Mobile affixes across Armenian
Conflicts across linguistic modules

Nikita Bezrukov & Hossep Dolatian

University of Pennsylvania & Stony Brook University

May 4 2019
Greetings

Nikita Bezrukov (UPenn)
Morpho-syntactician

Me (Stony Brook)
Morpho-phonologist
Affix order = organizing affix placement

Most affixes

- Stable position
  - re-do
  - re-instate

- Determined by
  - templates
  - scope
  - diachrony
  - ...

Mobile affixes

- Huave PST: mobile-t-
  - t-e-mojk-o-r
  - mojk-o-t

- Determined by phonology (Noyer, 1994; Kim, 2010)

Most Armenian dialects

- Indicative prefix: g@-
- Some Armenian dialects
  - Prefix g@
  - Suffix -g@
  - Clitic =g@
Affix order = organizing affix placement

Most affixes
- **Stable position**
  - `re-do`
  - `re-instate`
- **Determined by**
  - templates
  - scope
  - diachrony
  - ...

Mobile affixes
- **Huave PST: mobile -t-**
  - `t-e-mojk-o-r`
  - `mojk-o-t`
- **Determined my phonology**
  (Noyer, 1994; Kim, 2010)
Affix order = organizing affix placement

Most affixes
- Stable position
  - re-do
  - re-instate
- Determined by
  - templates
  - scope
  - diachrony
  - ...

Most Armenian dialects
- Indicative prefix: գե-

Mobile affixes
- Huave PST: mobile -t-
  - տեմոձքուռ
  - մոձքոտ
- Determined my phonology
  (Noyer, 1994; Kim, 2010)
Affix order = organizing affix placement

Most affixes
  ● Stable position
    ▸ re-do
    ▸ re-instate
  ● Determined by
    ▸ templates
    ▸ scope
    ▸ diachrony
    ▸ ...

Mobile affixes
  ● Huave PST: mobile -t-
    ▸ t-e-mojk-o-r
    ▸ mojk-o-t
  ● Determined my phonology
    (Noyer, 1994; Kim, 2010)

Most Armenian dialects
  ● Indicative prefix: գո-

... Some Armenian dialects
  ● Prefix գո-
  ● Suffix -գո
  ● Clitic =գո
Background on Armenian

- Genetics: Indo-European language (independent branch)
- Relevant typology:
  1. SOV & primarily suffixing
  2. Preverbal focus position
  3. Sentential stress like Persian & Turkish

Focus:

- Fieldwork on 4 varieties of Western Armenian
  - Standard Hamshen Gyumri Akhalkalaki
  - Istanbul Trabzon (OE)
  - Erzurum (OE)
  - Dispersed Abkhazia, Georgia
  - Armenia Georgia

Placement of present indicative 'g'
# Background on Armenian

- **Genetics:** Indo-European language (independent branch)
- **Relevant typology:**
  1. SOV & primarily suffixing
  2. Preverbal focus position
  3. Sentential stress like Persian & Turkish
- **Focus:**
  - Fieldwork on 4 varieties of Western Armenian

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘The’</td>
<td>Istanbul</td>
<td>Trabzon (OE)</td>
<td>Erzurum (OE)</td>
<td>Erzurum (OE)</td>
</tr>
<tr>
<td>‘Now’</td>
<td>Dispersed</td>
<td>Abkhazia, Georgia</td>
<td>Armenia</td>
<td>Georgia</td>
</tr>
</tbody>
</table>
Background on Armenian

- Genetics: Indo-European language (independent branch)
- Relevant typology:
  1. SOV & primarily suffixing
  2. Preverbal focus position
  3. Sentential stress like Persian & Turkish
- Focus:
  - Fieldwork on 4 varieties of Western Armenian
    - Standard
    - Hamshen
    - Gyumri
    - Akhalkalaki
    - ‘The’ Istanbul
    - ‘Now’ Dispersed
      - Trabzon (OE)
      - Abkhazia, Georgia
      - Erzurum (OE)
      - Armenia
      - Erzurum (OE)
      - Georgia
  - Placement of present indicative ‘g’
**Take-away**

- **INDC overview:**
  - Prefix in Medieval Western + Most Modern Western dialects
  - Prefix-suffix switch in 3 dialects

<table>
<thead>
<tr>
<th></th>
<th>SWA</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td><em>g-arnes</em></td>
<td><em>g-arnes</em></td>
<td><em>k-arnes</em></td>
<td><em>k-arnes</em></td>
</tr>
<tr>
<td>C-initial</td>
<td><em>gə-xosis</em></td>
<td><em>xosis-gu</em></td>
<td><em>xoses-gə</em></td>
<td><em>xoses-gə</em></td>
</tr>
</tbody>
</table>
**Take-away**

- **INDC overview:**
  - Prefix in Medieval Western + Most Modern Western dialects
  - Prefix-suffix switch in 3 dialects

<table>
<thead>
<tr>
<th></th>
<th>SWA</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
<td>k-arnes</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C-initial</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Placement of indicative ‘g’ determined by M+P+S
**Take-away**

- INDC overview:
  - Prefix in Medieval Western + Most Modern Western dialects
  - Prefix-suffix switch in 3 dialects

<table>
<thead>
<tr>
<th></th>
<th>SWA</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>ɡ-arnes</td>
<td>ɡ-arnes</td>
<td>ɡ-arnes</td>
<td>ɡ-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- Placement of indicative ‘g’ determined by M+P+S

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td>Morphology</td>
<td>Phonology</td>
<td>Syntax</td>
<td>Prosody</td>
</tr>
</tbody>
</table>
**Take-away**

- Placement of indicative ‘g’ determined by M+P+S

**Gyumri**

(1) ara-n  girkʰ-ə  ŋtsaxe-gə
    Ara-DEF book-DEF INDC-sells
    ‘Ara sells the book’
Take-away

- Placement of indicative ‘g’ determined by M+P+S

Gyumri

(5) ara-n  girl$_h$-ə  $\text{̄}tsaxe$-gə
    Ara-DEF  book-DEF  INDC-sells
    ‘Ara sells the book’

(6) ov  girl$_h$-ə  kə-$\text{̄}tsaxe$
    who  book-DEF  INDC-sells
    ‘Who sells the book?’

Disclaimer:
▸ Position: Focus on affix position
▸ Sound changes: affix looks slightly different across the dialect
▸ Formalization: Simple rules in talk, OT in appendix
**Take-away**

- Placement of indicative ‘g’ determined by M+P+S

**Gyumri**

(9) ara-n girl\(^h\)-ə t\(\ddot{s}\)axe-ə
Ara-DEF book-DEF INDC-sells
‘Ara sells the book’

(10) ov girl\(^h\)-ə kə-\(\ddot{t}\)saxe
who book-DEF INDC-sells
‘Who sells the book?’

**Akhalcalaki**

(11) ara-n girl\(^h\)-ə t\(\ddot{s}\)axe-ə
Ara-DEF book-DEF INDC-sells
‘Ara sells the book’

Disclaimer:
- Position: Focus on affix position, not shape
- Sound changes: affix looks slightly different across the dialect
- Formalization: Simple rules in talk, OT in appendix
Take-away

- Placement of indicative ‘g’ determined by M+P+S

Gyumri

(13) ara-n girkʰ-ə ˆtsaxe-gə
    Ara-DEF book-DEF INDC-sells
    ‘Ara sells the book’

(14) ov girkʰ-ə kə-ˆtsaxe
    who book-DEF INDC-sells
    ‘Who sells the book?’

Akhalkecalaki

(15) ara-n girkʰ-ə ˆtsaxe-gə
    Ara-DEF book-DEF INDC-sells
    ‘Ara sells the book’

(16) vev-gə girkʰ-ə ˆtsaxe
    who book-DEF INDC-sells
    ‘Who sells books?’
**Take-away**

- Placement of indicative ‘g’ determined by M+P+S

### Gyumri

(17) ara-n  
Ara-DEF

\(girk^h-\emptyset \)  
book-DEF

\(\hat{tsaxe}\)-g\(\emptyset\)  
INDC-sells

‘Ara sells the book’

(18) ov 
who

\(girk^h-\emptyset \)  
book-DEF

\(k\emptyset \)-\(\hat{tsaxe}\)  
INDC-sells

‘Who sells the book?’

### Akhalkalaki

(19) ara-n  
Ara-DEF

\(girk^h-\emptyset \)  
book-DEF

\(\hat{tsaxe}\)-g\(\emptyset\)  
INDC-sells

‘Ara sells the book’

(20) vev-\(g\emptyset \)  
who

\(girk^h-\emptyset \)  
book-DEF

\(\hat{tsaxe}\)  
INDC-sells

‘Who sells books?’

- Disclaimer:
  - **Position:** Focus on affix *position*, not shape
  - **Sound changes:** affix looks slightly different across the dialect
  - **Formalization:** Simple rules in talk, OT in appendix
Introduction

Standard Western: Fixed

Hamshen: Phonologically mobile

Gyumri: Phono-Syntactically mobile

Akhalkalaki: Prosodic clisis

Discussion & Conclusion

Appendix
Standard Western: Fixed

<table>
<thead>
<tr>
<th></th>
<th>Subjunctive SWA</th>
<th>Indicative SWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- **Mood**
  - Present Subjunctive = bare verb + AGR/T (all dialects)

1(Vaux, 1995)
Standard Western: Fixed

<table>
<thead>
<tr>
<th></th>
<th>Subjunctive SWA</th>
<th>Indicative SWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
</tr>
</tbody>
</table>

‘you take’  ‘you walk’

- Mood
  - Present Subjunctive = bare verb + AGR/T (all dialects)
  - Present Indicative = add prefix ‘g(ə)-’

- Why a prefix?

\(^1\) (Vaux, 1995)
### Standard Western: Fixed

<table>
<thead>
<tr>
<th></th>
<th>Subjunctive SWA</th>
<th>Indicative SWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- **Mood**
  - Present Subjunctive = bare verb + AGR/T (all dialects)
  - Present Indicative = add prefix ‘g(ə)-’

- **Why a prefix?**
  - Diachrony\(^1\)

---

\(^1\)(Vaux, 1995)
**Standard Western: Fixed**

<table>
<thead>
<tr>
<th></th>
<th>Subjunctive SWA</th>
<th>Indicative SWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gœ-xosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- **Mood**
  - Present Subjunctive = bare verb + AGR/T (all dialects)
  - Present Indicative = add prefix ‘gœ-’

- **Why a prefix?**
  - Diachrony
    - Preverbal Verb+Verb construction: *kay ew* ‘there exists and’
    - *kay ew V > kay u V > ku V > gu V > gœ V*

---

1(Vaux, 1995)
Why a prefix?

- Synchrony:
Why a prefix?

- Synchrony: Arbitrary
  Armenian is suffixing
- Inventory: INDC → \{g-\}
Why a prefix?
- Synchrony: Arbitrary Armenian is suffixing
- Inventory: INDV $\rightarrow \{g\}$

Why $g$- vs. $g\theta$-?
- Morphology: use prefix
- Phonology: no complex onsets insert $\emptyset$ to repair
Why a prefix?

- Synchrony: Arbitrary Armenian is suffixing
- Inventory: \( \text{INDC} \rightarrow \{g\} \)

Why \( g^{-} \) vs. \( g\@^{-} \)?

- Morphology: use prefix
- Phonology: no complex onsets insert \( \varepsilon \) to repair

<table>
<thead>
<tr>
<th>Input</th>
<th>Spell-out</th>
<th>Phonology</th>
<th>arnes</th>
<th>xosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>arnes xosis</td>
<td>( \text{INDC} = {g^{-}} )</td>
<td>Schwa epenthesis</td>
<td>g-arnes</td>
<td>g@-xosis</td>
</tr>
<tr>
<td>Output</td>
<td>g-arnes</td>
<td>g@-xosis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hamshen: Phonologically Mobile

- Hamshen is different (Vaux, 2007)...

