

Emphasis (Pharyngealization)  
as an Autosegmental Harmony Feature\*

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1 Introduction

Modern Aramaic<sup>1</sup> is like Arabic in making use of the phonological property traditionally known as emphasis, a complex of coarticulations including pharyngealization and velarization as well as several other associated phonetic effects. In the various modern Aramaic dialects emphasis behaves in two different ways. Conservative dialects have preserved a series of emphatic consonants, and in fact added additional members to the old Aramaic pair T, S.<sup>2</sup> One dialect in Iraq, for instance, has the emphatic consonants T, Ṣ, ṬS, DZ, S, Z, R, L (Krotkoff 1982:7-8). As in Arabic, these emphatics affect nearby vowels and consonants, and the essential phonological problem is to specify what constitutes "nearby".

In modern Aramaic dialects of Iran the domain of emphasis is larger: with limited exceptions, a whole word is either emphatic or plain.<sup>3</sup> The subject of this paper is emphasis harmony in the Jewish dialect of Iranian Azerbaijan (AJA, for "Azerbaijani Jewish Aramaic").<sup>4</sup> This system will be explicated within the framework of autosegmental phonology, in the same subspecies of autosegmental theory as that used for Turkish vowel harmony by Clements and Sezer (1982).<sup>5</sup> My information on AJA is entirely from the works of Irene Garbell, mainly 1965b, which will henceforth be referred to as G.

The development in the late 1970's of phonological frameworks with non-linear representation--metrical and autosegmental phonology--has inspired a large amount of penetrating work on vowel harmony systems of diverse character.<sup>6</sup> The fact that emphasis harmony in AJA behaves in most respects in the same way as vowel harmony, as will be demonstrated in this paper, makes it clear that true vowel harmony is but a special case of the larger class of harmony systems. Harmony systems themselves are among the many phonological phenomena that are essentially prosodic, including quantity, tone, and accent systems of all kinds.

Phonetically, emphasis in AJA consists of pharyngealization, velarization, glottalization, lip rounding, the backing and lowering of vowels, and the trilling of r (G 33). Many of these properties apply only to certain classes of segments--for instance, glottalization only to voiceless stops, lip rounding only to labials, velarization only to oral consonants--but all segments are pharyngealized. For this reason, and because of the evidence from Arabic summarized by Card (1983:14), it is clear that emphasis is fundamentally pharyngealization, which I repre-

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sent with the feature [+Constricted Pharynx] or [+CP].<sup>7</sup> In order to simplify the exposition in the rest of this paper, I will write only the feature [+CP] or [-CP], but these are to be understood as standing for more complex feature bundles, which would include velarization, glottalization, rounding, etc.<sup>8</sup>

Typically, a word in AJA (including the stem, prefixes and suffixes) is either entirely emphatic or entirely plain. Word stems are lexically specified as emphatic or plain, and do not generally alternate in emphaticness in derivation or inflection and emphasis does not spread from one word to the next. Approximately 4100 lexical items are listed in the glossary of G, of which about 36% are emphatic, the rest plain. I have been able to find only 72 stems like niŠAN 'sign, mark' which are mixed, i.e. part plain, part emphatic. Mixed stems thus amount to only about 2% of the total number of stems.

As in Arabic (Van der Hulst and Smith 1982a, Card 1983), the emphasis feature [+CP] in AJA lies on its own separate autosegmental tier. Its status in underlying forms and its manner of autosegmental association are described by the following principles:

- (a) Emphasis in AJA associates with syllables rather than with segments.
- (b) While an emphatic span has an underlyingly autosegment [+CP], a plain span has no specification for the feature [CP]; [-CP] does not appear in the underlying form, but all syllables not associated with [+CP] are eventually pronounced as [-CP] by default.
- (c) In a wholly emphatic word the feature [+CP] is initially floating, i.e. not associated with any particular syllable. A floating autosegment associates with all syllables in the word.
- (d) Emphasis in a mixed word is associated in the underlying structure with a particular syllable. Linkage with an underlyingly associated autosegment spreads unidirectionally rightward to the end of the word.

The evidence for these hypotheses is presented below in two parts. Section 2 presents the analysis of mixed words, and demonstrates propositions a, b, and d. Section 3 treats words which are wholly emphatic or wholly plain, and demonstrates proposition c.

