CHAPTER 5

The role of the imperfective template in Arabic morphology

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1. Introduction

In this chapter, I discuss the issue of lexical relations in Arabic. The standard assumption is that most aspects of lexical relations in Arabic are accounted for by mapping a root onto a specific template that represents a particular derivational or inflectional form. Under this approach related lexical forms share the same root. I will challenge this assumption and provide an alternative account that captures lexical relations in a word to word fashion.¹

2. The root to template account of Arabic morphology

The central problem for any theory of morphology is accounting for lexical relations. The prevailing view within generative grammar is that lexical relations are established via a string compositional mapping that takes a word or lexeme (in the sense of Beard 1995) as input and subject it to some morphological operations such as the addition of a morpheme (via prefixation, infixation, or suffixation), vowel modification (ablaut), or deletion (truncation), among others. The output is another word. In addition to modifying the input word the morphological operations may also introduce a new category label and add new sets of features. Consider, for example, the derivation of the adjective national.

(1) Derivation of national

| Input word/lexeme: | nation |
| Derivation:        | Adjective Formation |
| Morpheme:          | -al |
| Operation:         | Suffixation |

From a formal point of view, the lexical relation between “nation” and “national” in (1) involves a system that must consist of at least the following elements:
(2) a. The notion of word or lexeme as the basic input unit.
b. The notion of morpheme
c. A computational system that combines the word/lexeme and the morpheme.

According to this system knowledge of the lexicon of a particular language involves (i) knowing the basic words or lexemes, (ii) the morphemes that can augment those words/lexemes, and (iii) the operations that can be deployed to combine the morpheme and the input words/lexemes within the generative paradigm. Any type of lexical relations that cannot be captured this way are probably considered outside grammar. Thus, relations between the various forms of the copula (3a) or irregular past tense verbs (3b) in English are not easy to capture using the above model.\(^1\)

(3) a. Be AM Are Is
   b. Drink Drunk

In Semitic languages such as Arabic, the prevailing assumption is that not all types of lexical relations can be captured using the model described above. In particular, it is usually argued that while the word or the lexeme is the basic input unit in languages such as English, in Semitic languages such as Arabic, this does not appear to be the case.

One of the most influential views of Arabic morphology is the thesis that some verbal and nominal relations within the Arabic lexicon are not established by a string compositional mapping that takes a word or lexeme as input and affixes a grammatical morpheme to it. In his work on Semitic morphology, McCarthy (1979, 1981) argues that the representation of a significant portion of Arabic words consists of three grammatical elements: the root, the vocalic melody, and the CV skeleton. Consider, for example, the following verbal forms:

(4) M1 katab CVCVC
    M2 kattab CVCCVC
    M3 kaatab CVVCVC

Measure 1 is usually the form of the active non-complex verb, while measure 2 is the form usually associated with causatives and intensives, and measure 3 is usually associated with reciprocals. We can see that there is no obvious way to derive measure 2 or 3 from measure 1 using the same principles of the generative system developed for a language such as English. In particular, there does not seem to be any morpheme that one can isolate as being the realization of the causative or reciprocal and augment measure 1 with it to derive the forms of measure 2 and 3.

This is particularly so for the reciprocal (M3) because proponents of the Root to Template theory of Arabic morphology have long assumed that the vowel melody carries temporal or aspectual information (tense or aspect). Therefore, the long vowel or part of the long vowel cannot be the realization of a putative reciprocal morpheme. Reciprocity seems to be part of the whole verb and is not localized in one part of the verb. This led to the assumption that the template consisting of the consonantal and vocalic melodies is itself the expression of the derivation in question. In other words, the various verbal forms are realized by templates rather than specialized morphemes.

As to the relations between the templates, the assumption is that the root is the anchor of this relation. The various verbal forms are related by the fact that in all of them the mapping onto the template (say causative or reciprocal) involves the same consonantal root. Each root deals with a particular semantic field, such as writing in (4).

Putting aside the details of this type of analysis, the main implication that emerges is that Arabic morphology is markedly different from English morphology. While the English system requires the elements listed in (1), the Arabic system requires the following elements:

(5) a. A consonantal root
   b. A template
   c. A computational system that maps the root onto the template

While in English, the input to word formation is the word or lexeme in Arabic it is supposed to be the consonantal root. Also, while in English the morpheme is the expression of the derivational relation, in Arabic it is the template. Finally, the nature of the computational system varies in the two languages. In English, in the majority of forms, it involves the attachment of a morpheme to the base word/lexeme while in Arabic it involves a left to right mapping of the consonantal and vocalic melodies onto the template.

