The Exponent of the Turkish Aorist*  

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Abstract  
The complex allomorphy of the Turkish Aorist morpheme sheds light on several aspects of the theory of Distributed Morphology. In the vicinity of the verbal root an instructive kind of root-conditioned allomorphy is observed, in which the majority of monosyllabic roots select a minority allomorph, while a minority select the default allomorph. Second, when the Aorist interacts with the Negative a portmanteau is formed, and this portmanteau itself conditions further allomorphy in the following agreement morphology. The first phenomenon shines a light on the nature of root-conditioned allomorphy, and the second provides telling evidence that new morphemes produced by Fusion can serve as context for the conditioned VI of other morphemes.

0. Introduction  
The Turkish Aorist "tense", which is really an Aspect, departs from the usually agglutinating nature of Turkish in having rather complex allomorphy. I will examine this allomorphy in the context of the theory of Distributed Morphology, and argue that it leads to some interesting conclusions for parts of that theory.

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Because they occur against the background of such a generally well-behaved agglutinating morphology, the unusual properties of the Aorist can be highlighted with unusual clarity. Two subphenomena are of particular interest: first, in the vicinity of the verbal root an instructive kind of root-conditioned allomorphy is observed, in which the majority of monosyllabic roots select a minority allomorph, while a minority select the same allomorph as all polysyllabic stems, i.e. the default allomorph. Second, at some distance (potentially) from the root, there is complex allomorphy in which under certain circumstances a portmanteau is formed, and this portmanteau itself conditions further allomorphy in the following agreement morphology. The first phenomenon shines a light on the nature of root-conditioned allomorphy, and the second provides telling evidence that new morphemes produced by Fusion, the mechanism within Distributed Morphology that is responsible for the formation of portmanteau morphemes, in addition to feeding their own VI rules, can serve as context for the conditioned VI of other morphemes.

1. Background and Framework

There is, to my knowledge, no existing analysis in modern terms of the allomorphy of the Turkish Aorist. It is mentioned fleetingly in such classic works as Lees (1961) and Swift (1963), as well as in more modern studies such as Kornfilt (1997), but a full analysis is not attempted.

The present paper is intended in part to bring this fascinating corner of Turkish morphology to the attention of those interested both in Turkish and in current linguistic theory.

The analysis will be couched in the framework of Distributed Morphology, which is intended to provide a theoretically principled and empirically testable set of tools for the insightful description and analysis of morphological phenomena. Within this framework morphological phenomena are accounted for in a system of postsyntactic operations, the most fundamental of which is Vocabulary Insertion (VI), in which phonological shapes are assigned to abstract morphemes.

In addition to VI, there are assumed to be several kinds of postsyntactic operations that can affect the output of the Morphology. The one of these that will be the focus of this paper is Fusion: an operation which takes an input structure containing two morphemes (bundles of morphosyntactic features) and converts it into a structure in which the features of the two morphemes have been merged to form a single bundle of features, i.e. a morpheme containing all

Cf., e.g., Halle and Marantz (1994).
the features of the two merged morphemes.

The theory of Distributed Morphology is relatively young, and many of its elements remain the subject of investigation. The operation of Fusion is one of those, and it will be one of the aims of this paper to demonstrate that, within the framework of Distributed Morphology, fusion is a necessary component in the analysis of the Turkish Aorist; and that, furthermore, the fusion in question produces a morpheme that affects the operation of Vocabulary Insertion subsequently in the derivation.

In the argument developed here, I will be assuming that the form of a morpheme can be determined by an element that it is adjacent to (either hierarchically or linearly), but not by a sequence of such elements; and that VI associates forms with morphemes, i.e. with bundles of features. A consequence of this is that if two syntactically distinct morphemes are realized in a single form (classically called a portmanteau morph), a fusion operation must be assumed to apply to combine the distinct morphemes into one before Vocabulary Insertion.²

In the interesting cases such as the one addressed in this paper the morphological fusion is not a simple phonological matter, but results in the creation of a new morpheme; one which can participate in the determination of allomorphy of neighboring morphemes, as section 4 will show.³

² Of course it is possible for superficial phonological operations to result in two underlying morphemes being represented by a not transparently analyzable phonological shape, but these cases are relatively uninteresting, for present purposes.