## 2 The Structure of Mixed Words

The following section treats the structure of mixed words. Arguments will be presented to show that (a) the prosodic feature [CP] associates with syllables, rather than individual segments; (b) only the positive value of the feature [CP] appears in underlying forms; and (c) when [+CP] is underlying, it spreads rightward but not leftward, [+CP] being underlyingly associated with the first (leftmost) emphatic syllable in a stem.

## The Syllable as the Pr

The structure of Garbell (G 27-33); min a syllable may be as c ic or plain as a whole following words illust

- (1) šaRAW 'corn gr  
risWAY 'unmann  
sawSAR 'mole'  
seyfullAH 'a g  
fandBAZ 'trick

This generalizat by saying that the uni is the syllable, rathe tion of a mixed word l (2):

- (2) 
$$\begin{array}{c} [+CP] \\ | \\ \sigma \quad \sigma \\ \wedge \quad \wedge \\ \text{saw sar} \end{array}$$

An additional a associates with syllab in section 3 in the di morphology.

## Stems

Much previous a tal association procee will be presented here spreading in AJA must positive value of the lying representations,

It was mentione plain and part emphat: striking fact appears: the sequence emphatic: plain-emphatic.<sup>9</sup> Furi only two parts, a pla: parts, whether emphat:

The restriction absolute exclusion of analysis as follows. [+CP] linked lexically

## The Syllable as the Prosody-Bearing Unit

The structure of syllables in AJA has been described by Garbell (G 27-33); minimally consisting simply of a single vowel, a syllable may be as complex as CCVCC. A syllable must be emphatic or plain as a whole, never part emphatic, part plain, as the following words illustrate:

- (1) YaRAW 'corn growing of its own accord'  
 risWAY 'unmannerly speech'  
 sawSAR 'mole'  
 seyfullAH 'a great deal'  
 fandBAZ 'trickster'

This generalization can be expressed in the most direct way by saying that the unit with which [CP] autosegmentally associates is the syllable, rather than the segment, so that the representation of a mixed word like sawSAR 'mole' will be initially as in

- (2)
- |     |       |
|-----|-------|
|     | [+CP] |
| σ   | σ     |
| / \ | / \   |
| saw | sar   |

An additional argument for the notion that the feature [CP] associates with syllables rather than segments will be presented in section 3 in the discussion of Semitic-style nonconcatenative morphology.

## Stems

Much previous autosegmental work has shown that autosegmental association proceeds generally from left to right. Arguments will be presented here showing not only that autosegmental spreading in AJA must be from left to right but also that only the positive value of the prosodic feature, [+CP], is found in underlying representations, not the negative value, [-CP].

It was mentioned above that only 2% of stems are mixed, part plain and part emphatic. When the 72 mixed stems are examined, a striking fact appears: in only one of them, YASmin 'jasmine', is the sequence emphatic-plain; in the other 71 the sequence is plain-emphatic.<sup>9</sup> Furthermore, a mixed stem always consists of only two parts, a plain span and an emphatic span; none have three parts, whether emphatic-plain-emphatic or plain-emphatic-plain.

The restriction against the sequence emphatic-plain and the absolute exclusion of three-part words are expressed in the formal analysis as follows. A mixed word like peŠTAMAL 'towel' will have [+CP] linked lexically to a single syllable, the leftmost syllable

x] or [+CP].<sup>7</sup> In order  
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in the emphatic span (3a). After autosegmental spreading the representation will be as in (3b), and the unassociated first syllable will be pronounced as non-emphatic by convention.

- (3) a. [+CP]                      b. [+CP]
- |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| σ   | σ   | σ   | σ   | σ   | σ   |
| / \ | / \ | / \ | / \ | / \ | / \ |
| peš | ta  | mal | peš | ta  | mal |

The restriction against the appearance of [-CP] in underlying forms prevents the occurrence of words with the sequence emphatic-plain. There is only one violation of this restriction, the word YASmin; this will be the only instance in the language in which [-CP] appears in a lexical representation:

- (4) [+CP] [-CP]
- |     |     |
|-----|-----|
| σ   | σ   |
| / \ | / \ |
| yas | min |

The anomalous sequence emphatic-plain corresponds to the unique appearance of [-CP] in an underlying representation. The word YASmin illustrates a kind of structure that is conceivable but in fact does not generally exist, one which requires an underlying specification of [-CP]. The same is true of the conceivable, but non-existent, three-part mixed words, emphatic-plain-emphatic or plain-emphatic-plain; either sequence would require a marking of [-CP].

