Exploring Karuk morphology in a parsed text corpus

Andrew Garrett, Erik Maier, Line Mikkelsen, Clare Sandy
University of California, Berkeley

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Acknowledgements

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- These slides: linguistics.berkeley.edu/~karuk/resources/ssila-2015.pdf
Karuk text corpus

- Database as of January 2015
  - 150 texts containing 23,511 words in 6,167 clauses
  - texts recorded in work with numerous elders by A. L. Kroeber, J. P. Harrington, Jaime de Angulo & Lucy Freeland, William Bright, Monica Macaulay, and the present authors

- Genres
  - traditional narratives, medicine texts
  - anecdotes, personal history
  - procedural texts, descriptions
  - conversation
  - documentation sessions: responses to visual prompts (avoiding English), responses to translation tasks (elicitation)

- For eventual incorporation
  - >50 other legacy (transcribed) texts
  - >160 hours of untranscribed Karuk recordings
Vina Smith in 2013

Photo: Florrine Super
Karuk lexicon database

- **History**
  - 138-page lexicon in Bright’s *The Karok language* (1957)
  - converted to Shoebox by Susan Gehr & William Bright
  - converted to XML format in 2000s; now a mySQL database

- **Scope**
  - 7,302 entries
  - every entry has a unique ID

- **Linked to text corpus**
  - words in texts are parsed morphologically
  - morphological elements are tagged with lexicon ID numbers

- All lexicon and text resources are for (and are actively used by) academic and community researchers, learners, and teachers.
Florrine Super in 2013

fâat ivîshtaanti?

pa'áama nivîshtaanti.

pay hum ivîshtaanti?
“Karuk Dictionary and Texts” online: Home page

(http://linguistics.berkeley.edu/~karuk)
áama / amva- (king) salmon, "spring salmon"
áat King Salmon, "Spring Salmon"
áchip'órayva a certain cut of salmon
áchpuus 1 part of salmon identified as 'white stuff under the throat'
achvuuń coho salmon, "hookbill salmon"
amváathxilık salmon scale
amvámaan salmon skin
amvpáramyuram boiling basket for cooking salmon
amvavákay salmon worm, larval stage of salmon beetle
ámveenishaparar whole salmon, before being cut up
amveeshtvit pieces of salmon
amveeváxrah dried salmon
asúfiish salmon backbone meat
átay roe, salmon eggs
átavyuun salmon roe baked with powdered manzanita berries

áama / amva- • N • (king) salmon, "spring salmon" Oncorhynchus tshawytscha (ITIS).

Literally: 'what is eaten'

Derivation: av-ya-a
eat-PL.ACT-DEVERB

Derivatives (12)

Source: WB 86, p.317; JPH mat ?:715, 06:595

Note: Note that final -a can be elided: áam u’ikuváraa (KS). Locative is aamáhak.

Grammatical note: G751, G761; with irreg. morphophonemics.

- pásay uum vúra aamáhak u'uruhičkōoti. The salmon beetle lays its eggs on salmon. [Reference: TK 143.5]
- iifuti ta'itam kunimmishk'irhvaheen pa'áama. So after a while they had broiled the salmon. [Reference: DeA&F 1 Salmon 018]

See av 'eat'
“Karuk Dictionary and Texts” : Search with examples

- ñifuti tā́́ít̥am kunímnishkiri̊hvaheen paá̊ama. So after a while they had broiled the salmon.
  [Reference: DeA&F 1 Salmon 018]

See av 'eat '

Short recordings (3) | Sentence examples (55)

Display mode: sentence | word | word components

1. paá̊ama tóó kpuhsp.
   The salmon swam away.
   Source: Vina Smith, Sentences about spatial relations (VS-13) | read full text
   Spoken by Vina Smith | Download | Play

2. á̊ama ni'áveesh.
   I am going to eat salmon.
   Source: Vina Smith, Sentences: questions (VS-16) | read full text
   Spoken by Vina Smith | Download | Play

3. paá̊ama húut ímniishti?
   How do you cook your salmon?
   Source: Vina Smith, Sentences: questions (VS-16) | read full text
   Spoken by Vina Smith | Download | Play

