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From synchrony to diachrony and back:

the case of Hebrew pronominal possessives

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Abstract

The main goal of this research is to shed light on processes of language change by rooting them in usage-based mechanisms of grammaticization, motivated by communicative goals of speakers. As a case study, the distribution of two pronominal possessive structures in Modern Hebrew are analyzed:

     1. The pronominal suffixed possessive: *ax-i*   "my brother"

     2. The pronominal prepositional possessive: *ax ʃel-i*   "brother of mine"

Looking at corpus data, the distribution of the two structures was found to be *complementary* at the low-level of specific lexical items, but *contrastive at* the functional level, as both structures were found to be associated with reference to *definite* and *inalienable* entities. These functions are the core tasks (i.e. most frequent contexts) of possessive constructions in discourse cross-linguistically (Aikhenvald 2013). Adopting a Construction grammar framework, (Goldberg 1995 and onwards), I argue that the usage patterns of the two structures actually attest to *three* different types of grammatical representations:

    3.   a.   Non-productive suffixed constructions, each associated with a lexically specific (possessed) nominal.
                e.g. [*iʃt-POSS*; DEFINITE]$_N$, 'wife-'POSS'

        b.   A productive prepositional construction: [*N+ʃel-POSS*]$_N$.

        c.   Non-productive, inherently definite sub-constructions of the prepositional construction, lexically specified for certain kinship terms, and lacking a definite marker.   e.g. [*ax ʃel-POSS*; DEFINITE]$_N$, 'brother of-POSS'.

The low-level constructions types (3a,c) are conventionalized for definite and inalienable reference. Thus, while the two structures are specialized for the cross-linguistic core tasks of possessives, they nonetheless do so to different extents: while the suffixed constructions are confined to the core possessive tasks, the (higher-level) prepositional construction is applicable to both core and non-core tasks.

The distributions of the constructions (the suffixed ones and the higher-level prepositional one) are explained by placing them at different stages in a process of a similar language change which I term *Prototypicalization*. In Prototypicalization, frequent instances (the core tasks) of a construction conventionalize and continuously entrench into sub-constructions. Prototypicalization gradually affects the representation of the higher-level constructions that they instantiate. Following Prototype Theory (Rosch & Mervis 1975, Lakoff 1987, Geeraerts 1997, Bybee 2006), I argue that entrenchment of the prototypical instances results in an increasing expectation that the instantiations of the higher-level construction be similar to those (prototypical) instances. This highlights the potential role of low-level representations in initiating broader changes in the grammar.

The current research thus provides support for a thoroughly bottom-up approach to the emergence of grammatical structure. The role of discourse is highlighted, as I argue that the representation of specific frequent instances of use results not only in the emergence of low-level constructions, but also in shaping higher-level constructions. The main innovations of this thesis are: accounting for both the similarity and the difference between the two possessive structures; the proposal for a process of Prototypicalization; and the argument for a separate inherently definite prepositional sub-construction.

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Chapter 1 – Introduction

This thesis seeks to explain the distribution of two pronominal possessive constructions in Modern Hebrew: the suffixed possessive pronoun one (e.g., *ax-i*, 'my brother') and the prepositional possessive pronoun one (e.g., *ax ʃel-i*, 'brother of mine'). Although many attempts were made at describing and explaining the differences between the two structures (Avioz 2004, Dubnov 2000, Ornan 1963, Rosén 1977, Shatil 1997), none provided a theory of their cognitive representations, nor a comprehensive account for their (only partially) different distribution in natural discourse. I here offer such an account within a construction Grammar framework.

Adopting a constructionist, as well as a usage-based framework, my analysis asks different questions from those asked by previous analyses, and accordingly provides a different account for the grammar and use of Hebrew pronominal possessive constructions. First, linguists have reasonably set out from the assumption that Hebrew offers speakers a choice between two distinct pronominal possessive structures:

1.   a.   Suffixed: xaver-i\xa\o

                          friend-POSS.1\2.MASC.SG \3.MASC.SG

                          My\your\his friend

        b.   Prepositional: xaver   ʃel-i\xa\o

                          Friend of-POSS.1\.MASC.SG\3.MASC.SG

                          Friend of mine\yours\his; My/your/his friend

Given speakers' natural tendency to take advantage of formal distinctions in order to draw functional distinctions, linguists saw their goal as distinguishing between the functions associated with each of the structures (Rosén 1977, Shatil 1997, Dubnov, Ornan 1963, Avioz 2004). While this is definitely a legitimate and fruitful line of inquiry, I see my main contribution in underscoring the *similarity* between the two possessive forms.

I follow Construction grammar (Goldberg 1995 and onwards) in assuming that grammar consists of constructions varying in productivity. Couched within a Usage-based approach (Ariel 2008, Bybee 2003, 2006, Bybee and Eddington 2006, Du Bois 1987, Goldberg 1995, inter alia),

my analysis is based on data from two spoken Hebrew corpora (Maschler et al. 2021; CoSIH).[1] In addition, I present the design for a judgment task experiment, aimed at exploring interpretations associated with the prepositional construction which could not be disambiguated in the corpus data. Based on my spoken corpora findings, I will propose that both possessive constructions are strongly associated with the same tasks: both predominantly introduce definite and inalienable entities into the discourse. These tasks were found to be the core tasks of possessives in discourse cross-linguistically (Aikhenvald 2013, Haspelmath 1999).

Assuming constructions (unified form/function associations), rather than the syntactic structures (which may be used for one or another function) as the main theoretical apparatus in my analysis, thus enables me to distinguish between three, rather than two types of pronominal possessive constructions for Hebrew:

2. a. Non-productive suffixed constructions, each associated with a lexically specific (possessed) inalienable nominal.[2]
   e.g. [*iʃt-POSS*; DEFINITE]$_N$, 'wife-'POSS'
   b. A productive prepositional construction: [*N+ʃel-POSS*]$_N$.
   c. Non-productive, inherently definite sub-constructions of the prepositional construction, lexically specified for specific nominals (most notably kinship terms) and lacking a definite marker.
   e.g. [*ax ʃel-POSS*; DEFINITE]$_N$, 'brother of-POSS'.

I argue that the distributions of both suffixed and prepositional possessive constructions attest to the conventionalization of specific low-level representations of recurrent strings speakers use (2a,c). Thus, while both possessive constructions carry out the same core tasks, the two nonetheless do so to different extents. While the suffixed structure is confined to the core possessive tasks, the (higher-level) prepositional construction is applicable to both core and non-core tasks.

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[1] I thank Yael Maschler for allowing me to use The Haifa Corpus of Spoken Hebrew.
[2] This does not mean that there is no productivity whatsoever for the Hebrew suffixed constructions. A more complex theory would be needed once written data is to be taken into account as well. However, this is beyond the scope of my study.

The emergence of the three types of constructions, I argue, is best explained by considering the synchronic distribution as a specific stage on a diachronic process of language change. This process is facilitated by the cognitive mechanisms of grammaticization, motivated by speakers' preferences for certain uses of possessive constructions in discourse.

Given the prototypical function of possessive constructions and usage-based assumptions on the nature of grammar and its emergence make it possible for me to argue that both constructions manifest different stages within a single process of language change I call prototypicalization (akin to Haspelmath's (2014) reduction to the core task). Prototypicalizing constructions come to specialize for their most frequent (i.e. core) tasks. Ongoing specialization may in turn result in the reduction of the contexts in which the constructions are employed. Adopting Prototype Theory (Rosch & Mervis 1975, Lakoff 1987, Geeraerts 1997, Bybee), I argue that strengthening the of prototypical (core tasks) entrenchments results in an increasing expectation that the instantiations of the higher-level construction be similar to those (prototypical) instances.

I thus argue that the different distributions of the two constructions are only quantitative: as one (the suffixed construction) emerged before the other (the prepositional construction), it has been in use for a longer period of time, and therefore is more strongly entrenched for the prototypical possessive tasks. Language change, prototypicalization included, is a gradual process which takes time. This entails that all things being equal, two similar enough constructions which emerged in different times will manifest different stages of the process, even though they are undergoing a similar process. This is my point regarding the two possessive constructions. While the suffixed possessive is widely attested in Biblical Hebrew, the prepositional possessive only originated in Mishnaic Hebrew. Thus, it is only to be expected that the suffixed possessive in (1a) should be more advanced on the prototypicalization cline than the prepositional possessive in (1b). If so, both the commonality between the possessives (the predominance of the core possessive task) and the difference between them (the stronger association of the suffixed construction with the core task) evident in current Hebrew (as I show below) receive a single, functionally motivated diachronic explanation, which is itself rooted in the discourse goals of speakers in individual speaking events.

My account thus supports a usage-based approach. I argue that by assuming that linguistic mental representations emerge out of linguistic experience, restrictions on the trajectory of the

diachronic change of possessives may be derived from their discourse profiles, namely the grammatically optional contextual factors that recurrently accompany their use (Ariel 2008).

The discourse profiles of the possessive constructions are, in turn, grounded in the typical cognitive function of possessives: the reference-point function (Langacker 1995). The reference-point function allows a speaker to facilitate mental contact with a referent for the addressee, in virtue of a conceptual relation to another referent, already accessible to the addressee. This function is especially useful when mental contact is sought for definite entities which stand in salient conceptual relations to other entities. This is particularly true for kinship terms and entities which manifest a part-whole relation to the relevant reference point. Such entities are often labeled "inalienable" (e.g. Aikhenvald 2013). Reference to definite and inalienable entities is thus functionally motivated as the core tasks of possessives cross-linguistically (Aikhenvald 2013; Haspelmath 1999, 2014; Langacker 1995).[3] My account thus ties together cognitive mechanisms, speaker preferences and diachronic change.

More generally, I hope to shed light on the representational level in which processes of language change occur within the grammar. This builds on the analysis of the relative distribution of the possessives with respect to the lower, lexical level, rather than (only) the abstract functional level. One of my most intriguing findings is that the specific lexical nominals participating in each of the possessive constructions are different. An overwhelming majority of the nominals occurred only with one of the possessive constructions but not with the other. I interpret this finding as evidence for the relevance of low-level conventionalizations within more general grammatical changes.

Specifically, I propose that this might account for a typological puzzle. While ownership is a well-recognized core task of possessive constructions cross-linguistically, together with kinship and part-whole relations, it is only the latter two that grammaticize in specialized constructions (Aikhenvald 2013). I offer a solution to this puzzle by proposing different discourse profiles for expressions denoting owned entities on one hand, and for kinship terms and part-whole relations on the other. As the formal variability of owned entities is far greater than that of the

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[3] What I am here calling possessive (pronominal) constructions are specifically attributive possessive markers, where the existence of the possessed entity is typically presupposed. I leave the analysis of predicative possessive constructions (X is mine) to future research, which, I suspect, will reveal a rather different discourse profile, at least with respect to inalienability.

other two categories of possessed, the recurrent use of the rather small number of kin and part-whole terms is expected to stand out and effect change.

To conclude, this thesis first presents a solid analysis of the actual distribution of both the suffixed and the prepositional possessive constructions in Hebrew, based on 825 such tokens in two spoken corpora. More importantly, I also make several theoretical contributions. My research sheds light on processes of language change, rooting language change in usage-based mechanisms of grammar, and motivating it by reference to recurrent speakers' communicative goals. More specifically, the current research provides support for a thoroughly bottom-up approach to the emergence of grammatical structure, highlighting the role of specific instances of use, which result in the individual representation of sequences as low-level, formally specified sub-constructions. Such conventionalizations of low-level constructions, I argue, trigger and shape broader, higher-level changes in grammar, such as specialization and reduction. These processes are tied together under a proposed diachronic process I call *prototypicalization*. This work thus emphasizes how a usage-based approach provides a unified account for both synchronic and diachronic phenomena. In addition, the thesis demonstrates how different methodologies, corpus analysis and judgment tasks, may be used in tandem to draw conclusions on the structure of constructional networks in the grammar.

The rest of the thesis is structured as follows. Chapter 2 presents the theoretical assumptions relevant to my account, introducing key assumptions of the usage-based approach to linguistics. Chapter 3 provides an analysis of possession in terms of its typical cognitive function (§3.1) which accounts for possessive constructions' core tasks in discourse (§3.2). Chapter 4 proposes a theoretical account of different pronominal possessives in Hebrew, based on a corpus analysis of spoken language. A usage-based account motivating the analysis is developed, in which a full explanation of the synchronic distributional facts and representational analyses is provided, by placing the current synchronic state at a specific point in a functionally constrained trajectory of language change (§5). §6 discusses some implications of my analysis for the study of language change. I conclude with §7.

Chapter 2 Theoretical Background

The goal of cognitive linguistics research is to describe and explain the structure of Grammar, the component of knowledge that concerns language. Research in cognitive linguistics addresses the question: what is it that must be in the minds of speakers that allows them to engage in linguistic activity? Usage-based approaches to the study of language offer a manifold of thoroughly empirical answers to this question, on the assumption that language structure is largely produced from the representation and categorization of linguistic experiences (Ariel 1990, 2008; Bybee 1985; DuBois 1985, Goldberg 1995, inter alia).

This section reviews basic assumptions regarding grammatical mechanisms. Such mechanisms mainly concern low-level operations during on-line linguistic experience. The assumptions are discussed in terms of a construction-grammar framework, which is ,in turn, informed by prototype theory. Later on, I will argue that these assumptions produce predictions constraining the course of diachronic language change, which then shapes synchronic grammars on the diachronic cline. The assumptions discussed are summed up in (3):

3. a. Linguistic structures emerge as a result of accumulated representations of linguistic experience and their categorization (§2.1).
   b. Representations differ from each other in entrenchment strength (§2.2).
   c. Higher-level, formally abstract representations of linguistic categories are affected by the strength sub-representations (§2.3).

2.1 Representations and categorization of linguistic experience

The usage-based approach adopted here is the model proposed by Bybee (2006). This model reflects a radically empirical view on linguistic knowledge, which assumes language structure to be the product of the accumulation of representations of linguistic experiences and their categorization. On this approach, each token of linguistic experience, be it production or comprehension, is represented and categorized in the knowledge of speakers. Categorization either registers the experience as an occurrence of an existing representation, or, if some aspect of the experience does not match any existing representation, a new one is created. Representations may include both formal and functional information. So, most simply, a representation of a certain word's form and meaning, is the result of accumulation of experiences during its use.

The complex, partially abstract structures of language are taken to be the result of organization of representations according to their relative similarity. When a novel linguistic experience results in a creation of a new representation, its categorization is determined by its similarity to other representations. Recurrent clustering of similar, yet distinct representations may result in an abstraction of a new representation, based on their common properties (see Yee 2019 for overview of abstraction in cognition and language).

These representations, contrary to actual experiences, are not entirely specified, but are abstract to some extent. Abstract linguistic representations may range from phonemes, abstracted from systematic variations of sounds, to syntactic structures, abstracted from different systematic configurations of utterances. Note that under this conception, representations of concrete instances precede abstract representations. So, for example, abstract representations of lexical categories, such as Noun and Verb, have no psychological reality prior to the acquisition of specific words that share morphosyntactic properties. Repeated experiences that share common traits may therefore account for all levels of linguistic representations, both formal (phonetic, phonological or syntactic elements) and functional (semantic, pragmatic or discursive elements).

Representations are therefore not isolated, but organized based on relative similarities, be they formal (relating to the signifier) or functional (related to the signified). As linguistic experience is diverse and complex, tokens share many similarities, but are also different from one another. The mental organization of linguistic representations is therefore taken to be a vast multidimensional network, as in Construction Grammar frameworks.