Four additional arguments support the idea that only the positive value of the prosodic feature [CP] appears in underlying forms. The first argument, and the most important, is from the behavior of suffixes.

#### Suffixes

Most affixes are inherently neutral with respect to emphasis, and are emphatic or plain in harmony with the stem to which they are affixed, as the following words illustrate.

- (5) Inflectional Suffixes (G 52, 55, 69-72)
- |                              |                          |
|------------------------------|--------------------------|
| a. lixm-a 'bread'            | lixm-e (plural)          |
| pirčaxwar-a 'old woman'      | pirčaxwar-e (plural)     |
| NOHR-A 'mirror'              | NOHR-E (plural)          |
| DIQNAXWAR-A 'old man'        | DIQNAXWAR-E (plural)     |
| b. klu 'write' (imprtv. sg.) | klu-mun (imprtv. pl.)    |
| bilbul 'seek' (imprtv. sg.)  | bilbul-un (imprtv. pl.)  |
| QU 'rise' (imprtv. sg.)      | QU-MUN (imprtv. pl.)     |
| MIŠLTUN 'make (s.o.) king'   | MIŠLTUN-UN (imprtv. pl.) |

- (6) Derivational Suffixes
- |                       |                    |
|-----------------------|--------------------|
| a. dilxoš 'glad'      | QAZZAB 'unhappy'   |
| b. jwanq-a 'young ma' | xarup-a 'sharp'    |
|                       | JAHİL 'young'      |
|                       | XAMUS-A 'sour'     |
|                       | dušMAN 'enemy'     |
|                       | niŠANQ-A 'sign, n' |

Emphasis or its absence such suffixes (examples from

- (7) a. mīra /mir-la/  
mir-wa-la  
mir-š-wa-la  
b. XIT-LAX  
XIT-WA-LAX  
XIT-ī-WA-LAX

If the stem is part p emphatic, agreeing with the act of going out to meet a pešWAZ-OX 'the act of going also the last two examples.

Such affixes do not feature [CP]. If the word it spreads autosegmentally unmarked, then all unspecified [-CP] by default.

A few derivational s emphasis. Two of these in which forms attributive no agent noun (G 47-49):

- (8) a. dukana 'store'  
mewana 'guest'  
b. jut 'plough'  
nūjum 'sorcery'

The key fact is that alternate, and inherently regardless of the stem to inherently plain. The ex inherently emphatic suffi plain suffixes, are predi stems, can be marked [+CP] suffixes take on emphasis autosegmental spreading, is plain. There are no s stems, that are marked [-

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JN (imprtv. pl.)

(6) Derivational Suffixes (G 47-49)

a. dilxoš 'glad'	dilxoš-i 'gladness'
QAZZAB 'unhappy'	QAZZAB-I 'unhappiness'
b. jwanq-a 'young man'	jwanq-ul-a 'youth'
xarup-a 'sharp'	xarip-ul-a 'sharpness'
JAHİL 'young'	JAHİL-UL-A 'youth'
XAMUS-A 'sour'	XAMIS-UL-A 'sourness'
dušMAN 'enemy'	dušMAN-UL-A 'enmity'
nišANQ-A 'sign, mark'	nišANQ-UL-A 'betrothal'

Emphasis or its absence carries through a whole sequence of such suffixes (examples from G 76):

(7) a. mīra /mir-la/	'she said'
mīr-wa-la	'she had said'
mir-á-wa-la	'she had said it'
b. XIT-LAX	'you (f. sg.) sewed'
XIT-WA-LAX	'you had sewn'
XIT-í-WA-LAX	'you had sewn them'

If the stem is part plain, part emphatic, suffixes are emphatic, agreeing with the last syllable of the stem: pešWAZ 'the act of going out to meet a guest and bringing him to one's home', pešWAZ-OX 'the act of going out to meet you ...' (G 273); see also the last two examples in 6b.

Such affixes do not have their own inherent marking for the feature [CP]. If the word stem contains a specification of [+CP], it spreads autosegmentally through the suffixes. If the word is unmarked, then all unspecified syllables, including suffixes, are [-CP] by default.