4. á̊ama húm i'áveesh?
   Are you going to eat salmon?
   Source: Vina Smith, Sentences: questions and answers, verb tenses (VS-17) | read full text
   Spoken by Vina Smith | Download | Play

5. hā̊ á̊ama ni'áveesh.
   Yes, I am going to eat salmon.
   Source: Vina Smith, Sentences: questions and answers, verb tenses (VS-17) | read full text
   Spoken by Vina Smith | Download | Play

(continued)
**Karuk Dictionary and Texts**: Text list

<table>
<thead>
<tr>
<th>Year</th>
<th>Speaker(s)</th>
<th>Title</th>
<th>Text ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1903</td>
<td>Mrs. Bennett</td>
<td>&quot;Screech Owl and Coyote&quot;</td>
<td>ALK_14-35</td>
</tr>
<tr>
<td>1927</td>
<td>Benonie Harrie</td>
<td>&quot;How I Found Gold&quot;</td>
<td>DAF_KT-05b</td>
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<tr>
<td>1929</td>
<td>Phoebe Maddux</td>
<td>&quot;Bluejay Myth&quot;</td>
<td>JPH_KT-24-343a</td>
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<tr>
<td>1930</td>
<td>Yâas</td>
<td>&quot;How Buzzard Became Bald&quot;</td>
<td>JPH_KT-01b</td>
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<tr>
<td>1930</td>
<td>Afrîch</td>
<td>&quot;Coyote Falls through the Living-House Roof Hole&quot;</td>
<td>JPH_KT-12</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Of All Karuk plants the Black Nightshade is Most Like Tobacco, the Whites Tell Us</td>
<td>JPH_TKIC-III.3</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>The Name of Tobacco</td>
<td>JPH_TKIC-III.2</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Phases of Flowering</td>
<td>JPH_TKIC-III.5.Á,j.a1'</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Downslope and Upslope Tobacco</td>
<td>JPH_TKIC-III.4</td>
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<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Morphology of the Tobacco Plant: The Plant</td>
<td>JPH_TKIC-III.5.A</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Sense Characteristics</td>
<td>JPH_TKIC-III.5.A.a</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Parts of the Tobacco Plant</td>
<td>JPH_TKIC-III.5.A.b-g</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>'Leaf' English text followed by Karuk/English text in two parts regarding tobacco leaves</td>
<td>JPH_TKIC-III.5.A.h</td>
</tr>
<tr>
<td>1932</td>
<td>Phoebe Maddux</td>
<td>Gum</td>
<td>JPH_TKIC-III.5.A.i</td>
</tr>
<tr>
<td>1949</td>
<td>Julia Starritt</td>
<td>&quot;How Coyote Stole Fire&quot;</td>
<td>WB_LA78.1-019_1</td>
</tr>
<tr>
<td>1949</td>
<td>Nettie Reuben</td>
<td>&quot;How Coyote Traded Songs&quot;</td>
<td>WB_LA78.1-020_1</td>
</tr>
<tr>
<td>1949</td>
<td>Nettie Reuben</td>
<td>&quot;The Story of Evening Star&quot;</td>
<td>WB_LA78.1-018_1</td>
</tr>
<tr>
<td>1949</td>
<td>Chester Pepper</td>
<td>&quot;Coyote as Priest&quot;</td>
<td>WB_LA78.1-016_1c</td>
</tr>
<tr>
<td>1949</td>
<td>Chester Pepper</td>
<td>&quot;Coyote and the Sun&quot;</td>
<td>WB_LA78.1-016b</td>
</tr>
<tr>
<td>1949</td>
<td>Chester Pepper</td>
<td>&quot;Deer-hunting Medicine&quot;</td>
<td>WB_LA78.1-016_1a</td>
</tr>
</tbody>
</table>

(continued)
Maggie Charley in 1948

Photo: Mary Jean Kennedy (Hearst Museum of Anthropology)
Text display: Paragraph mode

Maggie Charley, "Indian Food" (1957)


Project identifier: WB_KL-68

Text display mode: paragraph | sentence | word | word components

[1] píshíich pakun'áraarahiti pa'asiktávaansas ápkaas kun'ishumtih. xás pa'ávansa vaa kunparishriihva pa'ápkaas. xás uripi kunvik. xás ishkeeshak invír kunikyav. xás vaa káan kunikriihvía, táay kuniykar pa'áama. xás pa'asiktávaansas kunihívíthtí. xás píshííhraam vaa káan kunikyav. xás vaa káan kunusuváxra pa'áama.

