University of Massachusetts Amherst

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Israeli Hebrew morphology

Shmuel Bolozky, University of Massachusetts - Amherst

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1. The phonological word

Although Israeli Hebrew is not as highly inflected as Classical Hebrew, it is still sufficiently synthetic for clitics to play a role in the description of the Israeli Hebrew word. Beyond the lexeme and inflected as well as derived morphemes, the Hebrew “phonological word” includes proclitics such as la ‘the’, ve/u ‘and’, še ‘that, who, which’, le ‘to’, be ‘in’, mi ‘from’, and enclitics such as the possessive endings attached to prepositions and occurring in frequently used N+possessive pronoun configurations. Furthermore, although particles like the definite accusative marker et are represented orthographically as independent words, they are still part of the stress domain that can be characterized as a phonological word, if the criteria are “degree of boundedness,” and dependent stress status. Here are a few illustrations:

(1) ve- le- še- ti+ t+ ragel +u > ūlixšetiraglu
and to as that you will reflexive marker (get) used pl.
‘when you (pl.) will get used’

(2) ve- mi- dod +a(t) o > umidodato
and from uncle f. his
‘and from his aunt’

(3) ve- le- ha- xalon +ot > velaxalonot
and to the window pl.
‘and to the windows’

(4) et ha- yěled +ut +i +ut > (e)tay넓duniyut
acc. the child abst. N adj. abst. N
‘(acc.) the childishness’

2. Inflectional morphology

Verbs are inflected for number and gender in the present tense, and for number, gender and person in the past and future tense and the imperative:2

1. A lexeme is an uninflected form belonging to a major syntactic category that is an item of vocabulary, but not necessarily a free form and which may even be only potential.

2. The imperative, which appears to be derived from the future-used-imperatively, as shown in Bolozky (1979), is applicable to the second person only; the classical object pronoun enclitics are obsolete. Stress falls on the final vowel, unless marked otherwise.
(5) Inflectional affixes in the verb system

Present Tense

Prefix

Tense=mv+/0 (the realization of V determined by the stem)

\[ \text{e.g., } \text{medaber } '\text{speak}', \text{ maskim } '\text{agree}', \text{ mevin } '\text{understand}', \text{ kotev } '\text{write}' \]

Suffix

Singular: \( \text{Masc.}=0 \)  \( \text{Fem.}=+et/+at \)

Plural: \( \text{Masc.}=+im \)  \( \text{Fem.}=+ot \)

\[ \text{e.g., } \text{kotev } '\text{write}' \sim \text{kotévet } \sim \text{kotvim } \sim \text{kotvot} \]

Past Tense

Suffix

1st Person: Sing.\( =+ti \)  Plural\( =+nu \)

2nd Person: Singular: \( \text{Masc.}=+ta \)  \( \text{Fem.}=+t \)

\( \text{Plural: } \text{Masc.}=+tem \)  \( \text{Fem.}=+ten \)

3rd Person: Singular: \( \text{Masc.}=0 \)  \( \text{Fem.}=+a \)

\( \text{Plural}=+u \)

\[ \text{e.g., } \text{katavti } '\text{I wrote}' \sim \text{katávta } \sim \text{katávt } \sim \text{k(a)tavtem } \sim \text{k(a)tavten } \sim \text{katav } \sim \text{katva } \sim \text{katvu} \]

Future Tense

1st Person:  Sg. Pref.\( =V+ \)  Pl. Pref.\( =nV+ \)

2nd Person:  Singular:  Prefix\( =fV+ \)  Suffix (Fem. only)\( =+i \)

\( \text{Plural: } \text{Prefix}=fV+ \)  Suffix\( =+u \)  \( \text{(Fem. Lit.}=+na) \)

3rd Person:  Singular:  \( \text{Masc.}=yV+ \)  \( \text{Fem.}=fV+ \)

\( \text{Plural: } \text{Prefix}=yV+ \)  Suffix\( =+u \)  \( \text{(Fem. Lit.}==fV+ \)  \( \text{Lit.}=+na) \)

\[ \text{e.g., extov } '\text{I'll write}' \sim \text{nixtov } \sim \text{tixtov } \sim \text{tixtevi } \sim \text{tixtevu} \sim \text{yixtov } \sim \text{tixtevu} \sim \text{yixtevu} \sim \text{tixtóvna} \sim \text{tixtóvna} \]

Imperative

\( \text{only 2nd person} \)

Sg. Suffix: \( \text{Masc.}=0 \)  \( \text{Fem.}=+i \)

\( \text{Pl. Suffix}=+u \)  \( \text{(Fem. Lit.}=+na) \)

\[ \text{e.g., } \text{štik } '\text{shut up!}' \sim \text{štiki } (\text{coll. } \text{šteki}) \sim \text{šituq } (\text{coll. } \text{šteku}) \sim \text{šokna} \]

Nouns and adjectives are inflected for gender and number:

(6) Inflectional affixes in nouns and adjectives

Suffix

Singular: \( \text{Masc.}=0 \)  \( \text{Fem.}=+a/+et/+at/+t \)

Plural: \( \text{Masc.}=+im \)  \( \text{Fem.}=+ot \)  occasionally\( +dim \)

\[ \text{e.g., xaver } '\text{friend}' \sim \text{xavera } \sim \text{xaverim } \sim \text{xaverot} \]
However, while adjective inflection is quite regular, there are many exceptions to the marking of gender and number in nouns. In a fairly sizable group of nouns, +ot signals the plural of masculine ones (e.g., šulxanot ‘tables’, xalonot ‘windows’), and in another +im marks the plural of feminine nouns (e.g., milim ‘words’, našim ‘women’). In a third group, the feminine is not marked at all (e.g., règel ‘foot’, cfardēa ‘frog’), etc. There is also a handful of masculine nouns ending with a: läyla ‘night’, sulya ‘apprentice.’ The dual +aim usually refers to instruments consisting of two component parts (e.g., misparāim ‘scissors’, miškafāim ‘eyeglasses’), to dual time units (e.g., yomāim ‘two days’, snatāim ‘two years’), to the originally-dual and eventually plural of body parts (e.g., ragláim ‘feet’, eynāim ‘eyes’) and articles of clothing (e.g., naalāim ‘shoes’, mixnasāim ‘pants’).

In Israeli Hebrew, the possessive pronoun suffixes of Classical Hebrew have generally been replaced by free-standing possessive pronouns, except for commonly used items such as kinship terms (išti ‘my wife’, axoto ‘his sister’). However, the sets of possessive pronoun suffixes, one for singular bases, the other for plural bases, are used as pronominal enclitics attached to prepositions, as in

(7) Pronominal enclitics attached to prepositions
   a. based on possessive pronoun suffixes attached to singular stems
      bīšvīl ‘for’  1st Person 2nd Person 3rd Person
                    Masculine Feminine Masculine Feminine
       ‘for me, for you . . .’
      Singular:  bīšvīl+i  bīšvīl+xa  bīšvīl+ex  bīšvīl+o  bīšvīl+a
      Plural:  bīšvīl+ēnu  bīšvīl+xem  bīšvīl+xen  bīšvīl+am  bīšvīl+an
   b. based on possessive pronoun suffixes attached to plural stems
      al ‘on’  1st Person 2nd Person 3rd Person
                   Masculine Feminine Masculine Feminine
       ‘on me, on you . . .’
      Singular:  al+ay  al+éxa  al+áix  al+av  al+ēa
      Plural:  al+ēynu  al+eyxem  al+eyxen  al+eyhem  al+eyhen

