

# *Chaha labialization and palatalization as coalescence*

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# Banksira's claims

- Chaha suffixes causing labialization and palatalization in different positions of the word are not floating affixes.
- They should be analysed as containing underlyingly full segments, /w/ and /y/.
- At the underlying level, their order is fixed.
- The process of coalescence deriving their surface position and realization is phonological rather than morphological in nature.

# Outline

- 1 The impersonal and the t-converb morphemes
- 2 Impersonal subject and the t-converb in strong verbs
- 3 Impersonal allomorphs in defective verbs

# The impersonal and the *t*-converb morphemes

# The impersonal - introduction

The **impersonal** is expressed with rounding, manifested in three ways:

| (1) | Personal                                          | Impersonal                                       |
|-----|---------------------------------------------------|--------------------------------------------------|
| a.  | labialization of a root consonant:                |                                                  |
|     | t'irək'                                           | t'irək <sup>w</sup> -im / t'irək <sup>w</sup> -i |
|     | dry.you.m.sg                                      | dry.one-CON / dry.one-MVM                        |
|     | 'Dry (2MSG)!'                                     | 'one having dried' / 'Let one dry!'              |
| b.  | an independent segment [w]:                       |                                                  |
|     | t'irək'y-tə                                       | t'irək'y-tə-w-i                                  |
|     | dry.CON-CON                                       | dry.CON-CON-one-MVM                              |
|     | 'he/it having dried'                              | 'one having dried' (used as a verb)              |
| c.  | a round vowel [o] (result of coalescence with ə): |                                                  |
|     |                                                   | t'irək'y-t-o                                     |
|     |                                                   | dry.CON-CON-CON.one                              |
|     |                                                   | 'one having dried' (used adverbially)            |

# The *t*-converb - introduction

The *t*-converb is expressed with the suffix /tə/ and palatality/frontness:

| (2) 2MSG Imperative                         | 3MSG <i>t</i> -converb      |
|---------------------------------------------|-----------------------------|
| a. <b>surface palatalization</b> of velars: |                             |
| t'irək'                                     | t'irək' <sup>y</sup> -tə    |
| dry.you.m.sg                                | dry.CON-CON                 |
| 'Dry (2MSG)!                                | 'he/it having dried'        |
| b. <b>deep palatalization</b> of alveolars: |                             |
| kɪft                                        | kɪfč-itə                    |
| open.you.m.sg                               | open.CON-CON                |
| 'Open (2MSG)!                               | 'he/it having opened'       |
| c. <b>fronting</b> of /ɪ, ə/ to [i, e]      |                             |
| xɪrəm                                       | xɪrem-tə                    |
| spend a year.you.m.sg                       | spend a year.CON-CON        |
| 'Spend a year (2MSG)!                       | 'he/it having spent a year' |

# Floating or regular affixes?

Because reflexes of the impersonal and the *t*-converb can appear in different parts of the word, they have been analysed as floating affixes.

Properties of floating affixes:

- 1 they're less than a full segment (a feature or feature bundle)
- 2 their position is variable

# Floating or regular affixes?

Banksira's claims:

- 1 they're derived from full segments
  - they are sometimes realized as such (see 1b) but the data has gone unnoticed
  - their positional realizations mirror the realization of underlying glides /w/ and /y/
- 2 underlyingly, their position fixed (as in 3 below); their non-local realization is the result of the phonological processes of coalescence

|     |      |                  |                       |      |                |                                     |
|-----|------|------------------|-----------------------|------|----------------|-------------------------------------|
| (3) | verb | <i>t-converb</i> | impersonal<br>subject | case | 3MSG<br>object | tense/<br><i>m-converb</i> /<br>MVM |
|     | ...  | /ytə/            | /w/                   | ...  | /wə/           |                                     |



## Allophones of /w, y/ and their contextual realizations

## (4) Pre-vocalic glides

|                           |                   |               |
|---------------------------|-------------------|---------------|
| Underlying Representation | /wəs/             | /yifa/        |
|                           | ↓                 | ↓             |
|                           | σ                 | σ     σ       |
|                           | / \               | / \       / \ |
| Syllabification           | w ə s             | y i f a       |
|                           | ↓                 | ↓             |
| Surface Representation    | [wəs]             | [yi.fa]       |
|                           | ‘borrowed object’ | ‘lid’         |