As they lived at first, the women scraped iris leaves. And the men twined the iris leaves into string. And they wove nets. And they made fisheries in the river. And they fished there, they caught a lot of fish. And the women cleaned (the fish). And they made a summer-camp there. And they dried the salmon there.

The women gathered acorns. They ate the salmon and the acorns. Some people gathered a lot of acorns, and put as many as ten baskets to soak. In three years, then the soaked acorns were good-tasting.

[2] pa'asiktávaansas uum kun'ífikvunaa xun tápan. pa'áama kun'ámti káru vúra pa'éekeoons. kákum pa'éekeoons táay vúra tá kun'íifik, xás itahara'átíínam kóó tóó piíshha. kuyrakhárínay xás amáyav pápiísh.

They made twine for deer-traps. The Indians killed deer that way, they trapped them. Every two days they would go look at their traps. They killed the deer that way. And they ate all that, the deer and the salmon and the acorns and the soaked acorns. They ate eels too.


(continued)
XML text database fragment

- From Maggie Charley’s “Indian Food” (WB_KL-68):

```xml
<txt lang="kyh">
  <w>
    <m lemma="4407">pa</m> 'asiktávaan-sas
    <m lemma="656">'asiktávaan</m>
    <m lemma="5200">sas</m>
  </w>
  <w>
    <m lemma="416">ápkaas</m>
  </w>
  <w>
    <m lemma="3977">kun</m> 'íshum-tih
    <m lemma="3130">'íshum</m>
    <m lemma="6035">tih</m>
  </w>.
</txt>
```

- Each “lemma” tag links to a lexicon ID number.
Maggie Charley, "Indian Food" (1957)


Project identifier: WB_KL-68

Text display mode: paragraph | sentence | word | word components

1. **píshích pa-kun-áraarahi-ti** pa-ásiktávaan-sas ápkaas kun-íshum-tih
   first NOMZ-3pl>(>3s)-live.(pl.)-DUR the-woman-PL iris.sp. 3pl>(>3s)-scrape.iris-DUR
   As they lived first, the women scraped iris leaves.

2. **xás pa-ávansa vaa kun-paríshriihva pa-ápkaas**
   then the-man so 3pl>(>3s)-twine the-iris.sp.
   And the men twined the iris leaves into string.

3. **xás urípi kun-vik**
   then net 3pl>(>3s)-weave
   And they wove nets.

4. **xás ishkëesh-ak imvir kun-íkyav**
   then river-Locative fishery 3pl>(>3s)-make
   And they made fisheries in the river.

5. **xás vaa káan kun-íkriihva táay kun-íykar pa-áama**
   then so there 3pl>(>3s)-fish.with.set-net much 3pl>(>3s)-beat the-salmon
   And they fished there, they caught a lot of fish.

(continued)
Non-hierarchical text parsing

- Text parsing with no internal hierarchical structure:

  víri vaa kích kun-kupí-tih-anik
  so so just 3S-do-DUR-ANC
  pa=kun-par-íshriih-va-naa-tih-anik
  NOMZ=3PL-ROOT-down-PLACT-PLUR-DUR-ANC
  “They were just doing this: twining.” (KS 41.003)

Even a word with seven internal morphemes and a proclitic lacks internal hierarchical structure.

- This is typically true of not only the visual display but the underlying data structure, but it is not faithful to linguistic structure . . .
Non-compositional meanings

- Complex words transmit semantic idiosyncrasies (conventional noncompositional meanings) to their further derivatives.
- This most often occurs with less semantically predictable word formation—e.g. compounds, denominal verbs, deverbal nouns, diminutives, but not e.g. causatives or productive directionals.