³ In a slightly different framework, Svenonius (2011) has proposed that Vocabulary Insertion might associate a form with a (hierarchically) contiguous sequence of morphemes ("Spanning"), thus doing away with the need for fusion. I will not attempt here to decide between these two very different approaches to the portmanteau problem. A question does arise, however, since Spanning does not create new morphemes, how the spanned elements could come to affect further allomorphy, as we shall see is the case in the Turkish Negative Aorist construction, unless that framework imposes a less stringent locality condition on the environments available to condition allomorphy.
2. The Turkish Aorist

This section will establish the empirical groundwork by laying out the central facts about the allomorphy and morphotactics of the Aorist morpheme. Section 2.1 presents the various surface forms and their conditions of occurrence; section 2.2 locates the Aorist morpheme in the context of the rest of the verbal morphology.

2.1. The Forms of the Aorist Morpheme

A perusal of any Turkish grammar will reveal that (aside from variations due to vowel harmony) the Aorist morpheme is reflected in a number of surface forms, which are listed below, together with brief characterizations of where they appear.¹

¹ A few notes about Turkish phonology:

Vowel Harmony: most suffix vowels harmonize in backness with a preceding vowel. Most high suffix vowels also harmonize in rounding. Some suffixes contain non-harmonizing vowels.

Buffer Cs and Vs: many suffixes have different forms for C-final vs. V-final stems. I assume (following Hankamer (2011)) that buffer vowels are inserted by epenthesis to satisfy constraints on syllable structure, and that buffer consonants are underlyingly present in suffix forms and deleted when not needed.

Stressability: some syllables are unstressable, and word stress falls on the syllable immediately preceding the first unstressable syllable, or on the final syllable of the word if all of its syllables are stressable. Some suffixes contain unstressable syllables.

In accordance with common practice in Turkish linguistics, underspecified vowels in underlying suffix forms will be represented as /A/ (low unrounded vowel unspecified for backness) or /I/ high vowel unspecified for backness and rounding).
/r/ after a stem ending in a vowel (except the negative morpheme /mA/):

- anla-r
- de-r
- understand-AOR

/s/ after a monosyllabic stem ending in a consonant (but see exceptions below):

- ör-er
- koş-ar
- kon-ar
- dön-er
- çal-ar
- knit-AOR
- run-AOR
- alight-AOR
- turn-AOR
- steal-AOR

/Ir/ after 13 monosyllabic roots:

- bil-ir
- gel-ir
- ver-ir
- gör-ür
- öl-ür
- al-ir
- kal-ır
- san-ır
- var-ıı
- bul-ur
- dur-ur
- vur-ur
- ol-ur

/Ir/ after all polysyllabic stems ending in consonants:

- süpür-ür
- gid-il-ir
- öl-dür-t-tür-ür
- sweep-AOR
- go-PASS-AOR
- die-CAUS-CAUS-CAUS AOR

/Ir/ after monosyllabic polymorphemic stems:

- de-n-ir
- ye-n-ir
- ko-n-ur
- say-PASS-AOR
- eat-PASS-AOR
- put-PASS-AOR

/z/ after the negative suffix /mA/ in 2nd and 3rd persons:

- de-n-me-z
- ol-ma-z
- yürü-ye-me-z
- say-PASS-NEG-AOR
- be-NEG-AOR
- walk-POT-NEG-AOR
- görül-me-z-sin
- ol-ma-z-sın
- yürü-ye-me-z-sin
- see-PASS-NEG-AOR-2
- be-NEG-AOR-2
- walk-POT-NEG-AOR-2

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5 The normally unstressable negative morpheme /mA/ is stressable in these forms, see discussion in section 4.
after the negative suffix in 1st person:°