A few derivational suffixes, however, do not alternate in emphasis. Two of these inherently emphatic suffixes are DAR, which forms attributive nouns or adjectives, and KAR, which forms an agent noun (G 47-49):

(8) a. dukana 'store'	dukanDAR 'shopkeeper'
mewana 'guest'	mewanDAR 'hospitable'
b. jut 'plough'	jutKAR 'plougher'
nūjum 'sorcery'	nūjumKAR 'sorcerer'

The key fact is that while there are neutral suffixes, which alternate, and inherently emphatic suffixes, which are emphatic regardless of the stem to which they are affixed, no suffix is inherently plain. The existence of alternating suffixes and of inherently emphatic suffixes, but complete lack of inherently plain suffixes, are predicted by the analysis. Suffixes, like stems, can be marked [+CP] or unmarked for emphasis. Unmarked suffixes take on emphasis if the stem is emphatic, by rightward autosegmental spreading, or are unemphatic by default if the stem is plain. There are no suffixes, just as there are (next to) no stems, that are marked [-CP]. If [-CP] occurred freely in lexical



## Idiosyncratic Alternations

AJA has a fair number of irregular inflectional or derivational forms, and among these are a small number of lexically specified alternations of emphaticness. In these a given root or stem has inflectional or derivational forms which are emphatic and others which are plain. In these cases, a regularity can be observed about which forms are emphatic and which plain: plain forms are basic or general, while emphatic forms are specialized or more narrowly restricted--unmarked forms are plain, marked forms emphatic. Four types are attested: (a) verbs for which all forms are plain, but the imperative is emphatic, e.g. *qyama* 'stand up', imperative *QU*; (b) forms for which the singular is plain, the plural emphatic, e.g. *bela* 'house', pl. *BATE*; (c) plain stems with emphatic suffixed derivatives, e.g. *šol* 'uninhabited land', *ŠOLISTAN* 'wilderness', *tmanya* 'eight', *TMANI* 'eighty'; (d) plain verbs related to emphatic nouns or adjectives, e.g. *zaroe* 'to plant', *ZARTA* 'seed'.<sup>11</sup>

In each of these cases the emphatic form must be specified [+CP] in the lexicon. Types (c) and (d) involve derivational relationships, and the two words of each pair, though they share a root or a stem, are separate lexical items. The lexical representation of the derived nouns and adjectives will include a specification of [+CP], although the root or basic stem does not. Types (a) and (b) on the other hand involve inflectional relationships, and inflectional forms are not normally listed in the lexicon. It is interesting therefore that each of the instances of types (a) and (b) is irregular not just in emphaticness but also in segmental shape. Therefore these imperatives and plurals must be specifically listed as subentries in the lexicon in addition to the general entry for the words, and a specification of [+CP] is part of the particular lexical representation of the imperative or the plural but not part of the general representation for the word. Thus apparently no lexical entry (including subentries for irregular inflectional forms) in AJA exists just to specify emphaticness: any two related lexical (sub)entries that differ in that one has a specification of [+CP] lacking in the other differ segmentally too.<sup>12</sup>

## 3 Arguments for Floating [+CP] in Wholly Emphatic Words

According to the analysis presented in this paper, AJA has two sources in underlying representations for emphatic spans: floating [+CP] and [+CP] which is associated with a particular syllable. Formally, the analysis allows for the possibility that [+CP] could be underlyingly associated with the initial syllable of a word, and this would have the same surface manifestation as it would if it were floating. Thus the two conceivable underlying forms in 11 would both produce *BILWANA* 'pocket', though in 11a the

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prosodic unit is floating and in 11b it is associated with the first syllable.

- (11) a. [+CP]
- |     |    |    |
|-----|----|----|
| σ   | σ  | σ  |
| ^   | ^  | ^  |
| bil | wa | na |
- b. [+CP]
- |     |    |    |
|-----|----|----|
| σ   | σ  | σ  |
| ^   | ^  | ^  |
| bil | wa | na |

Nevertheless, there is evidence to show that it is structures like 11a that occur, not structures like 11b. This evidence will be presented in the following sections.

#### Morpheme Structure Constraint

The first argument for floating [+CP] is quite simple. Let us assume the contrary for a moment; then an emphatic word like BILWANA 'pocket' would have [+CP] associated in underlying form with the syllable BIL, as in 11b. However, the Morpheme Structure Constraint (10) stipulates that the vowel of a syllable underlyingly associated with [+CP] must be a. In order to allow for the numerous (over 400) emphatic words like BILWANA which have vowels other than a in their initial syllables, the constraint would have to be modified so as to apply only to non-initial syllables. This added complexity has no other motivation; it would be an ad-hoc move taken to avoid the necessity of allowing the floating prosodic unit. As we shall show in what follows, there are other facts that make floating [+CP] necessary.