<table>
<thead>
<tr>
<th>Base</th>
<th>Derivative word</th>
<th>Further derivative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ási̊v “to sleep”</td>
<td>así̊m-chak “to close eyes” (&quot;sleep-closing.up&quot;)</td>
<td>asimchák-chak-veen-ach “wren” (&quot;close.eyes-RED-AGT-DIM&quot;)</td>
</tr>
<tr>
<td>ih “to dance”</td>
<td>ih-uk “to do a flower dance” (&quot;dance-hither&quot;)</td>
<td>i̊huk-a “a flower dance” (&quot;to.flower.dance-DEVRB&quot;)</td>
</tr>
<tr>
<td>íshvírip “Jeffrey pine”</td>
<td>íshvínip-ich “place name” (&quot;Jeffrey.pine-DIM&quot;)</td>
<td>peeshvínipich /pa=ishvínipich/ “man’s name” (from íshvínipich) (&quot;DEF-íshvínipich&quot;)</td>
</tr>
<tr>
<td>vîtkira “ridge”</td>
<td>viïtkí̊r-ik “Bald Hills” (&quot;ridge-LOC&quot;)</td>
<td>vitkirí̊k-thuuf “Redwood Creek” (&quot;Bald.Hills.creek&quot;)</td>
</tr>
</tbody>
</table>
### Non-compositional meanings: Compounds

<table>
<thead>
<tr>
<th>Base</th>
<th>Compound word</th>
<th>Further derivative</th>
</tr>
</thead>
<tbody>
<tr>
<td>áas “water”</td>
<td>as-iktáv-aan “female”</td>
<td>musmus-’asiktávaan “cow”</td>
</tr>
<tr>
<td></td>
<td>(&quot;water-carry-AGT&quot;)</td>
<td>(“cattle-female”)</td>
</tr>
<tr>
<td>iktañ “carry”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>apxan-tínih-ich “white man”</td>
<td>apxantiich-puufich “sheep”</td>
</tr>
<tr>
<td></td>
<td>(&quot;hat-wide-DIM&quot;),</td>
<td>(“white.man-deer”)</td>
</tr>
<tr>
<td></td>
<td>reduced apxantiich</td>
<td>apxantiich-táyiith “potato”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(“white.man-brodiaea”)</td>
</tr>
<tr>
<td></td>
<td>asá-xuus “rubber”</td>
<td>asaxus-kútrahara “raincoat”</td>
</tr>
<tr>
<td>asa “rock”</td>
<td>(&quot;rock-smooth&quot;)</td>
<td>(“rubber-coat”)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>thúuf “creek”</td>
<td>thuf-károom</td>
<td>thufkaróom-thuuf</td>
</tr>
<tr>
<td></td>
<td>“place near Rock Creek”</td>
<td>(“Rock Creek”)</td>
</tr>
<tr>
<td></td>
<td>(&quot;creek-upriver.above&quot;)</td>
<td>(“thufkároom-creek”)</td>
</tr>
<tr>
<td>úuh “tobacco”</td>
<td>úh-thaam “garden”</td>
<td>uhtháam-hi “to plant”</td>
</tr>
<tr>
<td>thaan “meadow”</td>
<td>(&quot;tobacco-meadow&quot;)</td>
<td>(“garden-DENOM”)</td>
</tr>
<tr>
<td>úux “bitter”</td>
<td>úx-’aas “liquor”</td>
<td>ux’as-iyeeshríhv-aan</td>
</tr>
<tr>
<td></td>
<td>(&quot;bitter-water&quot;)</td>
<td>“bartender” (&quot;liquor-sell-AGT&quot;)</td>
</tr>
</tbody>
</table>
Non-compositional meanings: Denominatives, deverbatives