(6) a. katab
    b. kattab
    c. kaatab

\[
\begin{array}{c|c|c|c}
| & | & | \\
| C | V | C |
\end{array}
\quad
\begin{array}{c|c|c|c}
| & | & | \\
| C | V | C |
\end{array}
\quad
\begin{array}{c|c|c|c}
| & | & | \\
| C | V | C |
\end{array}
\]

Again, as in the case of the verbal forms in (6), the singlars and plurals in (7, 8) do not involve the affixation of a plural morpheme to the singular but rather the mapping of a consonantal root onto a plural template.

(7) a. žabal
    b. žibaal

'Mountain'

'Mountains'
The role of the imperfective template in Arabic morphology

3. Problems with the root to template model

3.1 The grammatical status of the vocalic melody.

Crucial to the root to template account is the idea that the consonantal and vocalic melodies have semantic or grammatical content. With respect to the consonantal melody, one could argue that it designates the semantic field (basic meaning) of all the forms it maps onto. With respect to the vocalic melody, the prevailing assumption is that it carries temporal or aspevtional information. This assumption, however, does not seem to be on firm grounds. The vocalic melody in (10) is restricted to active verbs, a well-established generalization. Passive verbs, by contrast, have a different vocalic melody.

With these forms the only vowel that signals that the form is passive is /ul/ in the perfective and /ul/ in the imperfective. The other vowels do not seem to carry any semantic information. Given that there is no single vocalic melody to realize the passive, the most plausible account is to assume that passivization (or rather stativity more generally) is realized via changing the vowel melody of the active verb. If the active verb does not have an initial vowel /ul/, the passive is realized as /ul/. On the other hand, if the active form has the vowel /ul/ initially, the last vowel of the stem is realized as /ul/. For this analysis to work, however, one must know what the vowel melody of the active verb is, a possibility that is not allowed under the root to template account.

Moreover, if we look at the simple trilateral verb in Arabic we realize that it has three types of vocalic melodies a–a; a–i; a–u in the active perfective and imperfective forms.
3.2 Problem of transfer

One prediction that the root to template analysis makes is that apart from the root, other types of lexical relatedness do not have to involve shared phonological and morphological properties. In particular, we expect, for example, that a singular form may have long vowel while the plural form may have a short vowel or vice-versa depending on the template the language stipulates that root should be mapped onto (McCarthy and Prince 1990). This expectation is not borne out as the following examples illustrate.

(16) a. ẓundub ↔ ẓanaadib ‘locusts’
    b. qindiil ↔ qanadiil ‘lamps’

While there are exceptions it is generally the case that both singulars and plurals pattern together as far as vowel length is concerned, this fact does not automatically follow from the purely root to template account as many students of this problem have pointed out.

In addition, derivational morphemes that are presumably attached by familiar processes of affixation do survive in the derived forms as shown by the locative and instrumental prefixes in (17a) and (17b) respectively.

(17) a. ma-ktab → ma-kaatib ‘offices/desk’
    b. miftah → ma-faatiib ‘keys’

In short, the theory that lexical relations in Arabic are established via a mapping from roots to templates does not seem to be on firm grounds empirically. The fact that lexical relations involve more than just the root but vowel length and derivational morphemes strongly indicates lexical relations, like in English, are established over words or lexemes. In the next section, I will summarize one particular analysis along these lines. Then, I will identify one lexical form that is, I claim, to be central to establishing lexical relations within the verbal system.

4. From the root to the word

McCarthy and Prince (1990) suggest an analysis that gets around the problem of transfer. Instead of assuming that the consonantal root is the only element of the singular that is used in the derivation of the plural, they propose that it is the whole word. To derive the plural from the singular, they posit a rule of (positive) Prosodic Circumscription that isolates a syllabic trochee (CVVC, CVC, CVV) from the singular base and maps it onto an iambic (plural) template CVVCV. (18) illustrates the circumscription analysis that derives the plural ẓanaadib from the singular ẓundub.