<table>
<thead>
<tr>
<th>1st person singular</th>
<th>1st person plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>gör-ül-me-0-m</td>
<td>gör-ül-me-0-yiz</td>
</tr>
<tr>
<td>ol-ma-0-m</td>
<td>ol-ma-0-yiz</td>
</tr>
<tr>
<td>yürü-ye-me-0-m</td>
<td>yürü-ye-me-0-yiz</td>
</tr>
<tr>
<td>see-PASS-NEG-AOR-1</td>
<td>see-PASS-NEG-AOR-1PL</td>
</tr>
<tr>
<td>be-NEG-AOR-1</td>
<td>be-NEG-AOR-1PL</td>
</tr>
<tr>
<td>walk-POT-NEG-AOR-1</td>
<td>walk-POT-NEG-AOR-1PL</td>
</tr>
</tbody>
</table>

2.2. The Morphotactics of the Aorist

The Aorist morpheme is a member of a small class of affixes which, for convenience, I will call Aspect morphemes. The members of this class are mutually incompatible, and thus occupy a position in which at most one of them can appear (though one of them, the Evidential /mIş/, has another life as a Tense morpheme); they are the Progressive /iyor/, the Future /yAcAg/, the Evidential /mIş/, the Necessitative /mAlI/, and the Aorist. The Aspect morphemes attach to a verbal stem that may contain, in addition to the root (or verbal stem derived by derivational affixation from a noun or an adjective), Reflexive, Reciprocal, Causative (which may iterate), Passive, Potential, Negative, and Abilitative morphemes. This is the same kind of stem to which a Past or Conditional morpheme can be attached to yield a finite verbal construction, and to which a number of infinitival and participial morphemes can attach to form various nonfinite constructions; the Aspect morphemes, on the other hand, yield a sort of nonverbal predicate, which may be further extended by appending a copula, which itself introduces the possibility of continuation with a Tense morpheme, among other things. The verbal spine, with one of its possible continuations above Aspect, then, looks something like (1):

° In glosses, 1 and 2 mean first and second person respectively. In the singular forms, the negative suffix is still stressable, but the first person suffix, which is normally /(y)-lm/, has lost its vowel. In the plural forms, the negative suffix is again unstressable, and the word stress falls on the syllable before it. The allomorphy of the first person agreement morphemes will be discussed in sections 4 and 5.
3. The /Ir/ - /Ar/ Problem

3.1. /Ir/ is really just /r/

Turkish has a large number of suffixes which display the same alternation: a single /C/ after vowel-final stems and /VC/ after consonant-final stems, where (in all the productive cases) the V is high and unspecified for backness and rounding. Hankamer (2011) has argued that this alternation is best captured by assuming a vowel epenthesis (general in the language) that occurs to break up illegitimate syllable-final clusters. On this view (or on the alternative view that the buffer V is underlying and gets deleted after vowels) the choice of /r/ vs. /Ir/ is not true allomorphy, but a simple phonologically conditioned alternation.

The effect of epenthesis can be seen in (2) below, where the underlying forms of the Reciprocal and first person Possessive morphemes are taken to be /ş/ and
/m/ respectively. When the suffix form is affixed to a consonant-final stem, the result is an illegitimate syllable-final cluster, which triggers epenthesis of a high vowel (which then undergoes vowel harmony).

(2)a.  koş+ş --> koş-uş    anla+ş --> anla-ş
    run+RECIP           understand+RECIP

    b.  kitab+m --> kitab-im  abla+m --> abla-m
        book+1POSS          older sister+1POSS

If we assume that the underlying form of the Aorist suffix in similar circumstances is /r/, the same epenthesis will apply to produce the /Ir/ variant.

(3)    imren+r --> imren-ir  anla+r  -->  anla-r
        covet+AOR          understand+AOR

To conclude, the /r/ vs. /Ir/ alternation can be reduced to a phonologically conditioned alternation, just like the alternants produced by vowel harmony. There is no need for two allomorphs, and following Hankamer (2011) I will assume that the underlying allomorph is just /r/.