#### Prefixes

AJA has three derivational prefixes.<sup>13</sup> All three prefixes are neutral as to emphasis harmony: they are emphatic before emphatic stems, plain before plain stems. The noun prefixes are na- 'negative' (12a) and mV-, which derives nouns from roots (12b, with roots instantiated in verb gerunds). Causative verbs are derived with the prefix m- (12c).

- |   |   |
|---|---|
| <p>(12) a. xoš 'good, pleasant'<br/>HĀQ 'right'</p> <p>b. sakone 'to abide'<br/>DAROŠE 'to preach, teach'</p> <p>c. pyala 'to fall'<br/>šatoe 'to drink'<br/>MYASA 'to suck'<br/>RADOXE 'to boil (intr.)'</p> | <p>naxoš 'ill, sick'<br/>NAHĀQ 'wrong'<br/>maskan 'abode'<br/>MIDRAŠ 'school'<br/>mapole 'to cause to fall'<br/>maštoe 'to cause to drink'<br/>MAMOŠE 'to give the suck'<br/>MARDOXE 'to boil (trans.)'</p> |
|---|---|

The fact that prefix expect from the info plain as a whole, an a floating autosegme throughout the word.

The formal ana possibility that the associated with the word like RAZI 'sati cally floating, as i

- (13) a. [+CP]

σ	σ
^	^
ra	zi

The difference will autosegment in 13a w with the whole word NARAZI 'dissatisfied in 13b would spread to a structure like \*naRAZI. Within the prefixed form like \* (in the form of atte to a structure like than a structure like initial syllable.

#### Nonconcatenative Mor

All verbs and ical structures of t and suffixes are reu recurring parts: one three, or four non-s the other part is a root, not the vowels emphatic or plain, s (other than the impe singular.

- (14) Gloss  
'receive'  
'write'  
'go out'  
'greet'

These verbs cc

associated with the

The fact that prefixes alternate in emphasis is what we would expect from the informal generalization that a word is emphatic or plain as a whole, and it follows formally from the postulate that a floating autosegment spreads automatically in both directions throughout the word.

The formal analysis would allow, as we have seen, for the possibility that the prosodic feature [+CP] could be underlyingly associated with the first syllable of a stem. From the form of a word like RAZI 'satisfied' we cannot tell whether [+CP] is lexically floating, as in 13a, or associated, as in 13b:

(13) a. [+CP]

$$\begin{array}{cc} \sigma & \sigma \\ \wedge & \wedge \\ ra & zi \end{array}$$

b. [+CP]

$$\begin{array}{c} | \\ \sigma \quad \sigma \\ \wedge \quad \wedge \\ ra \quad zi \end{array}$$

The difference will show up when a prefix is added; the floating autosegment in 13a would spread in both directions, associating with the whole word including the prefix and correctly producing NARAZI 'dissatisfied', but the underlyingly associated autosegment in 13b would spread only to the right, giving the incorrect form \*naRAZI. Within the published corpus there is no example of a prefixed form like \*naRAZI. Thus in each case for which evidence (in the form of attested prefixed forms) is available, it points to a structure like 13a, with a floating prosodic element, rather than a structure like 13b, with a prosodic element linked to the initial syllable.

#### Nonconcatenative Morphology

All verbs and some nouns have non-concatenative morphological structures of the standard Semitic type. After any prefixes and suffixes are removed, these stem can be analyzed into two recurring parts: one part is the root, which consists of two, three, or four non-syllabic segments (consonants, w, or y), and the other part is a vowel or a sequence of vowels. It is the root, not the vowels, that determines whether the word will be emphatic or plain, as the following examples show. The forms (other than the imperative) are in the third person masculine singular.

(14)	Gloss	Durative	Imperfective	Perfective	Imperative
	'receive'	qabole	qabil	qbille	qbul
	'write'	kalowe	kaliw	klifwe	klu
	'go out'	PALOTE	PALIT	PLITLE	PLUT
	'greet'	BAROXE	BARIX	BRIXLE	BRUX

These verbs contain the following morphemes:

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w in what follows,  
[P] necessary.

