Why do verbs change their form? A morpho-thematic account

1. Introduction

This talk examines the criteria that are responsible for morphological variation in the verbal system of Hebrew. The Hebrew verbal system consists of configurations called binyanim (and binyan in sg.): *CaCaC, niCCaC, hiCCiC, CiCeC* and *hitCaCeC*. The relation between Hebrew binyanim is manifested via valence changing operations (e.g. *nišek* 'kiss' and *hitnašek* 'kiss each other'). Some verbs demonstrate morphological variation with regard to their binyan. I define morphological variation as cases where two verbs occur in (at least) two different binyanim, but share the same (i) stem consonants (ii) thematic grid and (iii) denotation. For example, the verbs *nirtav* and *hitratev* are formed in *niCCaC* and *hitCaCeC* respectively; they are both intransitive verbs that denote 'get wet' and they share the stem consonants *r-t-v*. Morphological variation results from a change that takes place in the verbal system, where a verb takes another form. I have collected data from dictionaries and by online searches; their analysis reveals that the use of certain binyanim decreases and is taken over by other binyanim (e.g. *hitCaCeC* instead of *niCCaC*). The analysis addresses two main questions: (i) Which verbs are likely to change their binyan, and why? (ii) Which binyanim are selected for the 'newer' form?

I argue that morphological variation occurs as a result of the interaction between the following morpho-phonological and thematic-syntactic criteria. This talk examines these criteria, arguing that their interaction is unique to the morpho-phonology that applies in the lexicon, and not in the syntax.

2. Morpho-phonological criteria

2.1. Reducing prosodic alternation: Some binyanim are more marked than others because of their prosodic structure. *niCCaC* and *CaCaC* are the most marked forms due to the complex morphology of their inflectional paradigm (Schwarzwald 1996, Bat-El 2001); they do not preserve their syllabic structure throughout the inflectional paradigm (e.g. *nim**šax**-yi**mašex*** 'last'). When verbs change their binyan, the direction of change is towards a less marked binyan, as illustratedin (1).

(1) Changes into less marked binyanim

Old Binyan	New Binyan	Examples	
niCCaC	*hitCaCeC*	nisgar~histager	'close oneself'
CaCaC	*hiCCiC*	takaf~hitkif	'attack'

The morphological mechanism aims at simplifying the prosodic structure of the verbal paradigms and therefore changes the morphological shape of verbs to binyanim that do not exhibit prosodic alternation. Reducing such alternation makes mastering the verbal system less complex and the relations between verbal forms more transparent and perceptually accessible.

2.2. Reducing segmental alternation: Weak verbs exhibit segmental alternation in their paradigms, making them morphologically defective. Such verbs usually consist of one of the consonants *y* or *v* as part of their stem consonants. This defectiveness stems from historical phonological processes (e.g. diphthong contraction) that are no longer productive in verb formation in Hebrew and thus do not constitute an active part of the speakers' morpho-phonological knowledge. Since the morpho-phonology of such verbs is not an active part of the grammar, many of them verbs change into regular forms in other binyanim. The new binyan that is selected allows all stem consonants to surface throughout the entire paradigm. The selected binyanim are *hitCaCeC* and *CiCeC*, where no phonological alternations exist as in *CaCaC* and *niCCaC* (2). This results in paradigm uniformity (Steriade 1988) within the verbal system that in manifested in two aspects. First, there is no longer alternation of the stem consonants within the inflectional paradigm of verbs that change their binyan. Second,

more verbs shift to the same binyanim that take over others. The verbal system becomes more uniform in the sense that there are less active binyanim in the formation of verbs.
(2) The verb 'become dry' in different binyanim

	CaCaC - segmental alternation	hitCaCeC - no segmental alternation
past	**y**avaš	hit**y**abeš
present	**y**aveš	mit**y**abeš
future	*yi**y**vaš → yivaš	yit**y**abeš

3. Thematic-syntactic criteria

3.1. Base vs. derived forms: Most of the verbs that demonstrate variation are forms that are the output of thematic operations such as decausativization and reflexivization, where they undergo a reduction in their syntactic valence. I assume that such operations in Hebrew apply in the lexicon (Reinhart & Siloni 2005), unlike verbal passivization that applies in the syntax (Horvath &Siloni 2008, 2010). From the morphological point of view, I adopt the word based approach (Aronoff 1976 among others) according to which the lexicon consists of words with complete phonological representation. Consequently, the morphological derivation of forms that are the outputs of lexical thematic operations also applies in the lexicon. Consequently, morphological variation of verbs that are derived by lexical thematic operations also takes place in the lexicon. I argue that verbs such as decausatives, reflexives, and reciprocals have a different status in the lexicon than verbs that are basic entries and are not derived by any operation. The morphological component in the lexicon is sensitive to such differences; hence derived forms have a greater chance of undergoing variation.

Morphological variation is also typical to the lexicon, as opposed to the syntax. I contend that morphological variation in Hebrew is restricted to forms that are stored in the lexicon, either as basic entries or as derived ones. Verbs that are formed in the syntax do not undergo variation. Hebrew passivization supports this claim, as it is assumed to apply in the syntax, in contrast to other valence changing operations. The *niCCaC* binyan, for example, hosts both passive verb and verbs that are derived by lexical operations. *niCCaC* verbs that are only passive and have no other interpretation like reflexive or decausative do not undergo variation at all. A passive verb like *nigzam* 'be pruned', derived from *gazam* 'prune', has no *hitCaCeC* alternate (**hitgazem*), similarly to all *niCCaC* verbs with an exclusive passive meaning.

3.2. Transitivity vs. Intransitivity Marking: Binyan *CaCaC* is considered a neutral binyan with respect to transitivity, as it hosts both transitive and intransitive verbs (Berman 1978).Some *CaCaC* verbs change their binyan in order to be marked as transitive or intransitive. *CaCaC* intransitive verbs change into niCCaC (*'acar~ne'ecar* 'stop') or *hitCaCeC* (*gavar~hitgaber* 'increase'), while transitive verbs change into *CiCeC* (e.g. *ya'ac~yi'ec* 'consult') or *hiCCiC* (e.g. *takaf~hitkif* 'attack'). There is no crossing of transitivity boundaries with regard to morphological variation (e.g. there is no variation between *CiCeC* and *hitCaCeC*).

4. Summary

This talk provides an insight into the factors that play a role in the constant shift that the verbal system of Hebrew undergoes. While morphological variation cannot be fully predicted, it demonstrates rather clear tendencies. The analysis lends support for a unique type of morpho-phonology that applies in the lexicon, while taking into account both morpho-phonological and thematic-syntactic considerations. The morphology that applies post-lexically is more transparent and is not subject to the same extent of variation. The analysis supports the claim that morphology is an independent component of the grammar that interacts with the lexicon. (Aronoff 1976, Anderson 1977, 1992 Scalise 1984, 1988, Perlmutter 1988, Borer 1991, Booij 1996 among others).