(18) Derivation of ẓanaadib from ẓundub
Positive circumscription: ẓun (Residue: dub)
Mapping onto iambic template
Thus, contra the assumption of the root to template account, one can identify morpho-phonological elements that express the derivations.

I will, for the present purposes, adopt the essence of McCarthy and Prince (1990) and McCarthy's (1993) account, namely that in both the verbal and nominal systems words or lexemes are the input forms to deriving more complex lexical forms. However, notice that the underlying assumption in McCarthy's account, in particular, is that the verbal and nominal systems are morphologically different with respect to the processes involved in their derivations. For the nominal system we have one type of circumscription (positive circumscription) and for some verbal derivations we have another type (negative circumscription). Focusing on the verbal system, this assumption is forced by the fact that McCarthy uses the perfective form as input to the causative and reciprocal formation. In the next section, I will offer a different unified account that does not need to assume different types of circumscription.

5. The status of the imperfective form of the verb

A unified analysis can be provided if the imperfective, rather than the perfective, is taken as input to Arabic word formation (see also Ratchiffe 1997). A closer look at the distribution of the imperfective reveals that it is simply the default form of the verb when the latter does not carry temporal or aspectual features. Morphologically, the default status of the imperfective explains why, like non-tensed forms in other languages, it is used to derive other verbal and nominal elements. Syntactically, this explains, for example, the widespread distribution of the imperfective as opposed to more limited and restricted distribution of the perfective. There are two verbal paradigms in Arabic: the perfective paradigm and the imperfective paradigm. The perfective paradigm contains mainly suffixes that carry agreement information. The imperfective paradigm, on the other hand, contains both prefixes and suffixes. The prefixes usually carry person agreement while the suffixes carry number agreement. The imperfective is also characterized, in some of its forms, by vowel and the nasal consonant /n/ endings, which arguably carry mood. The two paradigms are illustrated in (22) and (23).

(21) Perfective

<table>
<thead>
<tr>
<th>Person</th>
<th>Number</th>
<th>Gender</th>
<th>Affix</th>
<th>Verb+Affix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sg</td>
<td>F/M</td>
<td>-tu</td>
<td>dari-tu</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>-ta</td>
<td></td>
<td>dari-ta</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>-ti</td>
<td></td>
<td>dari-ti</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>-a</td>
<td></td>
<td>dari-a</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>-at</td>
<td></td>
<td>dari-at</td>
</tr>
<tr>
<td>2</td>
<td>Dual</td>
<td>M/F</td>
<td>-tumaa</td>
<td>daras-tumaa</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>-aa</td>
<td>daras-aa</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>-ataa</td>
<td>daras-ataa</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Plural</td>
<td>M/F</td>
<td>-nnaa</td>
<td>daras-nnaa</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>-tum</td>
<td>daras-tum</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>-tunna</td>
<td>daras-tunna</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>-uu</td>
<td>daras-uu</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>-na</td>
<td>daras-na</td>
<td></td>
</tr>
</tbody>
</table>

(22) Imperfective

<table>
<thead>
<tr>
<th>Person</th>
<th>Number</th>
<th>Gender</th>
<th>Affix</th>
<th>Affix+verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sg</td>
<td>M/F</td>
<td>'a-'</td>
<td>'a-drus'</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>ta-</td>
<td>ta-drus</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>ta-ii</td>
<td>ta-drus-ii</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>ya-</td>
<td>ya-drus</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>ta-</td>
<td>ta-drus</td>
<td></td>
</tr>
<tr>
<td>2 Dual</td>
<td>M/F</td>
<td>ta-aa</td>
<td>ta-drus-aa</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>M/F</td>
<td>ya-aa</td>
<td>ya-drus-aa</td>
<td></td>
</tr>
<tr>
<td>1 Plural</td>
<td>M/F</td>
<td>na-</td>
<td>na-drus</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>ta- -uu</td>
<td>ta-drus-uu</td>
<td></td>
</tr>
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<td>2</td>
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<td>ta- -na</td>
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<td>M</td>
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</tr>
<tr>
<td>3</td>
<td>F</td>
<td>ya- -na</td>
<td>ya-drus-na</td>
<td></td>
</tr>
</tbody>
</table>

5.1 The syntactic distribution of the verbal forms

There are several facts that argue for a special syntactic, and more importantly, morphological, status of the imperfective verb. While the perfective verb is highly restricted in its distribution, mostly in past tense contexts, the imperfective occurs in several syntactic contexts. I list some of them below.