<table>
<thead>
<tr>
<th>Base</th>
<th>Derivative word</th>
<th>Further derivative</th>
</tr>
</thead>
<tbody>
<tr>
<td>páthak</td>
<td>páthak-hí “to kneel”</td>
<td>pathakhí-ram “place by Katimin”</td>
</tr>
<tr>
<td></td>
<td>(“knee-DENOM”)</td>
<td>(“to.kneel-place”)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pathakhî-ishrih “to kneel down”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(“to.kneel-down”)</td>
</tr>
<tr>
<td>thúkin</td>
<td>thúkin-hí “to tattoo”</td>
<td>thúkinh-a “a tattoo”</td>
</tr>
<tr>
<td>“gall, bile”</td>
<td>(”tattoo-DENOM”)</td>
<td>(“to.tattoo-DEVERB”)</td>
</tr>
<tr>
<td>ihruv</td>
<td>ihrôoha /ihruv-ahi-a/“wife”</td>
<td>ihnoohá-hiich “common-law wife”</td>
</tr>
<tr>
<td>“to use”</td>
<td>“use-ESS-DEVRB”</td>
<td>(”wife-make.believe”)</td>
</tr>
<tr>
<td>ithyuru</td>
<td>ithyur-a “automobile”</td>
<td>ithyurá-’aah “headlight”</td>
</tr>
<tr>
<td>“to haul”</td>
<td>(“haul-DEVRB”)</td>
<td>(“automobile-fire”)</td>
</tr>
<tr>
<td>matnus</td>
<td>matnus-a “cotton”</td>
<td>matnusá-vaasa “quilt”</td>
</tr>
<tr>
<td>“to burst”</td>
<td>(“burst-DEVRB”)</td>
<td>(“cotton-blanket”)</td>
</tr>
</tbody>
</table>
Non-compositional meanings: Problems for searching

Search Index
ihuk to do the flower dance (puberty dance)

Dictionary Entry
lexicon ID #1593 | revised Apr 20 2014

**ihuk** • v • to do the flower dance (puberty dance)

**Derivation:** ih-uk
dance-to here

**Derivatives (5)**
ihuk "flower dance, girl's puberty ceremony"
ihukar "to go flower-dancing"
ihukar "flower dance song"
ihukūum "do the flower dance"
ihukvunaa "flower-dance"

**Source:** WB 416.1, p.336

**Grammatical note:** Cf. ih 'to dance', -uk 'to here' (G754.17).

- **mi’aramah tuyēripa, kāan xās kun’ihukti.** Your child is having her first menses, they're having a puberty dance there. [Reference: KT 129.32]
- **xās payēripahas kunpiip, nuu chimi nu’ihukeesh.** And the pubescent girls said, "Let's do the flower dance!" [Reference: KT 145.3]

---

**Sentence examples (9)**

Display mode: sentence | word | word components

1. pūyava kāan xās tá kun’ihukvunaa.
   Then they flower-danced there.
   Source: Nettie Reuben, "Coyote's Homecoming" (WB_KL-02) | read full text

2. kunxus, " uknymxānahich chimi nu’ihukanveesh."
   They thought, "We'll go flower-dance at uknymxānahich."
   Source: Nettie Reuben, "Coyote's Homecoming" (second telling) (WB_KL-02a) | read full text
   Spoken by Nettie Reuben | Download | Play
Search Index

asiktávaan woman; female

Dictionary Entry

lexicon ID #656 | revised Aug 19 2014

**asiktávaan** • N • woman; female **Variant:** asiktán.

_Literally:_ 'water-carrier'

**Derivation:** áás iktav-aan

_water hold.in.hand-Agentive_

**Derivatives (5)**

- asiktávaanha "to marry a woman"
- asiktávaan_imxaahthihan "plant sp."
- asiktavankéem "woman's name, Mary Ike"
- asiktavanpířish "love medicine to get a woman"
- chimchikara'asiktávaan "leafy species of horsetail"

Source: WB 145.6, p.3212

**Note:** Means 'female' in forms like musmus'asiktávaan 'cattle-female, cow'. "Of the flower stalk or of a plant with little foliage they say ávan 'husband' 'male' [because naked]; of a plant with a well-leaved or skirted appearance, they say <em>asiktávaan</em> 'woman'" (JPH pla 06:513).

**Grammatical note:** Cf. áás 'water', iktav (v/m) 'to carry in hands', G76.

- **patakunikviít-hinaa hóoy vúra vaa kun'irunaati, tůupichas pa'asiktávaansahanik.** When everybody slept, the mice went anywhere, those small girls that used to be women. _[Reference: KS38. Mice story 024 ]_
- **áxak asiktáan kun'iinanik kustáaras ameekyáaraam.** Two women, sisters, once lived at ameekyáaraam. _[Reference: WB 17: Coyote Gives Salmon 001 ]_

---

**Short recordings (2) | Sentence examples (79)**

Display mode: sentence | word | word components

1. asiktávaan
   woman, female
   _Source: Phoebe Maddux, Parts of the Tobacco Plant (JPH_TKIC-III.5.A.b-g) | read full text_