# Allophones of /w, y/ and their contextual realizations

## (5) Post-V Coalescence

|                           |          |         |
|---------------------------|----------|---------|
| Underlying Representation | /a-wta/  | /a-yf/  |
|                           | ↓        | ↓       |
|                           | a w t a  | a y f   |
|                           | ↘ †      | ↘ †     |
| Coalescence               | [+round] | [-back] |
|                           | ↓        | ↓       |
| Surface Representation    | [ɔ-t'a]  | [ε-f]   |

'Take sth out (MSG)'

'Cover with a lid (MSG)'

## Allophones of /w, y/ and their contextual realizations

| (6) Post-C Coalescence    |                      |                      |
|---------------------------|----------------------|----------------------|
| Underlying Representation | /k'wm/               | /k'yt'/              |
|                           | ↓                    | ↓                    |
|                           | k' w m               | k' y t'              |
|                           | ⋮ ⊕                  | ⋮ ⊕                  |
| Coalescence (epenthesis)  | [DOR]                | [COR]                |
|                           | ↓                    | ↓                    |
| Surface Representation    | [k' <sup>w</sup> ɨm] | [k' <sup>y</sup> ɨt] |
|                           | 'Stand still (MSG)!  | 'Weaken (MSG)'       |

## Allophones of /w, y/: summary

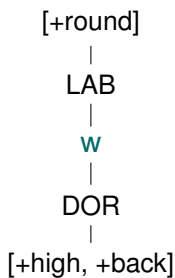
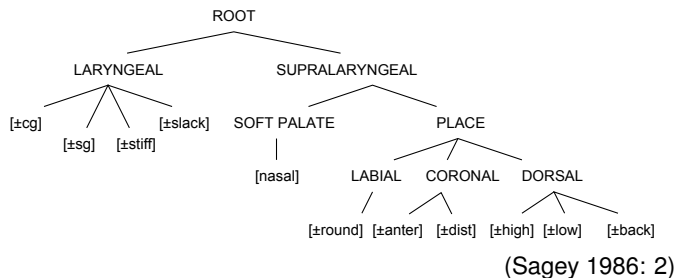
| (7) | Context                                                                                                                  | /w/ | /y/             |
|-----|--------------------------------------------------------------------------------------------------------------------------|-----|-----------------|
| a.  | Pre-V: {#, V}__V<br>(glides fill in the onset position)                                                                  | [w] | [y]             |
|     | Compare with [t'ɪrək <sup>y</sup> -tə-w-i], 'one having dried' (used as a V)                                             |     |                 |
| b.  | Post-V: V__ {C, #}      [ɔ], [o] or [u]<br>(glides cannot appear in the coda (?)) and diphthongs are disallowed          |     | [ɛ], [e] or [i] |
|     | Compare with [t'ɪrək <sup>y</sup> -t-o], 'one having dried' (used as and Adv)                                            |     |                 |
| c.  | Post-C: C__      C <sup>w</sup> , C <sup>y</sup> or both<br>(glides cannot vocalize and branching onsets are prohibited) |     | C <sup>y</sup>  |
|     | Compare with [t'ɪrək <sup>w</sup> -i], 'Let one dry!'                                                                    |     |                 |

# The impersonal subject and the *t*-converb in strong verbs

# Preliminaries

**Strong verbs:** roots that only contain [+consonantal] radicals (as opposed to **defective verbs** that contain /w/, /y/ or /A/).

**Assumptions:** feature geometry and autosegmental representation



## Representation of selected sounds

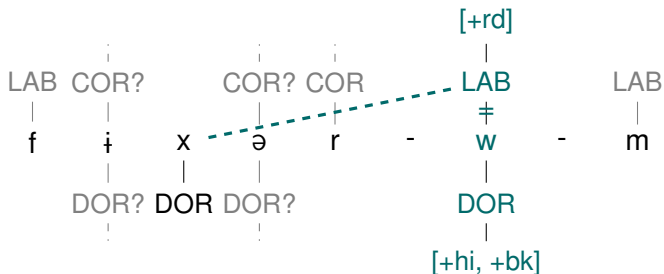
| (8) | /w/            | /y/            | /kʸ/           | /ə/            |
|-----|----------------|----------------|----------------|----------------|
|     | [+round]       | [+high, -back] | [+high, -back] | [-high, +back] |
|     | LAB            | COR            | COR            | COR?           |
|     | w              | y              | kʸ             | ə              |
|     | DOR            |                | DOR            | DOR?           |
|     | [+high, +back] |                |                | ([+ATR?])      |

# Deriving the **impersonal** allomorphs

**Rightmost Labialization:** the rightmost velar or labial is labialized  
 ('Post-C /w/ coalesces with the nearest preceding labial or velar')