3. Derivational morphology

There are either five or seven verb patterns (bīnānim) in Hebrew, depending on whether quasi-automatic passives associated with two of them count as independent bīnānim. Each bīnān is named by the third person singular masculine past tense form of a prototypical root; typically, the root pºl ‘act, do’ is used for this purpose. The seven bīnānim (in whose names p, º, and l stand for the first, second, and third elements of the root, respectively) are thus called: pû’al (sometimes referred to as qal ‘light’), nifºal, pºl, pû’al, hitpºal, hifºil, and hufºal. The third person singular masculine past tense form is also used as a citation form to represent each bīnān conjugation of a particular root (e.g., the root gmr is cited in pû’al as gamar ‘finish’, in nifºal as nigmar ‘end [intr.],’ etc.) There are roots whose conjugations are completely regular, but many involve deviations from
Deviations are caused by the presence in the root of a guttural, a glide (w or y) that has been weakened to a vowel, a syllable-final n that assimilates, identical second and third consonants that merge, etc. The verb system is thus, rigorously defined, limited to discontinuous derivation that can be effected by a small number of patterns, whose phonological structure is relatively fixed and therefore highly restrictive. Consequently, no foreign verbs can be borrowed directly. Consonants must be extracted out of existing foreign nouns, adjectives or verbs, then applied onto one of the seven patterns. But once that happens, such verbs behave essentially like native ones do.

The derivational system for nouns and adjectives is far less constrained than that of verbs. There exist a few hundred non-linear nominal and adjectival patterns, a number of linear ones, and a sizeable number of nouns and adjectives that do not fit into any pattern at all. The noun/adjective system is also more open to borrowing, and some of the patterns, be they continuous or linear, are quite productive. Linear patterns are particularly amenable to borrowing, since they leave the base essentially unaffected, and thus transparent. Many nouns are borrowed as they are, stress pattern included, regardless of whether they belong to an existing pattern or not.

3.1. The “mechanical” aspects of the derivational mechanism

It is very difficult to attribute psychological reality to any linguistic model, derivational morphology included. However, one can make reasonable assumptions regarding processes occurring at the point of innovation, when a word is coined for the first time. So even if no specific claims are made regarding the total lexicon, one can safely argue that when innovating, speakers of Hebrew have to make two simultaneous choices. One is “mechanical”: speakers need to determine whether the derivation should be discontinuous or linear, and in the case the former, what the actual phonological configuration would be. The other is the substantive choice of selecting a specific derivation pattern.

Since a new verb must be realized in a binyan, which is discontinuous by definition, new Hebrew verbs can only be formed non-linearly. In verb formation, discontinuous derivation is normally a mechanical process, in which consonant sequences are extracted out of existing words (see Rosén 1977; Ornan 1983; Bat-El 1989), then reapplied unto discontinuous patterns, regardless of whether they correspond to traditional roots:

(8) Illustrating extraction regardless of traditional root

<table>
<thead>
<tr>
<th>Denom. Verb</th>
<th>Gloss</th>
<th>Source N/Adj</th>
<th>Source N/Adj</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>misger</td>
<td>frame (V)</td>
<td>misgéret</td>
<td>frame (N)</td>
<td></td>
</tr>
<tr>
<td>mixzer</td>
<td>recycle</td>
<td>max(a)zor</td>
<td>cycle</td>
<td></td>
</tr>
<tr>
<td>timrec</td>
<td>give incentive</td>
<td>tamric</td>
<td>incentive</td>
<td></td>
</tr>
<tr>
<td>tikcev</td>
<td>apportion (in budget)</td>
<td>takciv</td>
<td>budget</td>
<td></td>
</tr>
</tbody>
</table>

In misger and timrec, for instance, the etymological roots of the source nouns are s.g.r ‘close (and related concepts)’ and m.r.c ‘energy (and related concepts)’, respectively, and the m and t are prefixal. Had the new form
been derived from historical root and pattern, only the root would have been extracted, without the prefix. One view is that the roots were restructured into \textit{m.s.g.r} and \textit{t.m.r.c}. In any case, we are no longer dealing here with the traditional root. Rather, speakers seem to extract whatever consonants they find in the source word while maintaining the original order, and if possible, the original consonant clustering as well. This also fits with the claim that speakers derive new words from existing words rather than from morphemes (Aronoff 1976; Bat-El 1986, 1989 for Hebrew).

The general tendency to preserve as much as possible of the structure of the derivation base, primarily by maintaining the original consonant clustering, may also be used as an argument for the word rather than a root being the base for derivation. For example, a borrowed noun like \textit{faks} ‘facsimile’, whose expected realization as a verb is in \textit{pi'el}, should have been transformed into the form *\textit{fikes}. Instead, the final s is reduplicated, resulting in \textit{fikses} ‘faxed.’ A similar argument can be made regarding the following (see Bolozky 1978):

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|l|}
\hline
Source Noun & Gloss & Possible Form & Actual Form & Gloss \\
\hline
flirt & flirt (N) & *filret & flirtet & flirt (V) \\
\hline
sifra & digit & siper/sifer & sifer & assign digits \\
\hline
toxnit & plan (N) & tiken/tixen & tixnen & plan (V) \\
& or (no redup.) & tixnet & & program (V) \\
\hline
\end{tabular}
\caption{Original consonant clustering maintained by reduplication}
\end{table}

Cluster preservation also suggests selection among potential realizations once the derivation pattern has been chosen (see also Bat-El 1994):

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|l|}
\hline
Base & Gloss & Possible & Actual & Gloss \\
\hline
\textit{s}pric & squirt (N) & *hi\textit{s}pric & hi\textit{s}pric & squirt (V) \\
\hline
sandlar & shoemaker & *snidler & sindler & make shoes \\
\hline
praklit & lawyer & *pirklet & priklet & practice law \\
\hline
nostálgya & nostalgia & *nistleg & nistelg & be nostalgic \\
\hline
\end{tabular}
\caption{Consonant cluster preservation through choice of syllable division}
\end{table}

Since the derivation process must reference the base in order to form the denominative verb without breaking the base clusters, Bat-El (1994) concludes that it is necessary to derive new verb forms from existing words rather than from roots, and that there is no justification for an independent level at which an entity such as a consonantal root can be argued to exist.

Extraction encompasses derivational affixes but not inflectional ones. There are some cases in which derivational affixes may be disregarded by extraction as well. When a new verb form is derived from an existing verb, it affects the stem proper, ignoring \textit{bin\text{\textprime}yan} as well as tense marking affixes (like \textit{hi+} or \textit{m\text{\textprime}V+}). Occasionally, affixes in nouns may be skipped over as well, as in \textit{misg\text{\textacute{e}r}et ‘frame (N)’} > \textit{mis\text{\textacute{e}r} ‘frame (V)’}. The explanation may lie in the bond between the stem and the affix, and that the more inflection-
like the affix is (as is the suffix +et, compared with the prefix mi+), the more likely it will be ignored by extraction (see also Bat-El 1986, 1989).

As noted above, derivation of nouns and adjectives is not as strictly constrained as verb formation is. New nouns and adjectives may be formed in numerous discontinuous patterns, as well as linearly. Some linear nominal/adjectival patterns will be discussed below: most adjectives ending with +i, some +an nouns/adjectives, some abstract +ut nouns, nouns ending with +iya, most diminutives ending with +on or +it, agent nouns ending with +at, etc.