On a Construction Grammar view grammar consists of a network of conventionalized symbolic associations of form and function (Goldberg 1995, 2003; Bybee 2006). There are no apriori assumptions pertaining to what may constitute a construction in terms of form or function. Words, affixes, lexical categories, syntactic structure, idioms, partially filled linguistic structures, and even intonation contours are all potential constructions. Their functions may range from expression of truth-conditional conceptual content, to pragmatic, discursive and procedural functions (Goldberg 1995, 2003; Bybee 2003, 2006; Gras & Elvira-Garcia 2021, inter alia).

A usage-based Construction Grammar approach therefore takes the question of which constructions are represented in the grammar as absolutely empirical. The psychological reality of a construction is most obviously recognized when a piece of language is not compositional, i.e. when some aspect of its form or meaning is not predictable from its components or (e.g. in idioms,

such as *kick the bucket*, 'to die'). In these cases, the construction must be stored in memory as an idiosyncratic unit. This is the case for simple (non-analyzable) morphemes, as well as idioms (Goldberg 1995, 2003; Bybee 2003, 2006). Compositional structures, such as suffixed words and (some) sentences, might not be represented individually, because they are generated by combining several constructions. However, some usage-based theories propose that at least some compositional instances must be redundantly stored in the grammar, in order to account for discourse patterns and language change (Ariel 2002; Bybee 2006; Du Bois 1985; Hilpert 2014; Langacker 1987, inter alia).

As the grammar is assumed to contain many constructions with different degrees of formal abstraction, utterances often instantiate multiple different constructions. For example, an utterance expressed by the phonetic string [kat͡s] ('cats'), may (non-exhaustively) instantiate:

4.   (i)   the phonetically specified construction $[kat]_N$, denoting the animal;

         (ii)   the partially abstract plural construction $[X_N\text{-s}\backslash z]_N$, expressing multiplicity of the entity denoted by X, where X must be a nominal element;

         (ii)   the abstract nominal construction N, prototypically denoting entities; and possibly even:

         (iv)   the fully specified $[kat͡s]_N$, an idiomatic expression denoting a fashionable or notorious group of people.

A constructional theory enables fine-grained descriptions of relations that hold between different linguistic representations. This framework stresses that constructions are interconnected and linked to each other, enabling similar constructions to be stored efficiently.

These links may be hierarchical. For example, the claim that the word 'cat' is a noun can mean that the representation of the individual word is a sub-construction of the lexical category, which inherits its syntactic and semantic properties. Properties such as the morphosyntactic constraints on the distribution of nouns, may then be represented only once as part of the Noun construction, and passed on by inheritance relations to the formally specified construction (Goldberg 1995; Bybee 2006).

Connections may also be "horizontal", i.e. non-hierarchical. Considering sequences consisting of a noun, a preposition and the same noun, (*day by day*, *inch by inch*), Sommerer and

Bauman (2021) argue that there is no fully abstract NPN (noun-preposition-noun) construction. They propose, instead, a family of sister constructions that share some semantic and syntactic properties in a web of family resemblances.

The relevant point of the current discussion is that cognitive processing of linguistic experiences creates not only form-function pairings, but also associations between different elements of those pairs. Representations of experiences are not merely registered but are organized and structured in relation to each other. Again, there is no apriori theoretical assumption as to which elements in different constructions may be linked, be they formal, functional, or the association between the two (Bybee 2006).

2.2 Representation strength

Cognitive representations may differ from each other in their strength, i.e. in the degree to which they are entrenched in the knowledge of the language user. A representation is strengthened when a linguistic experience is registered as instantiating it. Representations fade over time, so if a representation is not activated frequently enough, it may be completely erased from memory, and thus from the grammar. The strength of a representation is thus seen as a function of its frequency of use (Bybee 2001, 2003, 2006). A representation used frequently is registered often in the grammar, and thus leaves an accumulated impression.

The strength of a representation dictates its availability to the speaker as well as its resistance to change (Bybee 2006). Strong representations are more mentally accessible. The stronger a representation of a form-function association is, the more likely it is to be available when the speaker chooses a form to express a certain function, and the more likely it is to arise when identifying a construction within an utterance with the appropriate form. Strong representations are more resistant to morphosyntactic language change (Bybee 2001). This explains, for example, why high frequency irregular verbs maintain their unique form, while low frequency irregular verbs are more likely to regularize (Hooper 1976; Bybee 1985). Other strength-related effects are related to the prototype structure of linguistic categories.

2.3 Prototype effects

When a number of representations of different strengths are linked to a higher-level representation, their effects on the higher-level representation will be different. These differences can be described

by appealing to prototype theory (originally Rosch & Mervis 1975; see Lakoff 1987; Geeraerts 1997 and Bybee 2006 for applications in linguistics). Prototype theory is concerned with the structure of categories of mental representations. Paraphrasing Geeraerts (1997), a category is any set of cohesive entities in a single domain (be it formal or functional). Common examples are the set of senses of a polysemic word, or a set of sub-constructions, inheriting a specific feature from a single higher-level construction.

The main claim of prototype-theory is that categories of mental representations are not necessarily discrete sets with rigid boundaries defined logically by clear-cut inclusion conditions. Instead, categories are conceived as aggregates of related entities that have an internal structure. The elements of these aggregates may stand in relations of family resemblance to each other, meaning that while there is a set of properties associated with the category, it is not necessary for each and every member of the category to manifest all properties, and there need not be a single property that holds for each and every member. Members that share many of the central properties of a category are considered prototypical, while members that share only a small subset of the properties are considered peripheral. As categories are not defined by sufficient and necessary conditions, marginal cases may or may not be considered to be members of the category in different contexts.

As a toy example, consider the category of desserts. In the English language Wikipedia, a dessert is defined as "a course that (a) concludes a meal, (b) consists of sweet foods such as (c) confections". A slice of an apple pie or a chocolate mousse both share all the properties and might be thought of as prototypical deserts. A sliced apple, however, is sweet and might be served at the end of a meal, and on that occasion may be considered a dessert, even though it is hardly a confection. Similarly, a sugar-free dark chocolate truffle is regarded as a dessert, even though it may not be sweet. These are peripheral members of the category.

Crucially, prototypical members of a category affects the structure of categories, specifically in determining their boundaries. Thus, marginal elements that resemble prototypical members of a category are more easily accepted as category members. Continuing with the dessert example, while sweet potato puree is sweet, it would probably not count as a dessert even if served at the end of a meal. Why would it be rejected as a dessert, given that it shares the same number of properties with the proposed definition as the sliced apple and the nonsweet truffle? A prototype theoretical explanation might propose that sweet potato puree is less similar to prototypical

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members of the category than the sliced apple and the unsweetened truffle (which are similar to an apple pie and a sweet truffle respectively). The main point here is that when the boundaries of a category are negotiable, its extension, its particular members, may have more weight than its abstract, intensional definition.[4]

The prototype structure of categories is functionally motivated. It has been previously proposed that linguistic conventions must be regular and oriented towards the most typical circumstances, in order to enable mutual understanding of interlocutors (Wittgenstein, 2010 [1953], §141). The emergence of prototype structure for categories is theoretically motivated, as it naturally follows from the previous usage-based assumptions. If experiences are represented and categorized according to similarity, it is expected that infrequent experiences will be represented and categorized as variants of an existing strong representation to which they are most similar, inasmuch as such a representation is available.

Note that according to the usage-based approach the inclusion of an entity in a category is conditioned by experience. For example, while minced meat may hardly be considered a dessert in regular circumstances, if it is served as such in a gourmet restaurant, it might be accommodated as a dessert to amenable diners. That is not to say that categories lack boundaries altogether: a rock, being inedible, will hardly be considered a dessert in almost any context.

Different linguistic findings serve as evidence for categories with prototype structures in the grammar (Bybee 2006; Geeraerts 1997; Lakoff 1987 inter alia). For example, Bybee & Eddington (2006) considered categories of adjectival complements of different verbs meaning 'becoming' in Spanish. First, the corpus frequencies of different complements of different 'becoming' verbs were calculated. Then, in an experiment, participants graded the acceptability of verb+adjective pairs where the low-frequency adjectival complements were more or less semantically similar to frequent complements. The authors found that complements that were semantically similar were deemed significantly more acceptable by participants than those that were not, despite the fact that both were low in frequency. Taking the high frequency complements to be prototypical members of the adjectival-complement category, and configurations with low-

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[4] The terminological choice of referring to the definitional perspective on a category as *intensional* and the perspective concerning its members as *extensional* was proposed by Geeraerts (1997).

frequency complements as instances of category expansion, the central members of a category seem to affect its boundaries, thus providing evidence for prototype structures in the grammar.

Chapter 3 – Possessives

3.1 The cognitive function of possessives

Cognitive linguists (Langacker 1995; Taylor 1996) propose that the grammatical function of possessives is to serve as what they term *a reference point construction*. Langacker (1995) relies on the notion of *mental contact*, which he defines as the cognitive operation of singling out an entity for conscious awareness. Possessive constructions are analyzed as facilitating mental contact with one entity, in virtue of its relation to another entity. A *reference point* - the possessor - is invoked to establish mental contact with a *target* - the possessee. So, when a speaker uses the possessive construction *Jane's knife*, she facilitates the addressee's mental contact with a certain knife, with respect to its relation to Jane.

Following Ariel (2002), I do not take this cognitive analysis as the conventionalized, obligatory function of possessives ('possession' or more broadly 'relation' is their core meaning). Rather, their reference-facilitating role constitutes their most prominent use, i.e. their prominent discourse profile. Langacker's proposal predicts that all possessors refer to accessible entities, and all possessed nominals refer to new or to less-accessible entities. This is due to the reasonable assumption that reference points should be more available for mental contact than the targets they facilitate.

However, Ariel's corpus study of English spoken discourse shows that while accessibility prediction is borne in most cases, it is crucially not manifest in all cases. A possessor may (rarely) be a non-specific pronoun, meaning it cannot function as a reference point: [5]

5. When **someone's personal and professional reputation** has been besmirched…
   (originally, Morris 1994, cited by Ariel 2002, p. 19,)

Nonetheless, Ariel does stress that there are good reasons to believe that prominent discourse profiles are stored as part of our linguistic knowledge. The entrenchment of such discourse patterns can explain both synchronic frequency and processes of language change. Following Haspelmath (2014), I will term the most frequent discourse profiles of the possessives as their core tasks.

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[5] For specification of the features indicating accessibility, as well as their counts see Ariel (2002, p. 19).

3.2 The core tasks of possessives

Accepting Langacker's reference-point as the prominent function of possessives in discourse motivates the cross-linguistic core tasks of possessive constructions. Langacker (1995) argues that his cognitive analysis accounts for two such cross-linguistic tendencies: reference to inalienable nouns (2.2.1) and reference to definite entities in discourse (2.2.2).

3.2.1 Inalienable possession

While the range of meanings conveyed by possessive constructions varies cross-linguistically, Aikhenvald (2013) distinguishes three core meanings of possessives which recur in her typological review. These core meanings are (a) ownership (of property), (b) part-whole relations (including body parts), and (c) kinship relations. The latter two differ from the first, as they express concepts that are virtually always entertained by speakers with respect to a different entity (in referring contexts). For example, a hand is entertained with respect to a body, a parent with respect to her child, etc. Such relations are defined as inalienable (contrary to alienable) and are often expressed by specialized constructions.

The nominals or concepts which are grammatically inalienable, as well as the manner in which they are formally encoded in the grammar, varies widely. In some languages, the distinction is coded for certain nouns, when a dedicated possessive construction is used only with a closed set of inalienable nouns (e.g. Maltese: Koptjevskaja-Tamm 1996). In other languages, different constructions are used with the same nouns to express different possessive relations (Navajo, Naani: Nichols 1988; Papatar: Chappell and McGregor 1996). The nouns and relations that are considered inalienable also vary cross-linguistically. However, in languages that make inalienability distinctions, body-parts and kinship terms are nearly always categorized as inalienable, while ownership and owned objects are almost always considered alienable. Culturally important objects pertaining to the personal domain, such as 'name' or 'house', may also group with other inalienable nouns.

Langacker proposes that relational nouns such as kinship terms and body parts naturally lend themselves to the reference-point function. This is because these nouns conceptually entail a relation to another entity: a sister is by definition someone's sister, and a hand is (routinely) attached to someone's body. As these nouns invoke a conceptual relation between two entities,

they are prime candidates for constructions that carve a mental path from one entity to another. This results in reference to inalienable possession being a core task of possessive constructions.

Note that since Langacker focuses on the reference-point role of possessives he does not distinguish between ownership, such as my ownership of my computer, my table, and my glasses, as a prototypical possessive relation and kiship and body-part relations. But for the issue at hand, ownership is crucially different from kinship and body-part relations because it is associated with a much more heterogenous set of entities: different people own different things, and owned objects are not necessarily saliently associated with the relation of ownership. While kin or a body part always stands in a relation to some specific other entity, this is not the case for objects that may or may not be owned. While the concept of *sister* inherently invokes a relation to another sibling, the concept of *table* is not by definition construed as being owned by someone. If, as I assume, discourse patterns are crucial in explaining language change I expect the different possessive relations to motivate different synchronic distributions, and hence different diachronic changes. I will provide a more detailed explanation for grammatical differences between ownership and the other core meanings of possessive constructions in §6.

3.2.2 Definiteness

Possessive constructions correlate with definite reference both in grammar and in usage (Aikhenvald 2013). Some languages have nominal possessive constructions that are grammatically obligatorily definite (Lyons, 1999). Even when possessive constructions are not obligatorily definite, they are often interpreted as such in discourse. Thus, Haspelmath (1999) found that an overwhelming majority (93-96%) of possessive tokens in the English, Italian and Modern Greek corpora he checked were interpreted as definite, a much higher proportion of definite NPs in the same corpora (67-76%).

The tendency of possessive constructions to be definite is naturally accounted for by Langacker's cognitive analysis for possessives as reference point constructions. Following Hawkins (1978), Langacker (1987) analyzes definite marking as presupposing that the interlocutors can establish mental contact with the reference of the marked nominal. Crucially, mental contact is not necessarily pre-established, but may be via the semantic information expressed by the definite nominal (in a relative clause, for example). According to Langacker, since a possessive construction facilitates mental contact with a possessed entity (which

determines the reference of the entire nominal phrase) the definiteness presupposition is automatically satisfied for the entire construction. The satisfaction of the definiteness presupposition facilitates the construal of the possessee, and therefore of the possessive construction as a whole, as definite.[6] This accounts for the typological fact that definite reference is a core task of possessive constructions.

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[6] A similar argument is made in Haspelmath (1999).

Chapter 4 – Pronominal possessives in Hebrew

Hebrew[7] offers two variant pronominal possessive constructions: a suffixed construction in which a pronominal suffix is attached to the possessed nominal (6a) and a prepositional construction, in which the possessive suffix is attached to the preposition *ʃel* 'of' (6b)[8]. In both suffixed and prepositional constructions, the lexical nominal, (N1, *xaver*, 'friend', in (6)) refers to the possessee, and the pronominal suffix, specified for person, number and gender (except for 1st person), refers to its possessor.

6. a. Suffixed: xaver-i\xa\o

      friend-POSS.1\2|\3.MASC.SG

      My\your\his friend

 b. Prepositional: xaver ʃel-i\xa\o

      Friend of-POSS.12|\3.MASC.SG

      Friend of mine\yours\his; My/your/his friend

---

[7] As Hebrew speakers in Israel have very different linguistic backgrounds, referring to a single Hebrew is in fact quite problematic. It is very probable that socio-linguistic factors are fundamental in understanding the grammar(s) of present-day Hebrew speakers. Unfortunately, a comprehensive examination of these factors was impossible with our data and must be left for a future study. For existing research see Dubnov (2000) who suggests that ethnicity and age (but not education level) are relevant for the distribution of the two possessive constructions.

