dan ate to-Dana ACC the-cookie
'Dan ate Dana's cookie'

⁹If the possession is inalienable, i.e. involves a possessed element which is an intrinsic part of its possessor, like body parts, a possessor is obligatory even in non-idiomatic contexts. Further properties of this possession type are discussed in section 4.4.

The dative Case is usually assigned to the goal argument of ditransitive verbs and does not mark possessors. Moreover, the Possessive Dative (henceforth PD) appears in a syntactic position usually reserved for verbal arguments. However, it is clear that semantically, the PD is interpreted as relating to the direct object of a non-ditransitive verb (in this case, *the cookie*), and not to the verb itself. It is therefore unclear what the exact structure of the construction is and how the dative constituent is licensed. Is it an argument of the verb, its object or neither? Recall that according to the HAMP Generalization, only possessors selected by a licensed nominal head appear in VP idioms. Since PDs are common in Hebrew VP idioms, examining their characteristics in such idioms can help shed light on these issues.

4.1.1 Inalienable PDs

Hebrew VP idioms which include the Possessive Dative Construction consist (at the very least) of a verbal head, its argument, i.e. a direct or indirect object, and a PD:

- (48) hoci le-X et ha-einayim
 took out to-X ACC the-eyes
 ‘behaved in a way that made X jealous’

An examination of the data indicates that all verb phrase idioms containing PDs are partial, i.e. they contain an open slot, or ‘gap’, marked by *X* in the example above. The open slot is filled by human (or animate) constituents whenever a given idiom is used, and is not interpreted idiomatically. Note that in all attested cases, it is the PD which constitutes the gap. This entails that the possessor is never in itself a part of the fixed lexical unit which is interpreted idiomatically. It is, however, an obligatory part of the idiomatic expression, as omitting it would result in a loss of the idiomatic meaning. The fact that Possessive Datives appear as gaps is accounted for in section 4.2, where I suggest this situation is not unique to PDs but reflects a more general constraint on idiomatic formation.

An even more surprising finding is that all the idioms with PDs that were collected include inalienable possession (for the full list of these idioms, see Appendix A). In such a possession relation, the possessed noun is an intrinsic part of the possessor. Most frequently, the possessed element in inalienable possession cases is a body part of the possessor. Alternatively, it can denote an inherent trait of the possessor, or something clearly related to its mental or physical existence, like *a soul* in (49-b) or *warts* in (50-a) below.

- (49) a. bilbel le-X et ha-moax
 confused to-X ACC the-brain
 ‘bothered X with useless chatter’

- b. hoci le-X et ha-nešama
took out to-X ACC the-soul
'harassed and annoyed X incessantly'
- c. kofef le-X et ha-yad
bent to-X ACC the-arm
'overcame X's resistance'

The expressions in (49) above exemplify the first type of two PD constructions that appear in Hebrew VP idioms. In this type, the possessed element is a noun phrase, the direct object of the verb heading the idiom. In the second type of construction, the possessed noun phrase is embedded within a PP, which is an indirect object of the verbal head. The choice of preposition in such idioms is diverse, as can be seen in (50):

- (50)
- a. darax le-X al ha-yabalot
stepped to-X on the-warts
'upset X by touching on a sensitive issue'
 - b. yaca le-X me-ha-af
came out to-X from-the-nose
'X became fed up with something'
 - c. yarak le-X ba-parcuf
spit to-X in+the-face
'publicly expressed disgust and contempt towards X'

The distinction between a possessor which is a direct or an indirect object, or a DP vs. a PP, respectively, does not appear to be significant in any way for the current analysis. Both types of idioms display the same properties: The PDs are included as open slots, and do not involve alienable possession, a possession in which the possessed noun is not intrinsically related to the possessor. It is therefore plausible to assume that these idioms are formed and stored in the same manner, and they will be therefore treated as a uniform group.

A final, rather small, group of idioms includes PDs (as a gap) and an internal argument which is interpreted as a subject. In these cases, the possessed element is generally a DP:

- (51)
- a. hitnapeax le-X ha-roš
swelled to-X the-head
'X became tired of listening to incessant chatter'
 - b. ra'ad le-X ha-pupik
trembled to-X the-belly button
'X became scared and excited' (usually before some task)

In both of the idioms above, *the head* and *the belly button* are actually interpreted as the subject of their respective clauses, which literally mean '*The head of X swelled*' and '*The*

belly button of X trembled'. Hebrew allows a postverbal subject (VS order) with no trigger only when the subject is an internal argument, as is the case with the unaccusative verbs here. The fact that these are phrasal idioms that contain a subject is not directly relevant for my analysis of PDs in idioms, since there is no change in the syntactic or semantic relation between possessor and possessee. Moreover, the two properties discussed with regards to the other aforementioned groups are again attested: The PD constitutes an open slot, and the possession relation is inalienable. Therefore, these idioms are treated along with the others.

One further observation should be pointed out: Hebrew generally allows PDs to appear with both definite and indefinite possessed nouns, as displayed in (52).

- (52) Dan šavar le-Dina (et ha) iparon.
 Dan broke to-Dina (ACC the) pencil
 'Dan broke (the) / a pencil belonging to Dina'

Yet only five out of the 72 idioms which involve PDs (6.94%) contain an indefinite noun as the object, or possessed element. Of these indefinites, two appear in plural form, a rare occurrence in itself. Consider the following examples, with an indefinite object in singular (53-a) and plural (53-b):

- (53) a. hidlik le-X nura aduma
 turned on to-X light bulb red
 'gave X a warning sign'
 b. hicmiax le-X knafayim
 grew to-X wings
 'made it possible for X to progress and realize his abilities'

This phenomenon requires further research. However, it is plausible to assume that the tendency for more definite nouns in idioms is not necessarily due to the presence of the Possessive Dative Construction or of any other possession type. In other words, it might turn out to be a more general feature of Hebrew VP idioms.¹⁰ I therefore return now to the issue of inalienability, which seems directly related to PDs. In the next subsection I show that even in idioms that might at first glance seem to contain alienable PDs, the relation is actually inalienable. This supports my claim that no alienable possession relation is exhibited by Hebrew VP idioms with Possessive Datives.

¹⁰The preference of definite nouns in VP idioms, at least when possessors are involved, might be related to the fact that possession in idioms generally involves a body part, or something which is otherwise a specific part of a whole.

4.1.2 Potentially alienable PDs: Accounting for counterexamples

The data presented so far suggest that only inalienable PDs participate in Hebrew VP idioms, as all the expressions surveyed involve a possessed noun which is an intrinsic part of its dative possessor. Occasionally, the type of possession relation in a given idiom is not as unequivocal as in the previous cases. In the current subsection I discuss eight idioms that were found in the corpus study and can be seen as potential counterexamples to this observation. I argue that in fact, they too exhibit inalienable possession.

First, consider the following set of examples. The idiomatic expressions below all include a Possessive Dative (again, as an open slot) and involve a seemingly alienable possessed noun phrase in object position:

- (54) a. hoci le-X et ha-mic
took out to-X ACC the-juice
'required much effort of X, exhausted X'
- b. hoci le-X et ha-avir me-ha-galgalm
took out to-X ACC the-air from-the-wheels
'sabotaged X's efforts, thus preventing his advancement'
- c. hoci le-X et ha-ruax me-ha-mifrasim
took out to-X ACC the-wind from-the-sails
'curbed X's enthusiasm, depressed him'

The word *juice* in (54-a) clearly does not constitute any body part of the possessor if taken literally. Nevertheless, in its idiomatic meaning *the juice* is understood as X's power or liveliness that was squeezed out of him, much like juice squeezed from an orange. This implies that the possessed element is an intrinsic part of the possessor, and hence inalienable. Similarly, even though the actual possessor in (54-b) and (54-c) is probably human or animate, and therefore has no *wheels* or *sails*, it is clear that figuratively, these elements are understood as an integral part of his body. The possessor in these cases is conceptualized as a vehicle of sorts, with *the air* or *the wind* playing a role in its metaphorical movement. Thus in both cases I conclude that the possession is inalienable.

- (55) hidlik le-X nura aduma
turned on to-X light bulb red
'gave X a warning sign'

The idiomatic expression in (55) represents another case in which the possessed element is a metaphorical body part of the possessor. Here, the metaphorical *light bulb* is understood as a physical component in someone's brain, something that lights up to signify a warning. As such, this idiom includes inalienable possession.

When it comes to idioms with a noun phrase embedded within a PP, I have only found one example of potentially alienable relation:

- (56) nixnas le-X la-calaxat
 entered to-X to+the-plate
 ‘meddled in X’s personal affairs’

I take the possession relation to be inalienable in cases such as these, even though the possessed element is not a physical body part or a truly inherent quality of the possessor. Still, it denotes an intimate part of the possessor’s being, that is, something personal and private which is very closely related to him. It should be noted that this is the only idiom I found with a Possessive Dative that contains such a relation. So even if one chooses not to accept my classification of it as involving an inalienable PD, it would still constitute a rare occasion which is statistically negligible. Also note that an idiomatic expression with an almost identical meaning exists ((57) below). In this case the possessee (*veins*) is literally inalienable. Judging by the idiomatic meaning, these two idioms should clearly be analyzed in a similar manner.

- (57) nixnas le-X la-vridim
 entered to-X to+the-veins
 ‘meddled in X’s affairs and decisions’

Finally, idioms with a PD and a subject must be examined. Again, I argue that all possible counterexamples to my generalization regarding inalienability can be accounted for.

- (58) a. nigmar le-X ha-sus
 ran out to-X the-horse
 ‘X became tired’ (usually in the public or cultural arena)
 b. nigmera le-X ha-bateriya
 ran out to-X the-battery
 ‘X became extremely tired’

In the first pair of idioms above, which literally mean ‘*X’s horse/battery ran out*’, the postverbal subject is interpreted idiomatically as the possessor’s driving force, his strength or energy.¹¹ This is an inherent quality belonging to the possessor, thus making the possession relation inalienable. Finally, the idiomatic expression below includes a metaphorical part of the possessor, or more specifically, his brain. The possessor’s brain is a figurative pay-phone, while the metaphorical *token*, a coin required to operate the phone, is then understood as

¹¹Tal Siloni (p.c.) notes that in the first case, *the horse* may actually refer to a vehicle’s horsepower. If interpreted in this manner, this idiom represents an even clearer case of inalienable possession: The engine and the horsepower it produces are an integral part of any vehicle.

relating to the possessor's mental functions and thought processes. This is an intrinsic part of any animate being.

- (59) nafal le-X ha-asimon
fell to-X the-token
'X finally understood something' (later than expected)

As can be seen from the above examples, identifying the particular type of possession in a given idiom can prove to be a difficult task, since both the literal and figurative meaning have to be taken into account. It is therefore necessary to formulate explicit criteria for determining which possession type appears in each of these cases. I suggest the following criteria, upon which the classification of idioms in the current study is based:

- (60) Possession type in idioms
- a. An idiom contains inalienable possession if the literal meaning and/or the idiomatic interpretation involve inalienable possession.
 - b. An idiom contains alienable possession if neither the literal meaning nor the idiomatic interpretation involve inalienable possession.

In conclusion, two phenomena have been established in this section. First, it seems that Possessive Datives always appear in VP idioms as an open slot. In other words, they are obligatory but never fixed. Second, no alienable possessor is attested in Hebrew VP idioms which contain PDs, not even in the form of such a slot. The following section focuses on the first phenomenon.

4.2 The Animacy Constraint

As mentioned in chapter 2, external arguments seldom appear VP idioms. This has been observed by Nunberg et al. (1994) with respect to English, and by Horvath and Siloni (2008b) in the case of Hebrew. Below are some rare examples of English VP idioms which include a fixed subject:

- (61) a. A little bird told X...
b. Lady luck smiled on X.
(Horvath and Siloni, 2008b, ex. (11))

In their attempt to account for this paucity of external arguments in idioms, Nunberg et al. (1994) suggest two independent cognitive principles that influence the formation of idioms. First, idioms describe abstract situations in concrete terms. Second, animate noun phrases

tend to preserve their animacy even when used in non-literal contexts. Elaborating on these ideas, Horvath and Siloni (2008b) claim that the same cognitive principles apply to Hebrew phrasal idioms. Together, they give rise to what the authors label ‘The Animacy Constraint’. In order to illustrate these principles, consider the following idioms that were previously discussed in chapter 3:

- (62) a. kataf et ha-peyrot
 picked ACC the-fruit
 ‘enjoyed success following his efforts’
 b. daxaf et ha-af
 pushed ACC the-nose
 ‘became involved in something unrelated to him’

In (62-a), the abstract idea of reveling in one’s success is described by a concrete physical action of fruit picking. While most if not all VP idioms display this pattern, idioms such as ‘*enjoyed the success*’ which denote fruit picking are highly unlikely. The idiom in (62-b) is expected given the second principle, whereas an idiom like ‘*pushed the kid*’ would not be, since an animate like *the kid* cannot denote something inanimate, such as an involvement in someone else’s affairs.

According to the Animacy Constraint, since animates denote concrete living entities, a denotation which does not change in idiomatic contexts, they cannot be used to describe abstract situations. Possessors of any kind (not just Possessive Datives) are generally animates, and most frequently human. Hence they are predicted to rarely appear in the fixed part of phrasal idioms. This prediction is borne out, both in English and in Hebrew:

- (63) a. bend X’s ear
 ‘talk to X annoyingly, at tedious length’
 b. tigen et me’av šel X
 fried ACC the+intestines of X
 ‘greatly angered X’
 c. hiš’ir le-X ta’am mar ba-pe
 left to-X taste bitter in+the-mouth
 ‘made X feel unpleasant’ (following some event or action)

As can be seen in the examples above, and as the data presented in this chapter clearly indicates (also see Appendices), this is a crosslinguistic tendency. In Hebrew it is attested both with genitive (63-b) and with dative possessors (63-c). It therefore seems plausible to assume that the Animacy Constraint is not specific to any possession type, but is a more general constraint on idiomatic formation.

While this constraint accounts for the fact that inalienable PDs appear as open slots in VP idioms, it cannot explain why alienable PDs are absent from such idioms altogether. All other things being equal, one expects both types of possessors to participate in idioms as non-idiomatic gaps. Indeed, I suggest that the contrast between Hebrew PDs is unrelated to the proposed constraint, but results from the different syntactic status of each possessor.

If the restriction on the appearance of animates in the fixed part of idioms is indeed a general constraint, it should not be limited to possessors, but apply to other typically animate constituents. This prediction is borne out. First, as already mentioned, fixed subjects in idioms are also rare (Horvath and Siloni, 2008b; Nunberg et al., 1994). Much like possessors, subjects also tend to be animates, and are therefore incapable of describing abstract situations. In other words, the Animacy Constraint is responsible for their infrequency in VP idioms.¹² Second, it has been reported that goal-recipients, which also tend to be animate, are generally excluded from VP idioms (Kiparsky, 1987; Mishani, 2012). I therefore believe that any account trying to derive the rarity of subjects and possessors in idioms using an exclusively structural approach (e.g. by claiming that the subject is an argument of ‘little-*v*’) cannot be sufficient.