Modern Hebrew also makes increased use of linear derivation such as lexemic prefix compounding (Kutscher 1982; Nir 1984; Ravid 1990), as in:

(11) Illustrating lexemic prefix compounding

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Gloss</th>
<th>Form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>xad+</td>
<td>one, single</td>
<td>xad-mošavi</td>
<td>single-seat (e.g., plane)</td>
</tr>
<tr>
<td>rav+</td>
<td>multi-</td>
<td>rav-taxlitı</td>
<td>multi-purpose</td>
</tr>
<tr>
<td>batar+</td>
<td>post-</td>
<td>batar-kon-gres</td>
<td></td>
</tr>
<tr>
<td>al+</td>
<td>super-</td>
<td>al-koli</td>
<td>super-sonic</td>
</tr>
</tbody>
</table>

and through appending foreign suffixes to stems, as in:

(12) Illustrating appended foreign suffixes

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Gloss</th>
<th>Form</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>napolyon</td>
<td>Napoleon</td>
<td>napolyónčik</td>
<td>one with a superiority complex</td>
</tr>
<tr>
<td>šamen</td>
<td>fat; fat man</td>
<td>šamenčik</td>
<td>roundish, fat (affectionate)</td>
</tr>
<tr>
<td>tank</td>
<td>tank</td>
<td>tankist</td>
<td>member of tank crew</td>
</tr>
<tr>
<td>balagan</td>
<td>disorder</td>
<td>balaganist</td>
<td>disorderly person</td>
</tr>
</tbody>
</table>

Compounds and blends, whose use in Modern Hebrew is also on the increase, are also derived linearly. Blends involve merging of two independent lexical items into a new blended word (see Berman 1989; Berman and Ravid 1986; Ravid 1990; Bat-El 1996). They are distinguished from compounds in that while blends tend to be regarded as a single unit for the purpose of inflection or cliticization, compounds usually are not. Thus, for instance, kadur ‘ball’ + régel ‘foot’ yields kadurégel ‘soccer; soccer ball’, whose definite alternant is ha-kadurégel ‘the soccer(ball)’, and rarely kadur ha-régel, whereas kadur zxuxit ‘crystal ball’ becomes kadur ha-zxuxit ‘the crystal ball’ when definite. Some blends have been part of the lexicon for quite a while, as in:

(13) Illustrating well-established blends

<table>
<thead>
<tr>
<th>Stem</th>
<th>Gloss</th>
<th>Stem</th>
<th>Gloss</th>
<th>Blend</th>
<th>Gloss</th>
</tr>
</thead>
</table>
| xay  | alive, living | dak | small, thin | xaydak | germ  
|      |          | nóa  | movement | katnóa | scooter |
| pas  | strip   | kol  | sound   | paskol | sound track |
Other blends are more recent, and many of them are ‘clipped’, i.e., with part of each (or part of only one) base being lost in the compounding process, as in:

(14) Illustrating well-established blends

<table>
<thead>
<tr>
<th>Stem</th>
<th>Gloss</th>
<th>Stem</th>
<th>Gloss</th>
<th>Blend</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>maxaze</td>
<td>play</td>
<td>zémer</td>
<td>song</td>
<td>maxázémer</td>
<td>musical (N)</td>
</tr>
<tr>
<td>bubá</td>
<td>puppet, doll</td>
<td>teatron</td>
<td>theater</td>
<td>bubatón</td>
<td>puppet theater</td>
</tr>
<tr>
<td>arafél</td>
<td>fog</td>
<td>piáx</td>
<td>soot</td>
<td>arpiáx</td>
<td>smog</td>
</tr>
</tbody>
</table>

This tendency seems to have gained considerable popularity in the media, particularly in commercial brand names used in advertising, as in:

(15) Illustrating commercial blends generated by the media

<table>
<thead>
<tr>
<th>Stem</th>
<th>Gloss</th>
<th>Stem</th>
<th>Gloss</th>
<th>Blend</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>késef</td>
<td>money</td>
<td>otomat</td>
<td>automat(on)</td>
<td>kaspomat</td>
<td>ATM machine</td>
</tr>
<tr>
<td>tapúax</td>
<td>apple/potato</td>
<td>metugan</td>
<td>fried</td>
<td>tapugan</td>
<td>fried potato</td>
</tr>
</tbody>
</table>

While compounding will continue to increase owing to its inherent transparency (Nir 1990), clipped blend formation is not as productive, since it is not structure-preserving (Ravid 1990), and consequently partially opaque. Clipped blends often arise through the ingenuity of linguists or clever advertisers, and thus are not always easily analyzable. The common pronunciation of normative rakével ‘cable car’ (< rakévet ‘train’ + kével ‘cable’) as raxval or raxbal is a case in point. Instead of combining morphemes, most speakers simply realize the consonant sequence rkv/l in the discontinuous pattern CaCCaC . . .

Although linear derivation, compounding included, is clearly on the rise in Modern Hebrew, its expanded use does not affect the continued productivity of discontinuous derivation. To demonstrate that non-linear word-formation continues to be (very) productive, Bolozky (to appear) discusses three derivation patterns which at first glance appear to be predominantly linear, but which on methodological grounds may be argued to be at least 50% discontinuous in nature, possibly more. The first pattern comprises nouns ending with the agentive suffix +an, the second nouns with the nominalizing suffix +ut, and the third the so-called segolate nouns. The +an pattern allows both discontinuous (CaCC+an and linear (N+an) derivation, e.g., kablan ‘contractor’ (cf. kibel ‘receive’) versus alxut+an ‘wireless operator’ (alxut ‘wireless’+an), which are essentially identical (beyond the morphophonological difference). Both tend to be agentive, and the choice of device is not affected by semantic considerations:

Typically, the CaCCan form reflects a transparent verb base, while N+an, by virtue of the linear derivation process, transparently preserves the source noun or adjective. When CaCCan forms are related to verbs, the relationship is generally either to pa‘al or to pi‘el. Although one might be tempted to derive such CaCCan forms linearly from their related pa‘al or pi‘el bases, such derivation is not appropriate, for methodological reasons. A CaCCan form like dabran ‘talkative, verbose’ is clearly related, at least
synchronously, to _diber_ ‘talk’ (a piºel stem), and _axlan_ ‘glutton’ to _axal_ ‘eat’ (a paºal stem), as indicated by the differences and similarities in stop/fricative realization. Though quite possible, this type of linear derivation of a CaCCan form from its related verb is not very probable, particularly not in MH. In general, agentive nouns formed from verbs are derived from (or are identical to) the _benoni_, the present tense or the present participle. In the paºal-related and piºel-related CaCCan cases, however, it would be difficult to argue for linear derivation from the respective paºal or piºel _benoni_ bases. In paºal-related forms, linear derivation would necessitate deriving from the past stem. In piºel-related ones, the present/imperfect stem would be the correct one, but without the prefix _me+,_ which is required for distinguishing the present/present participle _benoni_ from the future/imperfect stem, and which can be shown to be essential by derivations like _histagel_ ~ _mistagel_ ‘adapt’ > _mistaglan_ ‘opportunist’ or _hixik_ ~ _macxik_ ‘make laugh’ > _macxikan_ ‘funny one.’ In other words, since CaCCan forms cannot be claimed to be derived by linear affixation of _+an_ to a _benoni_ stem, as required for agents/agent attributes, they can only be generated discontinuously, in the CaCCan _miškal_.