<table>
<thead>
<tr>
<th>Subj</th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWA</td>
<td>SWA</td>
</tr>
<tr>
<td></td>
<td>Hamshen</td>
</tr>
<tr>
<td>V-initial</td>
<td>arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
</tr>
</tbody>
</table>
Hamshen: Phonologically Mobile

- Hamshen is different (Vaux, 2007)...

<table>
<thead>
<tr>
<th>V-initial</th>
<th>C-initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subj</td>
<td>Indicative</td>
</tr>
<tr>
<td>SWA arnes</td>
<td>SWA g-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>SWA xosis</td>
</tr>
</tbody>
</table>

- Subjunctive: same...
- Indicative
**Hamshen: Phonologically Mobile**

- Hamshen is different (Vaux, 2007)...

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWA</td>
<td>SWA</td>
<td>Hamshen</td>
</tr>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gɵ-xosis</td>
</tr>
</tbody>
</table>

- Subjunctive: same...
- Indicative
  - Prefix g- for V-initial
  - Suffix -gu for C-initial
Why g- vs. -gu?

- **Inventory:** \( \text{INDC} \rightarrow \{\text{g-}, \text{-gu}\} \)
- **Phonology:** Prefix for V-initial
  
  Provide Onset

- **Morphology:** Use suffixes (elsewhere)
Why g- vs. -gu?

- **Inventory:** \( \text{INDC} \rightarrow \{g-, -gu\} \)
- **Phonology:** Prefix for V-initial
  - Provide Onset
- **Morphology:** Use suffixes (elsewhere)

<table>
<thead>
<tr>
<th>Input</th>
<th>Phonology</th>
<th>Morphology</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spell-out</td>
<td>Prefix for V-initial</td>
<td>Suffix elsewhere</td>
<td>INDC=g-arnes, xosis-gu</td>
</tr>
<tr>
<td>Output</td>
<td>INDC={g-, -gu}</td>
<td></td>
<td>g-arnes, xosis-gu</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>arnes</th>
<th>xosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phonology</td>
<td>INDC-arnes</td>
<td></td>
</tr>
<tr>
<td>Morphology</td>
<td></td>
<td>xosis-INDC</td>
</tr>
<tr>
<td>Output</td>
<td>g-arnes</td>
<td>xosis-gu</td>
</tr>
</tbody>
</table>
**Gyumri: Phono-Syntactically Mobile**

- Like Hamshen, Gyumri has affix order based on phonology (by default)

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>SWA</th>
<th>Indicative</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SWA</td>
<td></td>
<td>Hamshen</td>
<td></td>
<td>Gyumri</td>
<td></td>
</tr>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td><em>g-arnes</em></td>
<td><em>g-arnes</em></td>
<td><em>k-arnes</em></td>
<td>‘you take’</td>
<td></td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td><em>gə-xosis</em></td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>‘you walk’</td>
<td></td>
</tr>
</tbody>
</table>
**Gyumri: Phono-Syntactically Mobile**

- Like Hamshen, Gyumri has affix order based on phonology (by default)

<table>
<thead>
<tr>
<th></th>
<th>Subj SWA</th>
<th>Indicative Hamshen</th>
<th>Gyumri</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
</tr>
</tbody>
</table>

- BUT: **INDC** is sensitive to syntax too!
GYUMRI: PHONO-SYNTACTICALLY MOBILE

- Like Hamshen, Gyumri has affix order based on phonology (by default)

<table>
<thead>
<tr>
<th>Subj</th>
<th>SWA</th>
<th>Indicative</th>
<th>Hamshen</th>
<th>Gyumri</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- BUT: indc is sensitive to syntax too!
  C-initial switches to **prefix** for:
  - Aspect
  - Locatives
  - Object specificity/topic
  - Adverbs
  - Focus
  - Mood
Gyumri: Phono-Syntactically Mobile

- Like Hamshen, Gyumri has affix order based on phonology (by default)

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>SWA</th>
<th>SWA</th>
<th>Indicative</th>
<th>Hamshen</th>
<th>Gyumri</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
<td>‘you take’</td>
<td></td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>‘you walk’</td>
<td></td>
</tr>
</tbody>
</table>

- BUT: Indc is sensitive to syntax too!

C-initial switches to prefix for:

- Aspect
- Locatives
- Object specificity/topic
- Adverbs
- Focus
- Mood

Because of changes in

- Predicate structure (phases)
- Sentential stress
- Foregrounding (discourse transitivity)
By default, Gyumri has $k$ for V-initial and -$gə$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$k$-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>$xoses$-$gə$</td>
</tr>
</tbody>
</table>

But for aspect...

Disclaimer: voicing varies by speaker/context
GYUMRI – ASPECT

- By default, Gyumri has *k*- for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- But for aspect...

**Progressive**

V-initial verbs take prefix

(25) jun-ə k-efˈtʰa
dog-DEF INDC-go

‘The dog is going’

C-initial verbs take suffix

(26) jun-ə vazze-gə
dog-DEF run-INDC

‘The dog is running’

Disclaimer: voicing varies by speaker/context
Gyumri – Aspect

- By default, Gyumri has *k-* for V-initial and *-gə* for C-initial
  
<table>
<thead>
<tr>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
</tr>
<tr>
<td>C-initial</td>
</tr>
</tbody>
</table>

- But for *aspect*...

  **Progressive**
  V-initial verbs take prefix
  
  (29) .fun-ə  k-ɛʃ⁽ʰ⁾a
dog-DEF INDC-go
  ‘The dog is going’

  C-initial verbs take suffix
  
  (30) .fun-ə  vazze-gə
dog-DEF run-INDC
  ‘The dog is running’

  **Habitual**
  V-initial verb takes prefix
  
  (31) .fun-ə  k-ɛʃ⁽ʰ⁾a
dog-DEF INDC-go
  ‘... (habitually)’

  Disclaimer: voicing varies by speaker/context
GYUMRI – ASPECT

- By default, Gyumri has *k-* for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- But for *aspect*...

**Progressive**

V-initial verbs take prefix

(33) fun-ə k-ेस्ट°a

dog-DEF INDC-go

‘The dog is going’

C-initial verbs take suffix

(34) fun-ə vazze-gə

dog-DEF run-INDC

‘The dog is running’

**Habitual**

V-initial verb takes prefix

(35) fun-ə k-ेस्ट°a

dog-DEF INDC-go

‘... (habitually)’

C-initial verbs switch to *kə-*

(36) fun-ə kə-vazze

dog-DEF INDC-run

‘...(habitually)’

- Disclaimer: voicing varies by speaker/context
**Gyumri – Locative**

- By default, Gyumri has *k-* for V-initial and *-gə* for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- But for *locatives*...

**Without**

C-initial verbs take suffix

\[(37) \text{fun-ə vazze-gə dog-DEF run-INDC} \]

‘The dog is running’
Gyumri – Locative

- By default, Gyumri has $k$- for V-initial and $-gə$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$k$-arnes ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>$xoses-gə$ ‘you walk’</td>
</tr>
</tbody>
</table>

- But for *locatives*...

**Without**

C-initial verbs take suffix

(39) $\text{фон-ə vazze-gə}$

dog-DEF run-INDC

‘The dog is running’

**With**

C-initial verbs switch to $kə$-

(40) $\text{фон-ə dun kə-vazze}$

dog-DEF home INDC-run

‘The dog is running home’

- Bare locative takes *sentential stress*
Armenian Syntax 101

Basic syntax

- Armenian is SOV
- Past tense doesn’t use INDC
- NOM and ACC are zero
- DEF is -n after V, -ə after C

(41) ara-n kirk-ə dżaxetš
     Ara-DEF book-DEF sold
     ‘Ara sold the books’
Armenian syntax 101

Basic syntax

- Armenian is SOV
- Past tense doesn’t use INDC
- NOM and ACC are zero
- DEF is -n after V, -ә after C

(43) ara-n kirk-ә ֗dzaxets ֗
Ara-DEF book-DEF sold
‘Ara sold the books’

Bare objects

- O without DEF
- interpreted as generic plural
- inside verbal predicate
- Takes sentential stress

(44) ara-n kirk ֗dzaxets ֗
Ara-DEF book sold
‘Ara sold books’
Armenian syntax 101

Basic syntax
- Armenian is SOV
- Past tense doesn’t use INDC
- NOM and ACC are zero
- DEF is -n after V, -ə after C

(45) ara-n kirk-ə ֳdzaxet ֳts
Ara-DEF book-DEF sold
‘Ara sold the books’

Bare objects
- O without DEF
- interpreted as generic plural
- inside verbal predicate
- Takes sentential stress

(46) ara-n kirk ֳdzaxet ֳts
Ara-DEF book sold
‘Ara sold books’

Sentential stress
- Eastern: on V if O is DEF (like Persian)
- Western: tends to stress DEF O (like Turkish)
- Unstressed O-DEF is topic
GYUMRI – OBJECT SPECIFICITY

• By default, Gyumri has $k$- for V-initial and $-gə$ for C-initial

<table>
<thead>
<tr>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
</tr>
<tr>
<td>C-initial</td>
</tr>
</tbody>
</table>

• But for object specificity (or topicalization)...

**Definite object**
Unstressed O-DEF: suffix

(47) ara-\text{n} girk\text{\textsuperscript{h}}-ə $\widehat{\text{tsaxe}}$-$gə$
Ara-DEF book-DEF sells-INDC

‘Ara sells the book’
By default, Gyumri has \( k \)- for V-initial and \(-g\omega \) for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>( k )-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-( g\omega )</td>
</tr>
</tbody>
</table>

But for object specificity (or topicalization)...

**Definite object**

Unstressed O-DEF: suffix

\[
\text{ara-n} \quad \text{girk}^h-\omega \quad \hat{\text{tsaxe}}-g\omega
\]

Ara-DEF book-DEF sells-INDC

\( \text{‘Ara sells the book’} \)

**Bare object**

Stressed O: switch to \( k\omega- \)

\[
\text{ara-n} \quad \text{girk}^h \quad k\omega-\hat{\text{tsaxe}}
\]

Ara-DEF book INDIC-sells

\( \text{‘Ara sells books’} \)
Gyumri – Object specificity

- By default, Gyumri has *k-* for V-initial and *-gə* for C-initial

<table>
<thead>
<tr>
<th>Indicative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>*k-<em>arnes</em></td>
</tr>
<tr>
<td>C-initial</td>
<td><em>xoses-gə</em></td>
</tr>
</tbody>
</table>

- But for *object specificity* (or topicalization)...

**Definite object**

Unstressed O-DEF: suffix

(53) ara-n girkʰ-ə ̃tsaxe-gə
    Ara-DEF book-DEF sells-INDC
    ‘Ara sells the book’

Stressed O-DEF: suffix

(55) ara-n girkʰ-ə kə-̃tsaxe-
    Ara-DEF book-DEF sells-INDC
    ‘Ara sells the book’

**Bare object**

Stressed O: switch to *kə-

(54) ara-n girkʰ kə-̃tsaxe
    Ara-DEF book  INDC-sells
    ‘Ara sells books’
Gyumri – Adverbs

- By default, Gyumri has $k$- for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th>Indicative</th>
<th>V-initial</th>
<th>‘you take’</th>
</tr>
</thead>
<tbody>
<tr>
<td>$k$-arnes</td>
<td>‘you take’</td>
<td></td>
</tr>
<tr>
<td>xoses-gə</td>
<td>‘you walk’</td>
<td></td>
</tr>
</tbody>
</table>

- But for low adverbs...

No adverb

C-initial verbs take suffix

(56) ara-n girl$h$-ə tsa-xe-gə
    Ara-DEF book-DEF sells-INDC
    ‘Ara sells the book’
GYUMRI – ADVERBS

- By default, Gyumri has *k-* for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- But for *low adverbs*...