(9) 2MSG imperative **impersonal** *m*-converb (/w-m/)

|        |                         |               |
|--------|-------------------------|---------------|
| nɪk'ɪm | nɪk'm <sup>w</sup> -ɪ-m | 'cull'        |
| fɪxər  | fɪx <sup>w</sup> ər-ɪ-m | 'proliferate' |
| bɪdər  | b <sup>w</sup> ɪdər-ɪ-m | 'ahead'       |



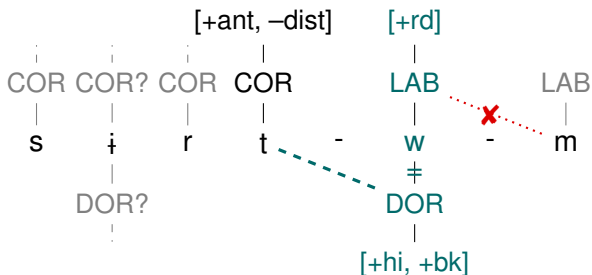


## Deriving the **impersonal** allomorphs

**Final Palatalization:** the last root consonant becomes alveopalatal when it is an alveolar obstruent.

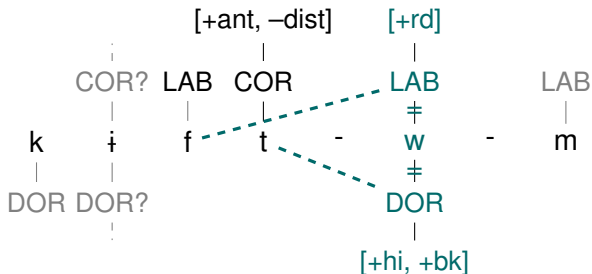
(‘Post-C /w/ coalesces with an alveolar obstruent if this is the last root consonant’)

|      |                 |                   |                           |
|------|-----------------|-------------------|---------------------------|
| (10) | 2MSG imperative | <b>impersonal</b> | <i>m</i> -converb (/w-m/) |
|      | sirt            | sirč-i-m          | ‘cauterize’               |



Deriving the **impersonal** allomorphsRightmost **Labialization** and **Final Palatalization** together.

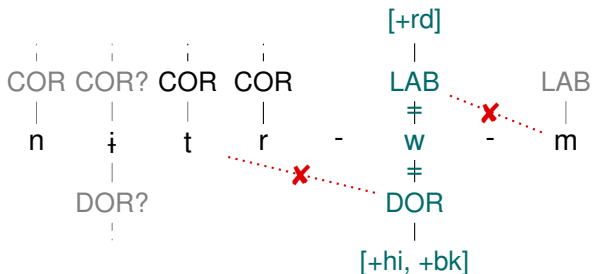
|      |                 |                                               |
|------|-----------------|-----------------------------------------------|
| (11) | 2MSG imperative | <b>impersonal</b> <i>m</i> -converb (/ -w-m/) |
|      | nɪk't'          | nɪk <sup>w</sup> č̣-i-m 'kick'                |
|      | kɪft            | kɪf <sup>w</sup> č̣-i-m 'open'                |
|      | gɪrəz           | g <sup>w</sup> ɪrəẓ̌-i-m 'aim'                |



# Deriving the impersonal allomorphs

## Nonapplication

|      |                 |            |                             |
|------|-----------------|------------|-----------------------------|
| (12) | 2MSG imperative | impersonal | <i>m</i> -converb (/ -w-m/) |
|      | nɪt'ɪr          | nɪt'r-ɪ-m  | 'wean'                      |

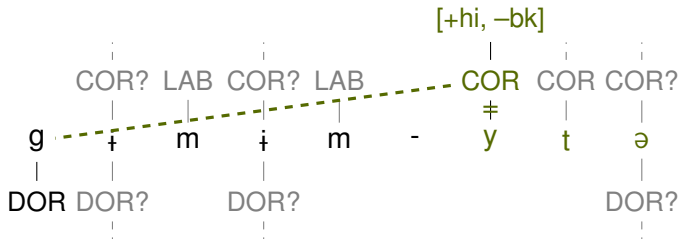


# Deriving the 3MSG *t*-converb allomorphs

**Rightmost Palatalization:** the rightmost velar is (surface) palatalized when no alveolar intervenes.

(‘Post-C /y/ coalesces with the nearest preceding velar when no coronal intervenes’)

| (13) | 2MSG imperative | 3MSG <i>t</i> -converb (/–ytə/) |                          |
|------|-----------------|---------------------------------|--------------------------|
|      | fīrəx           | fīrəx <sup>y</sup> -tə          | ‘having been patient’    |
|      | nīk’im          | nīk <sup>y</sup> ’im-tə         | ‘having culled’          |
|      | gimim           | g <sup>y</sup> imim-tə          | ‘having chipped the rim’ |