From formation of nouns with the suffix _+ut_, discussed in Bolozky and Schwarzwald (1992), one can also learn of the interplay between discontinuous and linear derivation. In general, formation of abstract nouns with the _+ut_ suffix has been viewed as linear derivation; Bolozky and Schwarzwald (1992) demonstrate that by lexical counts (based on Even-Shoshan 1970), there are strong methodological reasons to suggest that discontinuously-derived nouns with _+ut_ outnumber linearly-derived ones by a ratio of almost 2:1. Their main argument is methodological. They show, for instance, that in order to derive all realizations of CCiCut linearly, one would require a _variety_ of ad hoc processes, since a variety of bases is involved; see (17) on p. 287.

The stems that underlie CCiCut are quite varied (the _pakid_, _patuáax_, and _arox_ types, at least, as well as some other minor ones), and cannot all be derived by phonetically motivated processes. Nevertheless, in spite of the wide variation in stems underlying CCiCut, one would still want to capture the native speaker’s intuition that all of these sub-groups are related by at-
tributing them to one canonical pattern. The obvious solution is to derive them all non-linearly in a discontinuous CCiCut pattern, rather than by appending linearly to a variety of stems and arriving at the correct output by applying an array of ad hoc rules. Similarly, linear derivation of all CaC-Cut would also require a variety of underlying bases (including alternants of segolate nouns), and the same type of argument can be made regarding CiCCut, whose realizations will have to be derived from a variety of base-types if it is claimed that they are to be derived linearly.

Finally, in Bolozky (1995) it is argued that in Israeli Hebrew, the segolates and segolate derivatives should be described not on the basis of their historical underlying stems, but rather by the surface regularities that characterize them. For methodological reasons, regularities describing the majority of segolates and segolate derivatives must be stated not as linearly-derived forms, but in terms of canonical discontinuous noun formation patterns (miškalim). Deriving mélex from /malk/, to account for related malka ‘queen’, malkut ‘kingdom’, or séfer from /sípr/, to capture the relationship to sifrut ‘literature’, sifriya ‘library’, and so on, is rather complex; it is very unlikely that a native speaker literally converts from base to output in this fashion. The processes required to do this would be ad hoc and without independent phonetic or phonological justification. What is most likely to capture speakers’ intuitions is a pairing relationship between surface segolate patterns and alternating stem patterns involving suffixes, both expressed in discontinuous canonical form (the gutturals add some complexity to surface segolate sequences, which will not be dealt with here); see (18) on p. 288.

The argument against linear derivation of the segolate plural is even more compelling. Regular plural formation typically involves linear affixation of +im or +ot, with possible subsequent reduction. The plural of segolate nouns is different. While a basic o at the end of a stem followed by +et may be regarded as linear derivation (e.g., tízmôret ‘orchestra’, pl. tíz-
morot), the majority of plurals in the huge segolate class is realized in a pattern resembling Arabic ‘broken plural’, i.e., constitutes a kind of discontinuous *miškal* of its own, **CCaCim/ot**, e.g., *mélex* ‘king’ ~ pl. *mlaxim*, *kélev* ‘dog’ ~ pl. *klavim*. A sub-pattern **CoCaCim** for a basic stem-initial *o* is also an option (*sóre* ‘root’ ~ pl. *sórašim*), as well as **aCim/ot**, when the unstressed *e* constituting part of the feminine suffix +*et*, in which case the plural *a* corresponds to the basic, stem-final *é* (**mazkéret** ‘souvenir’, pl. **mazkérot**). So the vast majority of segolate nouns have corresponding **aCim/ot** plural form, and the relationship is not arrived at by derivation, but by associating between pairs of discontinuous patterns. The generalization involved could be something like:

Thus, the majority of segolate forms should be derived discontinuously, for methodological reasons. It can been shown, then, that discontinuous derivation continues to exist productively alongside linear formation in both +*an*-related and +*ut*-related forms, as well as in the large segolate class. Since there is no significant communicative distinction associated with choice of derivational device, there is little reason to believe that MH is gradually losing the Semitic (non-linear) character of its word-formation component. This is not to say that linear suffixation is unimportant. On the contrary, there is no doubt that a linear suffix increases the productivity of patterns like +*an* and +*ut*. Still, the *miškal* itself has not weakened. The preference for discontinuous *miškal* derivation is independently supported by Berman’s (1987) findings in productivity tests. Of all forms whose mechanical derivation strategy could be determined in open-ended productivity tests, 60% were discontinuous and 40% linear, i.e., a 3:2 ratio in favor of non-linear derivation.

### 3.2. Selecting a derivation pattern

#### 3.2.1. Selecting a verb pattern

The typical Hebrew grammar textbook characterizes each of the **binynim** has having some meaning (or meanings) associated with it. When the
total verb system is considered, it immediately becomes obvious that bin-
yan-to-meaning correspondence is relevant only to a small minority of
verbs. So why the common perception that binyanim have meanings?
Schwarzwald (1981, 1982) attributes this to the fact that those verbs in
which regular semantic relationships exist are high frequency ones,
which makes them prominent beyond their proportion in the lexicon.
Bolozyk (1978, 1982, 1986) shows that one can actually characterize se-
mantic regularities associated with the binyanim, except that they are not
the "traditional" ones, and their scopes are different. In recent word-for-
mation, as well as when productive innovation is induced by productivity
tests, speakers first scan the newly formed component of the lexicon, look-
ning for the broadest and most transparent generalizations observable in it.
Based on those, their binyan choice is not arbitrary, and confirms that lexi-
cational formation is first and foremost concept driven (see Baayen and Renouf
1996; Clark 1993). This is an intuitive, classificatory-global strategy. Rela-
tively recent neologisms suggest that the majority of speakers first make
the most general dichotomy between ‘focus on the theme (or patient)’ and
‘focus on the agent.’ If the focus is on the theme, and the target meaning
is a true passive, the default passive counterparts of the relevant active bin-
yanim are selected, i.e., pi’el > pu’al and hif’il > huf’al, as in

(20) mimen ‘finance (V)’ > muman ‘be financed’
tiyek ‘file (V)’ > tayak ‘be filed’
hifnim ‘internalize’ > hufnam ‘be internalized’
hinciax ‘eternalize’ > huncax ‘be eternalized’

Based on dictionary comparison (new dictionaries with older ones, as
well as supplements to dictionaries, see Bolozyk, to appear), 78% of all new
passive verbs recorded between the early ’70s and the early ’90 are in pu’al.
So are 52%–53% of passive verbs in productivity tests, in which native
speakers were asked to coin new verbs based on some target meaning in a
given context, or to select from an array of invented forms what they be-
lieve best captures a target meaning in a given context. The tests were con-
ducted in 1995–96, and are reported in Bolozyk (to appear). By dictionary
comparison, 13% of new passives are realized in huf’al, as were 23%–28% in
the productivity tests. In all other theme-centered neologisms, be they
inchoative (i.e., ‘become . . . ’, or ‘begin a new state’), reflexive, or recipro-
cal, hitpa’el is chosen:

(21) hitazréax ‘become citizen’ hitpager ‘die’ hitgamed ‘become tiny’
      hitmames ‘become real’ hitrakez ‘concentrate (int.)’
      hizdayen ‘copulate’

hitpalmes ‘argue (about)’

In productivity tests, 69%–85% opted for hitpa’el for potential verb
forms focusing on the theme (e.g., šerif ‘sheriff’ > hištaref ‘become sheriff’);

3. In each particular case of dictionary comparison or productivity tests, the percent-
ages refer to the semantic category concerned.