Finally, the Animacy Constraint also applies to arguments which are not predominantly animate, in a slightly different manner. Nunberg et al. (1994) note that theme arguments, for instance, appear equally as animate or inanimate noun phrases in non-idiomatic contexts. In idioms, a different pattern arises: Out of 20 English VP idioms headed by the transitive verb *hit* which contain a fixed theme, none include an animate (64). There are numerous idioms in which the theme is understood as an animate, but in those cases it is never fixed (65). The theme is a ‘gap’ which is not interpreted idiomatically, but can be filled using an animate constituent.

- (64) a. hit the hay
 b. hit the sack

¹²The paucity of subjects in VP idioms is often taken as evidence in favor of severing the external argument from the lexical verb (see Chomsky, 1995; Kratzer, 1996; Marantz, 1984, among others). However, (Horvath and Siloni, 2008b) show that external arguments do occasionally participate in such idioms, like in (i):

- (i) a. ha-goral he’ir le-X panim
 the-fate lit up to-X face
 ‘X was lucky’

According to the HAMP Generalization, the subject must be an argument of the lexical verb in order to be licensed in these cases. Following (Horvath and Siloni, 2008b, 2010) I therefore derive the rarity of fixed subjects from the Mapping Hierarchy, or merging order of arguments (see discussion in subsection 2.2.2), and from the Animacy Constraint.

- (65) a. hit X below the belt
 b. hit X close to home

The Animacy Constraint is therefore a general constraint on idiomatic formation. As such, it influences the distribution of any relevant argument in idiomatic expressions. Its effect is most obvious on typically animate arguments, but is not limited to them.

Returning to possessors, note that as in the case of subjects, fixed possessors are not completely barred from phrasal idioms. If they were, one could claim that nominal heads in idioms may only license an abstract possessor slot with unspecified content. This kind of mechanism was indeed proposed by O’Grady (1998) for English idioms with an open genitive position like the following:

- (66) a. catch X’s eye
 ‘attract X’s attention’
 b. pull X’s leg
 ‘play a joke on X, trick or fool him’

However, there are some cases of VP idioms which do include a fixed possessor, both in Hebrew (67-a) and English (67-b). The examples below are rare, but they clearly demonstrate that possessors can appear in the fixed part of idioms:

- (67) a. hixnis pil be-kof šel **maxat**
 put in elephant in-eye of needle
 ‘tried to perform an impossible task’
 b. play the **devil**’s advocate
 ‘argue against a cause or position purely to test its validity’

The absence of fixed possessors (as well as fixed external arguments) from VP idioms is therefore a strong statistical tendency (as also noted by Marantz, 1984), but not an absolute restriction. The HAMP Generalization therefore states that nominal heads may select possessors, not specifying whether their content has to be fixed or not. In conjunction with the Animacy Constraint, the findings are accounted for: Possessors are expected to appear in VP idioms but are predicted not to be fixed.

Having accounted for the fact that inalienable Possessive Datives appear in VP idioms as non-idiomatic open slots, the second phenomenon exhibited by the idioms in my corpus must now be addressed. Why are there no attested cases of VP idioms involving an alienable PD, not even as an open slot? Is there a constraint preventing this type of possession? The data presented in the next section sheds light on these questions.

4.3 Genitive possession

The lack of alienable possession exhibited by Hebrew idioms with Possessive Datives may be the result of an additional crosslinguistic constraint on idiomatic formation, namely a requirement for possession in VP idioms to always be inalienable. If this is indeed the case, VP idioms in other languages are expected not to include alienable possession as well, regardless of the specific possession construction they involve. English does not allow the Possessive Dative Construction I have focused on in Hebrew, in which an optional constituent is marked by the dative Case. This Case is reserved for goal-recipients, like in (68):

(68) Max gave a flower **to Lucy**.

Therefore, in order to determine whether a general requirement for inalienability actually exists, a different kind of possession must be investigated. In the current section I turn the attention to VP idioms with genitive possession.

4.3.1 English idioms with genitive possessors

Genitive possessors are very common in English VP idioms. They generally constitute open slots, in accordance with the Animacy Constraint. Genitives even appear in idioms that were borrowed into Hebrew using a PD, as attested by the idioms in (69) below. It therefore seems that examining the possible participation of alienable possessors in English VP idioms with a genitive can help shed light on their absence from Hebrew VP idioms with a dative.

(69) a. entered X's mind
b. nixnas le-X la-roš
entered to-X to+the head
'something occurred to X, became understood' (usually with negation, for something X could not understand)

In order to address this issue, an additional corpus-based study was conducted. The corpora included four dictionaries of English idioms (Ammer, 2003; Siefring, 2004; Spears, 2005; Walter, 1998), and revealed 83 idioms of the relevant type (see Appendix C). Out of these, 18 (21.69%) contain alienable possession. The following are some examples:

(70) a. lick X's boots
'be extremely submissive towards X'
b. cook X's goose
'damage or ruin X'

- c. eat X's lunch
'to best X, defeat or outwit him'

The idioms above all involve alienable possession, since literally, the possessed element is not a physical or metaphorical body part of the genitive in any of them. The idiomatic meaning contains no possession relation at all, thus making the literal meaning the only determining factor when it comes to possession type.

As could be expected, I also found numerous VP idioms with a genitive possessor that were clear cases of inalienable possession. These include both noun phrases (71-a) and various PPs (like in (71-b), (71-c)) as the possessed object.

- (71) a. pull X's leg
'play a joke on X, trick or fool him'
- b. cry on X's shoulders
'tell X one's problems in order to gain sympathy and consolation'
- c. get under X's skin
'bother or irritate X, affect his feelings'

Some cases again proved to be less clear-cut than the examples above, but such that should still be classified as involving an inalienable relation according to the possession type criteria in (60). These were idioms with a figurative inalienable relation, like (72):

- (72) ruffle X's feathers
'annoy or offend X'

While no human possessor has any *feathers*, it is clear that in the idiomatic expression above these are part of his body. The possessor is metaphorically referred to as a bird of sorts, whose feathers are being ruffled.

One particular idiom did not fall under the suggested criteria for possession type, but I believe it includes an inalienable relation nonetheless:

- (73) knock X's block off
'beat up X'

Literally, a *block* is not a body part of the possessor. It is not even understood like a metaphorical body part when the idiom is interpreted. However, The American Heritage Dictionary of Idioms clearly states that: "*This hyperbolic term employs block in the sense of head, a usage dating from the 1600s*". In McGraw-Hill's Dictionary of American Idioms, the idiom even receives the interpretation (which does not appear in other sources) of *'hit*

someone in the head'. I therefore classify it as a case of inalienable possession.

As the examples above clearly show, English allows the appearance of both inalienable and alienable possessors in VP idioms. It can therefore be concluded that there is no universal restriction on the participation of alienable possessors in VP idioms. This gives rise to a new set of questions regarding the Hebrew findings. Namely, is alienable possession prohibited in all Hebrew VP idioms? Or is the restriction specific to Possessive Datives (and possibly applies to PDs in other languages as well)? In the next subsection I address this issue.

4.3.2 Hebrew idioms with genitive possessors

The data presented so far suggest that no alienable possession relation can appear in Hebrew VP idioms, and that this is a phenomena specific to Hebrew. Examining genitive possessors in Hebrew VP idioms, I now show that the restriction is even more precise, applying only to alienable Possessive Datives.

Turning the focus to Hebrew idioms with a genitive possessor, I conducted another corpus search. In total, 40 idioms of this type were collected. It should be noted that in my results I only included idioms with genitives realized in a *šel* phrase (or ones in which such a phrase is optional) according to at least one source. Hebrew has other ways of realizing genitive possession, including the construct state and the clitic-doubling construction, which involves a *šel* phrase and a pronominal clitic on the possessed noun phrase. For my purposes I wanted to use the clearest cases of genitive possession, so while I included the latter (as can be seen in 75), idioms which contain just constructs or clitics were not collected. I believe that the idioms collected provide an accurate, if not exhaustive, sample of this possession type.

Out of 40 Hebrew VP idioms with genitives collected, I found nine (22.5%) which contain alienable possession (see Appendix B). This is almost similar to the rate of alienable genitives found in English (21.69%). Consider the following:

- (74)
- a. gilgel et ha-kadur la-migraš šel X
rolled ACC the-ball to+the-court of X
'gave X the chance to decide, react'
 - b. nixnas la-na'alayim šel X
entered to+the-shoes of X
'replaced X at his job'
 - c. amad be-darko šel X
stood in-the+way of X
'hindered X's advancement, stopped him from reaching his goals'

In all these cases, the possessed element is not an inherent part of the genitive possessor in the literal sense. It is neither its physical nor its figurative body part, not a trait or an

inherent quality. The idiomatic meaning also lacks inalienable possession. The relation is consequently alienable according to the criteria defined.

Similarly to the findings that were obtained in the case of English idioms with genitives and those of Hebrew idioms with PDs, the vast majority of Hebrew idioms with a genitive possessor contain an inalienable possession relation. Below are a few examples:

- (75) a. *daxak et raglav šel X*
 pushed ACC the+legs of X
 ‘gained a powerful position at the expense of X’
- b. *hicmid ekdax le-rakato šel X*
 attached gun to-the+temple of X
 ‘forced X to do something’ (usually using threats)
- c. *našaf be-orpo šel X*
 blew in-the+nape of X
 ‘jeopardized X’s leading position’ (usually in a struggle for power)

English and Hebrew display a uniform behavior when it comes to alienable relations in idioms with a genitive possessor. The difference between the languages in this respect is statistically insignificant ($\chi^2 = 0.01$, $p = 0.4593$). As opposed to this similarity, a sharp contrast arises between the dative and the genitive data in Hebrew, since no alienable possessors were found in VP idioms which involve PDs. This difference is statistically significant ($\chi^2 = 17.846$, $p < 0.0001$). It is therefore possible to conclude that Hebrew, like English, employs no general restriction on the appearance of alienable possession in VP idioms. The lack of alienable possessors in these idioms is unique to the Possessive Dative Construction.

It seems that the only elements completely excluded from Hebrew VP idioms are, in fact, alienable Possessive Datives. Table 2 summarizes the findings that were presented in the current and the previous chapter:

Table 2: Possible vs. impossible elements in Hebrew VP idioms

Possible	Impossible
Arguments	Alienable PDs
Thematic adjuncts	
Adjuncts	
Inalienable PDs	
Genitive possessors (alienable, inalienable)	

The next section focuses on the syntactic differences between inalienable and alienable possession. These differences, in conjunction with the idiom data discussed so far, lead me to the conclusion that inalienable and alienable PDs should be analyzed in a distinct manner.

4.4 Inalienable vs. alienable possession

The linguistic literature distinguishes between inalienable and alienable possession constructions. In the former, the possessed noun is an intrinsic part of another element, namely the possessor. In Hebrew, this possessor can be genitive (76-b), dative (76-c) or appear as the subject of the clause (76-d). As can be seen from the glosses, in English the possessor must be genitive. In any case, it is generally obligatory in order for the possessed element to be felicitous.¹³ This is why sentences like (76-a) sound odd.

- (76) a. # ha-roš nifga.
the-head was+hurt
'The head was hurt'
- b. ha-roš šelo nifga.
the-head his was+hurt
'His head was hurt'
- c. Nifga lo ha-roš.
was+hurt to+him the-head
'His head was hurt'
- d. hu raxac et ha-panim.
he washed ACC the-face
'He washed his face'
- (Siloni, 2002, ex. (16))

As can be seen in the examples above, inalienable nouns, that is, the possessed elements, typically denote body parts. As I have shown in the previous sections, this type of possession also applies to inherent traits or things otherwise related to the the mental or physical existence of the possessor. Alienable nouns, on the other hand, are not limited to any particular semantic group. They are neither inherently related to their possessor nor dependent on its appearance. Thus, both (77-a) and (77-b) are perfectly grammatical, though no lexical possessor is present or implied in the latter.

- (77) a. ha-miškafayim šelo nišberu.
the-glasses his were+broken
'His glasses were broken'

¹³Generic contexts such as (i) allow the occurrence of an inalienable noun without a lexical possessor:

- (i) be-mitkan ze ha-roš zakuk le-hagana meyuxedet.
in-installation this the-head requires to-protection special
'In this installation the head requires special protection'
(Siloni, 2002, ex. (17))

In these cases, it is clear that any head must belong to an animate entity, but the possession relation established in the clause is arbitrary.

- b. ha-miškaḥafayim nišberu.
 the-glasses were+broken
 ‘The glasses were broken’

The obligatory status of the possessor in cases like (76) has led linguists to the conclusion that inalienable nouns must include a possessor slot in their lexical representation (see Siloni, 2002; Vergnaud and Zubizarreta, 1992, among others). This slot must be filled whenever such nouns are used, usually by lexical possessor. Siloni argues that it is this slot which enables inalienable nouns to form adjectival construct states in Hebrew. As can be seen in (78-a) below, the inalienable noun combines with its possessor, the modified noun *yalda*, to form the construct. In contrast, alienable nouns which do not have an open possessor slot cannot form such constructs (78-b).¹⁴

- (78) a. yalda yefat einayim/se’ar
 girl beautiful eyes/hair
 ‘a girl with beautiful eyes/hair’
 b. *yalda yefat ofana’im/mexonit/bayit
 girl beautiful bicycle/car/house
 ‘a girl with a beautiful bicycle/car/house’
 (Siloni, 2002, ex. (10-a),(10-b))

Furthermore, inalienable nouns with an external possessor (like a PD) exhibit a set of syntactic and semantic properties which are not shared by alienable nouns. These properties were observed by Siloni (2002) for Hebrew and by Boneh and Nash (2010) for French. First, inalienable constructions have a distributive interpretation (the Distributivity Effect, first noted by Vergnaud and Zubizarreta, 1992). In sentences like (79-a), even though the inalienable noun *head* appears in its singular form, speakers interpret it with a plurality of heads, one per patient. Second, it was observed that if the possessed noun is a body part that only appears once in the human body, it cannot be pluralized (Kayne, 1975). This accounts for the ungrammatical status of (79-b) below. In addition, the possessee cannot be freely modified by most adjectives (Kayne, 1975), making (79-c) also ungrammatical.

¹⁴Adjectival constructs are not limited to body parts, and can also consist of objects which are otherwise inherently part of an whole, like in ((i)):

- (i) sira gvohat toren
 boat high mast
 ‘a high-mast boat’
 (Siloni, 2002, ex. (10-d))

Since this type of inalienable relation involves inanimate objects, which do not fall under the Animacy Constraint, one expects to find part-whole VP idioms with fixed possessors. This was not attested in my corpus, assumably due to the rareness of such cases in non-idiomatic contexts.