**No adverb**
C-initial verbs take suffix

(58) ara-n girlʰ-ə tėsaxe-gə
     Ara-DEF book-DEF sells-INDC
     ‘Ara sells the book’

**Manner adverb**
C-initial verbs switch to *kə-*

(59) ara-n girlʰ-ə lav kə-tėsaxe
     Ara-D book-D well INDC-sells
     ‘Ara sells the book well’
By default, Gyumri has \( k \)- for V-initial and \(-gə\) for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>( k)-arnes</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>( xoses-gə )</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

But for focus...

**Focus-neutral**

C-initial verbs take suffix

(60) \( \text{fun-ə \ vazze-gə} \)

\( \text{dog-DEF \ run-INDC} \)

‘The dog is running’
By default, Gyumri has $k$- for V-initial and $-gə$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$k$-arnes ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-$gə$ ‘you walk’</td>
</tr>
</tbody>
</table>

But for focus...

**Focus-neutral**
C-initial verbs take suffix

(63) $\text{sun-ə vazze-gə}$
dog-DEF run-INDC

‘The dog is running’

**Narrow focus (QEA)**
C-initial verbs switch to $kə$-

(64) $\text{ov kə-vazze}$
who INDC-run

‘Who is running?’
Gyumri – Focus & Questions

- By default, Gyumri has $k$- for V-initial and -$g\text{ə}$ for C-initial

<table>
<thead>
<tr>
<th>Indicative</th>
<th>V-initial</th>
<th>k-arnes</th>
<th>‘you take’</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-initial</td>
<td>xoses-$g\text{ə}$</td>
<td>‘you walk’</td>
<td></td>
</tr>
</tbody>
</table>

- But for focus...

**Focus-neutral**

C-initial verbs take suffix

(66) fun-ə vazze-$g\text{ə}$

dog-DEF run-INDC

‘The dog is running’

**Narrow focus (Q&A)**

C-initial verbs switch to $k\text{ə}$-

(67) ov $k\text{ə}$-vazze

who INDC-run

‘Who is running?’

(68) fun-ə $k\text{ə}$-vazze

dog-DEF INDC-run

‘The DOG is running’
**Gyumri – Focus & Emphasis**

- By default, Gyumri has *k-* for V-initial and *-gə* for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes          ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə         ‘you walk’</td>
</tr>
</tbody>
</table>

- But for *focus*...

  **Focus-neutral**

  C-initial verbs take suffix

  (69) \(\text{fun-ə vazze-ɡə}\)

  dog-DEF run-INDC

  ‘The dog is running’
By default, Gyumri has *k-* for V-initial and *-gə* for C-initial

| Indicative          |  
|---------------------|-----------------------|
| V-initial           | *k-*arnes             | ‘you take’             |
| C-initial           | *xoses-gə*            | ‘you walk’             |

But for *focus*...

**Focus-neutral**
C-initial verbs take suffix

(71) *fun-ə vazze-gə*

dog-DEF run-INDC

‘The dog is running’

**Narrow focus (Emphatic clitics)**
C-initial verbs switch to *kə-

(72) *kadu-ν-el kə-vazze*

cat-DEF-also INDC-run

‘The cat is also running’
Gyumri – Focus & Adjacency

- By default, Gyumri has $k$- for V-initial and $-gə$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$k$-arnes</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-$gə$</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- But for focus...

**Focus-neutral**

C-initial verbs take suffix

(73) ara-$n$ girk$^h$-$ə$ $ₜsaxe$-$gə$

Ara-D book-D sells-IN

‘Ara is selling the book’
• By default, Gyumri has \( k^- \) for V-initial and \(-gə\) for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>( k^-\text{arnes} ) ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>( \text{xoses-gə} ) ‘you walk’</td>
</tr>
</tbody>
</table>

• But for focus...

**Focus-neutral**

C-initial verbs take suffix

\[ (75) \quad \text{ara-n } \text{girk}^h-ə \text{ tsaxe-gə} \]

Ara-D book-D sells-IN

‘Ara is selling the book’

**Narrow focus** \((stress \ non-adjacent)\)

C-initial verbs switch to \( kə^-\)

\[ (76) \quad \text{marja-n-el } \text{girk}^h-ə \text{ kə-} \text{tsaxe} \]

Maria-D-also book-D IN-sells

‘Maria is also selling the book’
By default, Gyumri has $k$- for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>g-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

‘you take’

‘you walk’

But for mood...

**Realis**

C-initial verbs take suffix

(77) ʃun-ə  vazze-gə
dog-DEF run-INDC

‘The dog is running’
Gyumri – Mood

- By default, Gyumri has $k$- for V-initial and -$\varrho$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$g$-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>$\chi$oses-$\varrho$</td>
</tr>
</tbody>
</table>

- But for mood...

**Realis**

C-initial verbs take suffix

(79) \texttt{sun-\textcircled{r} vazze-\varrho}  
\texttt{dog-DEF run-INDC}  
‘The dog is running’

**Conditional**

C-initial verbs switch to $k\varrho$-

(80) \texttt{jete g-uzes, sun-\textcircled{r} k\varrho-vazze}  
\texttt{if \ want, dog-DEF INDC-run-}  
‘If you want, the dog will run’
**GYUMRI — Recap**

- **What happened?**
  - **Inventory:** \( \text{INDC} \rightarrow \{ \text{k-}, \ -\text{gə} \} \)
  - **Phonology:** prefix if V-initial
  - **Syntax:** prefix for *some* reason
  - **Morphology:** suffix elsewhere

---

2 (Kahnemuyipour, 2009; Kahnemuyipour und Megerdoomian, 2017)

3 (Kratzer und Selkirk, 2007)
GYUMRI – Recap

- What happened?
  - Inventory: $\text{INDC} \rightarrow \{k-, -\g\}$
  - Phonology: prefix if V-initial
  - Syntax: prefix for some reason
  - Morphology: suffix elsewhere

- What syntactic-semantic factors trigger a prefix?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td>✔</td>
<td>bare</td>
<td>✔</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td>×</td>
<td>definite</td>
<td>×</td>
</tr>
</tbody>
</table>

- ... But why?

---

2 (Kahnemuyipour, 2009; Kahnemuyipour und Megerdoomian, 2017)
3 (Kratzer und Selkirk, 2007)
GYUMRI — Recap

• What happened?
  ▶ Inventory: \( \text{INDC} \rightarrow \{k-, -gə\} \)
  ▶ Phonology: prefix if V-initial
  ▶ Syntax: prefix for some reason
  ▶ Morphology: suffix elsewhere

• What syntactic-semantic factors trigger a prefix?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>definite</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

• ... But why?
  1. The verbal predicate changes or looks “larger"
  2. Explain with syntactic domains
  3. Look like phases\(^2\), but post-cyclic\(^3\)

---

\(^2\)(Kahnemuyipour, 2009; Kahnemuyipour und Megerdoomian, 2017)

\(^3\)(Kratzer und Selkirk, 2007)
What’s a phase?

= syntactic cycles for computation and prosody

● vP and FocP
What’s a phase?

= syntactic cycles for computation and prosody

- vP and FocP
- Armenian objects start out as complement in VP inside vP

(82) ara-n kirk ֳdzaxets
Ara-DEF book sold
‘Ara sold books’
**Phases and Armenian**

What’s a phase?

= syntactic cycles for computation and **prosody**

- vP and FocP
- Armenian objects start out as complement in VP inside vP
- **DEF** objects move out
  - Debate: AgrP, ObjP, spec-vP?
  - Agnostic: XP outside lowest vP (and stress)

(83) ara-n kirk-ə ⃗dzaxet⃗

Ara-DEF book-DEF sold

‘Ara sold the book’
GYUMRI AND PHASES

- What’s a phase?
  - Syntactic cycle for computation and prosody
  - $vP$ and $FocP$
Gyumri and phases

- What’s a phase?
  - Syntactic cycle for computation and prosody
  - \(vP\) and \(FocP\)

- Recall where the Gyumri prefix is unexpectedly used

<table>
<thead>
<tr>
<th></th>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td>✗</td>
<td>definite</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>
GYUMRRI AND PHASES

- What’s a phase?
  - Syntactic cycle for computation and prosody
  - $vP$ and $FocP$

- Recall where the Gyumri prefix is unexpectedly used

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td>✓</td>
<td>definite</td>
<td>✓</td>
</tr>
</tbody>
</table>

- All cases involve the verbal predicate changing or expanding

<table>
<thead>
<tr>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix ✓</td>
<td>bare ✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Phase? $[vP \text{ Loc V }]$</td>
<td>$[vP \text{ O V }]$</td>
<td>$[vP \text{ Adv V }]$</td>
<td>$[FocP X \text{ V} \ldots [vP \ldots ] ]$</td>
</tr>
</tbody>
</table>
GYUMRI AND PHASES

- What’s a phase?
  - Syntactic cycle for computation and prosody
  - $vP$ and $FocP$

- Recall where the Gyumri prefix is unexpectedly used

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td>x</td>
<td>definite</td>
<td>x</td>
</tr>
</tbody>
</table>

- All cases involve the verbal predicate changing or expanding

<table>
<thead>
<tr>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
</tr>
<tr>
<td>Phase?</td>
<td>$[vP \text{ Loc V }]$</td>
<td>$[vP \text{ O V }]$</td>
<td>$[vP \text{ Adv V }]$</td>
</tr>
</tbody>
</table>

→ Use prefix if phase is larger than $V$

= pre-verbal position in phase is occupied

- Aspect and Mood:...
**GYUMRI AND PHASES**

- What’s a phase?
  - Syntactic cycle for computation and prosody
  - $vP$ and $FocP$

- Recall where the Gyumri prefix is unexpectedly used

<table>
<thead>
<tr>
<th></th>
<th>Aspect</th>
<th>Mood</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>HAB</td>
<td>REAL</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>PROG</td>
<td>COND</td>
<td>✓</td>
<td>definite</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

- All cases involve the verbal predicate changing or expanding

<table>
<thead>
<tr>
<th></th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Phase?</td>
<td>$[vP$ Loc V ]</td>
<td>$[vP$ O V ]</td>
<td>$[vP$ Adv V ]</td>
<td>$[FocP X V... [vP... ] ]$</td>
</tr>
</tbody>
</table>

→ Use prefix if phase is larger than V

= pre-verbal position in phase is occupied

- Aspect and Mood:... potentially (invisible) AspP or MoodP inside $vP$
  - Functionalist alternative (discourse transitivity)
Object specificity in Gyumri?

- Bare object stays in VP
- Switch to prefix if vP got any bigger than just V

(84) ara-n girl^h book^def kə-tsafe
Ara-DEF book-DEF sell-INDC
‘Ara sells books’
Object specificity in Gyumri?
- Bare object stays in VP
- DEF object moves out
- Stay suffix is vP is just V

(85) ara-n girl\textsuperscript{h}-\textipa{Ə} \textsuperscript{tsaxe-gə} \\
Ara-DEF book-DEF sell-INDC \\
‘Ara sells the book’
But... Does Gyumri need phases as *cycles* or *domains*?
Cycles vs. Domain

But... Does Gyumri need phases as *cycles* or *domains*?

- Phase: syntactic cycles
  1. Cycle: stage in a derivation
  2. PIC: can’t look back

- Domain: span: “constituent” for rules
  1. Syntax makes the final tree
  2. Converts its constituents into prosodic ones
  3. Applies prosody
Cycles vs. Domain

But... Does Gyumri need phases as *cycles* or *domains*?

- **Phase**: syntactic cycles
  1. **Cycle**: stage in a derivation
  2. **PIC**: can’t look back
- ~Lexical Phonology in Morpho-phonology

Gyumri indc is inserted very late → assume domains
Cycles vs. Domain

But... Does Gyumri need phases as cycles or domains?

- Phase: syntactic cycles
  1. Cycle: stage in a derivation
  2. PIC: can’t look back

- ~Lexical Phonology in Morpho-phonology

- Phases and prosody (Kahnemuyipour, 2009)
  1. iteratively build up a phase
  2. apply movements
  3. spell-out and apply prosody
  4. move on to larger phase
Cycles vs. Domain

But... Does Gyumri need phases as *cycles* or *domains*?