[8] I here ignore two additional pronominal possessive constructions:

 a. The possessive dative: koev li   ha-roʃ

           hurt me.DAT the-head

           My head hurts

 b. The double genitive: xaver-o   ʃel-o

           friend-POSS.3.MASC.SG of-POSS.3.MASC.SG

           His own friend

The first is a sentential construction, in which the possessor and possessee consist of separate nominal phrases. The second configuration combines the prepositional and suffixed configurations and is very rare in the spoken data (less than 0.5% of pronominal possessive tokens).

While the possessive suffix was already in use in Biblical Hebrew, the prepositional construction only emerged during the later period of Mishnaic Hebrew (Kutscher & Kutscher 1982). From a synchronic perspective, although these constructions are sometimes considered synonymous (e.g. Schwarzwald 2013), several important differences between them have been recognized in both spoken and written language. Many have noticed the different frequencies for these constructions and the different linguistic and social conditions for their use (Rosén 1977, Shatil 1997 and Dubnov 2000 for spoken language, and Ornan 1963 and Avioz 2004 for written language). I here extend previous findings but argue that these findings do not justify positing synchronic rules conditioning one form over another. Rather, they reflect the naturally motivated forces which drive both discourse patterns and language change.

As a point of departure for an analysis of the two possessive structures in a Construction Grammar framework, two constructions are postulated:

7. a. The prepositional construction: [N+*ʃel-POSS*]ₙ.

    b. The suffixed construction: [N-*POSS*]ₙ

These descriptions are only a first approximation. A usage-based account for the distribution of the two construction will be fleshed out in the following sections by elaborating on the restrictions specified in the representations of the two constructions. I will also argue that we must postulate several sub-constructions in addition.

The following sections review previous findings regarding the synchronic differences between the two constructions. These pertain to productivity (§4.1), inalienability (§4.2) and definiteness (§4.3). These findings are attested against an analysis of a Modern Hebrew spoken corpus. All instances of the two pronominal possessive constructions were manually extracted from transcriptions of 155 conversations from The Haifa Corpus of Spoken Hebrew (Maschler et al. 2021) and The Corpus of Spoken Israeli Hebrew (CoSIH), yielding a total of 825 tokens for the

two constructions[9]. The possessed nominal in each token was tagged as alienable or inalienable, and definiteness was assessed for the construction as a whole.

4.1 Productivity

Productivity refers to the likelihood of a construction being used by speakers when forming new utterances. The prepositional construction is considered the more productive one in spoken Hebrew. Dubnov (2000) argues for the defaultness of the prepositional construction, based on its higher frequency compared to the suffixed construction in a corpus of radio talk shows, although she does not provide any counts. Shatil (1997) identifies the prepositional construction as the unmarked construction, based on its ability to appear in a wider variety of morphosyntactic configurations, ones which block the use of the suffixed construction (e.g., loan words (8a) and proper names (8b)).

8. .a. hirceti al maʃehu **me-ha-teza** **ʃel-i**
    lecture.1.SG.PST about something **from-the-thesis of-POSS.1.SG**
    I gave a lecture about something from **my thesis**. (COSIH C413)[10]

  b. **liron** **ʃel-i**   hi lo hitxatna
    Liron **of-POSS.1.SG** she no marry.PST.3.F.SG
    My Liron, she didn't get married. (COSIH P423_2)

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[9] 38 prepositional tokens were disregarded as they lacked a phonetically realized possessor, a configuration not available for the suffixed construction. e.g:

 a. ani ohev et ʃel-i
   I love ACC of-POSS.1.SG
   I love mine.   (OCD_3)

[10] The examples in () are extracted from The Corpus of Spoken Israeli Hebrew (CoSIH). The numbers indicate the number of the recording in the corpus. Examples with lexical names (e.g. (9a-b)) are adapted from Maschler et al. (2021). Unnamed examples are made up, unless noted otherwise.

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Indeed, the suffixed counterpart expressions *??tezat-i* 'my thesis' and ??*liron-i* 'my Liron' are quite unacceptable. However, neither Dubnov nor Shatil provide an explanation for the productivity difference.

Shatil and Dubnov's claim that the prepositional construction is more productive is supported by my corpus analysis. Additional calculations, however, provide a finer-grained description of the way the constructions pattern in discourse. Each possessive token was initially tagged for its morphological structure (suffixed vs. prepositional) and the nominal type of the possessee. For example, the tokens in (8) were tagged as prepositional, and for their different types (the common noun *teza*, 'thesis' and *liron* 'Liron' – a Hebrew proper name). Note that the specific form of the pronominal element was not considered, so tokens such as (9a) and (9b) were tagged as the same type.

9.   a.   **axot-i**   amra li
              sister-POSS.1.SG told   to.me
              My sister told me.   (Vice principle)

       b.   ma   **axot-a**   osa?
              what **sister-POSS.3.SG.FM** do?
              What does her sister do?   (Jerusalem Bread)

A more productive construction is more likely to be used by speakers when forming new utterances. Thus, a productive construction is expected to be used more extensively and for a greater variety of uses than a less productive construction. Indeed, the use of the prepositional construction was found to be more frequent and diverse based on three measures, summarized in Table 1.

First, the number of tokens of each construction indicates which one is used more frequently by speakers. The prepositional construction was found to be 3.8 times more frequent than the suffixed construction in the corpus (1st row). Second, the prepositional construction shows a wider range of uses, hosting 5.2 more different nominal types than the suffixed construction (2nd row). Note that this cannot be accounted for by the gap in token frequency. Indeed, on average,

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there are more tokens of the same type for the suffixed than for the prepositional construction (3rd row), indicating that the prepositional construction is used more diversely.

	Prepositional	Suffixed
Token frequency	653	172
Type frequency	286	55
Token:Type Ratio	2.3	3.1

Table 1

Type and token counts of two pronominal possessive constructions

Thus, raw frequency, raw type number and type-token ratios all point to a higher productivity of the prepositional over the suffixed construction.

Examining the nominal types across the two constructions revealed a nearly complementary distribution: the vast majority of nominals, 94.4% (305/323) only occurred in one of the constructions, but not in the other.[11] This distribution suggests that at least one of the constructions is specialized for specific nominals. As the suffixed construction is the less productive one, and namely because of its low diversity, having a high type-token ratio, I deduce that it is the construction specialized for specific nominals. The specialization of a construction to specific nominals is taken to block their occurrence in a more productive construction by preemption (Goldberg 1995).

However, the manner in which this specialization is represented in the grammar is yet to be determined. It might be that the suffixed construction has an abstract nominal slot, which is nonetheless restricted to nominals belonging to a certain formal or functional class. Conversely, it might be the case that there is no single, suffixed construction but many, low-level constructions, each dedicated to a lexically specific (possessed) nominal.

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[11] A full list of the possessed nominals found in the corpus is listed in

Appendix A.

As for the prepositional construction, I can now offer a first revision of its constructional representation above:

10.   The prepositional construction: [*N+ʃel-POSS*]ₙ.
       A **productive** construction, with an **abstract, non-restricted possessed nominal slot**.

Before moving on, an observation crucial to the current account should be addressed: the finding that the higher frequency of the prepositional construction does not carry over to nominal types which occurred with both constructions. For these, the prepositional construction was only slightly more frequent (94) than the suffixed construction (78), despite the gap in frequency in favor of the prepositional constructions (compare the general token ratio of *3.8 prepositional : 1 suffixed*, with the *1.2 prepositional : 1 suffixed* ratio of nominals appearing in both constructions). The lack of clear preference for the prepositional construction in these contexts suggests that the two constructions do compete over *some* functions. This may point to a linguistic change in progress. In order to determine the nature of this change, the discourse profiles of the two possessive structures are further investigated below.

4.2 Inalienability

Inalienability is treated here as a semantic aspect of possessive relations, concerning the degree to which a relation between the possessor and the possessee is conceptually construed as necessary.[12] Various researchers noticed the tendency of the suffixed construction to express inalienable relations between the possessor and the possessee (Dubnov 2000, Neuman 2015, Rosén 1977, Shatil 1997). Rosén (1977) argued that alienability is the central factor conditioning the distribution of the two constructions, such that each construction conveys different types of possessive relations. This is most apparent when they host the same nominals in the possessee position.

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[12] Note that (in)alienability may refer to a formal, grammatical correlate of this semantic distinction, but I am here concerned with the semantic concept.

Rosén's strong claim is that the suffixed construction is used to convey inalienable relations between the possessor and possessee, whereas the prepositional construction is used to convey temporary, contingent relations. Thus, he claims that while the suffixed structure in (11a) conveys a kinship relation between a woman and her daughters, the prepositional construction in (11b) conveys a (contextually derived) inalienable relation, such as the one between a teacher and her students. Similarly, the suffixed structure in (12a) conveys the relation between a person and his body, but the prepositional structure in (12b) denotes an ownership relation between a person and his property.[13] Rosén notes that the semantic difference between the constructions is highlighted by the fact that in English the same semantic distinction requires different lexemes (*daughters* versus *girls*; *flesh* versus *meat*).

11.   a.   bnot-eha
                girls-POSS.3.FEM.SG
                Her daughters

      b.   ha-banot   ʃel-a
                the girls   of.POSS.3.FEM.SG
                Her girls.

12.   a.   bsar-o
                meat-POSS.3.MASC.SG
                His flesh

      b.   ha-basar   ʃel-o
                the meat of.POSS.3.MASC.SG
                His meat.

This semantic explanation is appealing, but it does not hold up, unfortunately. Based on her corpus, Dubnov (2000) argues that the semantics of the possessive relation cannot be the only conditioning factor behind the distribution of the two constructions, because inalienable possession is commonly conveyed by the prepositional construction as well. Dubnov's conclusion is that the

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[13] Examples (11-12) are cited from Rosén (1977, p. 150).

suffixed construction is associated with specific sets of nominals, most of which are inalienable, but that the prepositional construction is used for all other nominals (alienable and inalienable alike). Still, along with Shatil (1997), Dubnov, claims that the semantics of the possessed nominal is crucial, even if it is not a sufficient condition for its usage.

The distribution of inalienable possessed nouns across the two constructions was therefore examined. A nominal was considered inalienable only if it denoted a concept of a body part (13a), a kin relation (13b), or an object belonging to the personal domain (13c).[14]

13. a. **ha-oznaim ʃel-xa**   ʃomot et   ma
the-ears   of.POSS.2.MASC.SG   hear   ACC what
ʃe-**pi-xa**   omer?
that-**mouth-POSS.2.MASC.SG** says?
Do **your ears** hear what **your mouth** is saying?

b. tistakel al **ha-axim   ʃel-a**
look   at the-brothers of.POSS.3.FEM.SG
Look at her brothers.   (P423_2)

c. bat   kama   hi, be-**gil-enu**?
Of   how.many(years)   she, in-**age-POSS.1.PL**?
How old is she? (is she) **our age**?

A sample of nominals in non-possessive constructions was collected manually to serve as a baseline for comparison. Fifteen transcription files were selected randomly, out of which ten nominals were randomly extracted for each transcript.[15]

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[14] Non compositional uses, such as the vocative use of *ax-i* ('bro', literally: 'my brother', used exclusively for non-family members in the corpus), were not removed since we were also interested in conventionalized forms.

[15] In each text, one in five (non-possessive) nominal tokens was extracted manually, up to a maximum of 10 extracted nominals per text. The minimum number of nominals extracted from a single text was five.

Looking at the distribution of inalienable nominals summarized in Table 2, it is apparent that the suffixed construction is indeed very strongly associated with inalienable nominals. The ratio of inalienable tokens in the suffixed construction is immensely greater than their proportion in prepositional tokens. The difference in proportions was found to be statistically significant using a 2-sample test for equality of proportions with continuity correction (X^2=72.546, df=1, p<0.001). This corroborates previous claims of Rosén, Shatil and Dubnov, that the suffixed construction is associated with inalienable possession.

	Suffixed	Prepositional	Other nominals
alienable	28 (16.3%)	346 (53%)	122 (89.7%)
inalienable	144 (83.7%)	307 (47%)	14 (10.3%)
total	172 (100%)	653 (100%)	136 (100%)

Table 2

Rate of alienable and inalienable nominals in possessive and non-possessive nominals

However, it is also apparent that the proportion of inalienable tokens in both possessive constructions is much greater than in the general NP pool. Using the same test, these differences are significant as well, both for the suffixed tokens (X^2=160.97, df=1, p<0.001) and for the prepositional tokens (X^2=61.377, df=1, p<0.001). Thus, the claim that possession is prototypically inalienable is confirmed for both pronominal possession in spoken Modern Hebrew.

Both constructions are associated with inalienable possession, albeit to different degrees. This also means that despite their near complementarity with respect to the specific nominals hosted in each of the constructions, the distribution of the two constructions in terms of inalienability is contrastive. While the relative distribution of the two possessives is complementary at the lower-level of specific lexical items, they are contrastive at the functional ('inalienability') level.

To examine whether inalienability itself conditions the use of the suffixed constructions, we checked whether it is more strongly associated with inalienable possession. If the choice of

suffixed constructions is conditioned by inalienability, such that inalienable nominals trigger the choice of the construction, we would expect a larger proportion of inalienable nominals to appear in the suffixed construction. However, that is not the case: only a minority of 32% (144/451) of inalienable, pronominal possessed tokens occurred in the suffixed construction, the rest preferring the prepositional construction (68.1%, 307/451). A single sample proportions test with continuity correction reveals that the proportion of prepositional tokens out of pronominally possessed inalienable nominals is significantly greater than chance-level (X^2=58.191, df=1, p<0.001).

The corpus analysis thus shows that while the suffixed construction prefers inalienable nominals, it is not the case that inalienable nominals prefer the suffixed construction, at least when they are pronominally possessed. This shows that inalienability does not synchronically condition the choice of one construction over the other and suggests that the suffixed construction is not limited to a well-defined class of nominals (the class of inalienable nouns). If so, the constructions must be *extensionally* specialized for specific nominals, and not *intensionally* to a nominal class. From this it follows that the suffixed construction is not stored as a single, partially abstract construction, but rather, as a set of fixed expressions, which include a specific nominal in the suffixed construction. This calls for a further specification of the suffixed construction(s) in Constructional terms:

14. The suffixed constructions: A family of Non-productive constructions **specified for particular possessed, most notably inalienable nominals**. (e.g. [*ift-POSS*]$_N$, 'wife-'POSS').

In a usage-based, bottom-up approach, it is not obvious whether a partially abstract construction (as in 7b) should be postulated in addition to representations of the formally specific construction (cf. Sommerer and Baumann 2021). The higher frequency of the suffixed construction in written data (Avioz 2004), as well as innovation instances collected manually from social media suggest that such a productive use of the suffixed configuration is available to speakers of Hebrew to some extent. But a further division of labor between the two construction types is beyond the scope of the current research.

Finally, before moving on, I should point out that even though inalienability is not analyzed as explicitly represented in the grammatical representation of the suffixed construction, a strong association with inalienable nominals will play a crucial role in the account elaborated on in §5.