Author: Has this work appeared yet? There is no en-
try for it in the reference list.
by dictionary comparison, 96%–100% of recent theme-centered verb forms were realized in *hitpa‘el. If the focus is on the agent (the ‘instigator of the action’), speakers usually opt for *pi‘el:

(22) biyel ‘stamp (an envelope)’ siveg ‘assort’ bilef ‘bluff’
    viset ‘regulate’ nitev ‘mark route’ xiyeg ‘dial’
    flirtet ‘flirt’ fikses ‘send by fax’ divax ‘report’

This was the case 78%–79% in productivity tests (e.g., šerif ‘sheriff’ > šeref ‘serve as sheriff’), and 75% of agentive verbs were realized in *pi‘el in dictionary comparison data.

The largest body of innovated verb forms is that of *pi‘el realizations. Phonetic considerations are responsible for this in part, since *pi‘el, which maintains bisyllabic stems throughout the paradigm, may incorporate the largest number of consonants (e.g., torpedo ‘torpedo (N)’ > tirped, since *hitrpid or *yitrpod are unpronounceable). This, however, is not the primary reason. *Pi‘el is the most productive binyan simply because semantically-agentive verbs constitute a huge class. Actually, a sub-class of agentive verbs, the causative ones, may also be realized in *hif‘il. In a sense, all agentive verbs are causative, since they cause new situations that affect the patient/theme, but for our purposes, a causative verb will mean causing the patient to do something (e.g., hilibš ‘dress [tr.]’), or causing an entity to be (or become) something (e.g., yišer ‘straighten’, hirxiv ‘widen [tr.]’ the so-called ‘factitives’), or causing a change-of-state (e.g., hindim ‘cause to fall asleep.’) In productivity tests conducted in the 1970s (Bolozky 1978) such causatives showed relative preference for *hif‘il (43%–45%, e.g., šerif ‘sheriff’ > hifšer ‘make someone sheriff’), and the same was true of innovations observed at that time:

(23) himxiš ‘make real’ hitpil ‘desalinate’ hincíax ‘eternalize’
    himxz ‘make into a play’ hifnim ‘internalize’ hikvič ‘squeeze (child lang.)’

Most causatives of this kind were factitive, because the commonest base for new verbs is existing nouns and adjectives. However, more recent productivity tests from the 1990s, as well as tendencies emerging from innovations compiled through dictionary comparison (Bolozky, to appear), suggest a dichotomy in causative verb realization that is highly correlated with register. While *hif‘il is still the preferred causative pattern in literary Hebrew, *pi‘el is taking over for all agentive verbs, including causatives, in colloquial Hebrew. Thus, recent slang dictionaries contain a significant number of recent causatives in *pi‘el (79% of all new causatives based on dictionary comparison, compared with 20% only in *hif‘il):

Similar distribution emerges from the 1995–96 productivity tests (72%–74% of causatives realized in *pi‘el, 21%–25% in *hif‘il). To the extent that colloquial non-causative agentives are realized in *hif‘il rather than in the expected *pi‘el, it is usually to preserve the initial consonant cluster in the source stem, and in some cases the whole stem:
Although hitpa‘el focuses on the theme, it may occasionally also be agentive. New hitpa‘el agentives are found mostly in the slang dictionaries. This is not unexpected. While piºel is almost exclusively agentive, hitpa‘el's focus on the theme also incorporates reflexives and reciprocals, which involve the theme as well as an agentive element, though one that is not distinct from the patient/theme. Reflexives incorporate an agent that is one and the same as the patient/theme, and reciprocals involve two arguments with shifting agent and patient roles (or possibly even two agents, one of which is “more patient-like”). The development of hitpa‘el agentives is thus natural: a verb like hitfaléax ‘sneak in without paying’, for instance, may be viewed as a basic reflexive, ‘sneaking oneself in’, which has developed from an agent=patient predicate to a fully agentive verb. Hizdangef ‘walk around on Dizengoff St.’ can be regarded as ‘bringing oneself to be on Dizengoff St.’, subsequently acquiring full agentive status. Most of these agentive hitpa‘el verbs involve adopting some behavior, like hitparper ‘shirk work; be unfaithful to wife’, hitbardek ‘be messy; shirk work’, hitagner ‘ignore’, hitgases ‘use foul language.’ They may all have started with a reflexive-type verb, meaning something like ‘causing oneself to behave in a certain way’, whose agentive aspect took over (i.e., the focus is no longer on the patient). So while hitpa‘el agentives are still a small minority, their number might be expected to increase.

3.2.2. Selecting adjectival patterns

Adjectives may be formed linearly as well as by discontinuous derivation. One common way is to linearly append the attributive suffix +i, often referred to by the Arabic term nísba. The new form normally means ‘having the characteristic of . . .’ Adjectives ending with +i are generally derived from nominal bases (Ravid and Shlesinger 1987; Mor 1996), occasionally from adverbial bases (e.g., miyadi ‘immediate’ from miyad ‘immediately’), and even from adjectives (e.g., xiconi ‘external’ from xicon ‘external’), but derivations of the latter type are rare, since it would be tautological. Adjectives ending with +i and derived from borrowed bases may appear to be adjective-based from a speaker of English’s point of view, but in Hebrew they
are actually derived from nominal bases; e.g., normal in normal > normáli, or puritan in puritan > puritáni are regarded as nouns. Derivation of +i adjectives is usually linear. Suppletion may be involved (e.g., mikre ‘event’ > mikri ‘accidental’), reduction (e.g., šišla ‘negation’ > šili ‘negative’), or re-duplication (e.g., xag ‘holiday, celebration’ > xagiği ‘festive’), but there are very few discontinuous miškalim ending with the adjectival +i. Also, the base stem may not always be a free-standing word (e.g., cemax ‘plant’ + on > *cimxon > cimxoni ‘vegetarian’).

If the form is directly related to a particular verb, adjectives are likely to be realized in discontinuous patterns that are identical to the participial benoni forms. Active participial forms can function as adjectives, but since those tend to be agentive adjectives, and are sometimes indistinguishable from their agentive noun counterparts, they can be regarded as agents for the purpose of this discussion. More typically among verb-related adjectives, one encounters endstate “resultative” ones, like closed, written, etc. in English, which are identical to the passive participle: CaCuC (< pu’al), niC-CaC (< mif’al), meCuCaC (< pu’al) and muCCaC (< huf’al). Of the non-deverbal miškalim, one salient pattern is CaCiC, used primarily for ‘+able’-type adjectives.

According to productivity tests, when the suggested adjectival meaning includes a verb, the preferred choice is the resultative meCuCaC (75% of all occurrences, e.g., xóken ‘enema’ > mexukan ‘one to whom an enema has been administered’), since its verbal source, pu’al, is the automatic counterpart of the very productive pi’el. The other endstate resultatives, muCCaC and CaCuC, follow far behind (5%–7% each). It appears that if the target meaning involves a verb, the innovator first transforms the nominal base from which s/he is requested to form an adjective into an intermediate, unrealized passive verb stage, e.g., xóken ‘enema’ > xukan ‘be administered enema’, which is then transformed into the passive participial adjectival resultative form (mexukan). When the suggested gloss of the form to be derived does not involve a verb, the default attributive adjectival form ending with +i is the first choice, as predicted (65%–72%, e.g., misada ‘restaurant’ > misadi/misadati ‘of restaurant’), followed by +ai (4%–11%), but resultatives occur as well, again with meCuCaC as the preferred option (15%–19%), and muCCaC and CaCuC quite marginal (4%–2%). One can look at this dichotomy of verb-based and non-verb based adjectives in two ways: semantically, as a choice between adjectives expressing the result of a process and mere attributive formation; or morphologically, between derivation from essentially verbal bases and truly nominal ones. Some recent illustrations arrived at by dictionary comparison; see (26) on p. 293.