2.2 /r/ vs. /Ar/

Now we have to understand the variation between /r/ and /Ar/, which can be summarized as follows:

(4) Distribution of /r/ and /Ar/ allomorphs

a.  /r/ after V

b.  /r/ after polysyllabic stems

c.  /r/ after 13 exceptional monosyllabic roots

d.  /r/ after monosyllabic polymorphemic stems ending in C

e.  /Ar/ after C-final monosyllables other than the two cases mentioned above

7 In the context of Distributed Morphology, it is necessary to distinguish alternations due to competition between VIs and alternations due to purely phonological effects. In the present study I will use the term morph (and where appropriate, allomorph) to mean the spellout assigned by a Vocabulary Item to a morpheme.
From this description of the facts, which is essentially what one finds in grammars (cf., e.g., Lewis 1967: pp. 116-17) it appears that the allomorphy of the Aorist is sensitive to several things: (a) whether the stem ends in a vowel or a consonant; (b) whether the stem is monosyllabic or polysyllabic; (c) whether the stem is monomorphemic or polymorphemic; and finally (d) whether the stem is a root from the class of (12 or 13) exceptional monosyllabic roots. We can reduce this apparent complexity somewhat by noting that the weirdness is all in cases (c-e), and concern the behavior of the Aorist in the context of monosyllabic stems.

We can get there by noting that, in the context of Turkish phonology, it is not unique for the allomorphy of a morpheme to be sensitive to the number of syllables in the stem. Let is briefly look at the Causative morpheme, which has the following allomorphs:

(5) a. /t/ after polysyllabic stems ending in a vowel or liquid
   b. /dIr/ elsewhere

<table>
<thead>
<tr>
<th>anla-t</th>
<th>bekle-t</th>
<th>dürel-t</th>
<th>otur-t</th>
</tr>
</thead>
<tbody>
<tr>
<td>understand-CAUS</td>
<td>wait-CAUS</td>
<td>straighten-CAUS</td>
<td>sit-CAUS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>don-dur</th>
<th>arı-t-tr</th>
<th>brak-tr</th>
<th>anla-t-tr</th>
</tr>
</thead>
<tbody>
<tr>
<td>freeze-CAUS</td>
<td>cleanse-CAUSE</td>
<td>leave-CAUS</td>
<td>understand-CAUS-CAUS</td>
</tr>
</tbody>
</table>

A look at the allomorphy of the Causative confirms that stem syllable count can be a factor in allomorphy. The Causative suffix is /t/ after polysyllabic stems ending in a Vowel or a Liquid, /dIr/ elsewhere. This, by the way, provides compelling evidence for the now common assumption that spellout⁸ has to be cyclical, root outward, because the shape of the Causative morpheme cannot be known until the shape of its stem is known.

So the fact that there is an allomorph of the Aorist morpheme that occurs only with monosyllabic stems is not weird; but allomorphy sensitive to morpheme count is weird. It would be good to replace that stipulation with reference to something we really need.

It may seem obvious by now what the solution to this conundrum must be, but

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⁸ The term "spellout" (often erroneously written "spell out") is used in various senses in the Distributed Morphology literature. I use it exclusively to refer to the operation of Vocabulary Insertion, which assigns a phonological shape to a morpheme.
it was not clear to me for many years. I believe now that the thing to recognize is that taking the /Ar/ allomorph of the Aorist is a property of roots: only monosyllabic C-final roots, and all but 13 of them, take that allomorph. So the distribution of the /r/ ~ /Ar/ allomorphy can be quite simply stated:

/Ar/ after monosyllabic C-final roots other than the 13 exceptions
/r/ elsewhere.

We have to count syllables, but we don't have to count morphemes. Clearly, we need to have a theory of morphology that permits syllable count (or foot structure) of a stem to have an effect on allomorphy; it would be good to have a theory of morphology that does not permit the number of previous morphemes to have such an effect.