- (79) a. ha-rofe badak lahem et ha-roš.
 the-doctor examined to+them ACC the-heads
 ‘The doctor examined their heads’
- b. *ha-rofe badak lahem et ha-rašim.
 the-doctor examined to+them ACC the-heads
 ‘The doctor examined their heads’
- c. *ha-rofe badak lo et ha-roš ha-pacu’a.
 the-doctor examined to+him ACC the-head the-wounded
 ‘The doctor examined his wounded head’
- (Siloni, 2002, ex. (23-a),(23-c),(24-a))

These unique properties of inalienable nouns, along with the Hebrew construct facts, seem to imply that the two types of possession relations are syntactically distinct. Given the absence of alienable PDs from Hebrew VP idioms, this distinction appears to be relevant within the idiomatic domain. But what could be the difference between genitive possessors, which freely appear as open slots in VP idioms, and dative possessors, which are limited to inalienable possession?

Note that the properties presented above are specific to the Possessive Dative Construction. Genitives do not exhibit the Distributivity Effect, making (80-a) sound odd. In addition, although the possessed noun *head* appears only once in the human body, it can be freely pluralized when a genitive possessor is present (80-b):

- (80) a. # ha-rofe badak et ha-roš šelahem.
 the-doctor examined ACC the-head of+them
 ‘The doctor examined their head’
- b. ha-rofe badak et ha-rašim šelahem.
 the-doctor examined ACC the-heads of+them
 ‘The doctor examined their heads’

I therefore propose that the distinction between inalienable and alienable nouns has greater effect when it comes to the syntactic status of Possessive Datives. Specifically, while inalienable PDs and genitives of any type are arguments of the noun phrase which they possess, alienable PDs are not.¹⁵ Recall that according to the HAMP Generalization, possessors only appear in VP idioms if they are selected by a licensed nominal head. Assuming that only genitives and inalienable Possessive Datives are selected by such heads, the absence of alienable PDs is immediately accounted for. In the subsequent chapter I provide further support for the split approach to Possessive Datives in Hebrew, and adopt the raising analysis (Landau, 1999) exclusively for inalienable PDs.

¹⁵Thanks to Tal Siloni (p.c.) for pointing out this direction to me.

5. Inalienable Possessive Datives: Arguments of the Possessed Noun

From the data presented in previous chapters, a clear observation arises: While genitive possessors and inalienable Possessive Datives can participate in Hebrew VP idioms, generally as non-idiomatic open slots, alienable PDs cannot. It was established that no general restriction on alienability exists in such idioms, since alienable genitives (as open slots) are attested. Consider the following contrast:

- (81) a. šavar et libo šel X
broke ACC the+heart of X
'disappointed X, caused him sorrow' (usually romantically)
- b. šavar le-X et ha-lev
broke to-X ACC the-heart
'disappointed X, caused him sorrow' (usually romantically)
- (82) a. nixnas la-na'alayim šel X
entered to+the-shoes of X
'replaced X at his job'
- b. # nixnas le-X la-na'alayim
entered to-X to+the-shoes
'entered X's shoes' (no idiomatic meaning)

The examples above demonstrate that while some idiomatic expressions in Hebrew may alternate between dative and genitive possession (81), this cannot occur when alienable possession is involved (82).¹⁶ Once an alienable PD is used, the expression loses its idiomatic reading and one is left with the somewhat odd literal interpretation. There is no logical reason that would make (81-b) any more 'idiomatic' than (82-b). The idiomatic meaning is lost simply because alienable PDs cannot appear in VP idioms, not even as gaps.

¹⁶The corpus of the current study (see Appendices A and B) does not include the different alternations of VP idioms with inalienable possessors, but simply the version of them that appeared in my sources. As noted by Tal Siloni and Julia Horvath (p.c.), the possible and impossible alternations in this respect can lead to further insights regarding idiom storage and formation. This issue remains to be investigated.

It could be suggested that semantic factors distinguish genitive and dative alienable possessors, allowing only the former to appear in idioms. While such possessors largely express similar concepts, namely a possession relation with an object, two semantic differences should be considered. First, it has often been claimed (see Landau, 1999; Pylkkänen, 2008, among others) that when datives are used, an implication arises according to which the possessor is somehow affected by the action; and that this implication does not arise with genitives. However, I do not take this implication to be a ‘core’ meaning of the dative, as it does not arise with all verbs:

- (83) a. Gil histakel le-Rina al ha-kova.
 Gil looked at to-Rina on the-hat
 ‘looked at Rina’s hat’
 b. Gil he’etik le-Rina me-ha-bxina.
 Gil copied to-Rina from-the-exam
 ‘Gil copied from Rina’s exam’
 (Landau, 1999, ex. (54-h),(54-k))

Landau (1999) uses these and other examples to show that the possessed object in PD Constructions is not necessarily affected by the action. In fact, the possessor is unaffected as well: *Rina* may not even be aware that someone is looking at her or copying from her exam. In any case, with the appropriate verb an implication of affectedness may also arise with inalienable PDs, which do appear in VP idioms (84). It is therefore clear that this cannot be the factor differentiating between alienable genitives and datives.

- (84) Dan šavar le-Dana et ha-yad / ha-miškafayim
 Dan broke to-Dana ACC the-arm / the-glasses
 ‘Dan broke Dana’s arm / glasses’

Landau (1999) argues for an additional semantic difference, showing that while a genitive possessor can also be interpreted as the creator or theme of the possessee, for a PD an interpretation as the theme argument is unavailable:

- (85) a. Gil higdil et ha-tmuna šel Rina.
 Gil enlarged ACC the-picture of Rina
 ‘Gil enlarged Rina’s picture’ (Rina = poss/creator/theme)
 b. Gil higdil le-Rina et ha-tmuna.
 Gil enlarged to-Rina ACC the-photo
 ‘Gil enlarged Rina’s picture’ (Rina = poss/creator)
 (Landau, 1999, ex. (5))

I take this difference to be unrelated to the situation in idioms, since in idioms the possessor interpretation is the salient one. Thus I have ruled out logical and semantic factors that may play a role in determining which type of possessors participate in idioms. Moreover, I have already shown that alienable and inalienable nouns, specifically in PDs, do not display a uniform syntactic behavior (see section 4.4). I would therefore like to claim that the most adequate account for my findings is a ‘split’ analysis which syntactically distinguishes between the two dative possession types.

I propose the following distinction: In Hebrew, both genitive possessors and inalienable PDs are arguments of the noun phrase they possess. Alienable PDs, on the other hand, are not.¹⁷ Instead, they can be analyzed as arguments of a specialized functional head, possibly an applicative. Regardless of the specific functional head which introduces them, it is this unique syntactic status which prevents alienable PDs from participating in VP idioms, given the HAMP Generalization. In the next section I review the findings that have led me to suggest that only inalienable PDs are arguments of the noun phrase and provide further evidence for this approach.

5.1 Inalienable PDs are arguments of their possessee

So far, various properties unique to inalienable Possessive Datives were discussed. I argue that they can all be accounted for if these PDs, but not their alienable counterparts, are analyzed as arguments of their possessed noun. First and foremost, in the previous chapter I have shown that only inalienable PDs appear in VP idioms. Recall that according to the HAMP Generalization formulated in chapter 3, nominal heads which are licensed by the main verb in an idiom may select a possessor. Inalienable nouns are indeed selected by the nominal head which they possess, and are therefore attested in idioms (as open slots).

If alienable PDs are also arguments of the noun, one would expect them to appear in VP idioms as well. Since they do not appear, at least in Hebrew, it is plausible to assume that they are arguments of a different, functional head. Like other functional heads, the applicative (suggested by Pytkänen (2008) for such cases) is not licensed by any element within the idiom, and might in fact be considered clausal material. Even if such a functional head could, in theory, appear in phrasal idioms, given HAMP it would be unable to select an argument. The lack of alienable PDs in these idioms immediately follows.

In section (4.4) it was observed that inalienable nouns cannot generally appear without a lexical possessor present. This is evidenced by the oddness of sentences like (76-a), repeated here as (86).

¹⁷This was suggested to me by Tal Siloni, (p.c.).

- (86) # ha-roš nifga.
 the-head was+hurt
 ‘The head was hurt’
 (Siloni, 2002, ex. (16-a))

I follow Siloni (2002) and Vergnaud and Zubizarreta (1992) in assuming that the lexical representation of alienable nouns includes a possessor slot which must be filled by a ‘possessor’ argument of the noun. One such possessive argument is the inalienable Possessive Dative. The strong relation between the elements in inalienable constructions implies that in these cases, the PD is an argument of its possessor. Alienable PDs, which are not arguments of their possessed noun, may be omitted freely (87-b).

- (87) a. ha-miškafayim nišberu li.
 the-glasses were+broken to+me
 ‘my glasses were broken’
 b. ha-mišškafayim nišberu.
 the-glasses were+broken
 ‘The glasses were broken’

Another argument in favor of the split analysis of PDs comes from Boneh and Nash (2010). The authors show that with French datives, inalienable possession constitutes the only case in which a possession is entailed rather than implied:

- (88) a. Jeanne lui a peint les sourcils en orange.
 Jeanne to-him/her painted the eyebrows in orange
 ‘Jeanne painted his / her eyebrows orange’
 b. Jeanne lui a peint son portail en orange.
 Jeanne to-him/her painted his/her gate in orange
 ‘Jeanne painted his / her gate orange’
 (Boneh and Nash, 2010, ex. (38))

While in (88-a) above the dative is necessarily understood as the possessor of the *eyebrows*, in (88-b) the dative can just as well be interpreted as a benefactive or malefactive. This difference in meaning stems from the unique status of inalienable PDs as syntactic ‘possessor’ arguments of the possessee, unlike alienable PDs and other datives.

The phenomena presented in the current section all indicate that inalienable and alienable nouns are syntactically different, as also evidenced by the Hebrew construct facts (Siloni, 2002) and the unique properties of PDs discussed in the previous chapter. Not only are the two possession types different, however. It seems clear that inalienable PDs have a stronger relation with their possessed noun, in terms of both semantics and syntax. I therefore

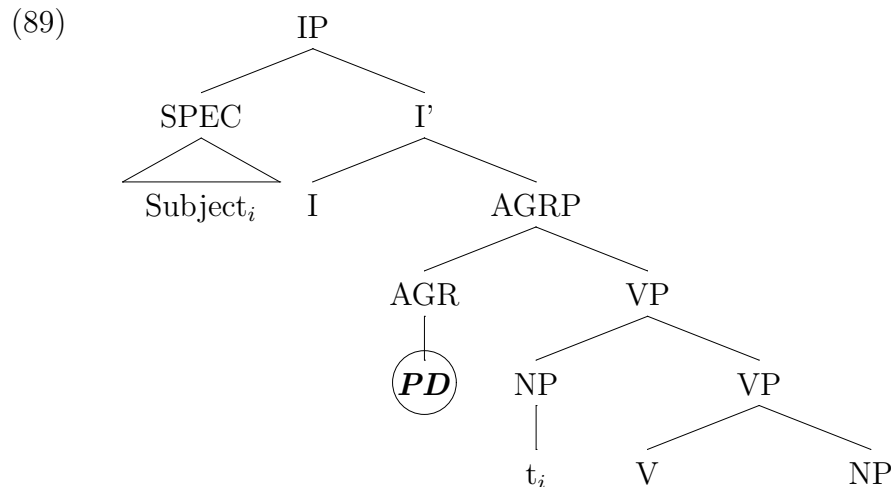
conclude that these PDs, and only them, are syntactic arguments of the possessee.

5.2 Previous approaches to Possessive Datives

Previous studies of the Possessive Dative Construction in various languages (Authier and Reed, 1992; Borer and Grodzinsky, 1986; Kempchinsky, 1992; Landau, 1999, to name a few) have not converged to a single account. Specifically, the grammatical status of the possessor is debated even now, after decades of research. I now wish to discuss some of the different approaches to this issue. By doing so, I hope to provide further support for my account, according to which the possessor is an argument of the possessed noun, but only in cases of inalienable possession relation.

5.2.1 The PD is not argument of the verb or noun

One possible approach to Possessive Datives views them as elements which are not arguments or adjuncts of any lexical head in the clause, like the main verb or the possessed noun. Authier and Reed (1992), for instance, argue that in French, the PD is a nominal clitic which cannot usually appear as a full lexical noun phrase.¹⁸ Syntactically, the PD is therefore analyzed as a thematic affix generated in the head position of AGRP. It attaches to the verb when the latter raises to either T or AGR. The structure is shown in (89):



¹⁸Vergnaud and Zubizarreta (1992) show that in fact, French Possessive Datives do seem to allow a full lexical possessor rather freely when the possession relation is inalienable. For example:

- (i) Le médecin a examiné la gorge aux enfants.
 the doctor examined the throat to+the children
 ‘The doctor examined the children’s throats’

(Vergnaud and Zubizarreta, 1992, ex. (5-b))

As for its thematic status, the authors claim that the affix either introduces its own θ -role or receives one in its base position (AGR) from the highest VP projection. This projection is assumed by Authier and Reed (1992) to consist of the VP and the subject of the clause (in D-Str), which is generated as an adjunct to a lower VP. It is suggested that since the projection is in the complement position of AGR, it may θ -mark the PD. Most importantly, however, the authors argue that while the PD displays dative morphology, it is in fact Caseless. As any nominal element which is not an affix must receive Case, this assumption accounts for the fact that PDs are obligatorily clitics, if this is indeed the case.

Although such an account may be used to explain the French facts, this type of analysis cannot be carried over to Hebrew. As can be seen in the examples below, Hebrew PDs are not necessarily clitics. They can either be full lexical noun phrases (90-a) or pronominal clitics (90-b), regardless of possession type.