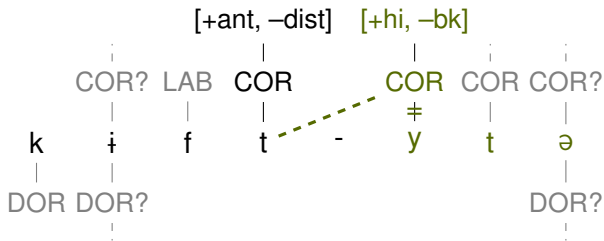


# Deriving the 3MSG *t-converb* allomorphs

**Final Palatalization:** the last root consonant is palatalized when it is alveolar (obstruents become alveopalatal, /r/ turns into /y/).

(‘Post-C /y/ coalesces with an alveolar if this is the last root consonant’)

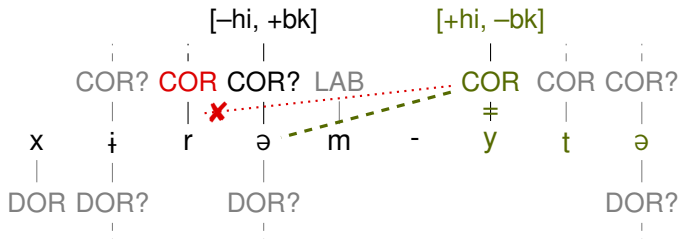
| (14) | 2MSG imperative | 3MSG <i>t-converb</i> (/–ytə/) |                       |
|------|-----------------|--------------------------------|-----------------------|
|      | kɪft            | kɪf <sup>ç</sup> -itə          | ‘having opened’       |
|      | fɪxər           | fɪx <sup>e</sup> -tə           | ‘having proliferated’ |



# Deriving the 3MSG *t*-converb allomorphs

**Vowel Fronting:** when no consonant can be palatalized, /y/ and the last radical metathesize. Then /y/ coalesces with the preceding vowel.

| (15) | 2MSG imperative | 3MSG <i>t</i> -converb (/y-tə/) |                       |
|------|-----------------|---------------------------------|-----------------------|
|      | dəmiṁ           | dəmiṁ-tə                        | 'having a mouth full' |
|      | xirəm           | xirəm-tə                        | 'having spent a year' |

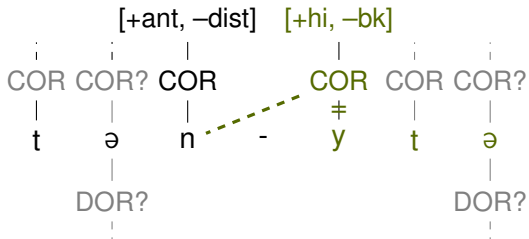


# Deriving the 3MSG *t*-converb allomorphs

**Vacuous palatalization:** /n/ is palatalized but surfaces as [n].  
Alveopalatals are also palatalized vacuously.

(16) 2MSG imperative      3MSG *t*-converb (/–ytə/)

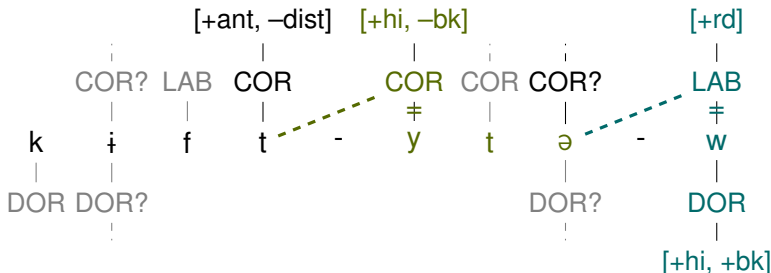
|            |        |                       |
|------------|--------|-----------------------|
| yə-tən     | tən-tə | ‘having come’         |
| yə-məč (?) | məč-tə | ‘having washed cloth’ |