1 All three prefixes  
2 emphatic before  
The noun prefixes are  
nouns from roots (12b,  
Causative verbs are

'ill, sick'  
'wrong'  
'abode'  
'school'  
'to cause to fall'  
'to cause to drink'  
'to give the suck'  
E 'to boil (trans.)'

- (15) Roots: qbl, klw, PLT, BRX  
Stem vowels: ao, ai, i, u  
C/V Skeletons: CVCVC+V, CVCVC, CCVC+CV, CCVC  
Suffixes: e, le

If the root is emphatic, all inflectional suffixes will be emphatic also; the durative and perfective forms here illustrate this, and it is demonstrated more extensively above, in 7. Likewise when a root is shared by two or more derivationally related words, if one is emphatic, all will be emphatic, as the following examples illustrate. For each root, a verb and one or more associated nouns or adjectives are given.

- (16) yrx: yaroxe 'become long', yirxa 'length', yarixa 'length'  
 myl: myala 'die', mola 'death', melana 'mortal', molana 'plague'  
 xrp: xarope 'become sharp', xarupa 'sharp', xaripula 'sharpness'  
 SLH: SALHOE 'succeed', SALHYANA 'successful'  
 PTX: PATOXE 'become flat', PITXA 'flatness', PATUXA 'flat, broad'  
 XMS: XAMOSE 'become sour', XAMUSA 'sour', XAMISULA 'sourness'

Although the underlying source of emphasis can be attributed to the root, it cannot be localized (synchronically) to any individual segment. This is the consequence of an interesting property of the AJA lexicon. Part of the vocabulary has the familiar Semitic discontinuous morphological structure, containing a consonantal root and a vocalic pattern, but another part has stems which cannot be analyzed into recurring roots and patterns. Nouns and adjectives in AJA may have the root-and-pattern morphology or not, but all verbs have such structure.<sup>14</sup> Some nouns with unanalyzable stems are mixed, i.e. part emphatic, part plain, but no word with a discontinuous root is mixed.

This is necessarily so, if the analysis proposed in this paper is correct. For a word to be mixed, it must have the autosegment [+CP] underlyingly associated with some (non-initial) part of the stem. In AJA, [+CP] associates with syllables. A root however is an abstract, unpronounceable sequence of consonants, and hence cannot be syllabified, so a root in the abstract cannot include an associated feature [+CP]; in an emphatic root, then, [+CP] must be floating, and so words based on that root will be emphatic throughout.<sup>15</sup> Together, the hypotheses that [+CP] links with syllables and that a floating prosodic unit affects a whole word correctly predict that no word with discontinuous morphology can be mixed.

#### Bidirectional Assimilati

Assimilating compo a plain stem and an emphatic, have been disc these compounds is relev occurs in either direct addition to the compound striking illustration: f compounds are formed, in meaning 'old man': DIQNA in both sequences. If [ in both sequences, then automatically, producing would not occur, and the correct form, XWARDIQNA, Spreading in both direct word like DIQNA has an u spread throughout the cor

#### 4 Conclusions

It is at first puzz types of underlying struc look at this from the poi however, it makes a lot c word for the first time b throughout, emphatic thro plain. For each of these simplest possible underly each, then, only one stru specification for the fea floating [+CP], and mixed first emphatic syllable. there will be no underlyl the first syllable.

The most striking c relates to the numerical ingly associated autosegm proportion (about 2%) of a strong preference for f associated ones. Moreove constraint (10) requiring linked to a syllable with apply to a floating autos limited in two separate w the impression that empha emphasis in Arabic and co and so much like vowel ha

## Bidirectional Assimilation in Compounds

Assimilating compounds, that is, stems formed by compounding a plain stem and an emphatic one in which the whole becomes emphatic, have been discussed above. One additional fact about these compounds is relevant here. That fact is that assimilation occurs in either direction, left-to-right or right-to-left. In addition to the compounds cited above, here is one particularly striking illustration: from *xwara* 'white' and *DIQNA* 'beard' two compounds are formed, in the two possible permutations, both meaning 'old man': *DIQNAxwara* and *xwaraDIQNA*; assimilation occurs in both sequences. If [+CP] in a word like *DIQNA* were underlyingly associated, then left-to-right spreading would follow automatically, producing *DIQNAxwara*, but right-to-left spreading would not occur, and the form produced would be \**xwaraDIQNA*. The correct form, *xwaraDIQNA*, would require some additional mechanism. Spreading in both directions is expected, on the other hand, if a word like *DIQNA* has an underlyingly floating [+CP], which will spread throughout the compound word in both directions.<sup>16</sup>