In the context of present tense sentences:

(23) a. Ya-drus-u.
    3M-study-IND
    'He studies/is studying'

b. Laa ya-drus-u.
    NEG 3M-study-IND
    'He does not studies/is not studying.'

In the context of future tense sentences:

(24) Sawfa ya-drus-u.
    FUT 3M-study-IND
    'He will study.'

In the context of modal particles:

(25) Qad ya-drus-u.
    might 3M-study-IND
    'He might study'

In the context of auxiliary verbs:

(26) Kaana ya-drus-u.
    be.PAST 3M-study-IND
    'He was studying/used to study.'

As complement or adjunct of tensed verbs:

(27) a. Xaraţa/sa-yaxruţu ya-Dhak-u.
    leave.PAST3MS/FUT-3M-leave 3M-laugh-IND
    'He left/will leave laughing.'

    3M-want-IND to 3M-study-SUBJ
    'He wants to study.'

In the context of tensed negative particles:

    NEG.FUT 3M-study-SUBJ
    'He will not study.'

b. Lam ya-drus
    NEG.PAST 3M-study
    'He didn't study.'

The question that arises when we consider these facts is: why does the imperfective in particular occur in all these contexts? According to Benmamoun (1999, 2000), the imperfective occurs in these contexts because in all of them tense is either unrealized morphologically (as is the case in the present tense and non-finite clauses) or is realized by a particle (such as negation). Since tense is not realized on the verb, the latter is spelled-out in its default unmarked form, namely the imperfective. In other words, the imperfective is the default morphological verbal form in Arabic. Benmamoun (1999, 2000) provides more details for the special syntactic status of the imperfective. In the next section, I show how the default status of the imperfective affords it a privileged morphological role in word formation, with important consequences for the debate regarding the nature of lexical relations in Arabic.
5.2 The morphological role of the imperfective

Since the imperfective is the default form of the verb, we expect it to be implicated in word formation, if the latter is word based rather than root based. This prediction is correct as I argue below.

5.2.1 Nominal and verbal derivations based on the imperfective

A cursory look at nominals in Arabic reveals that apart from the simple trilateral form, the form of the nominal is fully predictable from the form of the imperfective verb. The two forms are identical in all respects except that the verbal form carries an agreement prefix while the nominal form carries a nominal prefix m.

<table>
<thead>
<tr>
<th>(29)</th>
<th>Imperfective</th>
<th>Nominal</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>yu-'allim</td>
<td>mu-'allim</td>
<td>'allam</td>
</tr>
<tr>
<td></td>
<td>3-teach</td>
<td>NOM-teach</td>
<td>teach.3MS</td>
</tr>
<tr>
<td></td>
<td>'He teaches'</td>
<td>'Teacher'</td>
<td>'He taught'</td>
</tr>
<tr>
<td>b.</td>
<td>yu-saa'id</td>
<td>mu-saa'id</td>
<td>saa'ad</td>
</tr>
<tr>
<td></td>
<td>3-assists</td>
<td>NOM-assist</td>
<td>help.3MS</td>
</tr>
<tr>
<td></td>
<td>'He assists'</td>
<td>'Assistant'</td>
<td>'He helped'</td>
</tr>
<tr>
<td>c.</td>
<td>ya-žlis</td>
<td>ma-žlis</td>
<td>žalas</td>
</tr>
<tr>
<td></td>
<td>3-sit</td>
<td>NOM-sit</td>
<td>sit.3MS</td>
</tr>
<tr>
<td></td>
<td>'He sits'</td>
<td>'Council'</td>
<td>'He sat'</td>
</tr>
<tr>
<td>d.</td>
<td>ya-'riD</td>
<td>ma-'riD</td>
<td>'araD</td>
</tr>
<tr>
<td></td>
<td>3-exhibit</td>
<td>NOM-exhibit</td>
<td>exhibit</td>
</tr>
<tr>
<td></td>
<td>'He exhibits'</td>
<td>'Exhibition'</td>
<td>'He exhibited'</td>
</tr>
<tr>
<td>e.</td>
<td>ya-sbah</td>
<td>ma-sbah</td>
<td>sabah</td>
</tr>
<tr>
<td></td>
<td>3-swim</td>
<td>3-swim</td>
<td>swim.3MS</td>
</tr>
<tr>
<td></td>
<td>'He swims'</td>
<td>'Pool'</td>
<td>'He swam'</td>
</tr>
</tbody>
</table>

Notice that the imperfective and the nominal share the same vowel melodies. Given these facts, there is no doubt that at least some types of lexical relations implicate words rather than roots. The same facts obtain in the context of the imperfective verb (see Brame 1970). The latter shares the vowel melody of the imperfective as illustrated in (31).