3.2.3. Selecting nominal patterns

3.2.3.1. Selection of abstract nominalization patterns

The most common realization of abstract nominalization is the +ut pattern, and there are many more cases ending with +ut that involve a miškal than one might expect. Two of the binyanim, hitpa’el and nif’al, have +ut as
(26) Some recent adjectives, identified by dictionary comparison

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>+i Adjectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cahali</td>
<td>of the Israeli army</td>
<td>cáhali I.D.F (Israel Defense Force)</td>
<td>in spite of, on the contrary</td>
</tr>
<tr>
<td>davkai</td>
<td>stubborn</td>
<td>dávka</td>
<td>safety establishment</td>
</tr>
<tr>
<td>btixuti</td>
<td>of safety</td>
<td>b(e)tixut</td>
<td>establishment</td>
</tr>
<tr>
<td>mimsadi</td>
<td>of the establishment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>memuna</td>
<td>mobile (with car)</td>
<td>manóa motor, engine</td>
<td></td>
</tr>
<tr>
<td>mevoas</td>
<td>depressed</td>
<td>bá(ª)asa misery, distress (Ar. baªasª)</td>
<td></td>
</tr>
<tr>
<td>mevurdak</td>
<td>disorganized</td>
<td>bardak brothel (Trk.)</td>
<td></td>
</tr>
<tr>
<td>mepluntar</td>
<td>entangled</td>
<td>plónter a tangle</td>
<td></td>
</tr>
<tr>
<td>muCCaC</td>
<td>exceptional, excited</td>
<td>hitrif drive crazy (&lt; metoraf 'crazy')</td>
<td></td>
</tr>
<tr>
<td>muštan</td>
<td>humiliated; of little value</td>
<td>šéten/hištin urine/urinate</td>
<td></td>
</tr>
<tr>
<td>mulhat</td>
<td>red hot</td>
<td>hilhit/lohet make very hot/red hot</td>
<td></td>
</tr>
<tr>
<td>CaCuC</td>
<td>devastated, disgusted</td>
<td>šavur+záyin broken+penis</td>
<td></td>
</tr>
<tr>
<td>dafuy</td>
<td>imperfect, flawed</td>
<td>dófi fault, flaw</td>
<td></td>
</tr>
<tr>
<td>CaCiC</td>
<td>enforceable</td>
<td>axaf enforce</td>
<td></td>
</tr>
<tr>
<td>hafix</td>
<td>reversible</td>
<td>hafax turn over, reverse</td>
<td></td>
</tr>
</tbody>
</table>

part of their nominalization pattern, and there are also patterns involving the present participle followed by +ut:

(27) Nominalizations ending with +ut

|hitpa'el:|hitCCaCut:|hitparec 'burst, int. ’ |hitgarconv ‘steal in’ |
|nif'al:|nCCaCut:|nifikad '(be) absent' |nival 'be separate' |
|or|hiCCaCut:|(le)himana ‘abstain’ |himanu |
|pa'al:|CCaCut:|šóter 'policeman' |šórut |
|pi'el:|meCCaCut:|meyaled 'obstetrician' |meyaladut |
|pu'al:|meCuCaCut:|meyuxad 'special' |meyuxadut |
The default nominalizations for binyanim that do not end with +ut are:

- hif'il: maCCiCut: mazkir ‘secretary’ > mazkirut manhig ‘leader’ > manhigut
- huf'al: muCCaCut: murkav ‘complex’ > mušlam ‘perfect’ > mušlamut

The default nominalizations for binyanim that do not end with +ut are:

(28) Default nominalizations not ending with +ut

| hif'il | mazkir ‘secretary’ > mazkirut
| huf'al | murkav ‘complex’ > mušlam ‘perfect’ |

As in the case of adjectives, data from productivity tests on abstract nominalization depends on whether an underlying verb is implied by the proposed base. When a verb is implied in the definition of the target meaning, preference is given to the default nominalization associated with that potential verb (or its related resultative adjective). Take, for instance, ‘covering with panels.’ The most likely verb form for ‘cover with panels’ would have been pinel, piºel being the preferred realization for agentives. Therefore, the nominalization pattern opted for is CiCuC, the default nominalization of piºel, i.e., pinul. And since piºel is a productive verb pattern, so is the related nominalization pattern CiCuC. The same would apply to hitCCaCut, related to productive hitpaºel, to meCuCaCut, since the participial resultative adjective in the meCuCaC pattern is derived through puºal, the somewhat automatic passive counterpart of the productive piºel; and so on. When the target meaning does not involve a verb base, realizations ending with +ut prevail. Other options are CiCuC or +izm.

Below are some illustrations for the most productive nominalization patterns based on dictionary comparison: +ut, meCuCaC, and +izm; see (29) on p. 295.

### 3.2.3.2. Agent (and agent attribute) selection

Many agent nouns and agent attributes are identical to the active participle, and the popular consensus is that the pattern for professionals is Ca-CaC (historically CaCaCaC). Occasionally, agents may also be realized in nominal patterns like CaCiC (e.g., pakid ‘clerk’), and by (originally-borrowed) +ist and +er suffixation. In the colloquial, the normally-diminutive (see below) +ešik may mark agents as well. But the most frequent realization for agents or agent attributes seems to be the +an pattern, followed by N+ai (normatively N+ay for agents, e.g., xaklay ‘farmer’, N+ai for attributes, e.g., xaklaí ‘agricultural’). Unlike the other patterns, which mostly refer to agents/occupations, +an and +ay/+ai denote agent attributes just as often as they refer to agent nouns. When the borders be-

4. In the colloquial, +ai is often used for both agents and agent attributes. Occasionally, +ay may also be used for either an agent noun or an adjective.
between the agent and the adjectival agent attribute are blurred (as in šakran ‘liar’), the semantic scope is expanded to a broader and more coherent agentive field, and hence its increased openness to innovation. Because of their semantic transparency, +an and +ay/+ai have an advantage as agent markers over competing active participles, which ‘hover’ between the verb and the nominal agent. Thus, at the global level of the productive lexicon, +an is preferred to all alternatives by children as well as by adults.

The five most common agentive realizations in productivity tests were +an (21%–37%, e.g., omlet ‘omelette’ > omletan/amletan ‘one making omelettes’), +ay/+ai (22%–31%, e.g., básta ‘vendor stall’ > bastai/bastay ‘stall vendor’), +ist (8%–14%, e.g., čarter ‘charter’ > čarterist ‘charter flights specialist’), +er (7%–10%, e.g., gril ‘grill’ > gríler ‘one who grills’), meCaCeC (6%–10%, e.g., omlet ‘omelette’ > meamlet ‘one making omelettes’). Some illustrations from dictionary comparison; see (30) on p. 296.