2. viři vaa kunkupítih, pa'asiktávaansa kunxúti "kiři nutururipan pa'áhup."
   They were doing that, the women were trying to hook out the sticks.
   _Source: Chester Pepper, "Coyote's Journey" (WB_KL-03) | read full text_
Search Index

ih to dance

Dictionary Entry

lexicon ID #1525 | revised Nov 03 2005

ih • v • to dance

Derivatives (17)

Source: WB 416, p.336

- uxúti kíri ni'ih. He wants to dance. [Reference: KV]
- vúra vaa kun'iihti. They kept dancing that way. [Reference: WB 22: Old Man Turtle 016]

Sentence examples (42)

Display mode: sentence | word | word components

1. púyava káan xás tá kun'ihukvunaa.
   Then they flower-danced there.
   | Source: Nettie Reuben, "Coyote's Homecoming" (WB_KL-02) | read full text

2. tá kun'iharuk.
   They came to dance.
   | Source: Nettie Reuben, "Coyote's Homecoming" (WB_KL-02) | read full text

3. kunxus, " uknamxánahich chími nu'ihukanveesh."
   They thought, "We'll go flower-dance at uknamxánahich."
   | Source: Nettie Reuben, "Coyote's Homecoming" (second telling) (WB_KL-02a) | read full text
   Spoken by Nettie Reuben | Download | Play

4. kun'ihukanveesh uknamxánahich.
   They were going to flower-dance at uknamxánahich.
   | Source: Nettie Reuben, "Coyote's Homecoming" (second telling) (WB_KL-02a) | read full text
   Spoken by Nettie Reuben | Download | Play

5. ta'itam kun'árihirshriihvaheen pa'ihukar.
   So they sang the flower-dance songs.
   | Source: Nettie Reuben, "Coyote's Homecoming" (second telling) (WB_KL-02a) | read full text
   Spoken by Nettie Reuben | Download | Play
áas • N • water; juice

Derivatives (29)

Source: WB 145, p.321

Note: Equiv. to ishaha. Idiom: áas u'liishti 'he's eating a meal', lit. 'he's drinking water'.

- táni'ákih, aas tani'ákih. I'd feed him, I'd give him water. [Reference: WB T93. Violet's dog. 008]

Sentence examples (110)

Display mode: sentence | word | word components

1. xás áas upáathkuri, xás koovúra upiktit pasárip.
   And she threw it in the water, and she unwove all the sticks.
   | Source: Violet Super, Grace Davis, and Madeline Davis, Conversation (GD-MD-VSu-01) | read full text

2. káan aas uvúnti.
   There was a spring flowing there.
   | Source: Violet Super, Grace Davis, and Madeline Davis, Conversation (GD-MD-VSu-01) | read full text

3. yaas pá'aas kun'áskooti,
   then they sprinkle water on it,
   | Source: Violet Super, Grace Davis, and Madeline Davis, Conversation (GD-MD-VSu-01) | read full text

4. peheerahá'ippa uum vúra iváxrá kúnish koovúra, pu'ássarhara, sákriiv.
   The tobacco plant is all dryish, it is not juicy, it is tough.
   | Source: Phoebe Maddux, Morphology of the Tobacco Plant: The Plant (JPH_TKIC-III.5.A) | read full text

5. asiktávaan
   woman, female
   | Source: Phoebe Maddux, Parts of the Tobacco Plant (JPH_TKIC-III.5.A.b-g) | read full text

6. pa'áas áthiik.
   The water is cold.
   | Source: Vina Smith, Sentences about personal states (VS-06) | read full text
   Spoken by Vina Smith | Download | Play
XML text database fragment

- From Mamie Offield’s “The Greedy Father” (WB_KL-24):

  \[
  \begin{align*}
  &\langle w \rangle < m \text{ lemma}="3745" > k\text{á}r\text{i} \langle /m \rangle \\
  &\langle w \rangle < m \text{ lemma}="6847" > x\text{ás} \langle /m \rangle \\
  &\langle w \rangle < m \text{ lemma}="5506" > t \langle /m \rangle \\
  &\quad < m \text{ lemma}="6175" > u \langle /m \rangle \\
  &\quad < m \text{ lemma}="661" > 'asimáchish\text{rih} < /m \rangle \\
  &\quad < m \text{ lemma}="6648" > v\text{una}a < /m \rangle \\
  &\langle w \rangle < m \text{ lemma}="4407" > p < /m \rangle \\
  &\quad < m \text{ lemma}="920" > á\text{axiich} \langle /m \rangle.
  \end{align*}
  \]

  - kári “then”
  - xás “then”
  - tu’asimchishrihvunaa “she put (them) to sleep”
  - p=áaxiich “the child(ren)”

- Each “lemma” tag links to a lexicon ID number.