<table>
<thead>
<tr>
<th>(30)</th>
<th>Imperfective</th>
<th>Imperative</th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>ta-drus</td>
<td>'u-drus</td>
<td>daras-ta</td>
<td>(study)</td>
</tr>
<tr>
<td>ta-qra'</td>
<td>'i-qra'</td>
<td>qara'-ta</td>
<td>(read)</td>
</tr>
<tr>
<td>ta-žlis</td>
<td>'i-žlis</td>
<td>žalas-ta</td>
<td>(sit)</td>
</tr>
</tbody>
</table>

Notice that the perfective verb has a different vowel melody from the imperative and imperfective verbs. This indicates that the perfective is not implicated in verbal and nominal derivations.

Given the above facts, the inevitable conclusion is that some lexical relations are established via the word rather than the root. The imperfective seems to be a viable candidate for capturing those relations. The question then is whether we can appeal to the imperfective to account for forms that have traditionally relied on the root. In the next section, I will show that this is possible both on empirical and conceptual grounds.

5.3 A unified account of nominal and verbal derivations.

So far, I have argued that the imperfective verb is the default form in Arabic that is used as input to word formation. The clear cases of word formation processes the imperfective form is involved in are the imperatives and nominalization. The question that arises is whether the role of the imperfective goes beyond these cases. If it can be shown that the imperfective is implicated in other types of word formation in Arabic, especially those that have previously received a root based account, it would be a clear challenge to the generality of the theory that Arabic word formation involves a root to template mapping.

The challenging cases are the forms where the vocalic melodies of the verbal forms that share the same root differ. Here it is not obvious whether the imperfective is the basis for derivation. However, there is a compelling argument that it is. Recall that though McCarthy and Prince (1990) and McCarthy (1993) assume, at least partially, a word to word derivation, the input to the plural derivation is the singular and the input to verbal derivations is the perfective form of the verb. This in turn requires positing different modes of circumscription, positive and negative. However, notice if we use the imperfective as input to verbal derivations we will need only one type of circumscription for both the nominal and verbal systems. In both cases a syllabic trochee from the input form (singular or imperfective) is isolated and a morpheme is attached between the syllabic trochee and the rest of the word.

<table>
<thead>
<tr>
<th>(31)</th>
<th>Reciprocal?</th>
<th>yakutb</th>
<th>yukaatib</th>
<th>yu+aa+tib</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nominal Plural</td>
<td>maktab</td>
<td>makaatib</td>
<td>mak+aa+tib</td>
</tr>
</tbody>
</table>

This in my view is a strong argument for extending the role of the imperfective to the derivation of the verbal forms and particularly the causative and reciprocal. This extension allows for a system whereby lexical relations are word based rather than root based.

6. Remaining problems: the vocalic melody

In this chapter, I have argued for a word to word analysis of Arabic morphology. With respect to verbal forms, I presented arguments for taking the imperfective
form of the verb as the basic form for deriving other verbs such as the causative and reciprocal. This allowed for a unified word-based analysis of Arabic morphology. In fact, in most cases the word to word relations is not in doubt. The issue is about cases where it appears not to be so. I argued that even in those cases a word to word account can be maintained. However, one of the problems that must remain open for the time being is the vocalic alternation between the verbal forms.

In some cases, the vocalic melody is quite predictable. For example, in all the derived forms (all forms other than form 1), the perfective and imperfective forms display the same vocalic melody. Within the nominal system, the system is not as consistent though some vocalic melodies are more widespread than other (for example a-as-i as in nauqata). The problem is how deal with the vocalic melody of the input forms (form 1 within the verbal system, and the singular within the nominal system). The root to template account deals with this problem by taking the root as a grammatical primitive and mapping it onto a template with its own vocalic melody. However, notice that apart from the problems mentioned above, the root to template account is forced to posit as many templates as there are vocalic melodies. Therefore, the problem of the lack of predictability of vocalic melodies does not argue for or against either the root to template account or the word to word account. Both analyses must introduce more complexity in the system. The word to word account can probably be augmented with rules that change the vocalic melodies (as in the cases of vowel ablaut in Germanic languages for example) when forms undergo derivations. This, in my view, remains as one of the most challenging issues in Arabic morphology in particular and Semitic morphology in general.