4.3 Definiteness

Definiteness here is taken to be a formal property, signaling that the entity referred to is accessible to the discourse participants, in that they already have a mental representation of it. The very high correlation between possessive constructions and conceptual definiteness for their referents has already been discussed in §3.2.2. Thus, this section focuses on the formal means of communicating definiteness. The suffixed and prepositional constructions differ on this parameter. While the prepositional construction may be marked definite or not, the suffixed possessive construction is not explicitly marked definite, but is inherently (and obligatorily) definite (Berman 1978, Shatil 1997). Evidence for these differences are apparent in their different patterning with other formal devices marking definiteness in Hebrew.

Hebrew generally marks the definiteness of common noun phrases with the definite article *ha* 'the' (15a), whereas indefiniteness is not formally marked (15b). The prepositional construction behaves similarly to the common noun phrases in (15): it is marked with the article when definite (16a) and lacks formal marking when it is not (16b)[16]. The suffixed construction, however, cannot co-occur with the definite article (17).

15. a. **ha-xatul** megarger.
         the-cat purrs.
         The cat purrs.
     b. **xatul** megarger.
         cat purrs
         A cat purrs.

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[16] Both possessors and possessed nouns may be definite or indefinite. In the research undertaken here the possessor is a pronoun, so it is always definite in both constructions. Since the possessed noun is the head of the possessive phrase, its definiteness determines the definiteness of each token of a possessive phrase. For brevity, we will only refer to the definiteness of the possessive phrase in its entirety from now on.

16. a. **ha-xatul ʃel-i**   megarger.

the-cat   of.POSS.1.SG purrs.

My cat purrs.

b. **xatul ʃel-i**   megarger.

cat   of.POSS.1.SG purrs

A cat of mine purrs.

17.   (#ha-)**xaver-i**   melatef xatul

(#the-)friend- POSS.1.SG pets   cat

My friend is petting a cat.

Other formal markings of definiteness indicate that the suffixed construction is in fact inherently definite. Hebrew requires additional marking for definite noun phrases in some syntactic configurations. For example, in direct object position, definite nominals require the accusative marker *et*. So, *et* obligatorily marks definite noun phrases in object position (18a), and is blocked with indefinite objects (18b):

18. a. ani melatef **#(et)**   ha-xatul

I   pet   **#(ACC)** the-cat

I'm petting the cat.

b. ani melatef **(#et)**   xatul

I   pet   **(#ACC)** cat

I pet a cat.

Another formal marking of definite nominals is definiteness agreement of adjectives with their modified nominal. Adjectives modifying definite nominals must be marked with the definite article (19a), and adjectives modifying indefinite nominals must not (19b).

19. a. ha-xatul **#(ha)-ʃaxor** megarger:

the-cat **#(the)-black** purrs.

The black cat purrs

    b.   xatul **(#ha)-ʃaxor** megarger.

          cat   **(#the)-black** purrs.

          A black cat purrs.

The accusative marker and definite agreement on adjectives can thus identify definite nominals which are inherently definite although they do not contain the definite article. Indeed, proper names require the accusative marker *et* (20a), as well as definite agreement marking on adjectives modifying proper names (20b).

20.   a.   ha-xatul ohev **#(et)**   **dana**

            the-cat loves **#(ACC)** **dana**

            The cat loves **Danna**

    b.   benny **#(ha)-xamud** ohev xatulim

          benny **#(the)-cute** loves cats

          Cute Benny loves cats.

The same applies to the suffixed possessives (21a-b), supporting the claim they too are inherently definite:

21.   a.   hi   zaxra   **#(et)**   **ʃm-i**

            She remembered **#(ACC) name-POSS.1.SG**

            She remembered **my name**.

    b.   zo   **daat-i**   **#(ha)-iʃit**

            that.F.SG **opinion-POSS.1.SG #(the)-personal**

            That's **my personal opinion**.   (CoSIH P931_3)

The definiteness of the suffixed construction should thus be incorporated in the constructionalist analysis:

22. The suffixed constructions: A family of non-productive, **inherently definite** sub-constructions specified for particular possessed, most notably inalienable nominals. (e.g. [*iʃt-POSS*; **DEFINITE**]_N, 'wife-'POSS').

Shatil (1997) correctly observes that indefinite possessed nominals are blocked from the suffixed construction and require the use of the prepositional construction. This raises the possibility that the choice between the two pronominal constructions is determined by definiteness, such that the suffixed construction is used for definite tokens, and the prepositional construction is used for indefinite tokens. If that was the case, it would be expected that most definite pronominal possessive tokens occur in the suffixed construction, and that most of the tokens of the prepositional construction would be indefinite. Both of these predictions are not in fact borne out by the data.

All suffixed tokens were considered definite, based on the arguments presented above (172/172, 100%). No counterevidence for the inherent definiteness of the suffixed construction was found. Each token of the prepositional construction was tagged for (in)definiteness, based on the occurrence of the definite article. The counts of the two constructions are again compared to the sample of nominals in other nominal constructions, which were tagged for the occurrence of the definite article as well. A summary of the data for the prepositional construction and for the general pool of nominals is presented in Table 3.

	Prepositional	Other nominals
No article	233 (35.7%)	82 (60.3%)
Definite article	420 (64.3%)	54 (39.7%)
total	653 (100%)	136 (100%)

Table 3
The proportion of definite marking in prepositional possessives
and non-possessives nominals

Several statistical tests were performed in order to assess the degrees to which definiteness is associated with the pronominal possessives. First, despite the fact that the suffixed construction is conventionally definite, pronominal possessives with definite reference are more common in the prepositional construction. Considering the distribution of definite nominals across the two pronominal possessive constructions, the proportion of prepositional tokens out of the total number of definite possessive tokens (420/592) was found to be significantly greater than chance level, in a single sample proportions test with continuity correction (X^2= 98.097, df = 1, p<0.001). This means that the prepositional construction is indeed preferred for pronominal definite possession, refuting the claim that the prepositional construction is dedicated to expressing indefinite possession.[17]

Second, the prepositional construction was itself used most frequently as definite. This tendency is even more striking when we compare the ratio of definite tokens here (almost two thirds) with the low proportion of definite tokens in the general nominal pool (under 40%). The difference in proportions of definite tokens was found to be significant using a 2-sample test for equality of proportions with continuity correction (X^2= 27.412, df = 1, p<0.001). Since the suffixed construction is conventionalized as definite, the proportion of its definite tokens (100%) is trivially higher than the proportion of the preposition tokens (as well as their proportion in the general nominal phrases). Thus, again, the distribution of the two constructions with respect to definiteness is non-complementary, just as it was for inalienability.

At this point, we might conclude that the suffixed construction is conventionalized as definite, while the prepositional construction is freely used for both definite and indefinite possession. This would echo the pattern observed for inalienability. However, a closer examination of formal indications of definiteness other than the definite article reveals a more intricate picture. Some kinship terms can be licensed as definite despite the absence of the definite article.

4.3.1 Inherently definite prepositional possessives

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[17] Given the findings of the previous section, it may be argued that the suffixed construction is preferred for inalienable, definite possession and that the prepositional construction is used for indefinite inalienable possession, and both definite and indefinite alienable possession. However, out of the total of 282 definite inalienable tokens, there was no clear preference for either construction (144 suffixed and 138 definite prepositional).

Most prepositional tokens showed the definiteness marking requirements exemplified in (16), namely, receiving a definite article when definite but not when indefinite. Interestingly, however, some tokens exhibited morphosyntactic behavior similar to the suffixed construction. Thus, some prepositional tokens of kinship terms occurred in the prepositional construction without a definite article, but with other (agreeing) definite markings (6/653, 1%). These tokens were either marked with the accusative definite marker *et* (23a), or exhibited definite agreement on a modifying adjectival phrase (23b):

23.   a.   raiti   **et** **aba ʃel-i**   hajom xozer

               saw.PST.1.SG **ACC dad of-POSS.1.SG** today return.M.PRES.SG

               I saw **my dad**(=definite) return today.   (D342cND)

    b.   ve-gam   et   ha-brit ʃel **ax**   **ʃel-i**   **ha-katan,**

           and-also ACC the-bris of **brother of-POSS.1.SG the-little**

           ʃe-afilu   et   ze ani zoxeret

           that-even   ACC this I   remember.F.PRES.SG

           And also my little brother's bris, which even this I remember.

         (Family Events)

In these sentences, the possessed kinship terms behave as inherently definite, meaning that they are exempt from the normally obligatory marking of definite nominals. Similar phenomena have been reported in Italian and Scandinavian languages (Dahl & Koptjevskaja-Tamm, 2001, pp. 205).

      In the following sections I explore the extent of this phenomenon and the way it can be accounted for within a Construction Grammar framework. First, I present insights from relevant corpus data (§4.3.1.1). I will then review speaker judgements I collected from consultants in order to overcome the limitations of the corpus (§4.3.1.2). Finally, I propose an experiment designed to substantiate these findings in a systematic manner (§4.3.1.3).

4.3.1.1 Evidence from corpus data

Only six prepositional tokens (of three nominal types: *savta*, 'grandma', *aba* 'dad', and *ax* 'brother), appeared in the corpus in definite configurations while lacking a definite article. However, 79 additional tokens of the same nominal types were ambiguous with regard to their definiteness status. These tokens occurred in configurations that provided no formal cues as to their (in)definiteness, besides the lack of the definite article. In (24a) which was attested in the corpus, the possessive construction occurs in subject position. In this position, there are no formal cues indicating whether the nominal is definite or not. Except for the subject nominal, the sentence is formally identical to two following (concocted) sentences, in which the nominal is inherently definite (24b) and indefinite (24c).

24.   a.   **aba ʃel-o**   holex im   mixnasaim

               dad of-POSS.1.SG   walks with   pants

               His dad is walking with pants.   (C212_2)

     b.   **dani**   holex im   mixnasaim

               dani   walks with   pants

               Danny is walking with pants.

     c.   **eize iʃ** holex   im   mixnasaim

               some man walks with pants

               Some man is walking with pants.

Crucially, recall that I refer to the formal notion of definiteness rather the semantic/pragmatic notion of uniqueness and accessibility. This is important, as many of these tokens convey concepts that are extremely likely to be unique in discourse. So, since the absence of the definite article cannot be taken as an absolute indicator of indefiniteness for prepositionally possessed kinship terms, the definiteness value of the possessive construction in (24a) is formally ambiguous. This calls for a reassessment of the definiteness status of kinship terms in prepositional construction, summarized in table 4.

	Modified with *ha*	Not modified with *ha*			Total
		Definite	Indefinite	Ambiguous	
ima 'mom'	2	-	-	71	73

aba 'dad'	-	3	-	54	57
ax 'brother'	1	1	-	16	18
axot 'sister'	2	-	-	5	7
savta 'grandmother'	-	2	-	9	11
saba 'grandfather'	-	-	-	4	4
TOTAL	5 (2.94%)	6 (3.53%)	-	159 (93.53%)	170 (100%)

Table 4 distribution of definite marking of kinship prepositional possessives

If conceptual definiteness were to be determined based on overt marking we would have to conclude that only 6.47% of prepositionally possessed kin terms were definite, just those which were marked with the definite article (2.94%) or with some other definite marking (3.53%). This seems quite unlikely: recall Haspelmath's (1999) finding that above 90% of possessive uses are definite. There seems to be no reason why kinship terms should diverge from this pattern. All the more so under the reasonable assumption that kinship terms are actually often construed as unique (and hence, definite) in discourse. This is further corroborated by tokens of kinship terms with obvious definite referents:

25.   **hi** beseder axʃavʔ **axot ʃelax**?
       she alright now?   sister of-POSS.3F.SG?
       is she alright now? your sister?   (a girl was born)

In this example from the corpus, the possessive construction is obviously definite. This is apparent in its co-reference with the preceding (definite) pronoun, *hi* 'she'.

Due to the low token frequency of prepositional tokens of kinship terms that are unambiguously (in)definite, we need an alternative methodology to test the definiteness of prepositional possessives lacking definiteness marking. A judgement task was designed to explore the extent of inherent definiteness of prepositionally possessed nominals.

3.3.1.2 Speaker judgments

Five consultants (native Hebrew speakers with linguistic training) were asked to judge the acceptability of sentences in which prepositional possessives in definite syntactic configurations

were nonetheless not marked with a definite article. More specifically, prepositionally possessed kinship terms were placed in direct object position, marked with the accusative marker *et* (such as 23a). If the sentence was judged acceptable, it was concluded that the possessive construction is interpreted as inherently definite. The judgments of the consultants provided initial confirmation that some animate relational nominals, most prominently kinship terms, are licensed as inherently definite, thus not requiring the definite article.

Sentences with the kinship terms specified in (26) were judged as perfectly acceptable by all consultants. This contrasted with common, nonrelational nominals, such as *sefer*, 'book' in (27), which was unanimously judged unacceptable. These results support the hypothesis that some kinship terms may impose definiteness on the entire nominal phrase, even without being marked as such.

26.   hu ohev   et   **ima \axot \saba   ʃel-o**

       he love.M.SG.PRST ACC   **mom\sister\grandpa of-POSS.3.SG.M**

       He loves his mom\sister\grandpa.

27.   #natati   la   et   **sefer ʃel-i**

       gave1.SG.PST her.DAT ACC **book of-POSS.1.SG**

       Intended meaning: I gave her my book. (=definite)

At this point, we may ask what is the source of definiteness of these configurations? Four possibilities may be proposed. First, it is possible that the definiteness of these constructions is conceptually licensed: when the referent of the nominals is unique, speakers allow the definiteness of the expressions to be pragmatically derived, which exempts them from the obligatory definite marking. Another option may refer to the possessed nominal itself. Kinship terms may be assumed to be lexically marked as definite, similar to proper names. As the definiteness of the possessive construction is determined by the possessed nominal, this would render the entire possessive expression as definite. A third option would be that what seem to be morphologically complex possessed kinship terms, are actually frozen expressions, conventionalized as definite in the lexicon. Finally, it may be that the nominal class of kinship terms (or a class containing kinship terms, such as relational or inalienable nouns) are systematically interpreted as definite only when

in the prepositional possessive configuration. In a Construction Grammar framework, each of these four options implies a different constructional network for the prepositional possessive in the grammar. Only the latter two options were consistent with the consultants' judgements.

The first option, according to which the definiteness of the possessives is conceptually licensed, was not compatible with consultants' judgments. Comparing near synonyms shows that the definiteness of prepositional possessive constructions is not licensed by its specific content. Holding that *horim* 'parents' most often conveys the same information as *ima ve aba* 'mom and dad', both expressions would be expected to be equally accepted as inherently definite if their definiteness was licensed conceptually. However, that was not the case. While (28a) was completely acceptable to most consultants, none found (28b) acceptable:

28. a. hu ohev et **ima ve-aba ʃel-o**
He love.M.SG.PRST ACC **mom and-dad of-POSS.3.SG.M**
He loves his mom and dad.

b. #hu ohev et **horim ʃel-o**
He love.M.SG.PRST ACC **parents of-POSS.3.SG.M**
He loves his parents.

The second explanation attributes inherent definiteness to the possessed nominal, regardless of the possessive construction, similar to proper names. This may be motivated by the entrenchment of kinship terms as definite, as they are often highly familiar in discourse, and often have a unique referent in familial contexts, where they are very frequent (Dahl & Koptjevskaja-Tamm 2001). However, my consultants' judgments indicate that at least some of the nominals must occur with the prepositional possessive for an inherently definite interpretation.

Some kinship terms such as *ima* 'mother' can be marked with *et* both with (29a) and without (29b) the possessive preposition, as both were acceptable for the consultants. From this it follows that the nominal itself is inherently definite, regardless of the possessive construction. In contrast, while *ax* 'brother' was acceptable as definite when it was embedded in the prepositional construction (30a), it was not acceptable when it occurred independently in the same position (30b), suggesting that the prepositional construction itself may be the source of definiteness.