- The underlined verbal stem is morphologically complex: asiñ “sleep” + causative -math + ishrih “down”.
A morphologically complex stem in the lexicon

Karuk Dictionary

by William Bright and Susan Gehr (© Karuk Tribe)

Search Index

asimáchish / asimáchishrih- put to sleep

Dictionary Entry

lexicon ID #661 | revised Oct 31 2014

asimáchish / asimáchishrih- • v • put to sleep

Derivation: ásiv-math-ish
go.to.bed-CAUS-down

Source: WB 157.1, p.323; G754.12, G753.3

Grammatical note: Cf. ásiv 'to sleep', -math 'cause' (G754.12), -ish(rih) 'down' (G753.3).

• kári xás tu'asimáchishrihvunaa páaxiich. Then she put the children to sleep. [Reference: WB T24.12 ]

Sentence example (1)

Display mode: sentence | word | word components

1. kári xás tu'asimáchishrihvunaa páaxiich.
   So she put the children to bed.
   Source: Mamie Offield, "The Greedy Father" (WB_KL-24) | read full text
Morphological parsing: Summary

- **Lexicon database**
  - Every attested stem (base of inflection) has an entry.
  - The coded ingredients of any complex stem are its maximal (attested) components. For example:
    - íhukvunaa “a flower dance” = íhukvunaa + DEVRB -a
    - íhukvunaa “to have a flower dance” = íhuk + PL -vunaa
    - íhuk “to do the flower dance” = íh “to dance” + -uk “hither”

- **Text database**
  - The coded ingredients of any complex form are its inflectional affixes and its stem.
  - Thus tu’asimchishrihvunaa “she put (them) to sleep” = PERF t- + 3SG u- + ’asimáchishrih “put to sleep” + PL -vunaa (where ’asimáchishrih is a complex stem in the lexicon).

- Thereby search queries are possible on minimal morphs or complex forms.
Pluractional -va (Bright 1957, Conathan & Wood 2003)

Representative examples

- **xás kári aséemfir t-u-turu-ráamnih-va**
  then then rock:hot PERF-3SG-handle-into-PLACT
  "Then he put in hot stones." (Julia Starritt, WB_KL-81)

- **chavúra itaharâan tá kun-p-arihíshriih-va**
  finally ten.times PERF 3PL-ITER-sing-PLACT
  "Finally they sang ten times." (Nettie Reuben, WB_KL-02)

How is -va ordered with respect to other suffixes?

- Scope?
- On the typological parameter space: Rice (2011)
Pluractional -va position: Immediately after the root

- Root + PLACT (AM = Associated Motion)
  - xás u-kfuy-v-ûunish
    then 3SG-whistle-PLACT-at
    “And she whistled (a signal) at him.” (Lottie Beck, WB_KL-35)
  - chími ni-maah-v-ár-eesh
    soon 1SG-see-PLACT-AM-FUT
    “I’m going to go visiting.” (Bright & Gehr 2005 s.v. máahva)

- Internally complex eventuality with sub-parts
  - ikfúuy-va “whistle a signal” (complex whistling)
  - máah-va “visit” (complex seeing)

- Other suffixes have scope over Root + PLACT
Pluractional -va position: Surrounded by other suffixes

- Directionals + AM + PLACT + TAM
  - uknamxánahich chími nu-’íh-uk-an-v-eesh
    placename soon 1PL-dance-hither-AM-PL.ACT-FUT
    “We’ll go flower-dance at uknamxánahich.”
    (Nettie Reuben, WB_KL-2a)
  - pa=káan kun-’axúp-ruuprih-vu-ti
    NOMZ=there 3PL-put.deermeat-in.through-PLACT-DUR
    pa=púufich t-óó mtaap-ha
    the=deer PERF-3SG dust-DENOM
    “Where they used to put in the dressed deer meat was dusty.”
    (Mamie Offield, WB_KL-33)