### 3.2.3.3. Selection of patterns for instruments

Hebrew textbooks identify maCCeC and maCCeCa as designating instrumentals, but the typically-agentive meCaCeC and +an can also be instrumental. Actually, most of the patterns denoting agent nouns may also have an instrumental reading. Speakers apparently feel that both agents and instruments constitute the same ‘performer’ category, and that whether the performer is animate or inanimate makes no difference (see Bolozky and Jiyad 1989, 1990; Schlesinger 1989; Berman and Sagi 1981; Clark 1993). Instruments can function syntactically as agents when attention is drawn to the instrument by means of which an action is performed.
(30) Some recent agents and agent attributes identified by dictionary comparison

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>+an</td>
<td>balyan</td>
<td>always having a good time</td>
<td>bila</td>
</tr>
<tr>
<td></td>
<td>barzelan</td>
<td>officer (army slang)</td>
<td>barzel</td>
</tr>
<tr>
<td></td>
<td>maškian</td>
<td>one who invests great effort</td>
<td>maškía</td>
</tr>
<tr>
<td>+ay/</td>
<td>šeynkina</td>
<td>Israeli yuppie (N/Adj)</td>
<td>šéynkin</td>
</tr>
<tr>
<td>+ai</td>
<td>dugrai</td>
<td>straightforward, very frank</td>
<td>dügri</td>
</tr>
<tr>
<td></td>
<td>mikvai</td>
<td>from Mikve Israel (N/Adj)</td>
<td>mikve yisrael</td>
</tr>
<tr>
<td>+ist</td>
<td>bitxonist</td>
<td>security-conscious person</td>
<td>bitaxon</td>
</tr>
<tr>
<td></td>
<td>šekemist</td>
<td>P.X. worker</td>
<td>šékem</td>
</tr>
<tr>
<td>+er</td>
<td>širyoner</td>
<td>soldier in armor corps</td>
<td>širyon</td>
</tr>
<tr>
<td></td>
<td>bizyoner</td>
<td>one responsible for disgrace</td>
<td>bizayon</td>
</tr>
<tr>
<td>meCaCeC</td>
<td>metamtem</td>
<td>wonderful</td>
<td>timtem</td>
</tr>
<tr>
<td></td>
<td>megaméret</td>
<td>reaching orgasm (f.)</td>
<td>gimer</td>
</tr>
</tbody>
</table>

and away from its animate instigator. In production tests reported in Berman (1987), there were more instrumentals realized in +an than in either maCCeC, maCCeCa or meCaCeC (25%-19%-15%-7%, respectively). This reflects the status of +an as the unmarked agentic pattern, or perhaps as the “performer” category, including both instruments and agents. Only in judgment tasks, where other options were available, did maCCeC emerge at the head in Berman’s tests (e.g., in dugma ‘sample’ > madgem ‘a sampling instrument’) with about a third of the realizations (32% versus 14% in meCaCeC, 11% in maCCeCa—e.g., in rašam ‘write, draw’ > mašema ‘a writing tool’—and 11% in +an). When subjects were requested to list any instruments that come to mind, maCCeC and maCCeCa together came up in 28.5% of the instances, and meCaCeC in 25.5%. Productivity tests reported in Bolozky (to appear) suggest that +iya is also productive for instruments, e.g., kúskus ‘couscous’ > kuskusiya ‘couscous-making instrument’, kótej ‘cottage cheese’ > kotejiya ‘instrument for producing cottage
cheese’, and to a degree +er as well, e.g., kúskus ‘couscous’ > kúskuser ‘cous-cous-making instrument.’ Some recent data from dictionary comparison:

(31) Some recent instruments identified by dictionary comparison

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>+an</td>
<td>xaygan</td>
<td>dialer</td>
<td>xiyeg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dial (V) &lt; xug ‘circle’</td>
</tr>
<tr>
<td></td>
<td>šadxan</td>
<td>stapler</td>
<td>šadxan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>matchmaker (šidx ‘make a match’)</td>
</tr>
<tr>
<td></td>
<td>meCaCeC</td>
<td>grader; snow plough</td>
<td>piles</td>
</tr>
<tr>
<td></td>
<td>mexacec</td>
<td>rock crusher (to gravel)</td>
<td>xacac</td>
</tr>
<tr>
<td>+er</td>
<td>kvèčcer</td>
<td>stapler</td>
<td>kveč</td>
</tr>
<tr>
<td></td>
<td>špricer</td>
<td>water-spraying device</td>
<td>špric</td>
</tr>
<tr>
<td>+on</td>
<td>mešivon</td>
<td>answering machine</td>
<td>mešiv</td>
</tr>
</tbody>
</table>

3.2.3.4. Selection of location patterns

It has been traditionally assumed that location nouns are realized in miCaC and miCaCa, but any survey of locatives would reveal that this generalization is overstated. In particular, the status of miCaC as a locative pattern is made opaque by a huge number of abstract nouns, and the colloquial tendency to shift locatives from miCaCa to maCeCa. The use of +iya as a location marker is on the increase, particularly in the colloquial register. Another location marker is +iyáda. Productivity tests clearly establish +iya as the most productive locative pattern today (see Bolozky, to appear), e.g., omlet ‘omelette’ > omletiya ‘place where they make omelettes.’ Some relevant recent innovations:

(32) Some recent instruments identified by dictionary comparison

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>+iya</td>
<td>kambaciya</td>
<td>operations officer’s post</td>
<td>kambac</td>
</tr>
<tr>
<td></td>
<td>maadaniya</td>
<td>delicatessen shop</td>
<td>maadan</td>
</tr>
<tr>
<td></td>
<td>steykiya</td>
<td>steak house</td>
<td>steyk</td>
</tr>
<tr>
<td></td>
<td>steykiyáda</td>
<td>steakhouse</td>
<td>steyk</td>
</tr>
<tr>
<td></td>
<td>tremp(i)yáda</td>
<td>arranged hitch-</td>
<td>tremp</td>
</tr>
<tr>
<td></td>
<td>miCaCa</td>
<td>mizlala</td>
<td>small restaurant</td>
</tr>
</tbody>
</table>
3.2.3.5. Selecting a pattern for collection/group/system

Productivity tests (Bolozky, to appear) suggest that there are currently three productive patterns for groups/collections: +iya (32%–38%, e.g., xérek ‘insect’ > xarakiya ‘insect collection’), +iyáda (17%–22%, e.g., xatul ‘cat’ > xatúiyáda ‘group of cats’), +on (10%, e.g., matbéa ‘coin’ > matbeon ‘coin collection’). Some relevant recent innovations:

(33) Some recent groups/collections identified by dictionary comparison

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Source</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>+iya</td>
<td>kačkiya</td>
<td>group of girls chattering</td>
<td>káčke</td>
</tr>
<tr>
<td>(or their location)</td>
<td>makabiya</td>
<td>convention of Makabi teams</td>
<td>makabi</td>
</tr>
<tr>
<td>+iyáda</td>
<td>čáxčaxiyáda</td>
<td>the underprivileged in Israel</td>
<td>čáxčax</td>
</tr>
<tr>
<td>kačkiyáda</td>
<td>group of girls chattering</td>
<td>káčke</td>
<td>duck (Yid.)</td>
</tr>
<tr>
<td>(or their location)</td>
<td>taarifon</td>
<td>price list</td>
<td>taarif</td>
</tr>
<tr>
<td></td>
<td>eruon</td>
<td>list of events (in program)</td>
<td>eruá</td>
</tr>
</tbody>
</table>