Interactions of the impersonal and the *t*-converb

The interaction of the two morphemes shows us their underlying order:

| (17) | impersonal              | <i>t</i> -converb | <i>t</i> -converb and impersonal |               |
|------|-------------------------|-------------------|----------------------------------|---------------|
|      | fix <sup>w</sup> ər-i-m | fixe-tə           | fixe-t-o                         | 'proliferate' |
|      | sirč-i-m                | sirč-itə          | sirč-it-o                        | 'cauterize'   |
|      | kif <sup>w</sup> č-i-m  | kifč-itə          | kifč-it-o                        | 'open'        |
|      | nit'r-i-m               | nit'i-tə          | nit'i-t-o                        | 'wean'        |





# Impersonal allomorphs in defective verbs

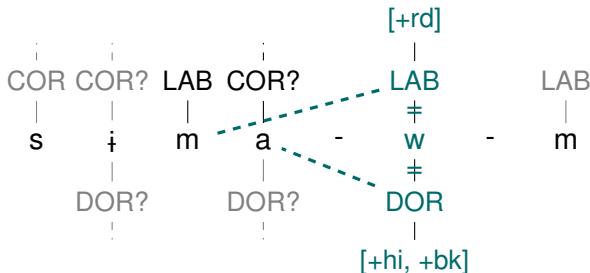
# Preliminaries

**Defective verbs:** verbs in which /A/, /w/ and /y/ appear as radical consonants.

/A/, which represents an ancient guttural, is realized as [ə] or [a] but patterns with consonants (Kenstowicz & Banksira 1999).

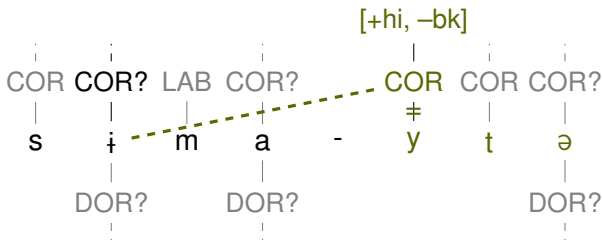
The **impersonal** with *a*-final verb stems(18) 2MSG imperative **impersonal** *m*-converb (/-/w-m/)

|      |                      |                  |
|------|----------------------|------------------|
| giβa | giwə-m               | 'enter'          |
| sima | sim <sup>w</sup> ə-m | 'listen'         |
| nisa | ničə-m               | 'pick him/it up' |
| fita | f <sup>w</sup> ičə-m | 'untie'          |
| sira | sirə-m               | 'reach high'     |



The *t*-converb with *a*-final verb stems

|      |                 |                             |                  |
|------|-----------------|-----------------------------|------------------|
| (19) | 2MSG imperative | <i>t</i> -converb (/ -ytə/) |                  |
|      | gɪβa            | g <sup>y</sup> ɪβə-tə       | 'enter'          |
|      | sɪma            | sɪmə-tə                     | 'listen'         |
|      | nɪsa            | nɪčə-tə                     | 'pick him/it up' |
|      | fɪta            | fɪčə-tə                     | 'untie'          |
|      | sɪra            | sɪyə-tə                     | 'reach high'     |



The **impersonal** with nonfinal C<sup>y</sup> verb stems

| (20) | Perfective              |                                       | Imperative |                         |                 |
|------|-------------------------|---------------------------------------|------------|-------------------------|-----------------|
|      | 3MSG                    | <b>impersonal</b>                     | 2MSG       | <b>impersonal</b>       |                 |
| a.   | k'yət'ər-ə-m            | k'yət'ər-i-m                          | k'ət'ir    | k <sup>w</sup> ət'r-i-m | 'connect'       |
|      | nək <sup>y</sup> ər-ə-m | nək <sup>y</sup> ər-i-m               | nəkir      | nək <sup>w</sup> r-i-m  | 'win a lawsuit' |
| b.   | bək <sup>y</sup> ər-ə-m | b <sup>w</sup> ək <sup>y</sup> ər-i-m | bək'ir     | bək <sup>w</sup> r-i-m  | 'brew'          |
|      | mək <sup>y</sup> ər-ə-m | m <sup>w</sup> ək <sup>y</sup> ər-i-m | məkir      | mək <sup>w</sup> r-i-m  | 'set on fire'   |

(21) **y** → ∅ / imperative

The **impersonal** with final C<sup>y</sup> verb stems

| (22) | 2MSG<br>/verb-r-a/     | 2MPL<br>/verb-o-ra/ | <b>impersonal</b><br>/verb-w-r-a/ |                    |
|------|------------------------|---------------------|-----------------------------------|--------------------|
| a.   | mærk <sup>y</sup> -r-a | mærk'-o-r-a         | mærk <sup>w</sup> -r-a            | 'Prune for her!'   |
| b.   | k'əyə-r-a              | k'ər-o-r-a          | k' <sup>w</sup> ərə-r-a           | 'Wait for her!'    |
| c.   | birač'-r-a             | birat'-o-r-a        | b <sup>w</sup> irač'-r-a          | 'Scatter for her!' |