- **Phase**: syntactic cycles
  1. Cycle: stage in a derivation
  2. PIC: can’t look back

- ~Lexical Phonology in Morpho-phonology

- **Phases and prosody**
  (Kahnemuyipour, 2009)
  1. iteratively build up a phase
  2. apply movements
  3. spell-out and apply prosody
  4. move on to larger phase

- **Domain**:
  1. Span: “constituent” for rules
  2. Visible: identifiable edges

Gyumri

---

Gyumri

indc

is inserted very late

→ assume domains

27
Cycles vs. domain

But... Does Gyumri need phases as cycles or domains?

- Phase: syntactic cycles
  1. Cycle: stage in a derivation
  2. PIC: can’t look back
- ~Lexical Phonology in Morpho-phonology
- Phases and prosody (Kahnemuyipour, 2009)
  1. iteratively build up a phase
  2. apply movements
  3. spell-out and apply prosody
  4. move on to larger phase

- Domain:
  1. Span: “constituent” for rules
  2. Visible: identifiable edges
- ~Prosodic Phonology in Morpho-phonology

Gyumri indc is inserted very late → assume domains
**Cycles vs. Domain**

But... Does Gyumri need phases as *cycles* or *domains*?

- **Phase: syntactic cycles**
  1. Cycle: stage in a derivation
  2. PIC: can’t look back

- **~Lexical Phonology in Morpho-phonology**

- **Phases and prosody** *(Kahnemuyipour, 2009)*
  1. iteratively build up a phase
  2. apply movements
  3. spell-out and apply prosody
  4. move on to larger phase

- **Domain:**
  1. Span: “constituent” for rules
  2. Visible: identifiable edges

- **~Prosodic Phonology in Morpho-phonology**

- **Domains and prosody** *(Kratzer and Selkirk 2007)*
  1. syntax makes the final tree
  2. converts its constituents into prosodic ones
  3. apply prosody
Cycles vs. domain

But... Does Gyumri need phases as *cycles* or *domains*?

- **Phase**: syntactic cycles
  1. Cycle: stage in a derivation
  2. PIC: can’t look back
- **~Lexical Phonology in Morpho-phonology**
- **Phases and prosody** (Kahnemuyipour, 2009)
  1. iteratively build up a phase
  2. apply movements
  3. spell-out and apply prosody
  4. move on to larger phase

- **Domain**:
  1. Span: “constituent” for rules
  2. Visible: identifiable edges
- **~Prosodic Phonology in Morpho-phonology**
- **Domains and prosody** (Kratzer and Selkirk 2007)
  1. syntax makes the final tree
  2. converts its constituents into prosodic ones
  3. apply prosody

Gyumri INDC is inserted very late → assume domains
GYUMRI — WHY AND HOW

Why k(ə)- vs. -ɡə?

- **Inventory:** $\text{INDC} \rightarrow \{k-, -ɡə\}$
- **Phonology:** Prefix for V-initial
  - Insert ə in clusters
- **Syntax:** Prefix if larger phase
- **Morphology:** Use suffixes (elsewhere)
**GYUMRI – WHY AND HOW**

Why k(ə)- vs. -gə?

- **Inventory:** \( \text{INDC} \rightarrow \{k-, -gə\} \)
- **Phonology:** Prefix for V-initial; Insert ə in clusters
- **Syntax:** Prefix if larger phase
- **Morphology:** Use suffixes (elsewhere)

<table>
<thead>
<tr>
<th>Input</th>
<th>Phonology</th>
<th>Syntax</th>
<th>Morphology</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prefix for V-initial</td>
<td>Prefix in larger phase</td>
<td>Suffix elsewhere</td>
<td>Spell-out ( \text{INDC} = {k-, -gə} ) Schwa epenthesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Spell-out ( \text{INDC} = {k-, -gə} ) Schwa epenthesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Output</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Spell-out ( \text{INDC} = {k-, -gə} ) Schwa epenthesis</td>
</tr>
</tbody>
</table>

\[ O_{\text{DEF}} [vP \, \text{tsaxe}] \quad [vP \, O \, \text{tsaxe}] \]
**Akhalkalaki: Prosodic clisis**

- Akhalkalaki has affix order based on phonology (by default) too

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>SWA</th>
<th>SWA</th>
<th>Indicative</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V-initial</td>
<td></td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td></td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- Like Gyumri, Akhalkalaki has the affix switch because of syntax
Akhalkalaki: Prosodic clisis

- Akhalkalaki has affix order based on phonology (by default) too

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>SWA</th>
<th>SWA</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
<td>g-arnes</td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- Like Gyumri, Akhalkalaki has the affix switch because of syntax

Gyumri has switch to prefix for Akhalkalaki switches too

- Aspect
- Locatives
- Object specificity
- Adverbs
- Focus
- Mood
### Akhalkalaki: Prosodic Clisis

- Akhalkalaki has affix order based on phonology (by default) too

<table>
<thead>
<tr>
<th></th>
<th>Subj</th>
<th>SWA</th>
<th>SWA</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>arnes</td>
<td>g-arnes</td>
<td>g-arnes</td>
<td>k-arnes</td>
<td>g-arnes</td>
<td>‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis</td>
<td>gə-xosis</td>
<td>xosis-gu</td>
<td>xoses-gə</td>
<td>xoses-gə</td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- Like Gyumri, Akhalkalaki has the affix switch because of syntax
  - **Gyumri** has switch to prefix for
    - Aspect
    - Locatives
    - Object specificity
    - Adverbs
    - Focus
    - Mood
  - **Akhalkalaki** switches too
    - *But* cliticizes onto sentential stress if “far”
Akhalkalaki — Stress Adjacency

- Akhalkalaki and Gyumri have affix switch in (mostly) identical contexts
  = changed or larger predicate (post-cyclic phase)
Akhalkalaki – stress adjacency

- Akhalkalaki and Gyumri have affix switch in (mostly) identical contexts
  - changed or larger predicate (post-cyclic phase)
- Change in predicate coincides with change in stress:
  - Object specificity: \[ S \, O-\text{DEF} \, [V] \] vs. \[ S \, [O \, V] \]
  - Focus: \[ S \, [V] \] vs. \[ [S \, V] \]

Focus-neutral
C-initial verbs take suffix

(88) \[ \text{fun-ə} \quad \text{vazze-ɡə} \]
    dog-DEF run-INDC
    ‘The dog is running’
Akhalkalaki – stress adjacency

- Akhalkalaki and Gyumri have affix switch in (mostly) identical contexts = changed or larger predicate (post-cyclic phase)
- Change in predicate coincides with change in stress:
  - Object specificity: \( S \text{ O-DEF } [V] \) vs. \( S [O \text{ V}] \)
  - Focus: \( S [V] \) vs. \( [S \text{ V}] \)

**Focus-neutral**
C-initial verbs take suffix

(90) fun-ə vazze-gə
dog-DEF run-INDC
‘The dog is running’

**Narrow focus** *(stress adjacent)*
C-initial verbs switch to \( gə-\)

(91) kadu-n-a gə-vazze
cat-DEF-also INDC-run
‘The cat is also running’
Akhalkalaki — stress adjacency

- Akhalkalaki and Gyumri have affix switch in (mostly) identical contexts
  = changed or larger predicate (post-cyclic phase)
- Change in predicate coincides with change in stress:
  - Object specificity:  S O-DEF [V] vs. S [O V]
  - **Focus:** S [V] vs. [S V]
- Akhalkalaki twist: if affix is “far” from stressed XP, cliticize onto it
  - Prosodic = adjacent to sentential stress
  - Clisis = cliticize if far, otherwise stay a prefix

Focus-neutral
C-initial verbs take suffix

(92) ara-n girkʰ-ə ċsaxe-gə
Ara-D book-D sells-IN
‘Ara is selling the book’
Akhalkalaki – stress adjacency

- Akhalkalaki and Gyumri have affix switch in (mostly) identical contexts = changed or larger predicate (post-cyclic phase)
- Change in predicate coincides with change in stress:
  - Object specificity: $S$ O-DEF $[V]$ vs. $S$ $[O \ V$
  - Focus: $S$ $[V]$ vs. $[S \ V$
- Akhalkalaki twist: if affix is “far” from stressed XP, cliticize onto it
  - Prosodic = adjacent to sentential stress
  - Clisis = cliticize if far, otherwise stay a prefix

Focus-neutral
C-initial verbs take suffix

(94) ara-n girk$^h$-ə ṭsaxe-gə
Ara-D book-D sells-IN
‘Ara is selling the book’

Narrow focus (stress non-adjacent)
Affix jumps to focused constituent

(95) marja-n-a-gə girk$^h$-ə ṭsaxe
Maria-D-also-IN book-D sells
‘Maria is also selling the book’
Gyumri vs. Akhalkalaki

- Verbal affix if stressed
- Specific definite object (topic)
  - V-initial verb: Prefix
    
    (96) \( \text{anuʃ-ǝ} \hat{\text{h}}\text{a}^\text{h-ǝ} \text{k-epe} \)
    \text{Anush-DEF bread-DEF INDC-bake}
    
    ‘Anush sells the bread.’
    Gyumri, Akhalkalaki
  
  - C-initial verb: Suffix
    
    (97) \( \text{anuʃ-ǝ} \hat{\text{h}}\text{a}^\text{h-ǝ} \hat{\text{tsa}}\hat{\text{χ}}\text{e-ɡǝ} \)
    \text{Anush-DEF bread-DEF sell-INDC}
    
    ‘Anush sells the bread.’
    Gyumri, Akhalkalaki
Gyumri vs. Akhalkalaki

- Prefix if stress-adjacent
- Non-specific bare object.
  - V-initial verbs: Prefix
    
    (98) \text{anuf-ə ḥatsʰ h-epʰ e} \\
    Anush-DEF bread INDC-bake
    ‘Anush bakes bread.’                     Gyumri, Akhalkalaki
Gyumri vs. Akhalkalaki

- Prefix if stress-adjacent
- Non-specific bare object.
  - V-initial verbs: Prefix
    (100) $\text{anu}f-\emptyset \quad \text{hats}^h \quad k-ep^h e$
    Anush-DEF bread INDC-bake
    ‘Anush bakes bread.’
    Gyumri, Akhalkalaki
  - C-initial verbs: Prefix
    (101) $\text{anu}f-\emptyset \quad \text{hats}^h \quad k-\text{tsaxe}$
    Anush-DEF bread INDC-sell
    ‘Anush sells bread.’
    Gyumri, Akhalkalaki
• NOT stress adjacent: prefix vs. clitic
• Non-specific object + Wh-word.
  ▶ V-initial verbs: Prefix

  (102)  anuʃ-ə  urdeɣ  hatsʰ  k-epʰ e
  Anush-DEF where bread INDC-bake
  ‘Where does Anush bake bread?’  Gyumri, Akhalkalaki
Gyumri vs. Akhalkalaki

- **NOT stress adjacent: prefix vs. clitic**
- **Non-specific object + Wh- word.**
  - V-initial verbs: Prefix
    
    \[(105) \text{anuʃ-ə } \text{urdeʃ } \hat{h} \text{ats}^\text{h} \text{k-ep}^\text{h} \text{e} \]
    
    Anush-DEF where bread INDC-bake
    
    ‘Where does Anush bake bread?’ Gyumri, Akhalkalaki
  
  - C-initial verbs: Prefix in Gyumri
    
    \[(106) \text{anuʃ-ə } \text{urdeʃ } \hat{h} \text{ats}^\text{h} \text{k-ə-tsaχe} \]
    
    Anush-DEF where bread INDC-sell
    
    ‘Where does Anush sell bread?’ Gyumri
Gyumri vs. Akhalkalaki

- **NOT stress adjacent: prefix vs. clitic**
- **Non-specific object + Wh- word.**
  - V-initial verbs: Prefix
    
    \[
    \text{anuʃ-ə } \text{urdeŋ } \text{ hatsʰ } \text{ k-epʰe}
    \]
    \[
    \text{Anush-DEF where bread INDC-bake}
    \]
    \[
    \text{‘Where does Anush bake bread?’}
    \]
    Gyumri, Akhalkalaki
  - C-initial verbs: Prefix in Gyumri
    
    \[
    \text{anuʃ-ə } \text{urdeŋ } \text{ hatsʰ } \text{ k-tsxæ}
    \]
    \[
    \text{Anush-DEF where bread INDC-sell}
    \]
    \[
    \text{‘Where does Anush sell bread?’}
    \]
    Gyumri
  - C-initial verbs: Enclitic
    
    \[
    \text{anuʃ-ə } \text{urdeŋ-ɡə } \text{ hatsʰ } \text{ tsxæ}
    \]
    \[
    \text{Anush-DEF where-INDC bread sell}
    \]
    \[
    \text{‘Where does Anush sell bread?’}
    \]
    Akhalkalaki
Why к(ω) vs. гω?