29.   a.   hu haxi ohev   et   **ima ʃel-o**

              He most love.M.SG.PRST ACC **mom of.POSS.3SG.M**

              He loves his mom the most.

       b.   hu haxi ohev   et   **ima**

              He most love.M.SG.PRST ACC **mom**

              He loves mom the most.

30.   a.   hu haxi ohev   et   **ax**   **ʃel-o**

              He most love.M.SG.PRST ACC **brother of.POSS.3SG.M**

              He loves his brother the most.

       b.   #hu haxi ohev   et   **ax**

              He most love.M.SG.PRST ACC **brother**

              He loves brother the most.

It may be claimed that the unacceptability of (30b) stems from a requirement of kinship terms to appear with an explicit possessor (as claimed for example, in Meltzer-Asscher and Siloni 2013). However, a sentence in which *ax* occurred without a possessive construction, but was marked with the definite article, was completely acceptable to the consultants:

31.   hu haxi ohev   et   **ha-ax**

          he most love.M.SG.PRST ACC **the-brother**

          He loves **the brother** the most.

What remains, is to tease apart the last two possible explanations, and to determine whether the definiteness of the possessed structures stems from low-level, lexically specified expressions stored in the grammar as idiosyncratic units. Conversely, the inherent definiteness of the possessive tokens may be licensed categorically for a class of nominals. To distinguish between these two explanations, it should be determined whether the nominals that occur as inherently definite when possessed constitute a well-defined class of nouns. The consultants' judgments indicate that this is not the case: the nominals licensed as definite do not all belong to a single class of nouns.

While many kinship terms were acceptable as inherently definite in the possessive construction, others, such as *nexed* 'grandson' in (32a) were not acceptable as inherently definite by most consultants. Surprisingly, other relational nouns, such as *xavera* 'girlfriend' in (32b) were accepted as inherently definite by all consultants, even though it is not a kinship term. However, this was not the case for all relational nouns, as many of them, such as *more* 'teacher', were not acceptable as inherently definite by the consultants (32c). Other relational nominals, such as *ʃutafa* 'roommate', showed variation in the consultants' judgments, some deeming (32d) acceptable, and others rejecting it.

32.   a.   ?hu ohev   et   **nexed   ʃel-o**

           he love.M.SG.PRST ACC **grandson of-POSS.3.SG.M**

           He loves his roommate.

     b.   hu ohev   et   **xavera   ʃel-o**

           He love.M.SG.PRST ACC **girlfriend of-POSS.3.SG.M**

           He loves his girlfriend.

     c.   #hu ohev   et   **mora   ʃel-o**

           he love.M.SG.PRST ACC **teacher.FEM of-POSS.3.SG.M**

           He loves his roommate.

     d.   ?hu ohev   et   **ʃutafa   ʃel-o**

           he love.M.SG.PRST ACC **roommate.FEM of-POSS.3.SG.M**

           He loves his roommate.

This suggests that the definiteness of these configurations depends on specific lexical items in the prepositional construction. This is because the acceptability of the expression as inherently definite could not be attributed to the concept denoted by the nominal, to the nominals independent of the prepositional construction, or even to their semantic class. It follows that the prepositional construction may be conventionalized as potentially definite for specific nominals, even when they are not marked as such by the article. If this is indeed the case, it means that certain expressions which superficially look as if they exemplify the productive use of the prepositional construction, are actually stored as a single unit in the grammar. Another type of construction can thus be postulated for the representation of pronominal possessives in the grammar of Hebrew speakers:

33. Non-productive, inherently definite prepositional sub-constructions that may be definite, **lexically specified for possessed nominals most of which are kinship terms**.   (e.g. [*ax ʃel-POSS*; DEFINITE]ₙ, 'brother of-POSS').

Furthermore, the picture might even be more complex. Inter-speaker variation in the acceptability of different relational nominals (e.g. 32d) suggests that for some speakers a partially productive construction may be available. Evidence for such a construction is inconclusive, as the data provided by consultants is insufficient to properly describe the boundaries of inherently definite uses of the prepositional possessive. The following section proposes a design for a series of experiments geared at delimiting the extent of this phenomenon.

4.3.1.3 Experiment design

Two experiments eliciting sentence judgment tasks were designed in order to verify and extend the findings from the consultants' judgments. The experiments test the acceptability of different nominals in definite configurations. They are designed to distinguish the possible contribution of different factors to the acceptability of possessive constructions as definite. These factors are the possessed nominals, their semantic class, the possessive construction, and the definite article. The first experiment compares kinship terms with common, non-relational animate nominals, in order to establish that many of these terms are indeed conventionalized as definite with the prepositional construction. Assuming that the results of the first experiment will replicate consultant judgments on kinship terms, a second experiment is proposed, which compares kinship terms to other animate, relational nominals to assess to what extent inherently definite prepositional possessive constructions are abstracted and entrenched in a higher-level construction.

The materials of the first experiment include 32 sets of four sentences with the test expressions in direct object position, manipulating the occurrence of the possessive construction (independent vs. possessed), and modification of the definite article (with versus without the definite article). In 16 sets the tested nominal is a kinship term, while the other 16 sets contain non-relational animate nominals. Before each sentence, a linguistic context was provided stating the uniqueness of the relevant referent, thus insuring that the definiteness presupposition holds true. Participants will be required to rate each sentence on a "naturalness scale" ranging from 1

(completely unnatural) to 7 (completely natural). Each sentence/context pair is presented individually to the participants. An example of an experimental set is given in (34). The conditions of each configuration are abstracted in (35). The complete materials for the experiment may be found in Appendix C.

34.　　Context:　　la-atsanit jeʃ rak aba exad ve-axot axat.

　　　　　　　　　　The runner has only one dad and one sister.

　　　　a.　　lifnei　ha-taxarut,　　ha-atzanit　　xibka et　　**ha-aba**

　　　　　　　before the-competiteion the-runner.Fem. hugged ACC **the-dad**

　　　　　　　ʃela　　　　　　　　be-ahava

　　　　　　　of-POSS.3.SG.M　　in-love

　　　　　　　Before the competition, the runner hugged her dad caringly.

　　　　b.　　lifnei　ha-taxarut,　　ha-atzanit　　xibka et　　**aba**

　　　　　　　before the-competiteion the-runner.Fem. hugged ACC **dad**

　　　　　　　ʃela　　　　　　　　be-ahava

　　　　　　　of-POSS.3.SG.M　　in-love

　　　　　　　Before the competition, the runner hugged her dad caringly.

　　　　c.　　lifnei　ha-taxarut,　　ha-atzanit　　xibka et　　**ha-aba**

　　　　　　　before the-competiteion the-runner.Fem. hugged ACC **the-dad**

　　　　　　　be-ahava

　　　　　　　in-love

　　　　　　　Before the competition, the runner hugged the dad caringly.

　　　　d.　　lifnei　ha-taxarut,　　ha-atzanit　　xibka et　　**aba**

　　　　　　　before the-competiteion the-runner.Fem. hugged ACC **dad**

　　　　　　　be-ahava

　　　　　　　in-love

　　　　　　　Before the competition, the runner hugged dad caringly.

35.　　a.　　[+Article; +Possessive]　　… ha-N of-POSS …

　　　　b.　　[-Article; +Possessive]　　… N of-POSS …

c. [+Article; -Possessive] … ha-N …

d. [-article; -Possessive] … N …

The experimental items are divided into four lists in a Latin square design. Each list includes, in addition to the experimental items, 32 filler items identical across the lists. The fillers include different types of nominals in object position (indefinites, suffixed possessives, proper names) and different syntactic configurations (intransitive sentences, topicalized objects). The fillers were balanced for expected acceptability: half of them were unacceptable configurations (incompatible gender agreement and incompatible object marking), while the other half introduced acceptable configurations.

The results will be analyzed using logical regression, determining the contribution of each independent factor to the acceptability judgment (semantic category, definite article, possessive construction) as well as a post-hoc cluster analysis categorizing all tested lexemes in a four-dimensional space, where the place of each lexeme is determined by its acceptability in each of the four possible configurations (see 34a-d).

Based on the judgements of the consultants, I expect to find three types of lexemes, in terms of their acceptability patterns across the four formal conditions:

36. a. <u>Inherently definite nominal</u>:
   All syntactic configurations (35a-d) should be acceptable.
   (e.g. *ima* 'mom', see (29))

   b. <u>Inherently definite nominal in possessive</u>:
   Definiteness is acceptable with the definite article alone, with the possessive construction alone, or with both (35a-c). It is not acceptable as a bare nominal (35d).
   (e.g. *ax* 'brother, see (30))

   c. <u>Not inherently definite</u>:
   Definiteness is acceptable with the definite article (35a,c) but unacceptable without it (35b,d), regardless of the possessive construction.
   (e.g. *nexed* 'grandchild', see (32a))

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Nominals showing the pattern in (36a) are interpreted as inherently definite, as they are routinely interpreted as definite in the absence of a definite article, whether or not they occur with the prepositional possessive. According to the consultants, *ima* is such a nominal (see (29)). Nominals showing the patterns in (36b) are interpreted as inherently definite in virtue of their occurrence in the prepositional construction, as they require the definite article in the absence of the possessive construction, but are exempt from definite marking when they occur within the possessive construction. According to the consultants, *ax* is such a nominal (see (30)). Finally, the nominals in (36c) are interpreted as regular common nominals with regard to definiteness, as they require explicit definiteness marking whether or not they are part of a possessive construction.

I predict that different kinship terms will differ from each other with respect to patterns (36a-c). Results in which some kinship terms exhibit pattern (36b) while others exhibit (36c) will serve as evidence for positing low-level, formally specified prepositional constructions in (33). These results will show that while some kinship terms are accepted as inherently definite only with the prepositional construction. If so, this is not (yet) an abstract construction which can categorically host any kinship term. It is instead restricted to specific lexical items. Other kinship terms exhibiting pattern (36a) will not cause a problem for this proposal: it is definitely possible that some kinship terms are conventionalized as definite in a proper-name-like manner, while other nominals require the possessive to be interpreted as definite. All non-relational nominals are predicted to exhibit pattern (36c), as they are not expected to conventionalize as inherently definite, with or without the possessive construction.

The second experiment is identical to the first experiment, except for the nominal classes compared. Instead of non-relational animate nominals, the list of kinship terms will be compared to a list of 16 relational, animate nouns expressing social relations (e.g. *mora*, 'teacher; *mefakedet* 'commander. See Appendix B for all of the materials). Based on the judgmenents of my consultants, I expect some, but not all, relational nominals to exhibit the pattern in (36b). These will require the definite article in the absence of the possessive construction, but will be exempt from definite marking when part of the possessive construction. This finding will further confirm that the inherently definite prepositional construction is related to specific nominals, and not to a well-defined set of nominals. However, variation in the degree to which different nominals are acceptable as definite in the prepositional pattern lacking definite marking, may point to a process of abstraction from formally specified constructions (33) to a partially productive, partially abstract

construction. This may be assessed by considering inter-speaker variation, taking into account participants' age, holding that Linguistic differences among different generations of a population mirror actual diachronic developments in the language (Labov 1963). As far as the research reported here is concerned, I will only assume the existence of the low-level, formally specified construction, for which there is more conclusive evidence.

4.4 Summary

In this section, the two morphosyntactic configurations of pronominal possession in Hebrew were investigated. Corpus data allowed a thorough description of the distribution of the two configurations in spoken discourse, i.e. their discourse profiles in terms of their functionally motivated core tasks. The discourse profiles of the two constructions are summarized as follows:

37.   The suffixed configuration:
   a.   is used almost exclusively with inalienable nominals.
   b.   is conventionalized as definite.

38.   The prepositional configuration:
   a.   may be used with both alienable and inalienable nominals, but predominantly with inalienable ones (in comparison with other nominals).
   b.   may be used as either definite or indefinite, but most often as definite (in comparison with other nominals).
   c.   accommodates the use of specific kinship terms as inherently definite despite the absence of overt marking.

Based on these discourse profiles a Construction Grammar analysis of the two possessives can now be proposed. As the two structures stand in near complementary distribution with regard to the nominal types they host (see §4.1), I concluded that one of the constructions must be specialized, while the other is the productive construction. Productivity measures (Table 1) revealed that the prepositional construction is much more productive than the suffixed construction, rendering the latter as the specialized construction.

Testing the association of each construction with the possessive core task of reference to inalienable entities (see §4.2) revealed that both constructions are highly associated with nominals referring to inalienables relative to other nominal constructions (Table 2). From this I concluded that the suffixed construction must be associated with specific possessed nominals, rather than with a more abstract function of reference to inalienables. This licensed postulating a family of low-level constructions as the grammatical representations of the suffixed possessive.

This assumption was confirmed by assessing the association of both constructions with definite marking (§4.3). Even though the suffixed construction is conventionalized as definite, the prepositional construction is also highly associated with defernites, as it is associated with definite marking to higher degree than other nominal constructions (Table 3). This showed that the suffixed construction is not associated with the abstract function of definite possession, but with low-level specific instances. Furthermore, several prepositional tokens in the corpus, which were definite despite lacking the definite article, suggested that we need to postulate an inherently definite sub-construction (§4.3.1.1). Acceptability judgments of different relational nominals in definite syntactic configurations confirmed the need for an inherently definite prepositional sub-construction (§4.3.1.2). The acceptability of the prepositional possessive construction as inherently definite depended on specific lexical items. Since these too do not constitute a coherent nominal category (such as kinship terms or relational nouns) a family of low-level constructions must be postulated as the grammatical representations of the inherently definite prepositional possessive.

Thus, three kinds of possessive constructions are postulated for Hebrew speakers:

39. <u>The prepositional construction:</u>   [*N+ʃel-POSS*]_N.
    A productive construction, with an abstract, non-restricted possessed nominal slot.

40. <u>Inherently definite prepositional constructions</u>:
    e.g. [*ax ʃel-POSS*; DEFINITE]_N, 'brother of-POSS'.
    A family of non-productive, inherently definite prepositional constructions that may be definite and lacking a definite marker, lexically specified for the possessed nominals, most of which are kinship terms.

41. The suffixed constructions: e.g. [*i/t-POSS*; DEFINITE]_N, 'wife-'POSS'

A family of non-productive, inherently definite constructions specified for particular possessed, most notably inalienable nominals.

In the following section, I offer a usage-based account that provides an explanation for this constructional analysis.

Chapter 5 – A usage-based account

My account explains the synchronic state of the grammar of pronominal possessives by analyzing it as a specific stage on a trajectory of language change. The account motivates both the distribution of each construction in discourse, as well as the postulated cognitive representations. Crucially, I take discourse to be the key to understanding diachronic processes of change.

Processes of change are normally identified based on a comparison between data from different periods. Such a comparison can point to the emergence of new constructions and/or the decline of an old one (see for example Haspelmath's 2014 description of the separate rise of three adnominal possessive constructions in Egyptian-Coptic in different periods). However, while diachronic data might indeed show that a linguistic change must have occurred, it does not reveal the motivations driving the change, nor the way it actually occurred (Cukor-Avila and Bailey 2013). The assumption that linguistic change is not abrupt but occurs in small steps over a period of time (Traugott & Dasher 2001) entails that synchrony often reflects diachronic change in progress (Cukor-Avila and Bailey 2013). Synchronic data from discourse should thus serve as a window to the actual dynamics which lead to language change. Furthermore, synchronic grammar itself includes coexisting layers of conventions from different time periods (Hopper 1991). Synchronic analysis should then reflect both the motivations and the results of diachronic changes.