Notes

1. In this chapter, the focus is mostly on Standard Arabic. However, since similar facts obtain in the modern Arabic dialects, the word to word approach advanced here is expected to carry over to those dialects as well.
2. See in this regard the debate between associative learning type accounts and rule based accounts. A detailed outline of the debate and the issues involved can be found in Pinker (1999).
3. See the paper by Prunet et al. (2000) which claims to provide evidence from the performance of Arabic aphasics that requires reference to the root independently of the vocalic melody.
5. I should point out that McCarthy and Prince’s (1990) analysis combines both a root to template account and a word to word derivation. The same can be said of the approach by Bat-El (1994) which assumes a word to word derivation but implement it by extracting the root from the input form and mapping onto a template.
6. The imperfective is divided into three main moods distinguished by their endings (Wright 1889:57–60; Hassan 1973:277–440, Fleisch 1979:122–36). The indicative form has two endings, the vowel u if the verb ends in a consonant, and wadi if the number suffixes in the dual and plural and the gender suffix in the second feminine singular are realized as long vowels (wa, wu, wi respectively). The subjunctive has a vowel suffix u if the verb ends in a consonant but no endings if the number suffixes in the dual and plural and the gender suffix in the second feminine singular are realized as long vowels. The jussive form has no ending at all. For the present purposes I will ignore the mood distinctions. For a discussion of the various moods see Bennamoun (1999, 2000).
7. In Bennamoun (in prep.) I provide arguments to show that what is called a reciprocal verb is actually a (broken) plural verb, in which case it should be analyzed on a par with the (broken) plural noun.
8. The same problem arises in the context of nominals. For example, some locative nominals preserve the stem vowel of the imperfective (a) but others do not (b):

(i) a. yasbah masbah
swim.3MS swimming pool
b. yaktub maktub
write.3MS office

While such cases do not necessarily challenge the word based account they do raise questions about the nature of the word to word derivations.

References


Bennamoun, E. In prep. "Reciprocals as Plurals in Arabic".


Chapter 6

Arabic derivational ablaut, processing strategies, and consonantal "roots"

Jeffrey Heath

In this chapter I do not attempt a comprehensive summary of the efforts by several recent linguists to account for Arabic ablaut phenomena. Instead, I focus on a few core problems that may be of interest to readers of this volume: the alleged consonantal root system, the status of long vowels, and the status of geminates. The opinions expressed are not necessarily those of other linguists.

It is important to distinguish the formal elements needed for a morphological derivation from those needed for a parsing of a surface form, especially of a derived form. Some of the disagreement about the validity of the "root" system in Arabic can be cleared up if this distinction is carefully made. I will initially focus on representations and derivations, before turning to processing issues at the end. "Ablaut" is used here to mean any derivational operation on an input stem to derive an output stem, excluding cases involving mere prefixation or suffixation. Ablaut may involve either a template like CVCC- or (with vocalism specified) CaCC-, or a superimposed vocalic melody like [u a].

1. Roots or underived stems?

For the most part, the famous "consonantal roots" of Arabic are best consigned to oblivion as far as lexical representations and derivational ablaut are concerned. While a case might be made for consonantal roots in strong verbs (e.g. those with trilliteral -CCVC- imperfectives like -ktub- 'write'), no credible phonological analysis can save analyses of weak -CCVV and hollow -CVCV stems, in spite of repeated and sometimes intellectually heroic efforts by some linguists. Moreover, for nouns there is no reasonable way to separate consonants and vowels into different levels, even with simple strong trilliterals like xubz- 'bread', dahab- 'gold', kabz- 'ram', and hifz- 'preservation', since the vowels cannot be motivated grammatically. Even the imperfective vowel of -CCVC- verbs is largely lexical (unpredictable), or is determined by an adjacent consonant (pharyngeal h and ' strongly favoring a), in neither case functioning as an autonomous grammatical element.
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