- **Inventory:** INDC → {к-, гω}
- **Phonology:** Prefix for V-initial
- **Syntax:** Prefix if larger phase
- **Prosody:** Move to stress
- **Morphology:** Use suffixes (elsewhere)
**Akhalkalaki – why and how**

Why k(ə)- vs. -gə?

- **Inventory:**  $\text{INDC} \rightarrow \{k-, -gə\}$
- **Phonology:** Prefix for V-initial
- **Syntax:** Prefix if larger phase
- **Prosody:** Move to stress
- **Morphology:** Use suffixes (elsewhere)

<table>
<thead>
<tr>
<th><strong>Input</strong></th>
<th><strong>Phonology</strong></th>
<th><strong>Syntax</strong></th>
<th><strong>Prosody</strong></th>
<th><strong>Morphology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phonology</strong></td>
<td>Prefix for V-initial</td>
<td>Prefix in larger phase</td>
<td>Move to stressed</td>
<td>Suffix elsewhere</td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prosody</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Morphology</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spell-out</strong></td>
<td><strong>INDC={k-, -gə}</strong></td>
<td>S [ xosis-gə ]</td>
<td></td>
<td>S k-xosis</td>
</tr>
<tr>
<td><strong>Phonology</strong></td>
<td>Schwa epentheses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td>S [ xosis-gə ]</td>
<td></td>
<td>S kə-xosis</td>
</tr>
</tbody>
</table>
Akhalkalaki — Why and How

Why \( g(ə) \)- vs. \(-gə\)?

- **Inventory:** \( \text{INDC} \rightarrow \{g-, -gə\} \)
- **Phonology:** Prefix for V-initial
- **Syntax:** Prefix if larger phase
- **Prosody:** Move to stress
- **Morphology:** Use suffixes (elsewhere)

<table>
<thead>
<tr>
<th>Input</th>
<th>( S \ldots [v_P \text{ xosis}] \ldots [FocP S \ldots \text{ xosis}] )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phonology</strong></td>
<td>Prefix for V-initial</td>
</tr>
<tr>
<td><strong>Syntax</strong></td>
<td>Prefix in larger phase</td>
</tr>
<tr>
<td><strong>Prosody</strong></td>
<td>Move to stressed</td>
</tr>
<tr>
<td><strong>Morphology</strong></td>
<td>Suffix elsewhere</td>
</tr>
<tr>
<td><strong>Spell-out</strong></td>
<td>( \text{INDC}={g-, -gə} )</td>
</tr>
<tr>
<td><strong>Phonology</strong></td>
<td>Schwa epenthesis</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td>( S \ldots [\text{ xosis-INDC}] \ldots [S \ldots \text{ xosis}] )</td>
</tr>
<tr>
<td></td>
<td>( S \ldots [\text{ xosis-gə}] \ldots [S \ldots \text{ xosis}] )</td>
</tr>
<tr>
<td></td>
<td>( S \ldots [\text{ xosis-gə}] \ldots [S \ldots \text{ xosis}] )</td>
</tr>
</tbody>
</table>
Affix is ordered based on many factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td></td>
<td>Mobile</td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td></td>
<td></td>
<td>Morphology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phonology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Syntax</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prosody</td>
<td></td>
</tr>
</tbody>
</table>
Wrap-up

- Affix is ordered based on *many* factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td></td>
<td>Mobile</td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td></td>
<td></td>
<td></td>
<td>Morphology</td>
</tr>
</tbody>
</table>

- Phonological Pandora’s Box: P mobility can lead to S mobility
Wrap-up

- Affix is ordered based on *many* factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td>Morphology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phonology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Syntax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Phonological Pandora’s Box:** P mobility can lead to S mobility
- **Super-late realization:** pick position/allomorph *after* sentential syntax
Wrap-up

- Affix is ordered based on *many* factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td></td>
<td>Mobile</td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Morphology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phonology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Syntax</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prosody</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Phonological Pandora’s Box**: P mobility can lead to S mobility
- **Super-late realization**: pick position/allomorph *after* sentential syntax
- **Phase-based domains**: choice based on phases but *post-cyclically*
Wrap-up

- Affix is ordered based on many factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td></td>
<td></td>
<td>Morphology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phonology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Syntax</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prosody</td>
<td></td>
</tr>
</tbody>
</table>

- Phonological Pandora’s Box: P mobility can lead to S mobility
- Super-late realization: pick position/allomorph after sentential syntax
- Phase-based domains: choice based on phases but post-cyclically
- Radical evacuation: INDC leaves verb to become a clitic
  - Lowered via head-movement for syntactico-centered framework
Affix is ordered based on many factors across dialects

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td>Morphology</td>
<td></td>
<td>Phonology</td>
<td>Syntax</td>
</tr>
</tbody>
</table>

Phonological Pandora’s Box: P mobility can lead to S mobility

Super-late realization: pick position/allomorph after sentential syntax

Phase-based domains: choice based on phases but post-cyclically

Radical evacuation: INDC leaves verb to become a clitic
  - Lowered via head-movement for syntactico-centered framework

All-together: Affix order is multi-modular
Wrap-up

- Affix is ordered based on *many* factors across dialects

<table>
<thead>
<tr>
<th>Dialect</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Fixed</td>
<td>Mobile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Determined by</td>
<td></td>
<td></td>
<td>Morphology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Phonology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Syntax</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Prosody</td>
<td></td>
</tr>
</tbody>
</table>

- **Phonological Pandora’s Box**: P mobility can lead to S mobility
- **Super-late realization**: pick position/allomorph *after* sentential syntax
- **Phase-based domains**: choice based on phases but *post-cyclically*
- **Radical evacuation**: \( \text{INDC} \) leaves verb to become a clitic
  - Lowered via head-movement for syntactico-centered framework
- **All-together**: Affix order is *multi-modular*
- **Future**: a full-fledged second position clitic (we might’ve found one...)

Future?

- What’s left to do?
Future?

- What’s left to do? A lot
Future?

• What’s left to do? A lot
  1. **Morphology**: multiple exponence, word-minimality
Future?

- What’s left to do? A lot
  1. **Morphology**: multiple exponence, word-minimality
  2. **Phonology**: phonotactic correlations,
  3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative
  4. **Prosody**: verb focus, polar questions, topic-comment
  5. **Subdialects**: speaker variation, V-initial verbs
  6. More a lot: 2P language contact

- How will we do it?
  1. Lots of summer vacations in Georgia Armenia
What’s left to do? A lot

1. **Morphology**: multiple exponence, word-minimality
2. **Phonology**: phonotactic correlations,
3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative

**Prosody**: verb focus, polar questions, topic-comment

**Subdialects**: speaker variation, V-initial verbs

**More a lot**: 2P language contact
What’s left to do? A lot

1. **Morphology**: multiple exponence, word-minimality
2. **Phonology**: phonotactic correlations,
3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative
4. **Prosody**: verb focus, polar questions, topic-comment
What’s left to do? A lot

1. **Morphology**: multiple exponence, word-minimality
2. **Phonology**: phonotactic correlations,
3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative
4. **Prosody**: verb focus, polar questions, topic-comment
5. **Subdialects**: speaker variation, V-initial verbs
● What’s left to do? A lot
  1. **Morphology**: multiple exponence, word-minimality
  2. **Phonology**: phonotactic correlations,
  3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative
  4. **Prosody**: verb focus, polar questions, topic-comment
  5. **Subdialects**: speaker variation, V-initial verbs
  6. More a lot: 2P language contact

● How will we do it?
Future?

• What’s left to do? A lot
  1. **Morphology**: multiple exponence, word-minimality
  2. **Phonology**: phonotactic correlations,
  3. **Syntax**: ditransitives, post-verbal arguments, sentential adverbs, coordination, unaccusative vs unergative
  4. **Prosody**: verb focus, polar questions, topic-comment
  5. **Subdialects**: speaker variation, V-initial verbs
  6. More a lot: 2P language contact

• How will we do it?
  1. Lots of summer vacations in Georgia Armenia
Conclusion

- Armenian dialects are cool...
Conclusion

- Armenian dialects are cool... Armenian is more than just the Kardashians

- What’s cool about it?
**Conclusion**

- Armenian dialects are cool... Armenian is more than just the Kardashians

- What’s cool about it?
  - mobile affixation sensitive to multiple modules
  - snapshots of language change in progress
Acknowledgements

(111) mersi-ner gazmagerbovr-ner-u-n
merci-PL organizers
‘Thank you to the organizers’

(112) jev Børt-i-n
and Bert
‘And Bert Vaux’

(113) jev Karen-i-n + Eteri-[j]i-n + Harut-i-n + Gohar-i-n + amen-u-n
and Karen + Eteri + Harut + Gohar + everyone
‘And to our informants and everyone’
References


Appendix Guide

- What is a phase in Armenian (45)
- More on Akhalkalaki (52)
- Phonological mobility outside of Armenian (57)
- Aspect/Mood and discourse transitivity (58)
- Constraints for
  - SWA (67)
  - Hamshen (69)
  - Gyumri (71)
  - Akhalkalaki (73)
- SWA gu- (66)
**Discussion – how to get mobility?**

Micro-variations imply following trajectory

<table>
<thead>
<tr>
<th>Dialect:</th>
<th>Standard</th>
<th>Hamshen</th>
<th>Gyumri</th>
<th>Akhalkalaki</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position:</td>
<td>Fixed</td>
<td>Mobile</td>
<td>Mobile</td>
<td></td>
</tr>
<tr>
<td>Determined by:</td>
<td>Morpho</td>
<td>Phono</td>
<td>Morpho</td>
<td>Phono</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Syntax</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Prosody</td>
</tr>
</tbody>
</table>

1. **Standard**: Arbitrary a prefix + robust across dialects
2. **Hamshen**: Optimizing syllables + suffixation → phono-mobility

***Phonological Pandora’s Box***

- phonological mobility leads to syntactic mobility
3. **Gyumri**: limited mobility from syntactic phases
4. **Akhalkalaki**: prosodic clisis
5. **Future**: Clitic?
What is the morpheme?

- INDC historically came from *kaj ev*
Conclusion

What is the morpheme?

- INDC historically came from *kaj ev*
- Across dialects, reflexes are *k*, *k̩*, *g*, *g̩* - *g̩*, -*gu* (and *gu*- in appendix)
Conclusion

What is the morpheme?

- INDC historically came from \textit{kaj ev}
- Across dialects, reflexes are \textit{k-}, \textit{kə-}, \textit{g-}, \textit{gə} - \textit{gə}, -\textit{gu} (and \textit{gu-} in appendix)

Affix order is ...

1. Fixed position (Standard), or
CONCLUSION

What is the morpheme?

- INDC historically came from *kaj ev*
- Across dialects, reflexes are *k*-, *kə*-, *g*-, *ɡə*-ɡə, -*gu* (and *gu*- in appendix)

Affix order is ...

1. Fixed position (Standard), or
2. Phonologically mobile (Hamshen)
Conclusion

What is the morpheme?

- INDC historically came from *kaj ev*
- Across dialects, reflexes are *k-, kə-, g-, gə -gə, -gu* (and *gu-* in appendix)

Affix order is ...