3.2.3.6. Selecting a diminutive pattern

There are a number of ways of forming diminutives in Israeli Hebrew, such as reduplication:

(34) Diminution of nouns through reduplication: illustrations from everyday usage

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>kélév</td>
<td>dog</td>
<td>klavlav</td>
<td>xatul</td>
<td>cat</td>
<td>xataltul</td>
</tr>
<tr>
<td>xazír</td>
<td>pig</td>
<td>xazarzir</td>
<td>dag</td>
<td>fish</td>
<td>dagig</td>
</tr>
<tr>
<td>géver</td>
<td>man</td>
<td>gvarbar</td>
<td>zakan</td>
<td>beard</td>
<td>zkankan</td>
</tr>
<tr>
<td>adóm</td>
<td>red</td>
<td>adamdam</td>
<td>kaxol</td>
<td>blue</td>
<td>kxalxal</td>
</tr>
</tbody>
</table>

+it suffixation:

(35) Diminution through +it suffixation

<table>
<thead>
<tr>
<th>Noun</th>
<th>Gloss</th>
<th>Noun+it</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>kaf</td>
<td>table-spoon</td>
<td>kapit</td>
<td>teaspoon</td>
</tr>
<tr>
<td>kos</td>
<td>glass</td>
<td>kosit</td>
<td>wineglass</td>
</tr>
<tr>
<td>mapa</td>
<td>tablecloth</td>
<td>mapit</td>
<td>napkin, small tablecloth</td>
</tr>
<tr>
<td>kar</td>
<td>pillow</td>
<td>karit</td>
<td>small pillow</td>
</tr>
<tr>
<td>pax</td>
<td>can, tin</td>
<td>paxit</td>
<td>small can</td>
</tr>
</tbody>
</table>
+iya suffixation:

(36) Diminution through +iya suffixation

<table>
<thead>
<tr>
<th>Noun</th>
<th>Gloss</th>
<th>Noun+iya</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>naknik</td>
<td>sausage</td>
<td>naknikiya</td>
<td>frankfurter, hot dog</td>
</tr>
<tr>
<td>uga</td>
<td>cake</td>
<td>ugiya</td>
<td>cookie</td>
</tr>
<tr>
<td>maca</td>
<td>unleavened bread</td>
<td>maciya</td>
<td>cracker</td>
</tr>
</tbody>
</table>

+cík suffixation (borrowed from Russian/Yiddish):

(37) Diminution through +cík suffixation

<table>
<thead>
<tr>
<th>Form</th>
<th>Gloss</th>
<th>Form+cík</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>baxur</td>
<td>young man</td>
<td>baxúrcík</td>
<td>nice young man</td>
</tr>
<tr>
<td>katan</td>
<td>small</td>
<td>katánčík</td>
<td>very small</td>
</tr>
<tr>
<td>šamen</td>
<td>fat</td>
<td>šaménčík</td>
<td>affectionate/forgiving modification of ‘fat’</td>
</tr>
</tbody>
</table>

or even +iko (borrowed from Judeo-Spanish):

(38) Diminution through +iko suffixation

<table>
<thead>
<tr>
<th>Base</th>
<th>Gloss</th>
<th>Base+iko</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>xaver</td>
<td>friend</td>
<td>xaveríko</td>
<td>friend (affectionate)</td>
</tr>
<tr>
<td>kof</td>
<td>monkey</td>
<td>kofiko</td>
<td>little monkey (affectionate)</td>
</tr>
<tr>
<td>xayal</td>
<td>soldier</td>
<td>xayalíko</td>
<td>young/little soldier (affectionate)</td>
</tr>
</tbody>
</table>

As shown in Bolozky (1994), however, the productivity of these devices is rather limited in current Israeli Hebrew (except, to some extent, for +cík at the colloquial register). As can be seen in productivity tests, +on suffixation is by far the most productive diminution device in the language (67%-76%, e.g., mexdal ‘criminal negligence’ > mexdalon ‘minor act of negligence’). The strongest evidence for the productivity of the +on diminutive suffix is its distribution in forms that have already incorporated other diminutive morphemes. Even though the reduplicated forms below have alternants with +on appended directly to the base, it is also possible to add +on/+ónet to the reduplicated forms themselves, particularly in animate nouns, as in:

(39) Diminutive +on affixed to forms diminutivized by reduplication

<table>
<thead>
<tr>
<th>Base</th>
<th>Gloss</th>
<th>Redup.</th>
<th>Base+on</th>
<th>Redup.+on</th>
<th>Redup.+ónet</th>
</tr>
</thead>
<tbody>
<tr>
<td>kélév</td>
<td>dog</td>
<td>klavlov</td>
<td>kalbon</td>
<td>klavlovon</td>
<td>klavlovónet</td>
</tr>
<tr>
<td>xatul</td>
<td>cat</td>
<td>xataltul</td>
<td>xatulon</td>
<td>xatultulon</td>
<td>xatultulónet</td>
</tr>
<tr>
<td>xazir</td>
<td>pig</td>
<td>xazarzir</td>
<td>xaziron</td>
<td>xazarziron</td>
<td>xazarzirónet</td>
</tr>
</tbody>
</table>

It is also possible to add +on to (inanimate) forms ending with the diminutive suffix +it. Since nouns ending with +it are all feminine, so are the further diminutions, which all end with +ón+et (see [40] on p. 300). The same applies to +iya diminution (see [41] on p. 300).
3.3. Derivational morphology in Israeli Hebrew: conclusion

It can be shown that insofar as the actual mechanism of derivation is concerned, discontinuous derivation is still the mainstay of the word formation mechanism, in spite of the fact that linear derivation is on the increase. The typically-Semitic process of discontinuous derivation, based on the fusion of extracted consonants (or original consonant clusters) from an existing lexeme and a ‘canonical’ miškal, is as strong as ever. The two derivational strategies operate quite productively alongside each other, sometimes even within (essentially) the same morphological pattern.

Choice of derivation pattern is first and foremost semantically-based. Speakers tend to look for the most prominent and the most-readily-available pattern they observe in the everyday lexicon. A derivation pattern
may be used widely enough to function as the default pattern for some category, but even then is still associated with some broad semantic feature. Generally, the broader the semantic category, the more likely is the default pattern to be selected: pu'el for passive verbs, hitpa’el for all other non-agentive verbs, pi’el for agentive ones; +i for attributive adjectives, meCuCaC for verb-related ones; CiCuC for verb-related abstract nominalizations, +ut for other nominalizations; +on for diminutives, +an for agents/instrumentals, +iya for locatives. There are other patterns, ranked below the default ones on the productivity scale, but nevertheless significantly productive: +ay/+ai for agents and agent attributes, CaCiC for +able-type adjectives, etc. Beyond these primary choices, a number of other general factors may also play a role, resulting in additional adjustments and shifts. Maintaining a degree of transparency for the base within the neologism is one such factor. It is often manifest in preservation of the original consonant clustering of the base. The prominence of a pattern in the new lexicon is determined not only by size, but also by semantic saliency and coherence, as well as by pattern transparency. Often, pattern transparency is enhanced by transparent suffixation. Other factors affecting pattern choice are pronounceability and preemption. Generally, however, such factors are subordinate to the primary semantic choice, and if they must cause a deviation from it (e.g., if the neologism will be unprounceable in the semantically-predicted pattern, or an identical form already occupies the slot aimed at), the next-best, or nearest, semantically related pattern will be chosen.

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