- (90) a. Dan šavar le-Dana et ha-yad / ha-miškafayim
 Dan broke to-Dana ACC the-arm / the-glasses
 ‘Dan broke Dana’s arm / glasses’
- b. Dan šavar la et ha-yad / ha-miškafayim
 Dan broke to+her ACC the-arm / the-glasses
 ‘Dan broke her arm / glasses’

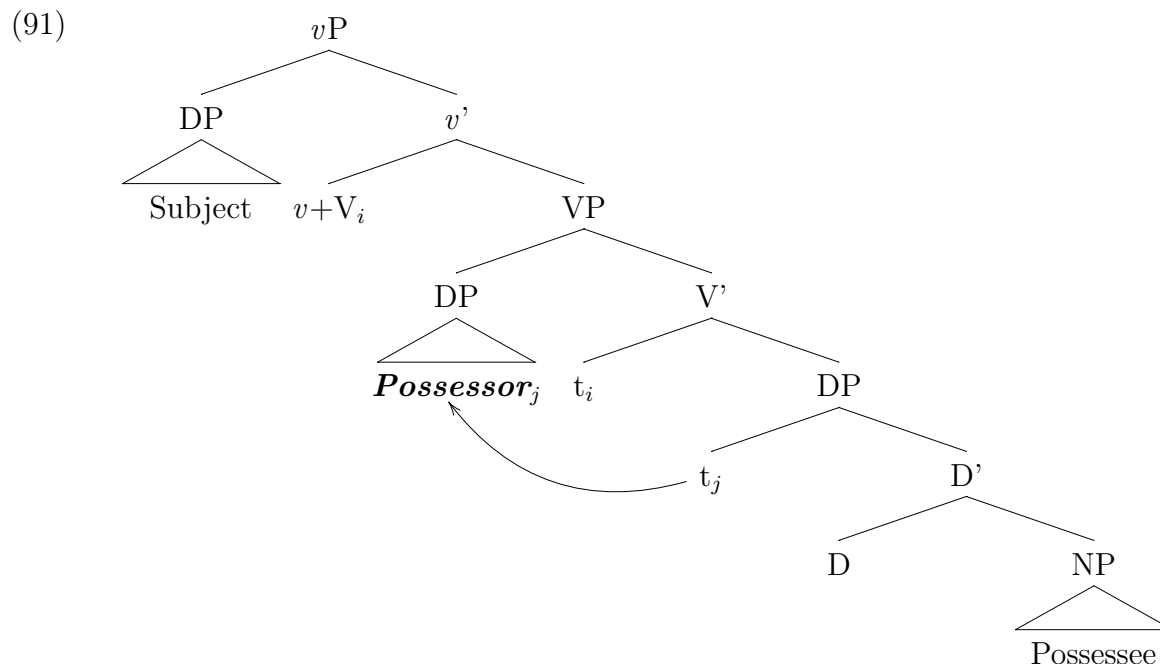
Borer and Grodzinsky (1986) therefore claim that PDs are dative-marked noun phrases that receive a θ -role from the dative Case marker, the *le-* morpheme in Hebrew. Again, this account does not analyze PDs as ‘true’ arguments of either the possessed noun phrase or the lexical verb. Instead, they are elements anaphorically linked to the determiner of the possessed noun, which may either be the direct object of the verb or part of its PP argument. Borer and Grodzinsky also show that PDs must c-command the possessed element (or its trace, if the verb is unaccusative). In their account, this property derives from the anaphoric binding required in order to link the two elements.

As I have already shown, inalienable PDs are common in Hebrew VP idioms, at least as gaps. If these elements are not arguments of the verbal head or of its nominal licensees, how can their appearance be accounted for, given the HAMP Generalization? Recall that according to the generalization, possessors participate in VP idioms by virtue of being selected by a nominal head. However, under the both analyses discussed above, PDs are not ‘possessive arguments’ of the such a head, but of other elements (a verbal projection in the case of Authier and Reed (1992); a Case marker according to Borer and Grodzinsky (1986)). It therefore seems that a different approach to PDs is called for. Such an approach was indeed suggested by Landau (1999).

5.2.2 The raising analysis

In his account of Hebrew Possessive Datives, Landau (1999) does not distinguish between inalienable and alienable possession. Instead, the author maintains that both types of PDs in the language are arguments of the noun phrase which they possess. They are introduced into the structure via a specialized movement configuration. Specifically, Landau suggests that these possessors are generated with dative Case features in Spec position of the possessed DP, where they are thematically marked as ‘possessor’ arguments of the nominal head. The PDs then raise to Spec-VP in order to check Case.

In this approach, the link between the possessor and the possessee is not thematic or anaphoric in nature, but is the result of an actual movement chain. The PD raises from within the possessed DP, leaving behind a trace which it must then c-command from its new position. The fact that PDs appear with dative Case is therefore not because they are arguments of the verb, but due to their landing site, which is ordinarily occupied by verbal arguments. The following structure is proposed:



As opposed to some alternative views of Possessive Datives, like those mentioned in the previous subsection (Authier and Reed, 1992; Borer and Grodzinsky, 1986), Landau claims that the PD is a full argument of its possessed element. This is indeed what I propose, with one crucial difference: Given the idiom data and the arguments presented in section 5.1, I believe such an analysis is only applicable in the case of inalienable PDs.

Landau (1999) provides support for the raising analysis by examining various syntactic

phenomena such as island effects, control patterns, quantifier binding and c-command effects. I will not elaborate on all of these here, but I do wish to focus on the first phenomenon. I argue that while this and other phenomena can indeed support the raising analysis of inalienable Possessive Datives, they do not constitute sufficient evidence for a uniform analysis of all PDs. Landau shows that both types of PDs are sensitive to island effects, or in other words, display extraction asymmetries. While this possession relation is possible when the possessed element is embedded in argumental phrases, such as locative (92-a)-(92-b), source (92-c) or instrumental PPs (92-d),¹⁹ the relation fails if the possessee is embedded within adjunct PPs (e.g. cause or purpose phrases, like in ((93) below).

- (92) a. Gil yašav le-Rina ba-mitbax.
 Gil sat to-Rina in-the-kitchen
 ‘Gil sat in Rina’s kitchen’
- b. Gil hitpašet le-Rina mul ha-eynayim.
 Gil undressed to-Rina in+front+of the-eyes
 ‘Gil undressed in front of Rina’s eyes’
- c. Gil ganav le-Rina me-ha-tik.
 Gil stole to-Rina from-the-bag
 ‘Gil stole (something) from Rina’s bag’
- d. Gil hitkaleax le-Rina im ha-sabon.
 Gil bathed to-Rina with the-soap
 ‘Gil took a shower with Rina’s soap’
 (Landau, 1999, ex. (33-a,d),(34-a),(35-a))
- (93) *Gil pitpet le-Rina biglal / lema’an ha-hofa’a.
 Gil chatted to-Rina because / for the-performance
 ‘Gil chatted because of / for the benefit of Rina’s performance’
 (Landau, 1999, ex. (36-a))

According to Landau (1999), these kind of extraction asymmetries indicate that the possessor is generated within the possessed element and has to move out of it. If there was just an anaphoric element bound within the possessee, as was suggested in other approaches for PDs (e.g. Kempchinsky, 1992), such a contrast would be unexpected and unaccounted for.

Note that in most of the above examples, and all of the ungrammatical examples given by Landau (1999), the possession is alienable. While the author does not distinguish between the two possession types, I claim that alienable PDs are not arguments of their possessed noun and do not raise from it. Therefore, it is not the extraction which renders sentences

¹⁹Landau (1999) assumes locative phrases are argumental, contrary to what was proposed by Rákosi (2006) or Marelj (2004). I adopted their approach, seeing such elements as ‘true’ adjuncts (see section 3.2). For the purposes of the current discussion, however, I remain agnostic to this issue.

like (93) ungrammatical, but the fact that the functional head which introduces them must combine with an argument in order to create the desired link between possessor and possessee (as suggested by Pylkkänen (2008)). If this head has no object to combine with, the whole construction cannot be well-formed. Hence I take island effects to be evidence for raising in the case of inalienable PDs, but not in the case of alienable ones.

I believe an additional argument in support of the raising analysis in fact points in a similar direction. Landau (1999) claims that the raising analysis naturally accounts for the fact that PDs may only occur if a possessee is present. In other words, with a verb that does not select a dative argument, datives cannot appear by themselves:

- (94) Dan šavar le-Dana *(et ha-yad / ha-miškafayim)
 Dan broke to-Dana *(ACC the-arm / the-glasses)
 ‘Dan broke Dana’s arm / glasses’

The distinction between inalienable and alienable PDs in such cases is somewhat fuzzy, since when PD appears without a possessor (106), there is no way to determine whether the intended relation is the former or the latter. Under my approach, this phenomenon can be accounted for either way. If the inalienable PD is an argument of its possessed noun phrase, generated in a position internal to it, it cannot be generated independently. This does not mean that alienable PDs must be given a similar treatment, however. If these PDs are arguments of a functional head which only appears in the when it can combine with an object, it is clear that when such an argument is not present, the PDs cannot be introduced either. So while the obligatory status of a possessee in such cases can be difficult to explain in approaches which analyze the PD as a clitic, or an argument of the dative Case-marker (Authier and Reed, 1992; Borer and Grodzinsky, 1986, respectively), under the split view of PDs this phenomenon is accounted for. Raising does not have to be assumed for all PDs.

5.3 Inalienable PDs: A raising analysis

In the last section I argued that previous approaches to PDs cannot accurately account for the idiom data revealed in my corpus study. The HAMP Generalization states that possessors appear in phrasal idioms only if they are selected by a nominal head. If PDs are not arguments of the lexical verb or the nominal head (Authier and Reed, 1992; Borer and Grodzinsky, 1986), they should therefore not appear in VP idioms at all. This is clearly not the case. Under a view which analyzes all PDs as arguments of the possessed noun (e.g. the raising analysis suggested by Landau, 1999), the contrast found between the frequent appearance of inalienable PDs in VP idioms (as open slots) and the absence of alienable PDs is unexpected.

I therefore believe that a split analysis of Hebrew PDs is called for, and adopt the raising analysis exclusively for inalienable PDs. In the current section I provide direct evidence in favor of the raising analysis strictly for these PDs. I then discuss an additional issue in which my view of PDs departs from that of Landau: His claim that PDs are generated in Spec-DP, and not Spec-NP, of the possessee.

5.3.1 Evidence for raising

As was claimed in the previous section, some syntactic phenomena that have been suggested as support for the raising analysis of PDs (Landau, 1999) can also be consistent with other views, and specifically, with an approach which sees alienable PDs as arguments of a functional head. There are, however, two pieces of evidence which indicate that inalienable PDs are indeed arguments of their possessee, generated in its Spec position.

First, it has been observed (Tal Siloni, p.c.) that at least in Hebrew, the possessed element in inalienable PD constructions cannot generally be a pronoun. Pronouns replace an entire noun phrase, including the Spec position, so assuming this is where the PD is generated, it would have nowhere to raise from. In contrast, it seems that pronouns are compatible with alienable PDs, as the latter are introduced by a different head and do not raise from within the possessee.

This observation was confirmed by a survey of 45 native speakers of Hebrew (aged 22-56), most of them linguistics students at Tel Aviv University and all with an education of 12 years or more. Speakers were presented with the following dialogues, in random order:

- (95) A: šamati še-Dan šavar le-exad ha-talimidim et ha-šimša
 I+heard that-Dan broke to-one the-students ACC the-windowpane
 ha-kidmit šel ha-oto etmol.
 the-front of the-car yesterday
 ‘I heard Dan broke the windowpane of one of the students’ car yesterday.’
 B: be’emet? Lo ye’amen. ata yode’a le-mi hu šavar **ota**?
 really? not believable. you know to-who he broke it?
 ‘Really? Unbelievable. Do you know who he broke it to?’
- (96) A: šamati še-Dan šavar le-exad ha-saxkanim et ha-yad be-mahalax
 I+heard that-Dan broke to-one the-players ACC the-arm during
 mixsak ha-kadursal.
 match the-basketball
 ‘I heard Dan broke the arm of one of the players during the basketball match.’
 B: be’emet? Lo ye’amen. ata yode’a le-mi hu šavar **ota**?
 really? not believable. you know to-who he broke it?
 ‘Really? Unbelievable. Do you know who he broke it to?’

In the first dialogue, speaker B uses the pronoun *ota* to denote the the *windowpane*, thus replacing a possessed noun in an alienable possession relation. In the second dialogue, *ota* replaces the inalienable *arm*. Speakers were asked to rate how natural B’s utterance sounds, in a scale of 1 to 5 (1 being ‘*bad*’ and 5 ‘*completely natural*’). The results show that while speakers can understand the pronoun as relating to an inalienable possessee, if asked to do so, the utterance indeed sounds more natural with alienable possession involved. A Wilcoxon signed-ranks test shows that the difference between the alienable setting (mean score = 3.98) and the inalienable setting (mean score = 3.24) is statistically significant (one-tailed: $z = 2.53$, $p = 0.0057$).²⁰

The fact that B’s utterance received significantly lower scores from the speakers when inalienable possession was present indicates that pronouns are incompatible with such PDs, as expected if they are arguments which raise from the Spec position of the possessed noun. I suspect that the utterance is nonetheless grammatical and understandable since when speakers already know what constituent the pronoun replaces, they are able to accommodate their interpretation process. Yet even with such accommodation, the use of a pronoun is more natural with alienable PDs, seeing as no raising is involved.

An additional argument in support of the raising analysis for inalienable PDs comes from their unique inability to co-occur with a genitive possessor.²¹ Since inalienable PDs raise from within their possessee, the addition of another (genitive) possessor is impossible. It seems that a single noun phrase is limited in its capacity, not allowing more than one internal possessor. Logically, it is clear that two entities cannot be possessors of a single body part. As can be expected given the proposed split analysis of Hebrew PDs, such a conflict does not arise in the case of alienable PDs (97), which are generated in a position external to the noun phrase.

- (97) Dan šavar le-Dana et ha-ša’on šel savta šela.
 Dan broke to-Dana ACC the-watch of grandmother of+her
 ‘Dan broke Dana’s grandmother’s watch (currently owned by Dana)’
 (Yael Mishani, p.c.)

Note that when only genitives are used and there is a single internal possessor for each possessed noun, the sentence is perfectly grammatical even with body parts, i.e. inalienable possessors:

²⁰The ordinal scale used in the survey is not fully compatible with the t-test for correlated samples. A one-tailed Wilcoxon signed-ranks test was performed since the prediction was directional: A higher score was expected in the alienable setting.

²¹Thanks to Tal Siloni (p.c.) for pointing this out to me.

- (98) Dan šavar et ha-regel šel savta šel Dana.
 Dan broke ACC the-leg of grandmother of Dana
 ‘Dan broke Dana’s grandmother’s leg’

This subsection shows that inalienable PDs cannot appear with pronouns and that they cannot co-occur with another internal possessor in the same noun phrase. Both phenomena are immediately accounted for if such PDs are analyzed as arguments of their possessed noun, generated in its Spec position. Since these phenomena are not attested by alienable PDs, it is plausible to assume that this type of analysis does not apply to them. The fact that inalienable PDs and genitives cannot co-occur also implies that these PDs are generated in Spec-NP, not Spec-DP (contrary to the Landau’s (1999) account). If inalienable PDs were generated in a Spec position external to the possessor, the contrast discussed above (??) would not be expected. In the following subsection this claim regarding the base position of inalienable PDs is reinforced.

5.3.2 Inalienable PDs raise from Spec-NP

While I adopt the raising analysis by Landau (1999) for inalienable PDs, I diverge from it in a specific point, namely the base position of such PDs. Contrary to Landau’s claim that PDs are generated in Spec-DP, I contend that inalienable PDs are generated in Spec-NP. Given the HAMP Generalization, if these PDs were arguments of D and not of the nominal head, their appearance in VP idioms would be unexpected, as no permitted element (the verb or its nominal licensee) selects them. Independent evidence also points in the same direction.