4. The Negative Aorist Problem

What remains now is to understand the complex allomorphy that occurs when the Negative and the Aorist morphemes are adjacent to each other. Reference to the sketch of the verbal spine in (1) will reveal that this can occur when both Negative and Aorist morphemes are present and the Abilitative, the only morpheme that can intervene between them, is not. When that morpheme intervenes, nothing interesting happens in the allomorphy of the Negative and the Aorist: the Negative is /mA/, realized as /me/ or /ma/, and the Aorist, attached as it is to a polysyllabic stem, is /r/, surfacing as /ir/ because of the invariant /i/ in the second syllable of the Abilitative morpheme /yAbil/:

(7)   git-me-yebil-ir
     go-NEG-ABIL-AOR
   "He could (just) not go."
or  "It may be that he will not go."

When the Negative and the Aorist are both present, and not separated by the Abilitative, several interesting things happen. Before discussing those effects, however, it will be necessary to observe a peculiarity of the Negative morpheme, namely that it is unstressable. Consider the following examples (a preceding // marks the stressed syllable):

(8)    git-’mek         git-mek-’ten        anla-’mak            anla-mak-’tan
       go-INF          go-INF-ABL      understand-INF   understand-INF-ABL

Examples (8) show that word stress typically falls on the final syllable of the word. Certain suffixes, however, are unstressable (or contain unstressable syllables), and when such a suffix is present word stress falls on the syllable immediately preceding it. The Negative /mA/ is such a suffix:
When the Negative and the Aorist are adjacent, there are several deviations from the expected agglutinative pattern, as seen in the following examples (the morphemic breakdown and the glosses are to be taken only as indications of where the referenced morphemes would be expected to be):

(10)   git-'me-z            git-me-z-'ler           gör-ül-'me-z               gör-ül-me-z-'ler
       go-NEG-AOR          go-NEG-AOR-PL see-PASS-NEG-AOR   PL

(11)   git-'me-z-sin       git-'me-z-siniz          gör-ül-'me-z-sin      gör-ül-'me-z-siniz
       go-NEG-AOR-2   go-NEG-AOR-2PL see-PASS-NEG-AOR-2  2PL

(12)   git-'me-0-m          'git-me-0-yız             gör-ül-'me-0-m       gör-'ül-me-0-yız
       go-NEG-AOR-1   go-NEG-AOR-1PL see-PASS-NEG-AOR-1  1PL

(13)   anla-'ma-0-m         an'la-ma-0-yız anla-n-'ma-0-m          an'la-n-ma-0-yız
       understand-NEG-AOR-1  1PL       PASS-NEG-AOR-1  1PL

As can be seen, this attempt to spell out the forms of the individual morphemes in their underlying positions is going to require some quite intricate specification of forms. The form of the Aorist is /z/ following /mA/ in third and second persons, and /mA/ becomes stressable. In the first person, the Aorist is /0/; in the first person singular, /mA/ is stressable again, while in the plural it is not; and in the singular, the form of the agreement suffix is affected. Forms such as (14) show the normal shape of the 1SG agreement suffix to be /(y)Im/.

(14)    gid-er-im           git-meli-yim
       go-AOR-1          go-NEC-1

When preceded by the negated Aorist the First Person Singular suffix loses its vowel (which is an underlying vowel, not the buffer V, as can be seen in the necessitative form). Summarizing,

When adjacent to NEG, AOR has a funny spellout
When adjacent to AOR, NEG has a funny spellout
When adjacent to 1, AOR has a funny spellout
When adjacent to [NEG][AOR], 1SG has a funny spellout

That's a lot of funny spellouts, and they are all unrelated to each other.
4.2.

Traditional grammars (e.g. Lewis 1967) and learning grammars such as Lewis (1953) and Underhill (1976) do not, of course, present the facts in this way, but rather treat the Negative Aorist as a set of forms to be learned. It is fairly clear, though, that a speaker's command of a Turkish verb is not acquired by memorization, in any sense, of a full paradigm, and the complex interaction in question has nothing to do with the verbal root. Further, a look at the sketch of the verbal spine in (1) will reveal that the three interacting elements are not necessarily adjacent. Consider such examples as in (15):

(15)  'git-me-yebil-ir
       go-NEG-ABIL-AOR

       'git-me-yebil-ir-im
       go-NEG-ABIL-AOR-1SG

       git-'me-z-di-m
       go-NEG-AOR-PST-1

       git-'me-z-mi-yim?
       go-NEG-AOR-Q-1

When the Negative and the Aorist morphemes are separated by the Abilitative morpheme, they both appear in their normal shapes. Similarly, when the 1st person agreement morphemes are not adjacent to the Negative and Aorist in combination, they appear in their normal forms.