Indeed, the starting point for my analysis are functionally motivated patterns in synchronic discourse. I propose diachronic processes which result from these discourse patterns. These in turn create a new synchronic grammar. Functionally motivated synchronic patterns of use drive diachronic processes, which in turn shape structures in (a later) synchronic grammar. These should be evident in discourse.

Discourse patterns are functionally motivated to the extent that they reflect a preference of speakers to employ certain grammatical means for specific discourse goals. In the case at hand, possessive configurations tend to introduce definite and inalienable nominals in, as these nominals best fit the typical cognitive function of possessive constructions. From this it follows that the discourse profile of possessive constructions which are most often used with definite inalienable nominals is functionally motivated. The extent to which the synchronic distribution of pronominal possessives in Hebrew is functionally motivated is elaborated in §5.1.

Discourse patterns are argued to drive change and thus shape grammar. Under the assumption that representations in grammar emerge as a result of the accumulation of individual

linguistic experiences, it is expected that the core tasks of linguistic forms will affect the organization of linguistic knowledge. For possessive constructions, whose core tasks introduce inalienable and definite entities, this is apparent for both the suffixed construction and for the inherently definite prepositional constructions. Both are virtually always used with inalienable possessees, and they are interpreted as definite despite the absence of an overt definite article. The far-reaching effects of discourse patterns on processes of language change are at the heart of the current proposal and are presented in §5.2. Finally, §5.3 provides an account for the grammatical representations of possessives formulated in (39-41), by placing the synchronic grammar in a particular moment along the proposed progression of language change.

5.1 Synchronic distribution is functionally motivated

As argued in §3, the core tasks of possessive constructions, reference to definite and inalienable entities, is functionally motivated by the use of possessives as reference-point constructions. As found in the corpus analysis, both possessive constructions are ubiquitous for the same core tasks: both forms introduce definite and inalienable entities significantly more than other nominal configurations. This is why I claim that the synchronic distribution of possessives in Hebrew *across the two constructions* is functionally motivated, and in the same way.

However, a comparison between the distributions of the two possessive constructions reveals a more complex picture. Taking a closer look, it is apparent that the two constructions are not associated with the core tasks to the same degree. The suffixed possessive is basically restricted to the core tasks of possessives. While the prepositional configuration too most prominently serves the core tasks of possession, it is nonetheless used for non-core tasks quite often.

While quite similar in their preference for the core possessive task, then, the distribution of the two constructions is at the same time quite different. In fact, the discourse profile of the suffixed configuration is a proper subset of the uses of the prepositional configuration. Hence, the two constructions compete over the same functions in discourse, namely, the core tasks of possessives. Such an unstable state, where two constructions compete over the same function, may be resolved in a process of grammatical change, in which one form "wins" the competition, and takes over the functions once served by both constructions.

Furthermore, recall that while the two configurations stand in a contrastive distribution with respect to discourse function (introducing definite inalienable entities), they stand in a near-

complementary distribution in terms of the specific lexical nominals which they host: The overwhelming majority of the pronominally possessed nominal types (94.4%) only occurred in one of the two possessive constructions. Focusing on the nominal types that did occur in both constructions, no clear preference for either one of the constructions was observed. This also points that what we are witnessing here is language change in progress, because there are nominals over which the two constructions still compete. In fact, we can see that the prepositional construction is expanding at the expense of the suffixed construction: recall that the prepositional construction is far more frequent for both definite and inalienably possessed entities. At this point, the nature of the relevant process of language change can be spelled out.

5.2 Core tasks in discourse shape processes of language change

The gist of my proposal is that over time, representations of constructions become more strongly associated with, and eventually specialized for, their core tasks. *Specialization*, I propose, does not (initially) occur directly at the intensional level of the core task (e.g. for the class of inalienable nominals), but at a lower level of actual tokens, which become conventionalized as formally specified sub-constructions. At the same time, such token conventionalizations may have far reaching effects on the internal structure of the representation of the higher-level construction. I further propose that both the conventionalization of low-level sub-constructions and their effect on the higher-level representation constrain the distribution of the specializing construction, as well as the distributions of competing constructions that emerge at a later stage.

This proposal is an extension of a claim briefly made by Haspelmath (2014, pp. 267), that over time, constructions are downsized to core tasks: "a grammaticalized construction may become restricted to the most frequent contexts". Haspelmath does not elaborate on the mechanisms and motivations of this process. I will therefore try to fill this gap in the next section by identifying downsizing to core task resulting from a cognitively motivated process I call prototypicalization.

5.2.1 Downsizing to core task

A process of *Reduction to core task* falls out naturally from the first usage-based assumption introduced in (3a), which specifies that linguistic structure emerges from recurrent linguistic experience. Specifically, tokens used sufficiently frequently become strongly associated with the construction, which may result in independent grammatical representations. One of the

consequences of independent representations of frequent instances is their resistance to regularization, or in other words – they are the last to undergo language change (see originally, Bybee (1985, 2003: chapter 7)).

It is quite obvious that the suffixed possessive has undergone reduction to the core task. While it was the prominent, and crucially, the productive possessive construction used for noncore tasks quite often in Biblical Hebrew (Kutscher & Kutscher 1982), it is limited to the core tasks of possessives in Modern Hebrew. Hence, Haspelmath's proposed reduction to the core is well-supported with for the suffixed construction.

The prepositional possessive construction, on the other hand, is not so reduced. It definitely introduces indefinite entities, as well as alienable possessees. However, if we consider the prominent discourse profile of the prepositional construction we see a clear preference for definites and inalienables, and these may constitute a first step towards the grammaticization process proposed by Haspelmath. The evolution of the inherently definite prepositional constructions, which lack definite marking and are restricted to the core task, potentially points to the same direction (see the next section). But these *specific conventionalized instances* of the higher-level construction are not to be mistaken for a reduction (to the core task) of the higher-level construction as a whole. Haspelmath's reduction to core task thus must be the result of a gradual process.

Now, conventionalization of low-level sub-constructions restricted to the core possessive task(s) is grounded in grammaticization mechanisms, where frequent instances receive an independent representation. But reduction is yet to be explained. In the following section, I will tie specialization and reduction once again under a single, more basic, cognitively grounded process of language change which I term prototypicalization.

5.2.2 Prototypicalization

Prototypicalization refers to a change in the category structure of a construction, following a conventionalization of instances of its core tasks. Specifically, it establishes a graded distinction between prototypical and less or non-prototypical instances of the construction. It is this gradual process that explains Haspelmath's ultimate reduction to the core. Prototypicalization follows naturally from usage-based assumptions, most notably the assumption that the structure of higher-level representations is affected by the relative strength of the representations of its instances (3c). Recall that prototype structure (evident in prototype effects reported for example in Bybee and

Eddington 2006) entails that the degree to which constructions may be mobilized for different tasks depends on how similar these tasks are to the prototypical members of the construction.

I propose that the stronger the representations of the prototypes, the more all uses of the construction need to be similar to those prototypes. As the demand for similarity increases, the application of the construction to peripheral tasks dissonant with the core tasks decreases. Thus, strengthening of the prototypes results in reduction of the productivity of the construction. In the extreme case, recurrent strengthening of the prototypical instances may lead to a complete loss of productivity of the construction, leaving only fossilized instances of the construction in its most core task instances. Reduction to the core task is therefore the result of continuous prototypicalization.

I propose that this is what happened to the suffixed possessive construction. It specialized for the nominal tokens instantiating its core task (inalienable definite possession). Since these specializations instantiate the core task of possession, they continued to be used extensively and frequently, strengthening their independent representations, gradually reducing the productivity of the higher-level construction. This is how the construction specialized for virtually only inalienable definite entities.

I note that my explanation is compatible with my finding that the competition between the constructions occurs on the low level of specific nominals, but not at the intensional level of inalienability and/or definiteness. As prototypicalization is driven by the relative salience of low-level representations, this is exactly the level at which this process of change is predicted to occur.

A central prediction of prototypicalization is that when novel constructions are employed for tasks previously filled by old constructions (such as the prepositional configuration for the possessive construction when it emerged), the novel constructions will first be mobilized for non-core tasks, namely, those tasks that the prototypicalized construction has become less appropriate for. I am not aware of any diachronic account of the emergence and proliferation of the two possessive constructions in Hebrew. The account I propose in the next section offers a cognitive theoretical basis for hypotheses on the relative distributions of the two constructions at different stages of their development. As the current study provides present-day data corroborating them, these hypotheses should be tested against diachronic data in future research.

5.3 Placing the synchronic state on a diachronic trajectory

In light of the proposed diachronic processes which resulted in the synchronic grammatical representations of pronominal possessives in Hebrew, we are now in a position to explain both the synchronic grammar of pronominal possessives and their synchronic distributions in discourse.

The contrastive distribution of the constructions in terms of their discourse profiles allows us to place the synchronic distribution of the two constructions at different specific stages within a dynamic process of language change. As the suffixed configuration occurs only in core task instances, while the prepositional configuration is also used for (but not limited to) non-core task instances, we can conclude that the relative synchronic distribution in discourse is a result of a process of language change, in which the prepositional construction is gradually replacing the suffixed construction. Crucially, since the prepositional construction is predominantly used for the core tasks of possessives, but not (yet) as extremely so as the suffixed construction, we may conclude that the synchronic state of the prepositional construction is actually a relatively late stage in the process of change. This is why many instances of the core tasks once fulfilled by the suffixed construction have by now been regularized to the prepositional construction.

It is my claim that both possessives show prototypicalization effects. The difference between them lies in how advanced prototypicalization is for each of them. Prototypicalization is more advanced for the suffixed construction, hence its exclusive reduction to the core possessive tasks. The prepositional construction is on the same diachronic trajectory, which why it too has specialized for the core possessive task. But since it is a later construction it is not as advanced, so it has not been reduced to the core tasks. The inherently definite prepositional possessive sub-construction has conventionalized for inherently definite entities (predominantly kinship terms), but it has not had an effect on the higher-level construction, which remains neutral with respect to definiteness. The latter is then available to speakers for both core and non-core possessive tasks.

Finally, the distribution of the inherently definite prepositional constructions is explained by identifying them as the most recent type of pronominal possessive constructions to have emerged in Hebrew. This is because they show entrenchment of core task associated with the higher-level prepositional construction: reference to definite (specific) kinship terms. Recall that prototypicalization predicts that the higher-level prepositional construction emerged first for non-core possessive tasks, as core possessive tasks were specialized for the older suffixed construction. If that is the case, the suffixed construction must have been reduced to the core tasks before the

regularization of the prepositional construction to core tasks could take place. Only then the low-level prepositional constructions could have emerged. Thus, the inherently definite prepositional sub-constructions corroborate my proposal that the synchronic state reflects a relatively late stage in a process of language change: The prepositional construction must have been (frequently) used for the core tasks of possessives before it could have conventionalized for them (within the inherently definite sub-construction).

Chapter 6 – Implications for the study of language change

6.1 Competing motivations

Linguists have long noted that functional motivations in language never have absolute application. They actually compete with one another (Du Bois 1985, Haiman 1983, Macwhinney, 2014). Indeed, two competing motivations inform the use of the two possessive constructions. First, a tendency for one form-one function. This motivation calls for the evolution of distinct uses for functionally close constructions (possessives in our case). Second, a prototypicalization process, which triggers a reduction of constructions to their core task, here the introduction of inalienable definite entities. Since both constructions are strongly associated with this single core task this motivation serves as a trigger for a change in the opposite direction, whereby the two constructions become more and more alike.

Now, when in conflict, one motivation may win out, or they may divide up the distributional territory between them. The synchronic picture for Hebrew reveals that (for now) the one-form-one-function has the upper hand with respect to the nominal tokens within the constructions (there's a virtually complementary distribution here). But prototypicalization has the upper hand with respect to the single abstract discourse function served by the two constructions. Should the prototypicalization process observed for the constructions continue such that both will equally overwhelmingly serve the core possessive task a new construction will most likely have to emerge.[18] This does not entail that one of the extant constructions will die out, because the complementary distribution at the lexical token level might persist.

6.2 Solving a typological puzzle

My account may be used to explain a grammatical divergence between the three typologically recognized core concepts conveyed by possessive constructions. Recall that ownership is claimed to be one of the core concepts of possessive constructions cross-linguistically, alongside kinship terms and part-whole relations (Aikhenvald 2013; Langacker 1995). But intriguingly, it is only the latter two (i.e., the inalienable possessive constructions) that are grammaticized into specialized constructions cross-linguistically (Aikhenvald 2013). This could be explained by noting the different discourse profiles of the three types of possession.

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[18] In fact, I suspect that was the motivation behind the innovation of the prepositional construction in Mishnaic Hebrew. I discuss this in Erb and Ariel (in prep).

What I found for Hebrew is that the prepositional and suffixed constructions stand in a near complementary distribution in terms of the nominals they host, meaning that the two constructions compete at the low-level of specific lexical items. While this finding cannot be assumed to be true cross-linguistically, it might point to the importance of the lexical level in diachronic processes in general. I propose that the mutual association of specific nominals denoting *inalienable* possession with possessive constructions is much stronger than the mutual association of any nominal denoting *alienable* possession and possessive constructions. Consider the association of a possessive construction with specific nominals. While the number of nominals denoting potentially owned things is massive, kinship terms and terms of part-whole relations (and even more so body-parts) consist of a relatively limited class of nouns. Thus, while the relation of ownership is probably quite frequent for the possessive construction, no *particular* instances of owned possession are nearly as frequent as the relatively restricted set of kinship terms and terms denoting part-whole relations. This constrains the emergence of low-level representations of owned possessions, thus limiting their direct influence on the structure of higher-leveled constructions.

6.3 Reassessing the Uniformitarian assumption

I propose that research on the linguistic expression of possession may provide important insights on the Uniformitarian assumption, according to which "No linguistic state of affairs (structure, inventory, process, etc.) can have been the case only in the past" (Lass 1997, pp. 28). This assumption entails that the processes and forces driving linguistic change must be, to some degree, immanent, and were operating in the past to a similar degree that they operate in the present.

I have here explained the emergence of two low-level constructions as a result of specialization to the core tasks of possessives. Indeed, the two low-level constructions discussed, the suffixed construction and the inherently definite prepositional construction, exhibit the same characteristics: they both introduce inalienable nominals and they are both conventionalized for definiteness. The proposal that both result from the same language change processes, due to the same functional motivations, supports the Uniformitarian assumption. The two constructions evolved at very different times and have therefore undergone prototypicalization at different times.

Thus, at least some functional motivations for the same core tasks seem to be prevalent for speakers living in very different times, within rather different socio-cultural environments. As far

as grammatical structures are functionally motivated, identifying which cognitive functions (e.g. the reference-point function), as well as the tasks they perform in discourse (reference to definite and inalienable entities), are historically consistent is of great importance under a usage-based approach. I propose that the cognitive function of facilitating mental access to entities in virtue of their conceptual relation to other entities, and the suitability of family members and body parts to be served by this function, are good candidates for historically stable tendencies within human communication.

Chapter 7 – Concluding remarks

I have offered a novel analysis for the synchronic grammar of pronominal possessives in Hebrew. Contrary to previous analyses, mine considered not only the differences, but also the commonalities in the distributions and in the functions of the two pronominal possessives. I argued that the mental representations of pronominal possessives comprise *three* types of (form/function) *constructions*, in contrast with the previous assumption in the literature about just two syntactic configurations.

My analysis of Hebrew attributive possessive constructions provides support for the thesis that language in use is absolutely the starting point for accounting for both synchronic and diachronic language patterns. I showed how principles of language use drive and constrain synchronic discourse patterns, which in turn shape trajectories of language change, and how these trajectories may in turn provide an explanation for structures within synchronic grammar.