In the previous subsection I discussed the inability of inalienable PDs to co-occur with a genitive possessor, which implies that both are generated within the same noun phrase (unlike alienable PDs and genitives). I have also shown that only alienable PDs are truly compatible with pronouns. Landau (1999) takes a different approach, claiming that all PDs are compatible with pronominal objects, like in (99) below. Assuming that pronouns are generated above the NP projection (as suggested Abney, 1987, among others), the author argues that the appearance of PDs in their Spec position counters my claim that they are generated in Spec-NP. However, considering the results of the survey discussed earlier, I believe that the pronoun *oto* below cannot be naturally interpreted as denoting a body part or an element otherwise intrinsically related to the possessor. Therefore, the relation exhibited in (99) is in fact alienable. Since I take such a possession relation to involve a different construction altogether, in which no raising from within the possessee occurs, this argument against the generation of inalienable PDs in Spec-NP becomes invalid.

- (99) Rina šavra li oto.
 Rina broke to+me it
 ‘Rina broke my “it”’
 (Landau, 1999, ex. (25-a))

Another argument presented by Landau (1999) against the generation of PDs in Spec-NP comes from kinship nouns. Possessive Datives are incompatible with such nouns, as opposed to genitive possessors:

- (100) a. *Dan nišek le-Dana et ha-axot / ima.
 Dan kissed to-Dana ACC the-sister / mother
 ‘Dan kissed Dana’s sister / mother’
 b. Dan nišek et axota / ima šel Dana.
 Dan kissed ACC the+mother / mother of Dana
 ‘Dan kissed Dana’s sister / mother’

Kinship nouns require a possessor, much like inalienable nouns. The fact these nouns cannot be saturated by PDs, demonstrated in (100-a), is taken by Landau to mean that the latter are not generated within the NP, but are really arguments of D. Siloni (2002) agrees that kinship nouns require a genitive possessor, but shows that their syntactic behavior is distinct from that of ‘core’ inalienable nouns. For instance, they cannot participate in adjectival constructs (101-a) or appear in generic contexts with no possessor (101-b).²²

- (101) a. *yalda yefat axot/em/savta
 girl beautiful sister/mother/grandmother
 ‘a girl with a beautiful sister/mother/grandmother’
 b. *ba-kibuc ha-axot tamid mefuneket.
 in+the-kibbutz the-sister always spoiled
 ‘In the kibbutz the sister is always spoiled’
 (Siloni, 2002, ex. (11),(21))

Given these findings, it is unclear whether Hebrew kinship nouns can actually be analyzed as inalienable elements. If they are not, the raising analysis may not apply to them.²³ The ungrammatical status of (100-a) above is therefore not due to the base position of the PD, but because kinship nouns require a genitive, rather than a dative possessor.

Finally, control patterns should be considered. A common assumption in the literature (see Landau, 1999, and references therein) is that the controller in obligatory control configu-

²²Siloni (2002) observes that that plural kinship nouns can indeed appear in generic contexts. Nonetheless, this pattern is still different than that displayed by body parts, for example.

²³Kinship nouns, unlike body parts, do not appear as possessed elements in VP idioms. While this behavior is also different from that of typical inalienable nouns, it is expected given the Animacy Constraint.

rations must be a co-argument of the infinitive containing the controlled PRO. If inalienable PDs (and in fact, any PDs) are not arguments of the verb in a given clause, they should be unable to control into an infinitive which is. This prediction is borne out:

- (102) a. Gil_j natan le-Rina_i [ciyur [PRO_i litlot ba-salon]].
 Gil gave to-Rina painting PRO to hang in+the-living room
 ‘Gil gave Rina a painting to hang in her livingroom’
- b. *Gil lixlex le-Rina_i [et ha-šatix [PRO_i lenakot]].
 Gil dirtied to-Rina ACC the-carpet PRO to clean
 ‘Gil dirtied Rina’s carpet to clean’
 (Landau, 1999, ex. (45))

Although in principle Hebrew datives can control into infinitives, like in (102-a), when the dative is not a selected argument of the verb such control is impossible (102-b). In examples such as (103) below, the inalienable PD *Rina* can control into an infinitive complement of its possessed noun because they are both arguments of the latter. Recall that according to Landau (1999), however, the dative is actually an argument of D, not of N. Landau notes that the distinction between these two heads seems to be neutralized when it comes to control. I see no reason to assume this. The straightforward solution to this apparent problem is that the inalienable PD and the infinitive are indeed co-arguments of a single head, namely the nominal head *yexolet*. They are both generated within the NP, and specifically, the PD is base generated in its Spec-NP.

- (103) ha-te’una pag’a le-Rina_i [ba-yexolet [PRO_i lehitrakez be-acma]].
 the-accident damaged to-Rina in+the-ability PRO to concentrate in-herself
 ‘The accident damaged Rina’s ability to concentrate on herself’
 (Landau, 1999, ex. (48-b))

In conclusion, I have shown that inalienable PDs are best analyzed as arguments of their possessed noun phrase. They are generated in Spec-NP and raise from this position due to Case considerations. Various syntactic effects support this analysis and indicate that it does not apply to alienable PDs. Most importantly, this split approach directly accounts for the participation of inalienable PDs in Hebrew VP idioms and the absence of alienable PDs. As the former, but not the latter, are selected by the nominal head, only they can appear in idioms according to the HAMP Generalization. The next chapter focuses on alienable PDs, which are analyzed as arguments of a specialized functional head.

6. Alienable Possessive Datives: Arguments of a Functional Head

Alienable PDs are not attested in Hebrew VP idioms. I would like to claim that the reason for this is that such PDs are not arguments of the lexical verb or of the noun phrase which they possess. They are non-core participants in a given event, introduced into the structure by a functional head. According to the HAMP Generalization, the only heads which license elements in VP idioms are the main verb or nominal heads licensed by it. While the former licenses various dependents, the latter select their ‘possessor’ arguments. If PDs are not arguments of either head, their absence from VP idioms is to be expected.

The assumption that alienable PDs are arguments of a functional head raises an obvious question: What head could it be? While this is an important question in the research of Possessive Datives, it is not crucial for the current study, which focuses on the internal formation of VP idioms. If alienable PDs are arguments of a functional head rather than of their possessee, then given HAMP they should not appear in VP idioms, regardless of the specific head which introduces them. Nevertheless, I wish to consider an approach that was suggested in the linguistic literature for all PDs, namely the low applicative analysis (Cuervo, 2003; Pylkkänen, 2008). In this analysis, PDs are generated in the Spec position of an applicative head which takes the possessed element as its complement, thus creating a semantic relation between the two elements. In the following sections I present the analysis and examine its appropriateness for alienable PDs.

6.1 The applicative analysis

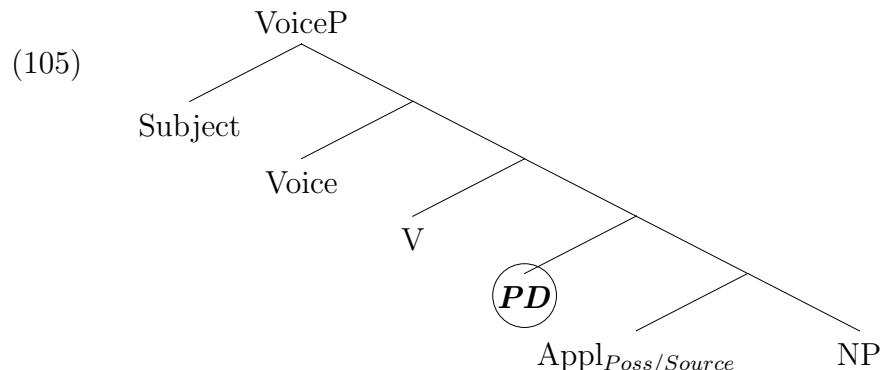
The term ‘Applicative’ was first suggested in the context of Bantu languages, where the possibilities of adding non-core arguments into the structure are extensive. These ‘extra’ arguments often take the form of dative indirect objects, but are not true arguments of the verb. Pylkkänen (2008) proposes that various applicatives exist in different languages, and

uses them to analyze many cases of non-core argument additions.²⁴ Two types of applicative heads are suggested: High and low applicatives. A high Appl attaches above VP, taking a predicate as its argument and denoting a relation between this predicate and an individual thematically related to it. A low Appl, which attaches below VP, creates a semantic link between two individuals which are its arguments. In the case of PDs, this link applies to the possessor (in Spec position) and the possessee (in complement position).

Pylkkänen (2008) analyzes all Hebrew PDs as arguments of a particular subtype of low Appl, namely a *low source applicative*. This head denotes a literal or metaphorical transfer of possession, in which the direct object is interpreted as coming *from* the possession of the dative, its *source*. Such transfer relations are displayed by (104-a) below. Another subtype of low applicative, low recipient Appl, denotes the opposite transfer of possession, from the direct object to the dative. This type of possession is demonstrated by (104-b), which is given strictly for comparison. As already mentioned, I do not believe this type of dative to be an argument of Appl, since it is clearly syntactically and semantically related to the verb (see Horvath and Siloni, 2010, for arguments in favor of successive V-merger in such cases).

- (104) a. Dan ganav le-Dana et ha-maxšev.
 Dan stole to-Dana ACC the-computer
 ‘Dan stole Dana’s computer’
 b. Dan hiš’il le-Dana et ha-maxšev.
 Dan lent to-Dana ACC the-computer
 ‘Dan lent Dana his computer’

Building on the ideas of Pylkkänen (first suggested by the author in her PhD thesis, 2002) Cuervo (2003) argues that PDs are arguments of either one of two distinct low Appl heads: *source Appl* or *possessor Appl*. The choice of head is not directly related to the PD or its possessee, but depends on the verb under which the construction is embedded. The proposed structure is illustrated below:



²⁴Pylkkänen (2008) analyzes goals, recipients and the Double Object construction in English as involving an applicative head. As discussed in chapter 3, I take all these to be ordinary arguments of the lexical verb.

Relying on data from Spanish, Cuervo (2003) observes that both stative verbs (like *know*, *envy* or *admire*) and non-directional activity verbs (such as *hold*, *wash* or *kiss*) do not express a physical or metaphorical transfer relation as suggested by Pylkkänen (2008). PDs which appear with such verbs are thus simply possessors, who do not lose anything. It is therefore proposed that with these verbs, a low possessor Appl head may occur, creating the usual link between a dative possessor and the possessed element. Note that in Hebrew, PDs are generally incompatible with stative verbs, so possessor Appl only occurs with the second group of verbs suggested by Cuervo.

With other verbs, a relation of transfer or loss may indeed be involved. These combine with a low source applicative, as was originally suggested by Pylkkänen (2008). Dynamic verbs like *steal* or *lose*, all embed a source Appl. When a PD is used with them, the implication is that the possessor has lost the possessed element, which was either taken from him or otherwise destroyed. Again, the loss or destruction are not necessarily concrete. This is why I believe verbs like *break* or *burn* also belong in this group. Cuervo (2003) considers these to be causative verbs and claims that they involve a unique construction. As I do not take such verbs to be causative, at least in Hebrew, I will not go into this distinction. Instead, I now turn to evidence in favor of this specific low Appl analysis.

6.2 Alienable PDs: An applicative analysis

The current section provides support for the Possessor/Source low applicative analysis of alienable PDs, following Cuervo (2003). I examine various syntactic phenomena which are consistent with such an approach, first discussing the low applicative analysis in general and then focusing on this particular analysis. Recall that the idiom data revealed by my corpus study does not require me to commit to a specific analysis, however, but only to the fact that alienable PDs are arguments of a functional head and not of the nominal possessee. This is why, given the HAMP Hypothesis, they are not present in VP idioms.

6.2.1 A low applicative analysis

As discussed in subsection 5.2.2, both types of PDs can only appear when a possessee is present. For inalienable PDs this property was claimed to be the consequence of the fact that they are generated as part of the possessed noun. Since alienable PDs are not analyzed this way, this phenomenon may appear to be unaccounted for. However, a low applicative head only enters the structure when it can combine with an object. Seeing as alienable PDs are introduced by this head, filling its Spec position, they are not more likely to appear without

a possessee than their inalienable counterparts. As can be expected, this phenomenon is attested both with a possessor Appl (106-a) and with a source Appl head (106-b).²⁵

- (106) a. Dan hexzik le-Dana *(et ha-sefer).
 Dan held to-Dana *(ACC the-book)
 ‘Dan held Dana’s book’
 b. Dan ibed le-Dana *(et ha-sefer).
 Dan lost to-Dana *(ACC the-book)
 ‘Dan lost Dana’s book’

The low source applicative approach (Cuervo, 2003; Pytkänen, 2008) can also account for the control effects that were discussed in subsection 5.3.2 as evidence for raising of inalienable PDs from Spec-NP. Landau (1999) shows that control is possible even in cases of alienable possession, like (107) below:

- (107) Gil haras le-Rina_i et [ha-sikuy [PRO_i lizkot be-acma ba-taxarut]].
 Gil ruined to-Rina ACC the-chance PRO to win in-herself in+the-contest
 ‘Gil ruined Rina’s chances to win the contest by herself’
 (Landau, 1999, ex. (48-a))

In my account, since the Possessive Dative, the possessed noun and its infinitive complement clause are all co-arguments of low Appl (in this specific case, low source Appl), the dative can control PRO within the clause. However, Landau (1999) also provides what at first glance may seem to be counter-examples for this claim. Consider the following example, presented in the previous chapter (102-b) and repeated here as (108):

- (108) *Gil lixlex le-Rina_i [et ha-šatix [PRO_i lenakot]].
 Gil dirtied to-Rina ACC the-carpet PRO to clean
 ‘Gil dirtied Rina’s carpet to clean’
 (Landau, 1999, ex. (45))

The inability of the PD to control into the infinitive in such cases is taken by Landau as evidence that the PD is not an argument of the verb, while the possessed noun is. But if both are arguments of Appl, why should such a problem arise? Pytkänen (2008) suggests a

²⁵When the subject of a given clause is actually an internal argument, it is predicted that PDs will be able to be generated with it as their possessee, and therefore appear alone with it. This prediction is borne out:

- (i) ha-sefer ne’ebad le-Dana
 the-book lost.UNACC to-Dana
 ‘Dana’s book got lost’

Borer and Grodzinsky (1986) even rely on this property when proposing that PDs can detect the argument structure of intransitive verbs in Hebrew: If an intransitive verb selects an internal argument, like the unaccusative above, the addition of a PD should be licit. Otherwise, such an addition should fail.

semantic solution to this problem, according to which sources cannot be controllers crosslinguistically, regardless of their status as arguments. Recipients, on the other hand, can. In her approach, this accounts for the contrast in (109):

- (109) a. Gil handed a carpet to Rina_i [PRO_i to clean].
 b. *Gil dirtied a carpet from Rina_i [PRO_i to clean].
 (Pylkkänen, 2008, ex. (111))

While it may be true that the semantics of the constructions above are responsible for the contrast between them, I do not believe this can be used to explain the PD data. In all the examples designed to show that recipients can function as controllers, I do not consider an Appl head to be involved. In (109-a), *handed* is a ditransitive verb. As already mentioned, I take such cases to be examples of successive V-merger, in which both the dative and the direct object are arguments of the verb. The ungrammatical (108) above does involve an alienable PD and the Appl head which introduces it, but this head is not a source applicative, but a possessor applicative (Cuervo, 2003). If so, Pylkkänen’s solution does not apply here. Instead, I wish to suggest that sentences like (108) are ungrammatical because PDs cannot control into purpose clauses. As opposed to the infinitive clause in (107), purpose clauses are not complements of the possessed element, and therefore not co-arguments of the PD. Since this is a necessary (though not sufficient) condition for control, the possibility of control is ruled out. The same effect is displayed in (110):

- (110) Gil_j he’etik le-Rina_i [ciyur [PRO_{j/*i} litlot ba-salon]].
 Gil copied to-Rina painting PRO to hang in+the-living room
 ‘Gil copied Rinas painting to hang in the livingroom’
 (Landau, 1999, ex. (47-b))

If the dative *Rina* is understood here as a possessor (an irrelevant reading also exists, in which *Rina* is a benefactive argument), it cannot control into the purpose clause. The only possible reading of the sentence is therefore one in which *Gil* intends to hang the painting in his own living room.

