Morpho-phonological Blocking of Valence Changing:
Evidence from Hebrew and Palestinian Arabic

Lior Laks, Tel-Aviv University

This talk examines morpho-phonological constraints that restrict the application of valence changing operations in Modern Hebrew (hereafter MH) and Palestinian Arabic (hereafter PA). Different thematic realizations of the same verbal concept (e.g. passive, decausative and reflexive) are assumed to be derived via operations that manipulate the syntactic valence of verbs. Such operations in MH and PA usually manifested by relations among prosodically distinct configurations called binyanim (e.g. *CiCeC*, *hitCaCeC*). Following Reinhart & Siloni (2005), I assume these operations apply in the lexicon in these two languages, apart from MH passivization that applies in the syntax. Lexical operations are considered relatively less productive than syntactic ones, that is, they demonstrate gaps in the derivation of predicates. The MH verb *raxac* 'wash' has a reflexive counterpart *hitraxec* 'washed oneself', while the verb *cavat* 'pinch' has no such counterpart **hictabet* 'pinch oneself'.
What is it that restricts the application of such operations and prevents the formation of theoretically possible verbs? I contend that while some of the lexical gaps seem arbitrary, the blocking of verb formation in lexical operations is affected by morpho-phonological criteria. I present three cases of lexical gaps within the two languages, where the lack of application can only be accounted for by morpho-phonology. In addition, I show that a word-based derivation captures such restrictions and therefore should be favored.

1. Gaps of the MH CiCeC- hitCaCeC paradigm

The *CiCeC- hitCaCeC* paradigm is considered very productive in verb formation and valence changing operations. *CiCeC* usually hosts transitive verbs that are basic entries in the lexicon, while *hitCaCeC* is mainly used for the formation of derived verbs via a reduction of the syntactic valence of transitive ones (e.g. *ximem* 'make warm' – *hitxamem* 'become warm'). Verbs whose initial stem consonant is *t* or *d* usually escape *hitCaCeC*, since such derivation creates the homorganic /*tt*/ or /*dt*/ clusters, which are prohibited in Hebrew. It is not surprising that most of *CiCeC* transitive verbs with no intransitive alternate in *hitCaCeC* are ones whose initial stem consonant is *t* or *d*. The verb *dike* 'make depressed', for example, has no decausative alternate that denotes 'become depressed', as such a formation would result either in an undesired homogenous cluster (**hitdake*) or in deletion of a consonant (**hidake*). The morphological component escapes these two options and hence the formation of a possible predicate is blocked. Furthermore, a few *CiCeC* verbs that begin with *d* have intransitive alternates in the *niCCaC* template. The *CiCeC- niCCaC* paradigm is highly rare and such formations are attested only in case where the *hitCaCeC* formation is blocked due to morpho-phonological reasons. The verb *diber* 'talk', for instance, has a derived reciprocal alternate in *niCCaC* (*nidbar* 'talk to one another') rather than in *hitCaCeC* (**hitdaber*/ **hidaber*) for this reason.

2. Gaps of the PA *CaCaC- inCaCaC* paradigm

PA *CaCaC* template is used for the formation of both transitive and intransitive verbs. The intransitive derived counterparts of *CaCaC* are formed in *inCaCaC* in case of passivization and decausativization (e.g. *bana* 'build – *inbana* 'be built'). Some *CaCaC* transitive verbs have no intransitive counterpart at all. The verb *daras* 'study', for example, has no derived passive form (**indaras* 'be studied') for no apparent reason. Again, some of the gaps are idiosyncratic but others can be predicted. A dictionary search reveals that apart from two forms, verbs whose initial stem consonant is nasal have no derived counterparts in *inCaCaC* (e.g. *najad* 'rescue'- **innajad* 'be rescued', *manaħ* 'award' - *inmanaħ* 'be awarded'). This is

not surprising because such formation would result in an undesired cluster of nasal consonants. As shown for MH, theoretically possible verbs are not formed due to morpho-phonological constraints. In other cases, the morphological component finds a way of deriving such predicates by forming them in a less typical template. The verb *našar* 'spread', for instance, has a derived counterpart in the *iCtaCaC* template (*intašar* 'be spread') rather than in *inCaCaC* in order to avoid a homorganic cluster (**innašar*), although *iCtaCaC* is not used for such verbs.

3. Blocking of PA passive formation

PA passive verbs are formed in two main templates: *inCaCaC* and *tCaCCaC*. Passive formation is possible only when the input transitive verb is formed in certain template, *CaCaC* and *CaCCaC*. The former is used as a base for *inCaCaC* passive verbs (e.g. *baʿa* 'sell' - *inbaʿa* 'be sold'), while the latter is used for the formation of *tCaCCaC* passive verbs (e.g. *s'allaħ* 'fix' - *ts'allaħ* 'be fixed').

There are verbs in other templates such as *iCtaCaC* (e.g. *iqtaraħ* 'suggest') and *istaCCaC* (e.g. *istaqrad'* 'borrow'), which have no passive alternates. Which factors prevent the formation of such passive verbs? There seem to be no thematic, syntactic or pragmatic reason for this blockage of valence changing. Furthermore, passive counterparts of such verbs exist in other languages cross-linguistically (e.g. MH and English). I contend that the reason is morpho-phonological. Forming such passive verbs in one of the passive templates would involve a rather complex morpho-phonology. Non-existing (but theoretically possible) forms such as **inqaraħ* ('be suggested') or **tqarra*d' (be borrowed') cannot be derived directly from transitive alternates by adding a prefix (*iqtaraħ* 'suggest' and *istaqrad'* 'borrow' respectively). The morphological component cannot handle such formations and therefore they are entirely blocked.

The analysis reveals the effect of morpho-phonological constraints on thematic operations. The voice gaps within the three cases discussed above can only be explained via morpho-phonological restrictions. The above constraints demonstrate that the morphological component operates directly on words rather than roots and stems (Bat-El 1994, Ussishkin 1999 among others). It has to examine both the input and the output forms and keep them as faithful as possible to one another by making only the minimal changes. Such restrictions are mostly typical to operations that apply in the lexicon, in contrast to syntactic operations (e.g. MH passivization) that are much more productive with no morphological limitations. The analysis therefore supports the claim that morphology is an independent component of the grammar that interacts with the lexicon (Aronoff 1976, Anderson 1977, Scalise 1984 among others), as it can also be responsible for blocking effects on valence changing.

References

Anderson. S.R. 1977. *On the formal description of inflection*. CLS 13, 15-44.

Aronoff, M. 1976. *Word Formation in Generative Grammar.* MIT Press, Cambridge, Mass.

Bat-El, O. 1994. Stem modification and cluster transfer in Modern Hebrew. *NLLT* 12, 572-596.

Reinhart, T. & T. Siloni. 2005. The Lexicon-Syntax Parameter: Reflexivization and other Arity Operations. *Linguistic Inquiry* 36, 389-436.

Scalise, S. 1984. *Generative Morphology.* Foris, Dordrecht.

Ussishkin, A. 1999. The inadequacy of the consonantal root: Modern Hebrew Denominal Verbs and Output-output Correspondence. *Phonology* 16: 401-442.