- Multiple event instances or participants in a temporal window
  - multiple dancers
  - multiple instances of putting deer meat somewhere

- Compositional interpretation; no added conventional meaning
Pluractional -va position: After TAM

- TAM + PLACT
  - peheeraha-’ípa pa=kóó u-thvúy-tiih-va
    the:tobacco-tree the=all 3SG-be.named-DUR-PLACT
  - pa=mu-svitá-va
    the=3SG.POSS-part-INDEF
  - “how all the tobacco plant’s parts are (variously) named”
    (JPH_TKIC-III.2)
  - káruma ník apxan-yâamach-as tá
    in.fact a.little capPRETTY-PL PERF
  - kun-p-ithxuná-tiih-va
    3PL-ITER-put.over.head-DUR-PLACT
  - In fact they wear pretty caps.”
    (Lottie Beck, WB_KL-30)

- Multiple (e.g. simultaneous) imperfective eventualities
Pluractional -va position: A near-minimal pair

- **DUR (PLACT):** multiple event instances in a temporal window
  
  पाय पैथिव्यथानीन थानेन
  this the:land around
  निप-थिव्रुह-िरोपिथ-वु-तिह
  1SG-ITER-float-around-PLACT-DUR
  “I float around and around this world.”
  
  (Chester Pepper, WB_KL-52)

- **PLACT (DUR):** multiple (simultaneous) imperfective eventualities

  उ-थिव्रुह-तिह-वा
  3SG-float-DUR-PLACT
  “(Clouds) are floating.”
  (Bright & Gehr 2005 s.v. thivruh)
Pluractional -va position

▶ Multiple -va

tá kun-’ákun-v-an-va
PERF 3PL-shoot-PLACT_a-AM-PLACT_b
“They went hunting.” (Nettie Reuben, WB_KL-72)

▶ Interpretation

▶ PLACT_a: can add conventional (non-compositional) meaning

- akun- “shoot”
- iimnih “love”
- iin “be on fire”
- írih “drip”
- mah “see”
- siř “disappear, be lost”
- yuh “spit”
- ákunva “hunt”
- iimníhva “have a love affair”
- íinva “be a forest fire”
- íríhva “leak”
- máahva “visit”
- síinva “fail to recognize”
- yúuhva “vomit”

▶ PLACT_b: multiple event instances or participants

This is not canonical multiple exponence (Caballero & Harris 2012), because each instance of the affix is fully interpreted.
Pluractional -va: Summary

- Some locations for -va:
  \[ \text{Root} - \text{va}_1 - \text{Directionals, AM} - \text{va}_2 - \text{TAM} - \text{va}_3 \]

- Meaning effects of -va due to semantic composition:
  - -va_1 combines with Root: adds lexical aspect or some other conventional meaning
  - -va_2 combines with Root + Directionals + AM: multiple instances or participants of the associated event
  - -va_3 combines with Root + Directionals + AM + TAM: multiple events with shared temporal features

There is only one -va, with different kinds of interpretation a compositional effect of its placement.
Morphological parsing and pluractional -va

Bright’s (1957) templatic analysis of Karuk suffixes describes about a dozen position classes. For example:

- Class 3: directional suffixes
- Class 4: AM -ař and several other suffixes

But his appendix lexicon is instead hierarchically structured, because complex word meanings are crucially compositional:

```
416 ʔih  p.i.  to dance
 1. ʔihuk  p.i.  to do the 'flower dance,' i.e., the girls' puberty dance: G754.17?
    1. ʔihuka  'flower dance'; G761
    2. ʔihukara  'flower-dance' song; "flower-dancing instrument";
       G754.3, G761
    3. ʔihukūm  p.i.  to do the 'flower dance' (T6.72): -ū·m is not identifiable.
 2. ʔi·hvuna·  brush dance: "plural dancing"; G756, G761
```

We have shown that it is helpful to have direct access to these complex units in a text corpus. A good analysis benefits from more than just a list of all examples of a morpheme.
Yôotva!

References cited