Finally, the observation that Possessive Datives cannot appear with adjunct PPs, which was claimed to be a manifestation of island sensitivity by inalienable PDs, can be accounted for in the case of alienable PDs as well. The following contrast was noted by Landau (1999):

- (111) a. Gil hitkaleax le-Rina im ha-sabon.
 Gil showered to-Rina with the-soap
 ‘Gil took a shower with Rina’s soap’

- b. *Gil hitkaleax le-Rina bli ha-sabon.
 Gil showered to-Rina without the-soap
 ‘Gil took a shower without Rina’s soap’
 (Landau, 1999, ex. (35-a),(36-d))

In (111-a), the possessed element is embedded within an argumental PP, namely an instrument phrase. In (111-b), the PP is considered an adjunct. However, the reason why the latter is ungrammatical is not related to raising. It is straightforward consequence of the fact that Appl cannot combine with non-argumental material in order to create the desired link between possessor and possessee. According to Pylkkänen (2008), applicatives generally combine with direct objects. It seems that Hebrew does not distinguish between direct objects and oblique arguments in this respect: As long as an argument is present, alienable PDs may be added into the structure. If only an adjunct is present and the head which introduces the PD has no object to combine with, the whole construction cannot be well-formed.²⁶

The last argument could, in principle, be used to explain the incompatibility with adjuncts for both types of PDs, if one wishes to analyze them all as arguments of Appl. Such a claim neutralizes extraction as evidence for raising in the case of inalienable PDs. But taking a unified approach to PDs would leave the idiom data unaccounted for, along with other differences between the two possessors discussed in section 4.4. While most syntactic phenomena presented so far are consistent with both the raising analysis of inalienable PDs and any low Appl analysis of alienable PDs, combining these observations with the lack of alienable PDs in VP idioms highlights the need for a split approach to Hebrew PDs. Raising was indeed adopted for inalienable PDs. The next subsection provides arguments in favor of a specific low Appl approach for alienable PDs: The Possessor/Source low Appl analysis.

6.2.2 Advantages of the Possessor/Source low Appl analysis

As already mentioned, the Possessor/Source low applicative analysis (Cuervo, 2003) makes a distinction between stative and activity verbs (like *know* or *wash*) and dynamic verbs (*steal* or *break*, for example). While the former combine with a low possessor Appl, since they do

²⁶Locative phrases seem to allow Appl to combine with them, and therefore also permit the addition of an alienable PD:

- (i) ha-kelev šaxav le-Dina al ha-šatiax.
 the-dog lay down to-Dina on the-carpet
 ‘The dog lay down on Dina’s carpet’
 (Tal Siloni, p.c.)

This may mean that at least in Hebrew, these phrases have argumental status as suggested by Landau (1999). Again, this point is not crucial for the current analysis.

not denote transfer of possession, the latter combine with a low source Appl. With these verbs, an implication arises that the possessor has lost the possessed element, in a concrete or abstract manner. The distinction enables this specific low Appl analysis to account for several syntactic phenomena exhibited by alienable Possessive Datives.

First, recall that the use of PDs (as opposed to genitives) generally creates an implication that the possessor is affected by the action (Landau, 1999; Pylkkänen, 2008). Pylkkänen elaborates on this idea, suggesting that the PD must always *lose* something. This is argued to be part of the core meaning of a low source Appl head. The examples in (112), discussed by both Pylkkänen and Landau, illustrate why this assumption is problematic.

- (112) a. Gil ra'a le-Rina et ha-pupik.
 Gil saw to-Rina ACC the-belly button
 'Gil saw Rina's belly button'
 b. *Gil ra'a le-Rina et ha-bayit.
 Gil saw to-Rina ACC the-house
 'Gil saw Rina's house'
 c. Gil histakel le-Rina al ha-bayit.
 Gil looked at to-Rina on the-house
 'Gil looked at Rina's house'
- (Landau, 1999, (footnote 14(i), ex. (49-a),(49-b))

Pylkkänen (2008) argues that in (112-a), the possessed element is somewhat private. Since the PD's privacy is lost, the sentence is grammatical. This contrasts with the ungrammatical (112-b), in which the possessed element is already public, so no loss is involved. However, such an approach offers no account for the grammaticality of (112-c). Neither the possessor nor the possessee are in any way affected by the action, and thus no loss is implied.²⁷

Cuervo (2003) maintains that the 'affected' interpretation of PDs is not a core meaning of the construction, but rather an implication which arises only with verbs that involve a low source applicative, when the event denoted by the verb somehow affects the possessed noun. If the latter is affected, then indirectly the dative must also be affected. This can be seen in (104-a), repeated here as (113):

- (113) Dan ganav le-Dana et ha-maxšev.
 Dan stole to-Dana ACC the-computer
 'Dan stole Dana's computer'

²⁷Landau (1999) proposes that all instances of PDs with perception verbs like *saw* should be ungrammatical, since the landing site of the PD (Spec-VP) is occupied by the subject - an internal argument. Examples like (112-a) are taken to be quasi-idiomatic, involving more than just perception. Although this approach can indeed explain the ungrammatical status of (112-a), it is irrelevant for alienable PDs in my account, since they do not involve raising. If so, the explanation cannot account for the contrast above.

Moreover, it is well-known that the ability to express possession using PD constructions can be restricted in various ways crosslinguistically. Some languages (like English) do not allow this construction at all, while others limit its use to clauses with inalienable possessors, animate possessors or dynamic and activity verbs. This brings about an interesting contrast between Spanish and Hebrew. While Spanish uses PDs with stative verbs, in Hebrew these are generally incompatible with alienable PDs, i.e. arguments of a low possessor Appl head:

- (114) a. Pablo le admira la ropa a Valeria.
 Pablo DAT admires the clothes to Valeria
 ‘Pablo admires Valeria’s clothes’
 (Cuervo, 2003, ex. (100-a))
- b. *Dan ma’aric le-Dana et ha-bgadim.
 Dan admires to-Dana ACC the-clothes
 ‘Dan admires Dana’s clothes’

The three-way contrast in (112) above is thus immediately accounted for. The sentence in (112-a) is grammatical because it involves an inalienable PD. As this PD is an argument of the possessed noun, the distinction between stative and other verbs is irrelevant for it. Example (112-c) is also grammatical because it involves an activity verb, in which *Gil* performs a clear action. Since Hebrew does not allow the occurrence of stative verbs with low applicatives, (112-b) is ruled out.

An additional restriction on alienable PD constructions reinforces the need for a split approach to Hebrew PDs, though not pointing directly to the Possessor/Source low applicative analysis. Cuervo (2003) shows that in Spanish, PDs can either be animate, like in most of the examples discussed so far, or inanimate. If a PD is inanimate, the possessed element must be a part of it, however. This occurs in Hebrew too, as can be seen below:

- (115) a. Dan šavar la-maxšev et ha-masax.
 Dan broke to+the-computer ACC the-screen
 ‘Dan broke the computer’s screen’
- b. *Dan šavar la-maxšev et ha-šulxan.
 Dan broke to+the-computer ACC the-table
 ‘Dan broke the computer’s table’

While in (115-a) the broken element is an integral part of the PD, this is not so when it comes to *the table*. Since the possessee and the PD do not exhibit a part-whole relation, (115-b) is ungrammatical. Notice that no semantic factor rules out (115-b). A corresponding sentence with a genitive is perfectly grammatical:

- (116) Dan šavar et ha-šulxan šel ha-maxšev.
 Dan broke ACC the-table of the-computer
 ‘Dan broke the computer’s table’

The possession relation in (115-a) above is actually inalienable. Such a relation occurs when the possessee is an intrinsic part of the possessor, regardless of their animacy status. I therefore maintain that the contrast exhibited by (115) reflects the fact that an applicative head may only take an animate PD as its argument. This means that alienable PDs in Hebrew must be animates.²⁸ There is clearly no such restriction on inalienable PDs. The possessed noun of which inalienable PDs are arguments of can occur with either type of possessor. It is only necessary for the PD to denote a whole of which the noun is a part.²⁹ In an approach which analyzes both PD types similarly, the fact that inanimate possessors are barred solely from alienable constructions requires a special explanation.

Finally, the Possessor/Source low applicative analysis correctly predicts in which cases alienable PDs and genitive possessors can co-occur. In the previous chapter it was shown that inalienable PDs and genitives can never appear together, as both are arguments generated within the same noun phrase. However, for some alienable PDs this is also impossible:

- (117) a. Dan ganav le-Dana et ha-ša'on šel savta šela.
 Dan stole to-Dana ACC the-watch of grandmother of+her
 ‘Dan stole Dana’s grandmother’s watch (currently owned by Dana)’
 b. Dan raxac le-Dana et ha-mexonit (*šel savta šela).
 Dan washed to-Dana ACC the-car (of grandmother of+her)
 ‘Dan washed Dana’s grandmother’s car (currently owned by Dana)’

The contrast above is straightforwardly accounted for in the current approach. The addition of a genitive is possible when the PD is an argument of a low source Appl (117-a). In such cases, since possession is not asserted but only a certain transfer (or loss) affecting the PD, an actual possessor may be added. On the other hand, when a verb occurs with a low possessor Appl, the PD is obligatorily understood as the possessor of the object it is related to. If the latter already has an internal possessor, namely a genitive, a conflict arises and the result is ungrammatical (117-b), unless the irrelevant benefactive reading is chosen. In a low Appl analysis which does not involve two distinct heads (e.g. Pylkkänen, 2008), this

²⁸To the best of my knowledge, it has not been independently argued that Appl can only introduce animate constituents. Since inalienable relation is analyzed by both Pylkkänen (2008) and Cuervo (2003) as also involving Appl, such an observation cannot be made.

²⁹In light of the above, and due to the fact that the Animacy Constraint does not affect inanimate possessors, VP idioms with an inanimate inalienable PD which appears in the fixed part are expected to occur. As already noted, such idioms were not found in my corpus. I believe this is because inanimate PDs are rare in any context.

non-uniform behavior of alienable PDs is not predicted.

Note that verbs claimed by Cuervo (2003) to be causative and involve a different structure, like *šavar* below, pattern in this respect with *ganav* and other source Appl verbs. I thus conclude that these verbs should all be treated as a uniform group, at least with respect to the PD constructions they involve.

- (118) Dan šavar le-Dana et ha-ša'on šel savta šela.
Dan broke to-Dana ACC the-watch of grandmother of+her
'Dan broke Dana's grandmother's watch (currently owned by Dana)'
(Yael Mishani, p.c.)

In conclusion, the split approach for Hebrew Possessive Datives proposed in the previous and current chapter accounts for various syntactic phenomena distinguishing inalienable PDs from their alienable counterparts, and for the idiom data revealed in my corpus study. Specifically, the fact that inalienable PDs can participate in Hebrew VP idioms is due to their status as arguments of the possessed noun. The latter may select them to appear in idioms according to the HAMP Generalization. Given this generalization, the absence of alienable PDs from such idioms indicates that their syntactic status is different. It therefore seems plausible to assume that such PDs are arguments of a functional head which cannot appear in VP idioms, let alone select any arguments. The Possessor/Source low applicative analysis for alienable PDs was shown to be promising in this respect, accounting for further aspects in their behavior.

7. Conclusion

The data presented in this study provide support for various claims regarding the internal formation of phrasal idioms and the syntactic structure of the Possessive Dative Construction. While some of the findings are only relevant to one of these issues, others have theoretical implications for both.

Based mostly on Hebrew idiom data, the HAMP Generalization was formulated. The generalization details the amount and type of information idiomatic listings can contain. It was shown that Hebrew VP idioms may contain not just the verbal head and its arguments, but also adjuncts, nominal modifiers and possessors. The generalization allows the verb to select any element, while limiting argument selection by other heads within the idiom. Specifically, only ‘possessor’ arguments may be selected by nominal heads. The advantages of this generalization are twofold: First, it restricts the possible length of VP idioms. Second, it correctly predicts which elements appear in such idiom and which do not. In particular, the absence of alienable PDs attested in Hebrew VP idioms is accounted for.

I argued that no constraint prevents the appearance of alienable PDs in VP idioms, as such a possession relation is exhibited in the case of genitives. The contrast between inalienable and alienable PDs results from their distinct syntactic status. Since inalienable Possessive Datives are arguments of their possessed noun phrase, a head which participates in VP idioms and may select its ‘possessor’ arguments, these possessors appear in idioms. Alienable PDs, on the other hand, are not arguments of a licensed nominal head. They are better analyzed as arguments of a functional head, which according to HAMP does not participate or select any arguments in VP idioms. Various syntactic phenomena, like co-occurrence with pronouns and with genitives, are only possible in the case of alienable PDs, thus providing independent evidence in favor of the split approach. Additional phenomena seem to support a raising analysis (Landau, 1999) for inalienable PDs and a Possessor/Source low applicative analysis (Cuervo, 2003) for alienable ones. While I adopt the raising analysis for the former, I am not entirely committed to a particular Appl analysis for the latter. My main claim is simply that an analysis which distinguishes the two types of PDs is necessary, given the idiom data and their distinct syntactic behavior in non-idiomatic contexts.