(23) **y** → ∅ /C \_\_\_ + [-cons, -back]

The **impersonal** with final C<sup>y</sup> verb stems

|      |                |                                                  |                                                   |                                                     |
|------|----------------|--------------------------------------------------|---------------------------------------------------|-----------------------------------------------------|
| (24) | UR<br>'be shy' | 2MSG<br><i>m</i> -converb                        | <b>impersonal</b><br>(main verb)                  | <b>impersonal</b><br><i>m</i> -converb              |
|      | √ <i>k'mty</i> | k'əmt <sup>y</sup> -m<br>k'əm <sup>č'</sup> -i-m | k'əmt <sup>y</sup> -w-i<br>k'əm <sup>wč'</sup> -i | k'əmt <sup>y</sup> -w-m<br>k'əm <sup>wč'</sup> -i-m |

|      |                |                                                       |                                                |                                           |
|------|----------------|-------------------------------------------------------|------------------------------------------------|-------------------------------------------|
| (25) | UR<br>'be shy' | 3MSG<br>perfective                                    | <b>impersonal</b><br>(main verb)               | <b>impersonal</b><br><i>m</i> -converb    |
|      | √ <i>k'mty</i> | k'imət'ə <sup>y</sup> -m<br>k'imət'ə <sup>č'</sup> -m | k'imət'ə <sup>y</sup> -w-i-m<br>k'imət'ə-w-i-m | k'imət'ə <sup>y</sup> -w-m<br>k'imət'-o-m |

(26) *y* → *w* / V\_\_*w*      (27) *ww* → *w*

The **impersonal** with final C<sup>y</sup> verb stems

| (28) | UR<br>'be shy' | <b>impersonal</b><br>(main verb) | <b>impersonal</b><br><i>m</i> -converb | 3MSG<br>perfective |
|------|----------------|----------------------------------|----------------------------------------|--------------------|
|      | √ <i>k'mty</i> | k'ımət'əy-w-i-m                  | k'ımət'əy-w-m                          | k'ımət'əy-m        |
| (26) |                | k'ımət'əw-w-i-m                  | k'ımət'əw-w-m                          | —                  |
| (27) |                | k'ımət'ə-w-i-m                   | k'ımət'ə-w-m                           | —                  |
|      |                | k'ımət'ə-w-i-m                   | k'ımət'-o-m                            | k'ıməč'ə-m         |



# Radical independence

| (29) | UR<br>'become deaf' | impersonal<br>(main verb) | impersonal<br><i>m</i> -converb | 3MSG<br>perfective      |
|------|---------------------|---------------------------|---------------------------------|-------------------------|
|      | $\sqrt{t'rk^w}$     | t'irək'əw-w-i-m           | t'irək'əw-w-m                   | t'irək'əw-m             |
| (26) |                     | t'irək'əw-w-i-m           | t'irək'əw-w-m                   | —                       |
| (27) |                     | t'irək'ə-w-i-m            | t'irək'ə-w-m                    | —                       |
|      |                     | t'irək'ə-w-i-m            | t'irək'-o-m                     | t'irək <sup>w</sup> ə-m |

(30) **Radical independence:** Radical /w,y/ cannot coalesce with a vowel except when deletion would ensue otherwise.

## Deriving radical independence

|      |                                 |                           |                                 |                    |
|------|---------------------------------|---------------------------|---------------------------------|--------------------|
| (31) |                                 | impersonal<br>(main verb) | impersonal<br><i>m</i> -converb | 3MSG<br>perfective |
|      | 'become deaf'                   |                           |                                 |                    |
|      | UR                              |                           | $\sqrt{t'rk^w}$                 |                    |
|      | Post-C                          |                           |                                 |                    |
|      | Coalescence                     |                           | $t'rk^w$                        |                    |
|      | Tier conflation<br>& affixation | $t'irək'^wə-w-i-m$        | $t'irək'^wə-w-m$                | $t'irək'^wə-m$     |
|      | Post-V                          |                           |                                 |                    |
|      | Coalescence                     | —                         | $t'irək'^w o-m$                 | —                  |
|      | SR                              | $[t'irək'^wəwim]$         | $[t'irək'^w om]$                | $[t'irək'^wəm]$    |

# Thank you!

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