The research here reported showed how functionally grounded communicative goals of speakers determine the distribution of constructions in discourse: speakers use possessive constructions most often for a definite reference to inalienable entities. This was shown to be the case for both possessive configurations. Discourse goals thus account for patterns of synchronic language use.

I here proposed a process of language change which follows from basic assumptions of a usage-based model – prototypicalization. Prototypicalization directly affects grammar by driving frequent expressions (the core tasks) to conventionalize and continuously entrench into sub-constructions. They may also gradually affect the representations of the higher-level constructions that they instantiate. I argue that strengthening the entrenchment of prototypical instances results in an increasing demand for the uses of the higher-level construction to be similar to those prototypes.

Under this perspective, (recurrent) discourse goals of speakers indirectly explain patterns of language change via the preferential mobilization of certain forms for certain functions.

Prototypicalization predicts a trajectory of different synchronic distributions for the different stages during its progression. The distribution of the two possessive constructions is thus explained by placing the synchronic distribution at a specific stage on the trajectory of prototypicalization. Speakers' goals, then, indirectly account for patterns of formal variation in both grammar and discourse. The relevance of prototypicalization in accounting for possessive

constructions in other languages, as well as for other linguistic phenomena, is expected to be a fruitful direction for future research.

More generally, I have tried to emphasize the far-reaching effects of conventionalization of word-level constructions on the internal representation of higher-level constructions, and their organization in the grammar. In addition to the centrality of low-level representations when accounting for the synchronic distribution of pronominal possessives in Hebrew, I also proposed that this perspective may explain a typological puzzle: the fact that while ownership is a prototypical concept for possessive constructions cross-linguistically, it virtually never creates discourse patterns salient enough which would lead to their grammaticization into sub-constructions. This issue relates to the broad question regarding the source of language change, and to whether it may begin in low, word-level changes, or in higher, more abstract constructions. I believe that this thesis sheds new light on the grammatical level(s) in which language change may originate.

Finally, my analysis illustrates the great potential in using different, complementary methodologies in linguistic investigations. Recall that the inherently definite prepositional construction could not be definitely established based on my corpus analysis, because such tokens could not be unequivocally disambiguated. I therefore plan to supplement the corpus study with an experiment designed to evaluate the nature of the construction. Initial acceptability judgments collected from consultants confirm the interpretation of the limited corpus findings as attesting to a prepositional inherently definite sub-construction.

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Appendix A – nominal types in pronominal possessive constructions

Nominals that occurred as possessees in the suffixed pronominal possessive:

(nominals occuring with both possessives are written in bold)

1. *adon*   'master'
2. *ahuv*   'lover'
3. *ajin*   'eye'
4. *aʃma*   'guilt'
5. *avon*   'sin'
6. ***ax***   **'brother'**
7. *axor*   'behind'
8. ***axot***   **'sister'**
9. ***baal***   **'husband\owner'**
10. *baalut*   'ownership'
11. ***bagrut***   **'maturity'**
12. *bxina*   'aspect'
13. ***davar***   **'thing\word'**
14. *dea*   'opinion'
15. *derex*   'road\manner'
16. *etsem*   'bone'
17. ***gil***   **'age'**
18. *gisa*   'sister-in-law'
19. ***guf***   **'body'**
20. *haskala*   '(level of) education'
21. ***hore***   **'parent'**
22. *iʃa*   'wife\woman'
23. *jakira*   'dear'
24. *jadid*   'friend'
25. *jaldut*   'childhood'
26. *jeʃua*   'salvation'
27. ***jexolet***   **'ability'**
28. *kavod*   'respect'

29. *kala*   'daughter-in-law'

30. *kol*   'voice'

31. ***lev***   **'heart'**

32. *makom*   'place'

33. ***matsav***   **'state'**

34. *mavet*   'death'

35. *min*   'sex'

36. ***miʃpaxa***   **'family'**

37. *motsa*   'ethnicity'

38. ***pe***   **'mouth'**

39. *rabot*   'rabis'

40. ***rav***   **'rabi'**

41. *reʃut*   'permission'

42. *ʃalom*   'peace\wellbeing'

43. ***ʃem***   **'name'**

44. *ʃexem*   'shoulder'

45. *tʃisat olam*   'world view'

46. *tguva*   'comment'

47. ***tor***   **'turn'**

48. *tox*   'inside'

49. *tsaar*   'grief'

50. *tsad*   'side'

51. ***xajim***   **'life'**

52. *xezka*   'possession'

53. *xeʃbon*   'expense'

54. ***zman***   **'time'**

55. *zxut*   'right'

<u>Nominals that occurred as possessees in the suffixed pronominal possessive</u>

1. *aba*   'dad'

2. *absurdiut*   'absurdity'

3. *agartal*   'vase'

4. *ahava*   'love'

5. *ahavat pirsomet atsmit* 'love of self-promotion'

6. *aluf*   'champion'

7. *alut*   'cost'

8. *atid*   'future'

9. *atsmaut*   'independence'

10. *avoda*   'work'

11. ***ax***   **'brother'**

12. ***axot***   **'sister'**

13. ***baal***   **'husband\owner'**

14. *baal-bajit*   'home owner'

15. *badi*   'buddy'

16. ***bagrut***   **'maturity'**

17. *bajit*   'home\house'

18. *basis kavua*   'permenant base'

19. *bat*   'daughter'

20. *bat-doda*   'cousin (female)'

21. *bat-mitsva*   'bar-mitzva'

22. *baxura*   'girl'

23. *bdika*   'test'

24. *bdikot-dam*   'blood-test'

25. *bdixa*   'joke'

26. *beaja*   'problem'

27. *beged jam*   'swim-suit'

28. *beitsa*   'egg'

29. *ben*   'boy\son'

30. *ben-dod*   'cousin (male)'

31. *ben-zug*   'partner'

32. *beten*   'stomach'

33. *bituax-xajim*   'life insurance'

34. *boker*   'morning'

35. *bos*   'boss'

36. *bxina axrona* 'last test'

37. ***davar***   **'thing'**

38. *delet*   'door

39. *diskmen xadaʃ* 'new discman'

40. *doda*   'aunt'

41. *doktorat*   'PhD'

42. *dor*   'generation'

43. *eks*   'ex'

44. *el*   'god'

45. *energja*   'energy'

46. *erex*   'value'

47. *ets*   'tree'

48. *falula*   'wort'

49. *feivorit*   'favorite'

50. *gav*   'back'

51. *gidulim-xaklaiim* 'Agricultural crops'

52. *gijus*   'enlistment'

53. ***gil***   **'age'**

54. *glida*   'ice-cream'

55. ***guf***   **'body'**

56. *haaraxat-miʃkal* 'weight assessment'

57. *haklata*   'recording'

58. *hamlatsa*   'recomandation'

59. *hargaʃa*   'feeling'

60. *hartsaa*   'lecture'

61. *hatzaa-zot*   'this proposal'

62. *haxzara*   'return'

63. *hefsed*   'loss'

64. *higajon*   'sense'

65. *hitjaʃvut*   'settlemtnt'

66. *hitnahagut ve-tnuot*   'behaviour and movement

67. *hitnasut-riʃona* 'first experience'

68. *hofaa-ʃlema*   'full preformance'

69. *hon*   'fortune'

70. **hore**   **'parent'**

71. *ima*   'mom'

72. *imeil*   'email'

73. *intiligentsja*   'intelegence'

74. *jad*   'hand'

75. *jarex*   'hip'

76. *jaxas*   'addittude'

77. *jelled*   'child'

78. **jexolet**   **'ability'**

79. *jitrat-ptixa*   'opening shot'

80. *kaf-jad*   'hand'

81. *kafe*   'coffee'

82. *kahal*   'audience'

83. *kartis*   'ticket'

84. *kartis-aʃrai*   'credit card'

85. *katze*   'edge'

86. *kavana*   'intention'

87. *kef*   'fun'

88. *kesef*   'money'

89. *keta*   'part'

90. *kibuts*   'kibutz'

91. *kis-axori*   'back pocket'

92. *kiʃur*   'connection'

93. *kivun*   'direction'

94. *kodemet*   former'

95. *kofa*   'monkey (female)'

96.	*konan*	'drive'
97.	*kopi*	'copy'
98.	*korban*	'victim'
99.	*ktovet*	'address'
100.	*kupa*	'cash register'
101.	*kurs*	'course'
102.	*laxats*	'pressure'
103.	***lev***	**'heart'**
104.	*limud*	'study'
105.	*luax bxinot*	'exam schedule'
106.	*maagar*	'stock'
107.	*maarexet*	'schedule\system'
108.	*maarexet-lexatzim*	'pressure system'
109.	*madrix*	'tutour'
110.	*maftexot*	'keys'
111.	*makor*	'source'
112.	*mana*	'portion'
113.	*mangina-gruaa*	'bad melody'
114.	*manxe*	'guide'
115.	*martinz*	'martins'
116.	*masa*	'journet'
117.	*maskoret*	'pay'
118.	*maʃkanta*	'mortgage'
119.	*mataim-ʃekel*	'two hundred shekels'
120.	*matara*	'target'
121.	*matara-meʃutefet*	'joint target'
122.	***matsav***	**'state'**
123.	*matsav-ruax-klali*	'general state of mind'
124.	*matsit*	'lighter'
125.	*matslema*	'camera'
126.	*maxʃev*	'computer'

127. *mazkira*   'secretary'
128. *mefaked*   'commander'
129. *meil*   'mail'
130. *mejaledet*   'midwife'
131. *mejmia*   'water bottle'
132. *meltsar*   'waiter'
133. *menahel*   'director'
134. *menahel spetsifi* 'specific director
135. *menahel-jaʃir*   'Direct manager'
136. *mevutax*   'insured'
137. *mexkar*   'research'
138. *mifal*   'factory'
139. *miklaxat*   'shower'
140. *mismax*   'document'
141. *mispar*   'number'
142. *mispar-rexev*   'car number'
143. *misrad*   'office'
144. *misxak-ze*   'this game'
145. *miʃala*   'wish'
146. *miʃkafaim*   'glasses'
147. *miʃkal*   'weight'
148. *miʃmeret*   'shift'
149. ***miʃpaxa***   **'family'**
150. *mixnasajim*   'pants'
151. *mizron*   'mattress'
152. *moadon*   'club'
153. *musag*   'idea'
154. *naal*   'show'
155. *naheget*   'driver'
156. *neʃek*   'weapon'
157. *nisajon*   'experience'

158. *nisuim*   'experiments'

159. *nituax*   'surgery'

160. *ofi-israeli-meod-nexmad* 'very nice Israeli character'

161. *oto*   'car'

162. *otobus*   'bus'

163. *oved*   'worker'

164. *oxel*   'food

165. *ozen*   'ear

166. *pakud*   'subordinate'

167. *panel*   'panel'

168. *panim*   'face'

169. *partsuf-amiti*   'true face'

170. **pe**   **'mouth'**

171. *peilut*   'activity'

172. *peleg-guf-eljon*   'torso'

173. *perot-jam*   'sea food'

174. *pet*   'pet'

175. *pina*   'corner'

176. *plitat-pe*   'slip of the tongue'

177. *prat*   'individual'

178. *privilegia*   'privilege'

179. *projekt*   'project'

180. *projekt haba*   'next project'

181. *eged*   'eged (company name)'

182. *liron*   'liron (first name)'

183. *raf*   'bar'

184. *rama*   'level'

185. *ramax*   'department head'

186. *ratson*   'will'

187. ***rav***   'rabi;

188. *regel*   'leg'

189. *rexokat-miʃpaxa* 'distant relative (female)'

190. *rimon* 'pomegranate

191. *rofe* 'doctor'

192. *roʃ* 'head'

193. *saba* 'grandpa'

194. *salon* 'living room'

195. *savta* 'grandma'

196. *seder-jom* 'agenda'

197. *sgan* 'deputy'

198. *si* 'record'

199. *signon* 'style'

200. *sikuj-jaxid* 'only chance'

201. *sikun* 'risk'

202. *sipur* 'story'

203. *sixa-erotit* 'erotic conversation'

204. *soit͡sialiut* 'sociality'

205. *soxen-bituax* 'insurance agent'

206. *straktt͡ʃer* 'structure'

207. *sviut-ratson* 'satisfaction'

208. *sviva-kalkalit* 'general environment'

209. *ʃalva-naffit* 'peace of mind'

210. *ʃana axrona* 'final year'

211. *ʃaot-xofʃiot* 'free period'

212. *ʃarwal lavan* 'white harem pants'

213. *ʃaxen* 'neighbour'

214. *ʃeela* 'question

215. *ʃehut* 'stay'

216. **ʃem** **'name'**

217. *ʃem-meforaʃ* 'explicit name'

218. *ʃem-miʃpaxa* 'family name'

219. *ʃeni* 'second'

220. *ʃiur-matematika* 'math class'

221. *ʃmira*   'guard duty'

222. *ʃoreʃ*   'root'

223. *ʃot avoda*   'working hours'

224. *ʃtika*   'silence'

225. *ʃtuiot*   'nonesense'

226. *ʃutaf*   'roommate (male)'

227. *ʃutafa*   'roommate (female)'

228. *ʃxena*   'neighbour (female)'

229. *tafkid*   'role'

230. *talmid*   'student'

231. *taxtonim*   'underwear'

232. *tazrim*   'flow'

233. *telefon*   'telephone'

234. *teudat-zehut*   'ID'

235. *teza*   'thesis'

236. *tik-klej-raxatsa* 'shower bag'

237. *tikkun*   'fix'

238. *tironut*   'basic training'

239. *tiskul*   'frustration'

240. *tixnun*   'planning'

241. *tkufat-limudim* 'study output'

242. *tluʃ*   'slip'

243. *tmuna*   'picture'

244. *toar*   'degree

245. ***tor***   **'turn'**

246. *toxnit*   'plan'

247. *tris*   'shutter;

248. *tsaatsua-betmen* 'batman toy'

249. *tsnir*   'tube'

250. *tsava*   'army'

251. *tseaka*   'scream'

252. *tsiporen*   'nail'

253. *tsura-kalkalit* 'economic form'

254. *tʃuvot*   'answers'

255. *txuʃa*   'feeling'

256. *txuʃa-klalit*   'general feeling'

257. *vrid*   'vein'

258. *xajelet*   'soldier (female)'

259. ***xajim***   **'life'**

260. *xalifa ve-aniva* 'suit and tie'

261. *xanix*   'trainee'

262. *xatima*   'signature'

263. *xatser*   'yard

264. *xatuna*   'wedding'

265. *xavat-daat*   'opinion'

266. *xaver*   'friend\boyfriend'

267. *xavera*   'friend\girlfriend'

268. *xavera kol kax krova* 'very close friend'

269. *xazit*   'front'

270. *xeder*   'room'

271. *xevra*   'company'

272. *xevra-bat*   'subisdiary'

273. *xevre*   'folks'

274. *xijux*   'smile'

275. *xikux*   'friction'

276. *xivui dea*   'expression of opinion'

277. *xor*   'hole'

278. *zajin*   'dick'

279. *ze*   'this'

280. *zip*   'zip'

281. *zipzup*   'flipping the channel(s)'

282. *zman*   **'time'**

283. *zug-garbaim*   'pair of socks'

284. *zug-xaverim*   'couple of friends'

285. *zug-xaverim-axerim* 'couple of other friends'

286. *zxija*   'win'

Appendix B – Experiment materials

Animate, non-relational common nominals as possessors

1.   Context: la-kablan   jeʃ rak mehandeset axat ve-ʃnej pakaxim.

   The contractor has only one engineer and two inspectors.