The study reveals that regardless of their type, possessors in VP idioms tend to be open slots. They do not constitute fixed lexical material and are not interpreted idiomatically. This was claimed to be an effect of the Animacy Constraint (Horvath and Siloni, 2008b), a principle which also contributes to the paucity of fixed subjects in VP idioms. The constraint is actually a combination of two unrelated cognitive principles (observed by Nunberg et al., 1994) which together determine that animates are largely incompatible for idiomatic formation. Since possessors (like external arguments) are typically animate, their participation in the fixed part of VP idioms is correctly predicted to be rare.

This study offers many opportunities for future research. First, it would be interesting to investigate the applicability of the HAMP Generalization to idiom formation in more languages. A particular question which arises in this respect is why nouns only select ‘possessor arguments’ in phrasal idioms, and not any other dependents, like the verbal head? Is this state of affairs similar in other languages? Crosslinguistic evidence will also be useful in determining the status of possessors in VP idioms. Hebrew and English idioms exhibit a similar tendency to contain inalienable possession more frequently than alienable possession. But is this tendency universal? More importantly, is the absence of alienable PDs from VP idioms universal? The answer to this last question has theoretical implications for the study of PDs and their structure. Though this topic has been extensively studied (by Boneh and Nash, 2010; Borer and Grodzinsky, 1986; Landau, 1999, to name a few), I believe there is still much to be learned, especially if idiomatic data are taken into consideration.

The current proposal for a split approach to Possessive Datives has some clear predictions which should also be tested: If the reason for the absence of alienable PDs from VP idioms is really their syntactic status and the proposed restrictions on phrasal idiom formation, one would expect such PDs to be available and participate in clausal idioms. If, on the other hand, some other principle is responsible for the data reported in this study, then it may be the case that such PDs will not appear in idioms altogether.

Finally, while the HAMP Generalization provides what I believe to be a satisfactory scheme for idiom formation, and the Head-Based Storage Hypothesis (Horvath and Siloni, 2009a) accounts for the manner in which idioms are stored in the lexicon, the exact licensing mechanism and lexical representation of their components remains to be explored. Specifically, one can easily imagine that idiomatic arguments must comply to some extent with the argument structure of the verbal head and are licensed accordingly. But as adjuncts are not generally assumed to be part of lexical representations, how are they selected and listed? Any viable theory of idiom formation must ultimately account for this issue.

Appendix A: Hebrew VP Idioms with a Possessive Dative

Idioms are listed in Hebrew alphabetical order, according to their verbal head. Potentially alienable PDs (see discussion in section (4.1.2)) appear in bold.

a. Idioms with a nominal possessed element:

- (1) bilbel le-X et ha-moax
confused to-X ACC the-brain
'bothered X with useless chatter'
- (2) **hidlik le-X nura aduma**
turned on to-X light bulb red
'gave X a warning sign'
- (3) hoci le-X et ha-milim me-ha-pe
took out to-X ACC the-words from-the-mouth
'expressed X's thoughts precisely' (before X did)
- (4) **hoci le-X et ha-mic**
took out to-X ACC the-juice
'required much effort of X, exhausted X'
- (5) hoci le-X et ha-nešama
took out to-X ACC the-soul
'harassed and annoyed X incessantly'
- (6) hoci le-X et ha-einayim
took out to-X ACC the-eyes
'behaved in a way that made X jealous'
- (7) **hoci le-X et ha-avir me-ha-galalim**
took out to-X ACC the-air from-the-wheels
'sabotaged X's efforts, thus preventing his advancement'

- (8) **hoci le-X et ha-ruax me-ha-mifrasim**
 took out to-X ACC the-wind from-the-sails
 ‘curbed X’s enthusiasm, depressed him’
- (9) horid le-X et ha-roš
 took down to-X ACC the-head
 ‘reprimanded X severely’
- (10) hicmiax le-X knafayim
 grew to-X wings
 ‘made it possible for X to progress and realize his abilities’
- (11) hicmiax le-X karnayim
 grew to-X horns
 ‘cheated on X’ (usually when a wife cheats on a husband)
- (12) hiš’ir le-X ta’am mar ba-pe
 left to-X taste bitter in+the-mouth
 ‘made X feel unpleasant’ (following some event or action)
- (13) taxan le-X et ha-moax
 ground to-X ACC the-brain
 ‘talked lengthily, exhausting X’
- (14) yibeš le-X et ha-moax
 dried to-X ACC the-brain
 ‘made X numb by talking to much, exerted X’
- (15) kofef le-X et ha-yad
 bent to-X ACC the-arm
 ‘overcame X’s resistance’
- (16) likek le-X et ha-taxat
 licked to-X ACC the-ass
 ‘bluntly sucked up to X’
- (17) maxak le-X et ha-xiyux me-ha-panim
 erased to-X ACC the-smile from-the-face
 ‘said or did something that disappointed X’
- (18) macac le-X et ha-dam
 sucked to-X ACC the-blood
 ‘abused, took advantage of X’

- (19) marat le-X et ha-acabim
plucked to-X ACC the-nerves
'caused X to be tense, anxious'
- (20) nipeax le-X et ha-sexel
inflated to-X ACC the-brain
'told X many unfounded, purposeless things'
- (21) sovev le-X et ha-roš
turned to-X ACC the-head
'made X lose his good judgment, rational thinking'
- (22) satam le-X et ha-pe
blocked to-X ACC the-mouth
'answered X decisively in actions or words' (after being criticized)
- (23) kicec le-X et ha-knafayim
clipped to-X ACC the-wings
'made it impossible for X to progress and evolve'
- (24) kara le-X et ha-cura
tore to-X ACC the-shape
'hit X and hurt him severely, was violent'
- (25) ra'a le-X et ha-lavan ba-einayim
saw to-X ACC the-white in+the-eyes
'was very close to X' (usually in a physical confrontation)
- (26) šavar le-X et ha-acamot / ha-yadayim ve ha-raglayim
broke to-X ACC the-bones / the-arms and the-legs
'beat X up aggressively'
- (27) šataf le-X et ha-moax
washed to-X ACC the-brain
'made X change his position radically by aggressive means'

b. Idioms with a PP-embedded possessed element:

- (28) ba'ar le-X ba-ecbaot
burnt to-X in+the-fingers
'X wanted to something immediately'
- (29) darax le-X al ha-yabalot
stepped to-X on the-warts
'upset X by touching on a sensitive issue'

- (30) hitpocec le-X ba-panim
 exploded to-X in+the-face
 ‘what X planned hurt him badly’
- (31) yaca le-X mi-kol ha-xorim / me-ha-af
 came out to-X from-all the-holes / from-the-nose
 ‘X became fed up with something’
- (32) yaca le-X me-ha-roš
 came out to-X from-the-head
 ‘X forgot’ (many times used with negation: ‘X could not forget’)
- (33) yarak le-X ba-parcuf
 spit to-X in+the-face
 ‘publicly expressed disgust and contempt towards X’
- (34) yašav le-X al ha-macpun
 sat to-X on the-conscience
 ‘X felt remorse, wanted to make amends’
- (35) yašav le-X al ha-roš
 sat to-X on the-head
 ‘X was worried about something’
- (36) met le-X ba-yadayim
 died to-X in+the-hands
 ‘died while X was trying to help him’
- (37) nigen le-X al ha-acabim
 played to-X on the-nerve
 ‘bothered and annoyed X’
- (38) nixnas le-X la-dam
 entered to-X to+the-blood
 ‘became a part of X’s being’
- (39) nixnas le-X la-vridim
 entered to-X to+the-veins
 ‘meddled in X’s affairs and decisions’

- (40) nixnas le-X la-lev
 entered to-X to+the-heart
 ‘touched X, affected X emotionally’
- (41) nixnas le-X la-nešama
 entered to-X to+the-soul
 ‘imposed on X’ (with a certain behavior or words)
- (42) **nixnas le-X la-calaxat**
 entered to-X to+the-plate
 ‘meddled in X’s personal affairs’
- (43) nixnas le-X la-roš
 entered to-X to+the-head
 ‘X understood something’ (many times used with negation: ‘X could not understand’)
- (44) nafal le-X me-ha-yadayim
 fell to-X from+the-hands
 ‘X was acting confused, absent-minded’
- (45) nitka le-X ba-garon
 got stuck to-X in+the-throat
 ‘X could not express himself’ (out of excitement)
- (46) nitka le-X ba-roš
 got stuck to-X in+the-head
 ‘X could not let go of a thought, an idea’
- (47) avar le-X ba-roš
 crossed to-X in+the-head
 ‘crossed X’s mind’
- (48) avar le-X leyad ha-ozen
 passed to-X near the-ear
 ‘X did not listen to what was said’
- (49) avar le-X me’al ha-roš
 passed to-X above the-head
 ‘did not matter to X, did not make him excited’

- (50) ala le-X be-briut
cost to-X with-health
'caused X sorrow, exasperation'
- (51) ala le-X be-xayav
cost to-X with-his+life
'caused X to die'
- (52) ala le-X la-roš
went up to-X to+the-head
'ruined X's judgment, character' (due to great success)
- (53) ala le-X al ha-acabim
went up to-X on the-nerves
'irritated X'
- (54) amad le-X al ha-roš
stood to-X on the-head
'inspected X's actions' (in an bothersome way)
- (55) amad le-X al kce ha-lašon
stood to-X on the+tip the-tongue
'X could not remember something he wanted to say' (but almost did)
- (56) caxak le-X ba-panim
laughed to-X in+the-face
'treated X with contempt'
- (57) kafac le-X la-roš
jumped to-X to+the-head
'X suddenly came up with an idea'

c. Idioms with an internal-argument subject:

- (58) dafak le-X ha-lev
beat to-X the-heart
'X became very excited'
- (59) hitnapeax le-X ha-roš
swelled to-X the-head
'X became tired of listening to incessant chatter'
- (60) hitpocec le-X ha-roš
blew up to-X the-head
'X head hurt greatly'

- (61) yaca le-X ha-xešek
 came out to-X the-desire
 ‘X lost interest in something’
- (62) ka’av le-X ha-lev
 hurt to-X the-heart
 ‘X felt immense sorrow’
- (63) **nigmera le-X ha-bateriya**
 ran out to-X the-battery
 ‘X became extremely tired’
- (64) **nigmar le-X ha-sus**
 ran out to-X the-horse
 ‘X became tired’ (usually in the public or cultural arena)
- (65) nixnas le-X juk la-roš
 entered to-X bug to+the-head
 ‘X became obsessed with something’
- (66) na’asa le-X xošex ba-einayim
 became to-X dark in+the-eyes
 ‘X was badly surprised, became scared’
- (67) **nafal le-X ha-asimon**
 fell to-X the-token
 ‘X finally understood something’ (later than expected)
- (68) nišbar le-X ha-zayin
 broke to-X the-penis
 ‘X became fed up with something’
- (69) ala le-X ha-šeten / ha-dam la-roš
 rose to-X the-urine / the-blood to+the-head
 ‘X became arrogant following a success’
- (70) ra’ad le-X ha-pupik
 trembled to-X the-belly button
 ‘X became scared and excited’ (usually before some task)

- (71) ra'adu le-X ha-beycim
trembled to-X the-testicles
'X became very frightened'
- (72) ra'adu le-X ha-yadayim
trembled to-X the-hands
'X became scared and excited' (while performing a task)

Appendix B: Hebrew VP Idioms with a Genitive Possessor

Idioms are listed in Hebrew alphabetical order, according to their verbal head.

a. Idioms with inalienable genitive possession:

- (1) daxak et raglav šel X
pushed ACC the+legs of X
'gained a powerful position at the expense of X'
- (2) hexšix et einav šel X
darkened ACC the+eyes of X
'caused X troubles, sorrow'
- (3) hicmid ekdax le-rakato šel X
attached gun to-the+temple of X
'forced X to do something' (usually using threats)
- (4) hit'abek be-afar raglav šel X
became covered in-dust the+legs of X
'learned from X'
- (5) hitgaleax al ha-zakan šel X
shaved on the-beard of X
'gained experience at the expense of X'
- (6) hitxamem keneged oro šel X
warmed up against the+light of X
'learned a lot from X, grew and developed'
- (7) xata gexalim al rošo šel X
raked coal on the+head of X
'tormented X'

- (8) tigen et me'av šel X
fried ACC the+intestines of X
'greatly angered X'
- (9) taxan et panav šel X
ground.V ACC the+face of X
'was cruel to X, exploited him'
- (10) yarad le-xayav šel X
came down to-the+life of X
'methodically abused X'
- (11) yarad le-sof da'ato šel X
came down to-end mind of X
'understood what X meant to say'
- (12) yarad le-omko šel X / inyan
came down to-the+depth of X / matter
'studied X / a matter thoroughly'
- (13) kavaš et libo šel X
conquered ACC the+heart of X
'made X fond of him'
- (14) laxac et yado šel X
squeezed ACC the+hand of X
'reconciled with X'
- (15) mirer et xayav šel X
embittered the+life of X
'made X miserable, caused him to suffer'
- (16) matax et acabav šel X
stretched ACC the+nerves of X
'caused X unrest, nervousness'
- (17) nixnas la-oro šel X
entered to-the+skin of X
'identified with X'
- (18) nixnas la-roš šel X
entered to+the+head of X
'understood X's way of thinking'

- (19) nafal le-zro'otav šel X
 fell to-the+arms of X
 'met with X' (in a happy, excited manner)
- (20) nafal le-yadav šel X
 fell to-the+hands of X
 'became controlled by X'
- (21) nafal la-pe šel X
 fell to+the-mouth of X
 'was severely criticized and humiliated by X'
- (22) nafal al cavaro šel X
 fell on the+neck of X
 'was happy and excited to meet X'
- (23) našaf be-orpo šel X
 blew in-the+nape of X
 'jeopardized X's leading position' (usually in a struggle for power)
- (24) amad al damo šel X
 stood on the+blood of X
 'did not help X in a life-threatening situation'
- (25) pasa al rošo šel X
 walked on the+head of X
 'was not considerate towards X, felt superior'
- (26) pašat et oro šel X
 removed AC the+skin of X
 'exploited X, impoverished him'
- (27) cad / šava et libo šel X
 captured ACC the+heart of X
 'enchanted and excited X'
- (28) cad et einav šel X
 captured ACC the+eyes of X
 'made X curious'
- (29) ripa et yadav šel X
 loosened ACC the+hands of X
 'weakened X will-power, worried him'

- (30) šavar et libo šel X
 broke ACC the+heart of X
 ‘disappointed X, caused him sorrow’ (usually romantically)
- (31) šavar et ruxo šel X
 broke ACC the+spirit of X
 ‘caused X to despair’

b. Idioms with alienable genitive possession:

- (32) bila be-mexicato šel X
 spent time in-the+partition of X
 ‘was at the same place that X was’
- (33) hiniax le-pitxo šel X
 placed in-the+door of X
 ‘gave X the responsibility for something’
- (34) hiniax ekdax al šulxano šel X
 placed gun on the+table of X
 ‘made X resign his job’
- (35) gilgel et ha-kadur la-migraš šel X
 rolled ACC the-ball to+the-court of X
 ‘gave X the chance to decide, react’
- (36) nixnas la-na’alayim šel X
 entered to+the-shoes of X
 ‘replaced X at his job’
- (37) amad be-darko šel X
 stood in-the+way of X
 ‘hindered X’s advancement, stopped him from reaching his goals’
- (38) rakad lefi ha-xalil šel X
 danced according to the-flute of X
 ‘suited himself to the will of X, did as X wanted’
- (39) šavar et mate laxmo šel X
 broke ACC stick bread of X
 ‘made it impossible for X to earn a living’
- (40) šata be-cama et dvarav šel X
 drank with-thirst ACC the+words of X
 ‘listened to X with great excitement’

Appendix C: English VP Idioms with a Genitive Possessor

Idioms are listed in alphabetical order, according to their verbal head.

a. Idioms with inalienable genitive possession:

- (1) beat/knock/drum into X's head
'force X to learn something'
- (2) bend X's ear
'talk to X annoyingly, at tedious length'
- (3) bite X's head off
'scold X, speak to him very angrily'
- (4) blow X's cover
'inadvertently give away X's secret identity'
- (5) blow X's mind
'overwhelm X'
- (6) blow up in X's face
'become ruined while X is working on it' (a plan, an idea)
- (7) bust/break X's balls/ass/chops
'harass X, make him work hard'
- (8) break X's heart
'disappoint X, cause him sorrow' (usually romantically)

- (9) breathe down X's neck
'jeopardize X's leading position, pose a threat' (usually in a struggle for power)
- (10) catch X's eye
'make X curious, get his attention'
- (11) clip X's wings
'restrain X's freedom, stop his to progress'
- (12) cover X's tracks
'conceal X's past activities'
- (13) cross/pass X's mind
'occur in X's thoughts briefly' (e.g. an idea)
- (14) cross X's palm with silver
'pay for X's service'
- (15) cry on X's shoulders
'tell X one's problems in order to gain sympathy and consolation'
- (16) cut X's throat
'destroy X'
- (17) drop/fall in X's lap
'come to X surprisingly'
- (18) eat out of X's hand
'be manipulated or dominated by X'
- (19) eat X's ass out
'scold or criticize X severely'
- (20) fill X's head with something
'make X have certain thoughts'
- (21) force X's hand
'compel X to act or speak against his will'
- (22) get on X's good side
'make X be fond of you'

- (23) get on X's nerves
'annoy X, irritate him'
- (24) get X's dander/hackles back up
'make X very angry'
- (25) get something into/through X's (thick) head/skull
'make X understand something'
- (26) get under X's skin
'bother or irritate X, affect his feelings'
- (27) go to X's head
'make X proud and vain, exhibiting poor judgment'
- (28) grease X's palm
'give X money in exchange for a favor'
- (29) hold a gun to X's head
'exert pressure on X'
- (30) hold X's feet to the fire
'pressure X to consent to or undertake something'
- (31) jump down X's throat
'strongly criticize, reprimand or disagree with X'
- (32) knock X's block off
'beat up X'
- (33) leave a bad taste in X's mouth
'make a lingering bad impression on X'
- (34) make X's blood boil
'enrage X'
- (35) make X's blood run cold
'cause X to shiver from fright or horror'
- (36) make X's hair stand on the end/curl
'terrify X'

- (37) make X's head spin
'cause X to be giddy, dazed, or confused'
- (38) make X's mouth water
'cause X to eagerly anticipate or long for something'
- (39) open X's eyes to
'make X aware of the truth of a situation'
- (40) pick X's brain
'obtain ideas or information from X'
- (41) pin X's ears back
'defeat, overcome or punish X'
- (42) play into X's hand
'give X an advantage' (X is usually an opponent)
- (43) play on X's heartstrings
'attempt to get sympathy from X'
- (44) pull X's leg
'play a joke on X, trick or fool him'
- (45) pull X's teeth
'reduce X's power or efficacy'
- (46) push/press X's buttons
'drew a strong emotional reaction from X (usually anger)
- (47) put words in X's mouth
'tell X what he should say'
- (48) shove/ram something down X's throat
'compel X to accept or consider something' (usually an idea)
- (49) rap X's knuckles
'reprimand X'
- (50) read X's mind
'understand what X is thinking or feeling'

- (51) rub X's nose in it
'repeatedly bring up a fault or error X made'
- (52) ruffle X's feathers
'annoy or offend X'
- (53) scratch X's back
'do X a favor in hope that he will reciprocate'
- (54) snap X's head off
'scold X, speak very angrily towards him'
- (55) steal X's heart
'win X's love'
- (56) steal X's thunder
'use X's idea and thoughts for your own advantage'
- (57) step/tread on X's toes
'hurt or offend X, bother him'
- (58) take the wind out of X's sails
'stop X, put him at a disadvantage'
- (59) take the words out of X's mouth
'anticipate what X is about to say'
- (60) talk X's ear/head/arm off
'talk so much that X becomes exhausted'
- (61) tan X's hide
'spank or beat X'
- (62) throw dust in X's eyes
'mislead X'
- (63) throw in X's face
'confront X with something'
- (64) throw oneself at X's head
'try to attract X's interest, gain his affection'

- (65) twist X's arm
'coerce or persuade X to do something'

b. Idioms with alienable genitive possession:

- (66) beat a path to X's door
'come to X in great numbers'
- (67) clean X's clock/plow
'beat X up'
- (68) bust/break X's stones
'overwork X, exhausting him'
- (69) cook X's goose
'damage or ruin X'
- (70) darken X's door
'come unwanted to X's home'
- (71) eat X's lunch
'to best X, defeat or outwit him'
- (72) fill X's shoes
'assume X's position or duties' (usually in a satisfactory way)
- (73) fix X's wagon
'get even with X, punish him'
- (74) get X's goat
'annoy or anger X'
- (75) hang on X's words
'listen very attentively to X'
- (76) knock X's socks off
'surprise X completely'
- (77) lay at X's door
'impute or lay the blame on X'

- (78) lick X's boots
'be extremely submissive towards X'
- (79) play the devil's advocate
'argue against a cause or position purely to test its validity'
- (80) settle someone's hash
'deal with X, subdue him'
- (81) step into X's shoes
'take X's place' (professionally)
- (82) take a leaf out of X's book
'imitate or follow X's example'
- (83) talk X's pants off
'talk to X endlessly'

References

- Abney, S. (1987). *The English Noun Phrase in Its Sentential Aspect*. PhD thesis, Massachusetts Institute of Technology.
- Authier, J. M. and Reed, L. (1992). Case Theory, Theta Theory, and the Distribution of French Affected Clitics. In Bates, D., editor, *Proceedings of the 10th West Coast Conference on Formal Linguistics*, pages 27–39. CSLI Publications, Stanford, CA.
- Baker, M. (1989). Object sharing and projection in serial verb constructions. *Linguistic Inquiry*, 20:513–553.
- Baker, M., Johnson, K., and Roberts, I. (1989). Passive arguments raised. *Linguistic Inquiry*, 20:219–251.
- Boneh, N. and Nash, L. (2010). Core and Non-core Datives in French. Handout, Tel Aviv University Interdisciplinary Linguistics Colloquium.
- Borer, H. (2005). *Structuring Sense*, volume 1 and 2. Oxford University Press, Oxford.
- Borer, H. and Grodzinsky, Y. (1986). Syntactic cliticization and lexical cliticization: The case of Hebrew dative clitics. In Borer, H., editor, *The Syntax of Pronominal Clitics*, pages 175–217. Academic Press, San Francisco.
- Bruening, B. (2010). Ditransitive asymmetries and a theory of idiom formation. *Linguistic Inquiry*, 41(4):519–562.
- Chomsky, N. (1995). *The Minimalist Program*. MIT Press, Cambridge, MA.
- Cuervo, M. C. (2003). *Datives at Large*. PhD thesis, Massachusetts Institute of Technology.
- Dowty, D. (2003). The dual analysis of adjuncts/complements in Categorical Grammar. In Lang, E., Maienborn, C., and Fabricius-Hansen, C., editors, *Modifying Adjuncts*, pages 33–66. Mouton de Gruyter, Berlin.

- Everaert, M. (2010). The lexical encoding of idioms. In Rappaport, M., Doron, E., and Sichel, I., editors, *Lexical Semantics, Syntax and Event Structure*, pages 76–98. Oxford University Press, Oxford.
- Fillmore, C. J. (1994). Under the Circumstances (place, time, manner, etc.). In Gahl, S., Dolbey, A., and Johnson, C., editors, *Proceedings of the 20th Annual Meeting of the Berkeley Linguistics Society*, pages 158–172. Berkeley Linguistics Society, Berkeley, CA.
- Horvath, J. and Siloni, T. (2008a). Active lexicon: Adjectival and verbal passives. In Lotem, S. A., Danon, G., and Rothstein, S., editors, *Current Issues in Generative Hebrew Linguistics*, pages 105–136. John Benjamins, Amsterdam.
- Horvath, J. and Siloni, T. (2008b). Idioms and the Architecture of Grammar. Manuscript, Tel Aviv University.
- Horvath, J. and Siloni, T. (2009a). Hebrew idioms: The organization of the lexical component. *Brill's Annual of Afroasiatic Languages and Linguistics*, 1:283–310.
- Horvath, J. and Siloni, T. (2009b). Idioms: Mental Representation and Acquisition. Manuscript, Tel Aviv University.
- Horvath, J. and Siloni, T. (2010). The Thematic Phase and the Architecture of Grammar. Manuscript, Tel Aviv University.
- Jackendoff, R. (1997). *The Architecture of the Language Faculty*. MIT Press, Cambridge, MA.
- Kayne, R. (1975). *French Syntax: The Transformational Cycle*. MIT Press, Cambridge, MA.
- Kempchinsky, P. (1992). The spanish possessive dative construction: θ -role assignment and proper government. In Hirschbühler, P. and Koerner, E. F. K., editors, *Current Issues in Linguistic Theory 91: Romance Languages and Modern Linguistic Theory*, pages 135–149. John Benjamins, Amsterdam.
- Kiparsky, P. (1987). Morphology and Grammatical Relations. Manuscript, Stanford University.
- Kratzer, A. (1996). Severing the external argument from its verb. In Rooryck, J. and Zaring, L., editors, *Phrase Structure and the Lexicon*, pages 109–137. Kluwer Academic Publishers, Dordrecht.

- Landau, I. (1999). Possessor raising and the structure of vp. *Lingua*, 107:1–37.
- Larson, R. (1988). On the Double Object Construction. *Linguistic Inquiry*, 19:335–392.
- Marantz, A. (1984). *On the Nature of Grammatical relations*. MIT Press, Cambridge, MA.
- Marantz, A. (1997). No Escape from Syntax: Don't Try Morphological Analysis in the Privacy of Your Own Lexicon. In Dimitriadis, A., editor, *Proceedings of the 21st Annual Penn Linguistics Colloquium*, pages 201–225. Penn Working Papers in Linguistics, Philadelphia.
- Marelj, M. (2004). *Middles and Argument Structure across Languages*. PhD thesis, University of Utrecht.
- Mishani, Y. (2012). On the formation of idioms: The case of goal ditransitives. Master's thesis, Tel Aviv University.
- Nunberg, G., Sag, I., and Wasow, T. (1994). Idioms. *Language*, 70(3):491–538.
- O'Grady, W. (1998). The syntax of idioms. *Natural Language and Linguistic Theory*, 16(2):279–312.
- Pesetsky, D. (1995). *Zero Syntax: Experiencer and Cascades*. MIT Press, Cambridge, MA.
- Preminger, O. (2006). Argument-mapping and extraction. Master's thesis, Tel Aviv University.
- Pylkkänen, L. (2008). *Introducing Arguments*. MIT Press, Cambridge, MA.
- Rákosi, G. (2006). *Dative Experiencer Predicates in Hungarian*. PhD thesis, University of Utrecht.
- Reinhart, T. (2002). The Theta System: An overview. *Theoretical Linguistics*, 28:229–290.
- Siloni, T. (2002). Adjectival constructs and inalienable constructions. In Ouhalla, J. and Shlonsky, U., editors, *Themes in Arabic and Hebrew Syntax*, pages 161–187. Kluwer Academic Publishers, Dordrecht.
- Vergnaud, J. R. and Zubizarreta, M. L. (1992). The definite determiner and the inalienable constructions in French and English. *Linguistic Inquiry*, 23(4):595–652.

Sources

- Ammer, C. (2003). *The American Heritage Dictionary of Idioms*. Houghton Mifflin Harcourt, Boston.
- Arbel, N. (2009). *Sefer ha-nivim ha-gadol* ('*The Big Book of Idioms*'). Sfarim Ze Anaxnu, Tel Aviv. (in Hebrew).
- Avneyon, E. (2002). *Lašon rišon: Milon nivim u-mixtamim al yesod ha-mekorot* ('*First Tongue: A Dictionary of Idioms from the Rabbinic Literature*'). Eitav Publishing House, Tel Aviv. (in Hebrew).
- Cohen, T. (1989). *Nivon ivri xadaš* ('*New Anthology of Hebrew Sayings*'). Yavneh Publishing House, Tel Aviv. (in Hebrew).
- Dayan, R. (2004). *Niv sfatayim ve-imrey šefar* ('*Idioms and Sayings*'). Dani Hafaca Publishing House, Jerusalem. (in Hebrew).
- Fruchtman, M., Ben-Nathan, O., and Shani, N. (2001). *Nivon ariel* ('*Ariel Dictionary of Idioms*'). Kor'im Publishing House, Kiryat Gat. (in Hebrew).
- Levanon, M. (1981). *Leksikon ivri le-nivim ve-le-matbe'ot lašon* ('*Hebrew Lexicon of Idioms and Idiomatic Phrases*'). Zak Publishing House, Jerusalem. (in Hebrew).
- Rosenthal, R. (2009). *Milon ha-cerufim* ('*Dictionary of Hebrew Idioms and Phrases*'). Keter Books, Jerusalem. (in Hebrew).
- Sévenier-Gabriel, N. (2004). *Thesaurus of Idioms and Phrases: Hebrew - English - Hebrew*. Yavneh Publishing House, Tel Aviv.
- Siefring, J., editor (2004). *Oxford Dictionary of Idioms*. Oxford University Press, Oxford.
- Spears, R. A. (2005). *McGraw-Hill's Dictionary of American Idioms and Phrasal Verbs*. McGraw-Hill, Chicago.

Walter, E., editor (1998). *Cambridge International Dictionary of Idioms*. Cambridge University Press, Cambridge, UK.