It seems, nevertheless, that the traditional grammarians got something right in treating the Negative Aorist as a morphological unit. It is this insight that we will pursue in the next section.

5. An Analysis

Building on the insight that the crucial thing that needs to be said is that the Negative and the Aorist morphemes, when adjacent, come to constitute a single morphological unit, in this section we will develop an analysis within the framework of Distributed Morphology, showing that within that framework a reasonably transparent treatment is available making use of the morphological operation of Fusion. First, though, let us consider what a Distributed Morphology account not involving Fusion might look like. We could posit mutually varying allomorphy between NEG and AOR, with Vocabulary Items’ like the following:

9 A Vocabulary Item (sometimes, confusingly, called a VI) is a statement specifying a particular phonological realization, in a particular context, of an abstract morpheme). I have formulated them as replacement rules, though, of course, nothing actually replaces anything.
Some more Vocabulary Items would be necessary for the 1SG agreement morpheme:\(^\text{10}\)

\[
\begin{align*}
(17) \quad &\text{1SG} \rightarrow /m/ \quad /\text{NEG} \text{ AOR} \_ \\
&\rightarrow /\text{yIm}/ \quad \text{elsewhere}
\end{align*}
\]

But not even the crazy pattern seen here needs to be this ugly. These insertion rules violate the principles I stated at the beginning that I would adhere to. What I propose instead is that the key operation in the generation of this pattern is fusion between the Negative and Aorist morphemes, when they are adjacent. This fusion feeds a set of Vocabulary Items which spell out the new morpheme as one of three allomorphs: stressable /'mA/ when followed immediately by the 1SG agreement morpheme, unstressable /mA/ before the 1PL agreement morpheme, and stressable /'mAz/ elsewhere, though a further Fusion of [NEG+AOR] with [PL] might be considered.\(^\text{11}\) The proposed set of rules is in (18).

\[
\begin{align*}
(18) \quad &\text{BEFORE SPELLOUT:} \\
&[\text{NEG}]+[\text{AOR}] \rightarrow [\text{NEG}] \quad \text{(FUSION)} \\
&[\text{AOR}]
\end{align*}
\]

This operation must take place before either the Negative morpheme or the Aorist morpheme is spelled out, so I will assume it takes place in the portion of the Morphology that is prior to Vocabulary Insertion.\(^\text{12}\)

\(^{10}\) The agreement morpheme is presumably dissociated (cf. Embick (2010)), but I ignore that complication here as not relevant to current concerns.

\(^{11}\) If this tack were taken, there would be even less difference between the present analysis and a Spanning account (cf. fn. 2).

\(^{12}\) An interesting question arises concerning the interaction of Fusion and Vocabulary Insertion. It is clear that the Fusion of NEG and AOR must happen before either the NEG or the AOR is spelled out, since the [NEG+AOR] morpheme has its own peculiar spellout. Even more clearly, it must happen before spellout of the agreement morphology. Clearly, then, Fusion cannot be cyclic in the same sense as Vocabulary Insertion, if each head defines a cycle (as seems to be assumed in the Distributed
SPELLOUT (the specification of Vocabulary Items):

\[
\begin{align*}
&\text{[NEG]} \quad \rightarrow \quad -mA \quad / \_ [1SG] \\
&\text{[AOR]} \quad \rightarrow \quad -"mA \quad / \_ [1PL] \quad ("X \text{ means } X \text{ is unstressable}) \\
&\quad \rightarrow \quad -mA \_z \\
&\text{[AOR]} \quad \rightarrow \quad -Ar \quad \text{when attached to any monosyllabic root ending} \\
&\quad \text{in a C that is not in the list \{} \text{bil, gel, ver, ... (13)} \} \\
&\quad \rightarrow \quad -r \\
&\text{[NEG]} \quad \rightarrow \quad -"mA \\
&\text{[1 sg]} \quad \rightarrow \quad -m \quad / [NEG] \_ [AOR] \\
&\quad \rightarrow \quad -"yIm^{13} \\
&\text{[2 sg]} \quad \rightarrow \quad -"yIz
\end{align*}
\]