## 4 Conclusions

It is at first puzzling why the language should have two types of underlying structures, associated and floating. If we look at this from the point of view of the language learner, however, it makes a lot of sense. A child encountering a new AJA word for the first time knows that it must be either plain throughout, emphatic throughout, or mixed—part emphatic, part plain. For each of these possibilities, the child chooses the simplest possible underlying representation. Corresponding to each, then, only one structure is available: plain words have no specification for the feature [CP], wholly emphatic words have floating [+CP], and mixed words have [+CP] associated with the first emphatic syllable. There is no overlap, and in particular there will be no underlying form in which [+CP] is associated with the first syllable.

The most striking characteristic of emphasis harmony in AJA relates to the numerical disparity between floating and underlyingly associated autosegments. Mixed words make up a very small proportion (about 2%) of the vocabulary. This means that there is a strong preference for floating autosegments over underlyingly associated ones. Moreover there is the morpheme structure constraint (10) requiring that underlyingly associated [+CP] be linked to a syllable with the vowel *a*. This constraint does not apply to a floating autosegment. Thus non-initial emphasis is limited in two separate ways. This is a major factor in creating the impression that emphasis in AJA behaves so differently from emphasis in Arabic and conservative dialects of modern Aramaic, and so much like vowel harmony.

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flatness', *PATUXA*'sour', *XAMISULA*

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<sup>11</sup>Two cases run counter to this generalization: XALA 'maternal uncle', xalto 'maternal aunt' and ÇAY 'tea', Çaynik 'tea-pot'. In each case we are dealing with a pair of loanwords which had (according to Garbell's glossary) separate interlinguistic histories before entering AJA. These cases are synchronically irregular even in their irregularity.

<sup>12</sup>The facts of AJA thus provide an argument against theoretical frameworks in which all forms, including regular inflection, are viewed as being listed in the lexicon: if all inflectional forms, regular or irregular, are lexically listed, it would be difficult to express the observation noted here.

<sup>13</sup>The few inflectional prefixes in AJA all consist of single consonants, syllabified with the first syllable of the following stem. It follows that inflectional prefixes are emphatic if the first syllable of the stem is emphatic, plain otherwise. This will be true regardless of how these stems are represented lexically; therefore no argument about underlying representations can be made from inflectional prefixes.

<sup>14</sup>Interestingly, the same is true in at least two other Semitic languages, Hebrew and Arabic. This is clearly stated by Sasse (1971:70, 76-77) with reference to an Arabic dialect which, like AJA (Garbell 1965a), has extensive influence from Kurdish and Turkish.

<sup>15</sup>The historical background of this is worth mentioning. (The following explanation is based on generalizations about the distribution of emphasis in borrowed words given in Garbell 1964.) All native Aramaic words in AJA are harmonic, either emphatic throughout or plain throughout. That means that [+CP] in native words is always floating. Some borrowed nouns and adjectives are mixed, as part of an effort by speakers of AJA to reproduce, with the means available in their own sound system, the quality of the original vowels in the source language. With verbs, however, this is not possible. The AJA conjugational system is based on Semitic-style discontinuous vocalic morphemes that express inflectional categories. The lexical representations of regular verbs in AJA need not contain any vowels, because the vowels are entirely predictable from the inflectional category and the phonological shape of the root. (This is unlike more conservative Semitic languages, including other modern Aramaic dialects, where various lexically-determined vocalic patterns are available.) When foreign words become AJA verbs, they must be reanalyzed to fit in to this system by extracting several consonants to create a new root, discarding the vowels. For example, from the Kurdish noun çaq 'pocketknife' comes the AJA verb root ç-q-y 'to cut'. Therefore a borrowed verb retains no original vowels whose quality might be reproduced, and is free to conform to the native pattern of complete harmony.

<sup>16</sup>Similar spreading across a boundary occurs with some prepositions which are optionally cliticized. The following

instances have been culled from the published texts: GA-AŠQALON and gáat AŠQALON 'in Ashkelon' (G 118); GĀL DIJDE and gāl DIJDE 'with each other' (G 118, 119, 197).

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