1. Fixed position (Standard), or
2. Phonologically mobile (Hamshen)
3. + Syntactically mobile (Gyumri)
What is the morpheme?

- INDC historically came from *kaj ev*
- Across dialects, reflexes are *k-, kə-, g-, gə -gə, -gu* (and *gu-* in appendix)

Affix order is ...

1. Fixed position (Standard), or
2. Phonologically mobile (Hamshen)
3. + Syntactically mobile (Gyumri)
4. + Separable w/ prosody (Akhalkalaki)

We explained with ...
Conclusion

What is the morpheme?

- INDC historically came from *kaj ev*
- Across dialects, reflexes are *k-, kə-, g-, gə-gə, -gu* (and *gu-* in appendix)

Affix order is ...

1. Fixed position (Standard), or
2. Phonologically mobile (Hamshen)
3. + Syntactically mobile (Gyumri)
4. + Separable w/ prosody (Akhalkalaki)

We explained with ...

- Phono: Syllable structure
- Syn-Sem: Phase domains
- Pros: Stress adjacency
- Morpho: Suffixation

Take-away: affix order needs multi-modular information
What’s a phase?

= syntactic cycles for computation and prosody

● vP and FocP
What’s a phase?

≡ syntactic cycles for computation and **prosody**

- vP and FocP
- Armenian objects start out as complement in VP inside vP

\[
\begin{align*}
(115) & \quad \text{ara-}n \quad \text{kirk} \quad \text{dzaxets} \\
& \quad \text{Ara-DEF book sold} \\
& \quad \text{‘Ara sold books’}
\end{align*}
\]
What’s a phase?

= syntactic cycles for computation and prosody

● vP and FocP

● Armenian objects start out as complement in VP inside vP

● DEF objects move out
  ▶ Debate: AgrP, ObjP, spec-vP?
  ▶ Agnostic: XP outside lowest vP (and stress)

(116) ara-n  kirk-ǝ  ⽢́dzaxets
Ara-DEF book-DEF sold
‘Ara sold the book’
What’s a phase?

= syntactic cycles for computation and prosody

- vP and FocP
- Objects start as comp-V
- DEF objects move out
- Adverbs are placed inside VP

(117) ara-n kirk-ə lav dzaxets
Ara-DEF book-DEF well sold
‘Ara sold the book well’
What’s a phase?

= syntactic cycles for computation and **prosody**
  
  • vP and FocP
  
  • Without narrow focus, no FocP

(118)  sun-ə vazzets
dog-DEF ran

‘The dog ran’
What’s a phase?

= syntactic cycles for computation and **prosody**

- vP and FocP
- Without narrow focus, no FocP

(119) `fun-ә vazzets`
    dog-DEF ran

‘The dog ran’
What’s a phase?

= syntactic cycles for computation and **prosody**

- vP and FocP
- Question goes to FocP

(120) **ov** vazzețs

who ran

‘Who ran?’
What’s a phase?

= syntactic cycles for computation and **prosody**

- vP and FocP
- Question goes to FocP
- Focused XP goes to FocP

(121) \textbf{fun-ә} \textit{vazzets} \text{dog-DEF ran} \\
‘The dog ran’
Phases and Armenian

What’s a phase?

= syntactic cycles for computation and **prosody**

- vP and FocP
- Question goes to FocP
- Focused XP goes to FocP
- Emphasized XP goes to FocP

(122) **gadu-n-al** vazzets **cat-DEF**-also ran

‘The cat also ran’
By default, Akhalkalaki has $g$- for V-initial and -$g\theta$ for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>$g$-arnes ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-$g\theta$ ‘you walk’</td>
</tr>
</tbody>
</table>

Unlike Gymuri, aspect doesn’t affect affix order
Akhalkalaki – Aspect

- By default, Akhalkalaki has $g$- for V-initial and -gə for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>g-arnes ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə ‘you walk’</td>
</tr>
</tbody>
</table>

- Unlike Gymuri, aspect doesn’t affect affix order

**Progressive**
C-initial verbs take suffix

(125) ʃun-ə vazze-gə
don-DEF run-INDC
‘The dog is running’

**Habitual**
C-initial... still takes -gə

(126) ʃun-ə vazze-gə
don-DEF run-INDC
‘The dog runs (habitually)’
By default, Akhalkalaki has $g$- for V-initial and -gə for C-initial.

<table>
<thead>
<tr>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
</tr>
<tr>
<td>C-initial</td>
</tr>
</tbody>
</table>

But for mood...
### Akhalkalaki – Mood

- By default, Akhalkalaki has *g*- for V-initial and *-gə* for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>g-arnes ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə ‘you walk’</td>
</tr>
</tbody>
</table>

- But for *mood*...

**Realis**

C-initial verbs take suffix

(129) fun-ə vazze-gə dog-DEF run-INDC

‘The dog is running’

**Conditional**

C-initial verbs switch to *gə-*

(130) jete guzes, fun-ə gə-vazze

if want, dog-DEF INDC-run-

‘If you want, the dog will run’
**Akhalkalaki — Object specificity**

- By default, Akhalkalaki has *k-* for V-initial and *-gə* for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>k-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>xoses-gə</td>
</tr>
</tbody>
</table>

- But for *object specificity*...

  **Definite object**  
  C-initial verbs take suffix

  (131)  
  ara-n  
  girк*-ə  
  ทำความสะอาด-гə  
  Ara-DEF book-DEF sells-INDC  
  ‘Ara sells the book’

  **Bare object**  
  C-initial verbs switch to *kə-*

  (132)  
  ara-n  
  girк*  
  kə-ทำความสะอาด  
  Ara-DEF book INDIC-sells  
  ‘Ara sells books’
Akhalkalaki – Focus & Questions

- By default, Akhalkalaki has \( g \)- for V-initial and -\( g\@ \) for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>( g)-arnes</td>
</tr>
<tr>
<td>C-initial</td>
<td>( xoses-g@ )</td>
</tr>
<tr>
<td></td>
<td>‘you take’</td>
</tr>
<tr>
<td></td>
<td>‘you walk’</td>
</tr>
</tbody>
</table>

- But for focus...

**Focus-neutral**

C-initial verbs take suffix

(133) \( \text{fun-\( \@ \)} \quad \text{vazze-g\@} \)

dog-DEF run-INDC

‘The dog is running’

**Narrow focus (Q&A)**

C-initial verbs switch to \( k\@\)-

(134) \( \text{vev \( g\@\)-vazze} \)

who INDC-run

‘Who is running?’

(135) \( \text{fun-\( \@ \)} \quad \text{g\@-vazze} \)

dog-DEF INDC-run

‘The DOG is running’
Akhalkalaki – Focus & Emphasis

- By default, Akhalkalaki has \( g- \) for V-initial and \(-g\emptyset\) for C-initial

<table>
<thead>
<tr>
<th></th>
<th>Indicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>V-initial</td>
<td>( g-\text{arnes} ) ‘you take’</td>
</tr>
<tr>
<td>C-initial</td>
<td>( xoses-g\emptyset ) ‘you walk’</td>
</tr>
</tbody>
</table>

- But for focus...

**Focus-neutral**

C-initial verbs take suffix

(136) \( \text{fun-}\emptyset \; \text{vazze-}g\emptyset \)
dog-DEF run-INDC

‘The dog is running’

**Narrow focus** *(Emphatic clitics)*

C-initial verbs switch to \( g\emptyset- \)

(137) \( \text{kadu-}n-\text{a} \; g\emptyset\-vazze \)
cat-DEF-also INDC-run

‘The cat is also running’
Phonological mobility

- Phonologically-conditioned affix mobility (PCAM) is rare
- Only two known cases (Noyer, 1994; Fulmer, 1997) + Hamshen

<table>
<thead>
<tr>
<th>V-initial</th>
<th>Hamshen</th>
<th>Huave</th>
<th>Afar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><em>g</em>-arnes ‘you take’</td>
<td><em>n</em>-a-kants ‘red’</td>
<td><em>t</em>-ubl-e ‘you saw’</td>
</tr>
<tr>
<td>C-initial</td>
<td>xosis-<em>gu</em> ‘you walk’</td>
<td>pal-a-<em>n</em> ‘closed’</td>
<td>suk-<em>t</em>-e ‘you had’</td>
</tr>
</tbody>
</table>
Phonological mobility

- Phonologically-conditioned affix mobility (PCAM) is rare
- Only two known cases (Noyer, 1994; Fulmer, 1997) + Hamshen

<table>
<thead>
<tr>
<th>V-initial</th>
<th>Hamshen</th>
<th>Huave</th>
<th>Afar</th>
</tr>
</thead>
<tbody>
<tr>
<td>g-arnes</td>
<td>‘you take’</td>
<td>n-a-kants</td>
<td>‘red’</td>
</tr>
<tr>
<td>xosis-gu</td>
<td>‘you walk’</td>
<td>pal-a-n</td>
<td>‘closed’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>t-ubl-e</td>
<td>‘you saw’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>suk-t-e</td>
<td>‘you had’</td>
</tr>
</tbody>
</table>

- Does PCAM exist?
  - Some argue it cannot (Paster, 2006)
  - Counterexamples (Huave & Afar) don’t count because of morphological conditions
- But Hamshen...
Phonological mobility

- Phonologically-conditioned affix mobility (PCAM) is rare
- Only two known cases (Noyer, 1994; Fulmer, 1997) + Hamshen

<table>
<thead>
<tr>
<th>V-initial</th>
<th>Hamshen</th>
<th>Huave</th>
<th>Afar</th>
</tr>
</thead>
<tbody>
<tr>
<td>g-arnes</td>
<td>‘you take’</td>
<td>n-a-kants</td>
<td>t-ubl-e</td>
</tr>
<tr>
<td>xosis-gU</td>
<td>‘you walk’</td>
<td>pal-a-n</td>
<td>suk-t-e</td>
</tr>
</tbody>
</table>

- Does PCAM exist?
  - Some argue it cannot (Paster, 2006)
  - Counterexamples (Huave & Afar) don’t count because of morphological conditions
- But Hamshen...
  - is purely phonological and predicted to be impossible
  - Theory is falsified 😊
Excursus: Word Order and “Inflection”

- Rarely see suffix-prefix switches because of syntax
  - Vary order of (suffixal) CAUS and PASS (Rice 2000)
  - Different word orders for different semantics (Hansen, 2012)
### Excursus: Word Order and “Inflection”

- Rarely see suffix-prefix switches because of syntax
  - Vary order of (suffixal) CAUS and PASS (Rice 2000)
  - Different word orders for different semantics (Hansen, 2012)
- Iquito (SVO) irrealis

<table>
<thead>
<tr>
<th>Realis</th>
<th>Irrealis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Default SV(A)O</strong></td>
<td><strong>Switch to SXV</strong></td>
</tr>
<tr>
<td>(142) ima capiqui asuraaja</td>
<td>(144) ima asuraaja capiqui</td>
</tr>
<tr>
<td>Ema cook manioc</td>
<td>Ema manioc cook</td>
</tr>
<tr>
<td>‘Ema cooked manioc’</td>
<td>‘Ema will cook manioc’</td>
</tr>
<tr>
<td>(143) qui maquiqui suhuaata</td>
<td>(145) qui suhuaata maquiqui</td>
</tr>
<tr>
<td>I sleep well</td>
<td>I well sleep</td>
</tr>
<tr>
<td>‘I slept well’</td>
<td>‘I am going to sleep well’</td>
</tr>
</tbody>
</table>
Excursus: Word Order and “Inflection”

- Rarely see suffix-prefix switches because of syntax
  - Vary order of (suffixal) CAUS and PASS (Rice 2000)
  - Different word orders for different semantics (Hansen, 2012)
- Tikar (SOV) habitual in intransitives

**Progressive**
Default SLocV + suffix

(146) a ta fumban kën-ni
3SG IMPF Foumban leave-PROG
‘He is in the process of leaving for Foumban’