POST-SPELLOUT (or simultaneous with (cyclic) spellout):^{14}

Vowel Epenthesis: an underspecified high vowel is epenthesized to break up illegitimate syllable-final consonant clusters

Vowel Harmony: underspecified vowels assimilate to the preceding vowel

Morphology literature, cf. e.g. Bobaljik (2000), Embick and Marantz (2008). So we are left with the question: is Fusion pre-cyclic within Morphology? Or is the ordering more complicated, so that Fusion precedes spellout during a cycle defined on some domain larger than a morpheme? These questions have not been addressed in the literature, so far as I know, and I am not in a position to answer them. In the analysis sketched here, I will assume for simplicity's sake that Fusion is an operation on structures within the morphological component, i.e. post-syntax, but preceding the insertion of any Vocabulary Items. In short, I assume tentatively that it is pre-cyclic with respect to the Vocabulary Insertion cycle.

^{13} The (nonverbal predicate) agreement morphemes are unstressable in any case: cf. həsə-sm ("you are sick"), bəba-yım ("I am a father").

^{14} One of the conclusions of Hankamer (2011) is that Vowel Epenthesis must apply cyclically, interleaved with successive Vocabulary Insertions.
in backness, underspecified high vowels also assimilate in rounding

Other phonological alternations

The key elements of this analysis are the Fusion of NEG and AOR, creating a new \([\text{NEG}+\text{AOR}]\) morpheme; the spellouts of this morpheme in three different environments; and the presence of this morpheme in the spellout conditions of the 1SG agreement morpheme. Everything else is precisely as expected. Thus the apparent complexity of the allomorphy of and surrounding the Aorist reduces to three things: (a) the Negative and the Aorist, when adjacent, fuse to create a new \([\text{NEG}+\text{AOR}]\) morpheme; (b) this morpheme has three spellouts, two depending on a following agreement morpheme and the other a default; and (c) the 1SG agreement morpheme has an idiosyncratic spellout in the presence of the \([\text{NEG}+\text{AOR}]\) morpheme. The fusion of the Negative and the Aorist morphemes unites several different phenomena, and it is this unification that supports the positing of the fusion operation.

6. Conclusion

The allomorphy of the Turkish Aorist, while initially seeming rather intricate, breaks down into two parts, each tractable in an instructive way. One part reduces to a case of root-conditioned allomorphy, with the unexplained residue that all of the roots selecting the marked allomorph are monosyllabic. The other part reduces to a fusion of the Negative and Aorist morphemes into a portmanteau morpheme, which has its own spellouts and conditions the spellout of the 1SG agreement morpheme.

The major points of theoretical interest are the conclusion that (if the analysis proposed for the first part of the Aorist allomorphy is accepted) there is apparently no need for rules of allomorphy to be able to count morphemes, and (in the second part) that the conditioned allomorphy of a subsequent morpheme depending on a portmanteau morpheme provides additional evidence for the operation of Fusion.

It must be noted that this conclusion follows only if a locality constraint that I adopted a priori is accepted: that the realization of a morpheme may depend on (either hierarchically or linearly) adjacent morphemes, but not on morphemes farther away. If one is willing to reject that assumption, the present argument for Fusion will not hold. If one accepts the locality assumption, then (within the framework of assumptions of Distributed Morphology) we have confirmation of something that might have been expected: that a new morpheme, once constructed by Fusion, can serve as part of the context for the spellout of other morphemes.
References:


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