   Sentence: lifnei ha-ʃiputs ha-kablan tidrex et **(ha)-mehandeset (ʃel-o)** be-arixut.

   Before the renovation, the congtractor briefed **his engineer** at length.

2.   Context: la-misadanit jeʃ rak meltsar exad ve-ʃtej ʃefiot.

   The restaurateur has only one waiter and two chefs.

   Sentence: axrei ha-seuda, ha-misadanit ʃibxa et **(ha)-meltsar (ʃel-a)** be-tsniut

   After the feast, the restaurateur praised **her waiter** modestly.

3.   Context: la-politikai jeʃ rak peila axat ve-ʃnej lobistim.

   The politician has only one activist and two lobbyists.

   Sentence: likrat ha-bxirot ha-politikai hidrix et **(ha)-peila (ʃel-o)** be-tsumet lev.

   Towards the elections, the politician guided **his activist** with great attention.

4.   Context: la-ʃadxan jeʃ rak ravak exad ve-ʃtej ravakot.

   The matchmaker has only one bachelor and two bachelorettes.

   Sentence: lifney ha-deit ha-ʃadxan helxits et **(ha)-ravak (ʃel-o)** be-xoser axraiut.

   Before the date, the matchmaker stressed **his bachelor** irresponsibly.

5.   Context: la-dukas jeʃ rak abira axat ve- ʃnej meʃartim.

   The duke has only one knight and two servants.

   Sentence: axrei haneʃef, ha-dukas hetiʃ et **(ha)-abira (ʃel-o)** be-diburim

After the ball, the duke exhausted **his knight** with conversation.

6.   Context: la-tinoket jeʃ rak ʃmartaf exad ve-ʃtej metaplot

The-baby has only one babysitter and two nannies

Sentence: be-gan ha-ʃaaʃuim, ha-tinoket ʃiaʃea et **(ha-)ʃmartaf (ʃel-a)** im kolot ma͡tsxikim.

At the playground, the baby amused **her babysitter** with funny voices.

7.   Context: la-bamai jeʃ rak t͡salemet axat ve-ʃnej tasritaim.

The director has only one photographer and two screenwriters.

Sentence: be-jeʃivat ha-hafaka habamai bilbel et **ha-t͡salemet (ʃel-o)** be-taut.

At the production meeting, the director condused **his photographer** by mistake.

8.   Context: la-maafjonerit jeʃ rak ganav exad ve-ʃtej port͡sot.

The mobster has only one thief and two burglars.

Sentence: leaaxar maxʃava raba, ha-maafionerit rat͡sxa et **(ha-)ganav (ʃel-a)** be-axzariut.

After much thought, the mobster murdered **her thief** ruthelessly.

9.   Context: la-tajas jeʃ rak nosaat axat ve-ʃnej dajalim.

The pilot has only one passenger and two flight attendents.

Sentence: kʃe-ha-matos naxat ha-tajas birex et **(ha-)nosaat (ʃel-o)** ba-levaviut

When the plane landed, the pilot greeted **his passenger** cordially.

10.   Context: la-keptenit jeʃ rak ʃoer exad ve-ʃtej xalut͡sot

The captain has only one goalkeeper and two strikers

Sentence: lifnej ha-gmar, ha-keptenit imna et (ha-)ʃoer (ʃel-a) be-xarit͡sut

Before the final, the captain trained **her goalkeeper** with diligence.

11. Context: la-amargan jeʃ rak komikait axat ve-ʃnej zamarim.

The agent has onlt one comedian and two singers.

Sentence: axrej ha-odiʃen, ha-amargan tixker et (ha-)komikait (ʃel-o) le-pertej pratim.

After the audition the agent interrogated **his comedian** in great detail.

12. Context: la-xaʃuda jeʃ rak praklit exad ve-arba joat͡sot.

The suspect has only one attorney and four consultants.

Sentence: be-ta hamaat͡sar, ha-xaʃuda takfa et (ha-)praklit (ʃel-a) be-pzizut.

At the holding cell, the suspect attacked **her attorney** recklessly.

13. Context: la-nasix jeʃ rak naheget axat ve-ʃnej tabaxim.

The prince has only one driver and two cooks.

Sentence axrej ha-nesia, ha-nasix hixis et (ha-)naheget (ʃel-o) be-tipʃut.

After the drive, the prince angred **his driver** foolishly.

14. Context: la-xoreografit jeʃ rak rakdan exad ve-ʃtej teuraniot

The choreographer has only one dancer and two lightwoman

Sentence: ba-xazara ha-generalit, ha-xoreografit odeda et (ha-)rakdan (ʃel-a) be-regiʃut.

At the dress rehersal, the choreographer encouraged **her dancer** sensitively.

15. Context: la- ʃiput͡snik jeʃ rak xaʃmelait axat ve-ʃloʃa t͡sabaim.

The handyman has only one electrician and three painters.

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Sentence: lifnej ha-avoda, ha-ʃipu͡tsnik heeliv et (**ha-)xaʃmelait (ʃel-o)** be-ofen bote.

Before work, the handyman insulted **his electrician** bluntly.

16. Context: la-xaklait jeʃ rak jarkan exad ve-arbaa madbirim

The farmer has only one greengrocer and four exterminators.

Sentence: be-txilat ha-kai͡ts, ha-xaklait pitra et (**ha-)jarkan (ʃel-a)** be-let brera

In the beginning of summer, the farmer fired **her greengrocer**, having no choice.

Kinship possessors

1. Context: la-a͡tsanit jeʃ rak aba exad ve-axot axat

The runner has only one dad and one sister.

Sentence: lifnej ha-taxarut ha-a͡tsanit xibka et (**ha-)aba (ʃel-a)** be-ahava.

Before the competition the runner hugged **her dad** lovingly.

2. Context: la-student jeʃ rak ima axat ve-ʃnej axim.

The student has only one mom and two brothers.

Sentence: etmol ba-boker ha-student pagaʃ et (**ha-)ima (ʃel-o)** ba-oniversita

Yesterday morning, the student met **his mom** at the university.

3. Context: la-mitlamedet jeʃ rak ax exad ve-ʃaloʃ dodot.

The intern has only one brother and three aunts.

Sentence: axrej ha-mivxan ha-mitlamedet idkena et (**ha-)ax (ʃel-a)** ba-telefon.

After the test, the intern updated **her brother** on the phone.

4.   Context: la-t͡salam jeʃ rak axot axat ve-arbaa dodim.

                       The photographer has only one wife and four uncles.

           Sentence: ba-erua ha-miʃpaxti, la-t͡salam t͡silem et **(ha-)axot (ʃel-o)** be-hitragʃut.

                       At the family event, the photographer photographed **his sister** excitedly.

5.   Context: la-saparit jeʃ rak dod exad ve-axot axat

                       The hairdresser has only one uncle and one sister.

           Sentence: likrat haxtuna, ha-saparit sipra et **(ha-)dod (ʃel-a)** be-zehirut.

                       Before the wedding, the hairdresser cut the hair of **her uncle** carfully.

6.   Context: la-politikaj jeʃ rak doda axat ve-ʃnej jeladim.

                       The politician has only one aunt and two children.

           Sentence: be-masa ha-bxirot, ha-politikaj it͡sben et **(ha-)doda (ʃel-o)** be-taut.

                       In his campign, the politician annoyed **his aunt** by mistake.

7.   Context: la-ganenet jeʃ rak saba exad ve-ʃaloʃ axaiot.

                       The kindergarden teacher has only one grandpa and three sisters.

           Sentence: be-meʃex ha-mesiba ha-ganenet hit͡sxika et **(ha-)saba (ʃel-a)** be-xavana

                       During the party, the kindergarden teacher made **her grandpa** laugh on purpose.

8.   Context: la-muzikaj jeʃ rak saba exad ve-ʃaloʃ axaiot.

                       The musician has only one grandma and two brothers.

           Sentence: ba-hofaa ha-axrona, ha-muzikai rigeʃ et **(ha-)savta (ʃel-o)** ad dmaot.

                       At the final concert, the musician moved **his grandma** to tears.

9.   Context: la-xokeret jeʃ rak ben exad ve-ʃtej savtot.

The researcher has only one son and two grandmas.

Sentence: be-tekes ha-sijum ha-xokeret hirima et **(ha-)ben (ʃel-a)** be-simxa.

At the graduation ceremony, the researcher lifted up **her son** happily.

10. Context: la-ʃoter jeʃ rak bat axat ve-arbaa klavim.

The policeman has only one daughter and four dogs.

Sentence: bejn ha-pgiʃot ha-ʃoter hirgia et **(ha-)bat (ʃel-o)** be-savlanut.

In between the meetings, the officer calmed down **his daughter** patiently.

11. Context: la-ʃofetet jeʃ rak nexed exad ve-bat axat.

The judge has only one grandson and one daughter

Sentence: be-xof ha-jam, ha-ʃofetet nigva et **(ha-)nexed (ʃel-a)** be-jesodiut.

At the beach, the judge wiped dry **her grandson** thoroughly.

12. Context: la-karjan jeʃ rak nexda axat ve-ʃloʃa banim

The broadcaster has only one granddaughter and three sons.

Sentence: be-hafsakat hapirsomot, ha-ʃadran ʃiaʃea et **(ha-)nexda (ʃel-o)** ka-metuxnan.

At the commercial break, the broadcaster amused **his granddaughter** as planned.

13. Context: la-badranit jeʃ rak ben-dod exad ve-ʃnej sabim.

The comedian has only one cousin and two grandpas.

Sentence: ba-mofa haxadaʃ, ha-badranit xikta et **(ha-)ben-dod (ʃel-a)** be-kiʃaron.

In the new show, the comedian mimicked **her cousin** with talent.

14.   Context: la-saxjan jeʃ rak bat-doda axat ve-ʃnej xaverim.

        The swimmer has only one cousin and two friends.

        Sentence: be-brexat ha-sxija, hasxjan hit͡sil et **(ha-)bat-doda (ʃel-o)** be-mikt͡soijut.

        At the swimming pool, the swimmer saved **his cousin** professionally.

15.   Context: la-metaxnetet jeʃ rak gis exad ve-ʃaloʃ xatulot.

        The programmer has only one brother-in-law and three cats.

        Sentence: be-aruxat ha-erev, ha-metaxnetet daxfa et **(ha-)gis (ʃel-a)** bli lasim lev.

        At dinner, the programmer pushed **her brother-in-law** without noticing.

16.   Context: la-sofer jeʃ rak xamot axat ve-arbaa dodim.

        The writer has only one mother-in-law and four uncles.

        Sentence: ba-tijul le-xul, ha-sofer hipil et **(ha-)xamot (ʃel-o)** be-gamlonijut.

        At the trip abroad, the writer knowcked down **his mother-in-law** clumsily.

תקציר

מטרתו העיקרית של מחקר זה היא הבהרה של תהליכי שינוי לשוני, באמצעות נטיעתם במנגנוני הידקדקות מבוססי־שימוש, אשר מוגעים ממטרות תקשורתיות של דוברים. כמקרה בוחן, מנותחת תפוצתם של שני מבני שייכות:

.1	מבנה המוספית (הכינוי החבור)	:	אח-י
.2	מבנה מילת-יחס (הכינוי הפרוד)	:	אח של-י

בבחינת נתוני קורפוס עולה כי שני המבנים עומדים *בתפוצה משלימה* ברמה הנמוכה הלקסיקלית, בעוד שהם עומדים *בתפוצה נוגדת* ברמה הפונקציונאלית. זאת מכיוון ששני המבנים מורים לרוב על ישויות *מיודעות* המבטאות קשרי שייכות *צמיתה*. פונקציות אלה הן משימות הליבה של מבני שייכות בשפות העולם, כלומר השימושים הנפוצים ביותר שלהם בשיח (אייכנוולד 2013). תחת מסגרת תיאורטית של דקדוק תבניות (גולדברג 1995 והלאה), אטען כי דפוסי השימוש של שני המבנים מעידים למעשה על קיומם של שלושה סוגים שונים של ייצוגים דקדוקיים:

.3	א.	תבניות חבורות לא־יצרניות, כל אחת מקושרת לפריט לקסיקלי (משויך) מסוים. לדוגמה: [*אשת-POSS*, מיודע].	
	ב.	תבנית פרודה יצרנית [*צ"יש של-POSS*].	
	ג.	תת-תבניות מיודעות אינהרנטית ולא־יצרניות של התבנית הפרודה, כל אחת מקושרת לפריט לקסיקלי משויך מסוים (לרוב שמות של בני משפחה), ללא סימון של ה׳ הידיעה. לדוגמה: [*אח של-POSS*, מיודע].	

התבניות ברמה הייצוגית הנמוכה (3א,ג) מיוצגות כמיודעות אינהרנטית, יחד עם ביטויים המורים על ישויות הנמצאות ביחס שייכות צמיתה. לכן, אף על פי ששני המבנים מתמחים במשימות הליבה הבין-לשוניות של מבני שייכות, הם עושים זאת באופן שונה. בעוד שהתבניות החבורות מוגבלות למשימות הליבה של מבני שייכות, התבנית (הגבוהה) של השייכות הפרודה משמשת גם למשימות הליבה וגם למשימות שוליות של מבני שייכות (הוראה על ישויות לא מיודעות, בשייכות לא־צמיתה).

התפוצות של המבנים מוסברות באמצעות מיקומם בשלבים שונים של תהליך שינוי לשוני דומה, לו אני קורא *פרוטוטיפיקליזציה*. בתהליך זה, מקרים תכופים (משימות הליבה) של תבנית מיוצגים באופן עצמאי בדקדוק ומשתרשים לאורך זמן כתת-תבניות של התבנית הגבוהה. פרוטוטיפיקליזציה של תת-התבניות משפיעה בהדרגה על הייצוג של התבנית הגבוהה שלהן. בעקבותיה של תיאוריית הפרוטוטיפיות (רוש ומרוויס 1975, לאקוף 1987, חיררטס 1997, ביבי 2006) אטען כי השתרשות של מקרים פרוטוטיפיים לכדי תת-תבניות, גורמת להתגברות הדרישה שמימושים של התבנית הגבוהה יהיו דומים יותר לאותן תת-התבניות (הפרוטוטיפיות). טענה זאת מדגישה את תפקידם הפוטנציאלי של ייצוגים נמוכים בהנעת שינויים רחבים יותר בדקדוק.

המחקר הנוכחי על כן תומך בגישה הרואה בהיווצרות של מבנים דקדוקיים כמתרחשת "מלמטהלמעלה". כמו כן מודגש תפקידו של השיח, בטענה שהישנותם של מקרים מסוימים של שימוש גורמת לא רק להיווצרותם של ייצוגים נמוכים, אלא לעיצוב תבניות גבוהות. החידושים המרכזיים בתזה זאת הם: הסבר הדמיון והשוני בין כינויי השייכות הפרוד והחבור; ההצעה לתהליך הפרוטוטיפיקליזציה; וטיעון לייצוג נפרד לתת-התבנית המיודעת האינהרנטית של תבנית הכינוי הפרוד.

אוניברסיטת תל-אביב

הפקולטה למדעי הרוח ע״ש לסטר וסאלי אנטין

החוג לבלשנות

מסינכרוניה לדיאכרוניה ובחזרה: כינויי השייכות בעברית

עבודת־גמר לתואר מוסמך

מאת:

איתמר ארב

בהנחייתה של:

פרופסור מירה אריאל

אוקטובר 2022