**Habitual**
Switch to SVLoc

(147) a ta kën fumban
3SG IMPF leave Foumban
‘He is in the habit of leaving for Foumban’
**Excursus: Word Order and “Inflection”**

- Rarely see suffix-prefix switches because of syntax
  - Vary order of (suffixal) CAUS and PASS (Rice 2000)
  - Different word orders for different semantics (Hansen, 2012)
- Puare (SOV) object definiteness

**Definite object**

**Default SOV ( + demonstrative)**

(148) nae|e ́lku  nua|a
      go   egg       search.for
  ‘I went to look for the egg’

(149) nae|e ́lku  pende  nua|a
      go   egg   that  search.for
  ‘I went to look for that egg’

**Indefinite object**

**Switch to SVO**

(150) nae|e  nua|a  ́lku
      go  search.for   egg
  ‘I went to look for eggs’
Excursus: Discourse Transitivity

- Recap: rare cases of using word order for “marked’ semantics

<table>
<thead>
<tr>
<th></th>
<th>Iquito</th>
<th>Tikar</th>
<th>Puare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>SVO</td>
<td>SLocV</td>
<td>SOV</td>
</tr>
<tr>
<td>Marked</td>
<td>SOV</td>
<td>SV</td>
<td>SVO</td>
</tr>
</tbody>
</table>

- What’s semantic markedness? (Hopper und Thompson, 1980)
Excursus: Discourse Transitivity

- Recap: rare cases of using word order for “marked” semantics

<table>
<thead>
<tr>
<th>Iquito</th>
<th>Tikar</th>
<th>Puare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>SVO REAL</td>
<td>SLocV PROG</td>
</tr>
<tr>
<td>Marked</td>
<td>SOV IRR</td>
<td>SV HAB</td>
</tr>
</tbody>
</table>

- What’s semantic markedness? (Hopper und Thompson, 1980)
  - Discourse transitivity: how effective, instantiated, or intense an action is
Recap: rare cases of using word order for “marked” semantics

<table>
<thead>
<tr>
<th></th>
<th>Iquito</th>
<th>Tikar</th>
<th>Puare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>SVO REAL</td>
<td>SLocV PROG</td>
<td>SOV DEF O</td>
</tr>
<tr>
<td>Marked</td>
<td>SOV IRR</td>
<td>SV HAB</td>
<td>SVO INDF O</td>
</tr>
</tbody>
</table>

What’s semantic markedness? (Hopper und Thompson, 1980)

- Discourse transitivity: how effective, instantiated, or intense an action is
- More transitive → More semantically unmarked → unmarked word order
- Less transitive → More semantically marked → marked word order

What about Gyumri Armenian?
Excursus: Discourse Transitivity

- Recap: rare cases of using word order for “marked” semantics

<table>
<thead>
<tr>
<th></th>
<th>Iquito</th>
<th>Tikar</th>
<th>Puare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmarked</td>
<td>SVO</td>
<td>SLocV</td>
<td>SOV</td>
</tr>
<tr>
<td>Marked</td>
<td>SOV</td>
<td>SV</td>
<td>SVO</td>
</tr>
</tbody>
</table>

- What’s semantic markedness? (Hopper und Thompson, 1980)
  - Discourse transitivity: how effective, instantiated, or intense an action is
  - More transitive → More semantically unmarked → unmarked word order
  - Less transitive → More semantically marked → marked word order

- What about Gyumri Armenian?
  - Habitual aspect, bare object, etc. use “unexpected” prefix
  - Marked semantics uses marked morphology
GYUMRI — WHY AND HOW

Why k(ə)- vs. -gə?

- Indc. is k- or -gə (two morphs)
- Phono: Prefix for V-initial
  Insert ə in clusters
- Syn-Sem: Represent habitual
  Use prefix
- Morpho: Use suffixes (elsewhere)
GYUMRI – WHY AND HOW

Why $k(ə)$- vs. $-gə$?

- Indc. is $k$- or $-gə$ (two morphs)
- Phono: Prefix for V-initial
  Insert $ə$ in clusters
- Syn-Sem: Show “marked aspect”
  Use prefix
- Morpho: Use suffixes (elsewhere)
**GYUMRI – WHY AND HOW**

**Why k(ə)- vs. -gə?**
- Indc. is *k-* or *-gə* (two morphs)
- Phono: Prefix for V-initial
  Insert ə in clusters
- Syn-Sem: Show “marked aspect”
  Use prefix
- Morpho: Use suffixes (elsewhere)

**How to formalize?**
- Invent.: $\text{INDC} \to \{k-, -gə\}$
- Phono: $\text{ONSET} \Rightarrow \text{ALIGN-R}$
  $[^\text{CC} \Rightarrow \text{DEP}]$
- Syn-sem: $\text{TRANS}_{\text{ASP}}$
  $= \text{marked Asp} \Rightarrow \text{marked Morpho}$
- Morpho: $\text{ALIGN-L}(k-, V) \Rightarrow \text{ALIGN-R}'s$

<table>
<thead>
<tr>
<th>xoses</th>
<th>TRANS</th>
<th>*CC</th>
<th>ALIGN</th>
<th>ALIGN</th>
<th>ALIGN</th>
<th>DEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDC=${k-, -gə}$, PROG</td>
<td>ASP</td>
<td>*CC</td>
<td>L(k-, V)</td>
<td>R(-gə, V)</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td>a. kə-xoses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
</tr>
<tr>
<td>b. xoses-gə</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gyumri – why and how

Why $k(ə)$- vs. -$gə$?

- Indc. is $k$- or -$gə$ (two morphs)
- Phono: Prefix for V-initial  
  Insert $ə$ in clusters
- Syn-Sem: Show “marked aspect”  
  Use prefix
- Morpho: Use suffixes (elsewhere)

How to formalize?

- Invent.: \( \text{INDC} \rightarrow \{k-, -gə\} \)
- Phono:  
  \( \text{ONSET} \Rightarrow \text{ALIGN-R} \)  
  \(*[\text{CC} \Rightarrow \text{DEP}]*)
- Syn-sem: \( \text{TRANS}_{\text{Asp}} \)  
  = marked Asp→marked Morpho
- Morpho: \( \text{ALIGN-L}(k-, V) \Rightarrow \text{ALIGN-R}'s \)

<table>
<thead>
<tr>
<th>$\text{xoses}$</th>
<th>$\text{INDC} = {k-, -gə}$, HAB</th>
<th>$\text{TRANS}$</th>
<th>$*\text{CC}$</th>
<th>$\text{ALIGN}$</th>
<th>$\text{ALIGN}$</th>
<th>$\text{ALIGN}$</th>
<th>$\text{Dep}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\text{a.}$</td>
<td>( kə\text{-xoses} )</td>
<td>$\text{ASP}$</td>
<td></td>
<td>$\text{L}(k-, V)$</td>
<td>$\text{R}(-gə, V)$</td>
<td></td>
<td>$\ast$</td>
</tr>
<tr>
<td>$\text{b.}$</td>
<td>$\text{xoses-}gə$</td>
<td>$\ast!$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Gyumri — why and how

Prefix used whenever the meaning gets “more complicated”

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Aspect</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>Habitual</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>Progressive</td>
<td>✗</td>
<td>definite</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>
Gyumri — why and how

Prefix used whenever the meaning gets “more complicated”

<table>
<thead>
<tr>
<th></th>
<th>Aspect</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>Habitual</td>
<td>✔</td>
<td>bare</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Suffix</td>
<td>Progressive</td>
<td>✗</td>
<td>definite</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Semantic markedness:

- Discourse transitivity: background marked semantics with marked morphology
- Can explain some of the factors with discourse transitivity (aspect, objects)

But...
Prefix used whenever the meaning gets “more complicated”

<table>
<thead>
<tr>
<th></th>
<th>Aspect</th>
<th>Locative</th>
<th>Object</th>
<th>Adverb</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefix</td>
<td>Habitual</td>
<td>✓</td>
<td>bare</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Suffix</td>
<td>Progressive</td>
<td>×</td>
<td>definite</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

Semantic markedness:

- Discourse transitivity: background marked semantics with marked morphology
- Can explain some of the factors with discourse transitivity (aspect, objects)

But... others make more sense as larger predicate structure

- Adverbs, locatives, and focus don’t background information
- They (and other factors) make the verbal predicate look “larger”
- Formalize with phases
Allomorphy for Standard

- Why g- vs. gə-
  - Morphology: make it a prefix
  - Phonology: Complex onsets are banned so g-C surfaces with ‘g-ə’

- How to formalize the allomorphy
  - Morphology: \( \text{indc} \rightarrow \{g-,gə-\} \)
  - Phonology: pick the best allomorph (avoid \(*[CC\text{ and }*VV)\)

<table>
<thead>
<tr>
<th>arnes, indc</th>
<th>*[CC]</th>
<th>*VV</th>
<th>Align-L(\text{indc})</th>
<th>Align-R</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. xosis-g</td>
<td></td>
<td></td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>b. g-xosis</td>
<td>!</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>c. xosis-gə</td>
<td></td>
<td></td>
<td>!</td>
<td></td>
</tr>
<tr>
<td>d. gə-xosis</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>
Why a prefix?

- Diachrony: frozen preverbal VP
  
  \textit{kaj ev} ‘exists and ...

- Synchrony:
Standard Western — why and how

Why a prefix?

- Diachrony: frozen preverbal VP
  \(kaj\ ev\) ‘exists and ...

- Synchrony: arbitrary
  Armenian is suffixing
Why a prefix?
- Diachrony: frozen preverbal VP
  \textit{kaj ev} ‘exists and ...
- Synchrony: arbitrary
  Armenian is suffixing

How to formalize?
- Inventory: \texttt{INDC} $\rightarrow \{g\}$
- Morpho: \texttt{ALIGN-L} for \{g\}
  \texttt{ALIGN-R} for rest
  \texttt{ALIGN-R} for rest
  \texttt{ALIGN-L}(g-,V)\texttt{-ALIGN-R}

\begin{tabular}{|c|c|c|}
\hline
aries & \texttt{INDC=\{g\}} & \texttt{ALIGN} \\
\hline
 & \texttt{L(g-,V)} & \texttt{R} \\
\hline
a. arnes-g & *! & \\
\hline
b. g-arnes & * & \\
\hline
\end{tabular}
Why $g$- vs. $g\varnothing$-?

- Morpho: use prefix
- Phono: no complex onsets
  insert $\varnothing$ to repair


Standard Western – why and how

Why $g$- vs. $g\varnothing$-

- Morpho: use prefix

- Phono: no complex onsets
  insert $\varnothing$ to repair

How to formalize?

- Morpho: $\text{Align-l}$ for \{g-\}
  $\text{Align-r}$ for rest

- Phono: $^*\text{[CC}
  ^*\text{[CC » DEP}$

<table>
<thead>
<tr>
<th>xosis</th>
<th>*[CC</th>
<th>Align</th>
<th>Align</th>
<th>Dep</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDC={g-}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. xosis-()</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. (g)-xosis</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. (g\varnothing)-xosis</td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>
Why g- vs. -gu?

- Indc. is g- or -gu (two morphs)
- Phono: Give onset to V-initial
  Use prefix
- Morpho: Use suffixes (elsewhere)
Hamshen — Why and How

Why g- vs. -gu?
- Indc. is g- or -gu (two morphs)
- Phono: Give onset to V-initial
  Use prefix
- Morpho: Use suffixes (elsewhere)

How to formalize?
- Inventory: \textsc{indc} \rightarrow \{g-, -gu\}
- Phono: Onset
  Onset \rightarrow \textsc{align-r}
- Morpho: \textsc{align-l} for \{g-\}
  \textsc{align-r} for \{-gu\}
  \textsc{align-r} for rest
  \textsc{align-l}(g-, V) \rightarrow \textsc{align-r}
Hamshen — Why and How

Why g- vs. -gu?
- Indc. is g- or -gu (two morphs)
- Phono: Give onset to V-initial
  Use prefix
- Morpho: Use suffixes (elsewhere)

How to formalize?
- Inventory: INDC → \{g-, -gu\}
- Phono: Onset
  Onset » ALIGN-R
- Morpho: ALIGN-L for \{g-\}
  ALIGN-R for \{-gu\}
  ALIGN-R for rest
  ALIGN-L(g-, V) » ALIGN-R

<table>
<thead>
<tr>
<th>Input</th>
<th>Inventory</th>
<th>Phonology</th>
<th>Morphology</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INDC={g-, -gu}</td>
<td>Give onset</td>
<td>Suffix elsewhere</td>
<td>g-arnes xosis-gu</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>g-arnes xosis-gu</td>
</tr>
</tbody>
</table>

- Alternative: OT with ALIGN in appendix
**Hamshen — why and how**

**Why g- vs. -gu?**

- Indc. is *g-* or *-gu* (two morphs)
- Phono: Give onset to V-initial
  Use prefix
- Morpho: Use suffixes (elsewhere)

**How to formalize?**

- Inventory: \( \text{INDC} \to \{g-, -gu\} \)
- Phono: \( \text{ONSET} \)
  \( \text{ONSET} \to \text{ALIGN-R} \)
- Morpho: \( \text{ALIGN-L} \) for \{g-\}
  \( \text{ALIGN-R} \) for \{-gu\}
  \( \text{ALIGN-R} \) for rest
  \( \text{ALIGN-L}(g-, V) \to \text{ALIGN-R} \)

<table>
<thead>
<tr>
<th>xosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDC={g-, -gu}</td>
</tr>
<tr>
<td><strong>ONSET</strong></td>
</tr>
<tr>
<td><strong>ALIGN</strong></td>
</tr>
<tr>
<td><strong>ALIGN</strong></td>
</tr>
<tr>
<td><strong>ALIGN</strong></td>
</tr>
<tr>
<td><strong>L(g-, V)</strong></td>
</tr>
<tr>
<td><strong>R(-gu, V)</strong></td>
</tr>
<tr>
<td><strong>R</strong></td>
</tr>
<tr>
<td>a. xosis-( g )</td>
</tr>
<tr>
<td>*!</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>b. ( g )-xosis</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>c. ( xosis)-( gu )</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>d. ( gu)-xosis</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

\( \ast \)
GYUMRI — WHY AND HOW

Why $k(ə)$- vs. $-gə$?

- Indc. is $k$- or $-gə$ (two morphs)
- Phono: Prefix for V-initial
  Insert $ə$ in clusters
- Syn-Sem: Mark “larger phase”
  Use prefix
- Morpho: Use suffixes (elsewhere)
Gyumri – why and how

Why k(ə)- vs. -gə?
- Indc. is k- or -gə (two morphs)
- Phono: Prefix for V-initial
  Insert ə in clusters
- Syn-Sem: Mark “larger phase”
  Use prefix
- Morpho: Use suffixes (elsewhere)

How to formalize?
- Invent.: INDIC → \{k-, -gə\}
- Phono: ONSET » ALIGN-R
  *[CC » DEP
- Syn-sem: PHASEEXP
  = phase changed→marked Morpho
- Morpho: ALIGN-L(k-, V) » ALIGN-R’s

<table>
<thead>
<tr>
<th>O-DEF ([v_P \hat{t}saxe])</th>
<th>PHASE</th>
<th>*CC</th>
<th>ALIGN L(k-, V)</th>
<th>ALIGN R(-gə, V)</th>
<th>ALIGN R</th>
<th>DEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIC = {k-, -gə}, PROG</td>
<td>EXP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. xosis-k</td>
<td></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. k-xosis</td>
<td></td>
<td>*!</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. kə-tsaxe</td>
<td></td>
<td>*!</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. ð tsaxe-gə</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. gə-xosis</td>
<td></td>
<td>*!</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
GYUMRI – WHY AND HOW

Why k(ə)- vs. -gə?

- **Indc.** is k- or -gə (two morphs)
- **Phono:** Prefix for V-initial Insert ə in clusters
- **Syn-Sem:** Mark “larger phase” Use prefix
- **Morpho:** Use suffixes (elsewhere)

How to formalize?

- **Invent.:** \( \text{INDC} \rightarrow \{k-, -gə\} \)
- **Phono:** Onset \( \Rightarrow \text{ALIGN-R} \)
  \( *[\text{CC} \Rightarrow \text{Dep}] \)
- **Syn-sem:** PhaseExp
  \( = \) phase changed→marked Morpho
- **Morpho:** \( \text{ALIGN-L}(k-, V) \Rightarrow \text{ALIGN-R’s} \)

<table>
<thead>
<tr>
<th>( vP ) O ːtsaxe</th>
<th><strong>Phase</strong></th>
<th>*CC</th>
<th><strong>Align</strong> ( l(k-, V) )</th>
<th><strong>Align</strong> ( r(-gə, V) )</th>
<th><strong>Align</strong> ( r )</th>
<th><strong>Dep</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{INDC} = {k-, -gə}, \text{PROG} )</td>
<td><strong>EXP</strong></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. xosis-k</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. k-xosis</td>
<td>*!</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. kə-ːtsaxe</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>d. ːtsaxe-gə</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
</tr>
<tr>
<td>e. gə-xosis</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Akhalkalaki – why and how

Why ǧ(ə)- vs. -gə?

- Indc. is ǧ- or -gə (two morphs)
- Phono: same as Gyumri
- Syn-Sem: Mark “larger phase”
  don’t suffix on verb
- Pros: must be stress adjacent
- Morpho: Use suffixes (elsewhere)
**Akhalkalaki – why and how**

**Why g(ə)- vs. -gə?**
- Indc. is g- or -gə (two morphs)
- Phono: same as Gyumri
- Syn-Sem: Mark “larger phase”
  don’t suffix on verb
- Pros: must be stress adjacent
- Morpho: Use suffixes (elsewhere)

**How to formalize?**
- Invent.: **INDC → {g-1,-gə2}**
- Phono: same as Gyumri
- Syn-sem: **PHASEEXP**
  = phase changed→marked Morpho
- Pros: **STRESSADJ**
- Morpho: **ALIGN-L(g1-,V) ALIGN-R(g1-,V)**
  **ALIGN-L(-gə2,V) ALIGN-R(-gə2,V)**

<table>
<thead>
<tr>
<th>fun-ə [_vP vazze ]</th>
<th>STRESS</th>
<th>PHASE</th>
<th>ALIGN _L(g1,V)</th>
<th>ALIGN _R(gə2,V)</th>
<th>ALIGN R</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘the dog is running’</td>
<td>fun-ə</td>
<td>vazze-g1</td>
<td>*!</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>a. fun-ə vazze-g1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. fun-ə vazze-gə2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. fun-ə gə2-vazze</td>
<td></td>
<td></td>
<td></td>
<td>*!</td>
<td></td>
</tr>
</tbody>
</table>
**Akhalkalaki — why and how**

**Why $g(ə)$- vs. -$gə$?**
- Indc. is $g$- or -$gə$ (two morphs)
- Phono: same as Gyumri
- Syn-Sem: Mark “larger phase”
  don’t suffix on verb
- Pros: must be stress adjacent
- Morpho: Use suffixes (elsewhere)

**How to formalize?**
- Invent.: $\text{INDC} \rightarrow \{g-1, -gə2\}$
- Phono: same as Gyumri
- Syn-sem: $\text{PHASEEXP}$
  = phase changed$\rightarrow$marked Morpho
- Pros: $\text{STRESSADJ}$
- Morpho: $\text{ALIGN-L}(g_1-,V) \rightarrow \text{ALIGN-R}$
  $\text{ALIGN-L}(g_1-,V)$
  $\text{ALIGN-R}(-gə2,V)$

<table>
<thead>
<tr>
<th>$[\text{FocP kadu-n a vazze}]$</th>
<th>Stress</th>
<th>Phase</th>
<th>Align</th>
<th>Align</th>
<th>Align</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘the cat is also running’</td>
<td>Adj</td>
<td>Exp</td>
<td>L(V)</td>
<td>R(V)</td>
<td>R</td>
</tr>
<tr>
<td>a. kadu-n a vazze-$g_1$</td>
<td>*!</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>b. kadu-n a vazze-$gə2$</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. kadu-n a $gə2$-vazze</td>
<td>*!</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>
Akhalkalaki – why and how

Why $g(\alpha)$- vs. -$g\alpha$?
- Indc. is $g$- or -$g\alpha$ (two morphs)
- Phono: same as Gyumri
- Syn-Sem: Mark “larger phase”
  don’t suffix on verb
- Pros: must be stress adjacent
- Morpho: Use suffixes (elsewhere)

How to formalize?
- Invent.: $\text{INDC} \rightarrow \{g_{-1},-g\alpha_{2}\}$
- Phono: same as Gyumri
- Syn-sem: $\text{PHASEExp}$
  = phase changed $\rightarrow$ marked Morpho
- Pros: $\text{STRESSAdj}$
- Morpho: $\text{ALIGN-L}(g_{1-},V) \rightarrow \text{ALIGN-R}$
  $\text{ALIGN-L}(g_{1-},V)$
  $\text{ALIGN-R}(-g\alpha_{2},V)$

<table>
<thead>
<tr>
<th>ara-n O-DEF $[vP \widehat{tsaxe}]$</th>
<th>Stress</th>
<th>Phase</th>
<th>Align $L(g_{1-},V)$</th>
<th>Align $R(g\alpha_{2},V)$</th>
<th>Align $R$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ara reads O-DEF</td>
<td>Adj</td>
<td>Exp</td>
<td>$\star$</td>
<td></td>
<td>$\star$</td>
</tr>
<tr>
<td>a. ara-n O-DEF $\widehat{tsaxe-g_{1}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. ara-n O-DEF $\widehat{tsaxe-g\alpha_{2}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. ara-n O-DEF $g\alpha_{2}$-$\widehat{tsaxe}$</td>
<td></td>
<td></td>
<td></td>
<td>$\star$</td>
<td></td>
</tr>
</tbody>
</table>
Akhalkalaki – why and how

Why g(ə)- vs. -gə?

- Indc. is g- or -gə (two morphs)
- Phono: same as Gyumri
- Syn-Sem: Mark “larger phase” don’t suffix on verb
- Pros: must be stress adjacent
- Morpho: Use suffixes (elsewhere)

How to formalize?

- Invent.: \( \text{INDC} \rightarrow \{g_{-1}, -g\_2\} \)
- Phono: same as Gyumri
- Syn-sem: \( \text{PHASEEXP} = \text{phase changed} \rightarrow \text{marked Morpho} \)
- Pros: \( \text{STRESS} \_\text{Adj} \)
- Morpho: \( \text{ALIGN-L}(g_{-1}, V) \rightarrow \text{ALIGN-R} \)
  \( \text{ALIGN-L}(g_{-1}, V) \) on verb
  \( \text{ALIGN-R}(-g\_2, V) \) on verb

\[
\begin{array}{|l|c|c|c|c|c|}
\hline
[FocP ~marja-n a ... \_tsaxe ~] ~& \text{STRESS} & \text{PHASE} & \text{ALIGN} & \text{ALIGN} & \text{ALIGN} \\
\hline
\text{Maria also is selling ...} & \text{ADJ} & \text{EXP} & L(g_{1}, V) & r(g\_2, V) & r \\
\hline
a. \_marja-n a ... \_tsaxe-g_{1} & \_! & \_ & \_ & \_ & \_ \\
\hline
b. \_marja-n a ... \_tsaxe-g\_2 & \_! & \_ & \_ & \_ & \_ \\
\hline
c. \_marja-n a ... \_g\_2-\_tsaxe & \_! & \_ & \_ & \_ & \_ \\
\hline
d. \_\_marja-n a-g\_2 ... \_tsaxe & \_ & \_ & \_ & \_* & \_ \\
\hline
e. \_g\_2-marja-n a ... \_dzaxe & \_ & \_ & \_ & \_* & \_* \\
\hline
\end{array}
\]