Creating New Verbs in Okuna

Motion, Means, and Manner
Overview

Okuna, a naturalistic *a priori* artlang, has a series of prefixes which can attach to verb stems to derive new verbs.

In this talk I discuss some of these prefixes, and show how they originated through grammaticalization of incorporated nouns and subordinate verbs.

The goal is to provide a case study in how to use the *already-existing grammatical resources* of a conlang to derive new words (as an alternative to building vocabulary through simple relexification), in the hopes that this might inspire other conlangers.
Basic Okuna sentence structure

- Default **verb-final** word order

- **Case marking** on subjects and objects
  - Ergative (**ERG**) : agents, actors
  - Nominative (**NOM**) : themes
  - Dative (**DAT**) : recipient, endpoint in an event of motion or transfer of force, path traversed by an object, patient in an event of creation or consumption
Basic Okuna sentence structure

Ergative marking on agents, Nominative marking on themes:

\[
\begin{align*}
\text{Hitole} & \quad \text{lima} \\
\text{door.NOM} & \quad \text{open} \\
\text{‘The door opens’} & \\
\text{Sakialma} & \quad \text{hosta} \\
\text{Sakial.ERG} & \quad \text{dance} \\
\text{‘Sakial dances’} & \\
\text{Sakialma} & \quad \text{hitole} \quad \text{lima} \\
\text{Sakial.ERG} & \quad \text{door.NOM} \quad \text{open} \\
\text{‘Sakial opens the door’}
\end{align*}
\]
Basic Okuna sentence structure

Dative marking on recipients:

\[ \text{Lhai} \quad \text{kihune} \quad \text{moita} \]
woman.DAT letter.NOM receive
‘The woman receives a letter’

\[ \text{Sakialma} \quad \text{Lhai} \quad \text{kihune} \quad \text{lasta} \]
Sakial.ERG woman.DAT letter.NOM send
‘Sakial sends a letter to the woman’
Basic Okuna sentence structure

Dative marking on a patient or recipient of force:

Sakial\text{ma} \quad \text{halma} \quad \text{tala}
Sakial.ERG \quad \text{book.DAT} \quad \text{read}
‘Sakial reads the book’

Sakial\text{ma} \quad \text{palahtai} \quad \text{kahta}
Sakial.ERG \quad \text{tree.DAT} \quad \text{hit}
‘Sakial hits the tree’
Basic Okuna sentence structure

Dative marking on a goal or path of motion:

\textbf{Sakiale sihkunoi eta}  
Sakial.NOM river.DAT go  
‘Sakial goes to the river’

\textbf{Sakial sihkunoi tlisa}  
Sakial.NOM river.DAT cross  
‘Sakial crosses the river’
Pseudo-Incorporation

A nominative, dative, or ergative noun phrase is replaced by a noun phrase which is unmarked for case; the unmarked noun phrase is non-referential.

\[
\text{Sakial} \text{ma} \quad \text{halma} \quad \text{italai}
\]
Sakial.NOM book.DAT PROG.read.PRES
‘Sakial is reading the book’

\[
\text{Sakial} \text{ma} \quad \text{halma} \quad \text{italai}
\]
Sakial.ERG book PROG.read.PRES
‘Sakial is reading { a book / books }’
or ‘Sakial is doing some book-reading’
Pseudo-Incorporation

The unmarked noun phrase forms a unit with the verb. It must immediately precede the verb; they cannot be separated by intervening words:

`Sakial ma halmai eima italai`
Sakial.NOM book.DAT still PROG.read.PRES
‘Sakial is still reading the book’

`Sakial ma eima halma italai`
Sakial.ERG still book PROG.read.PRES
‘Sakial is still reading { a book / books }’
or ‘Sakial is still book-reading’
Pseudo-Incorporation

An incorporated noun phrase can replace a dative argument to name a generic type of patient, goal etc.:

Sakialma halmaitalai
Sakial.NOM book.DAT PROG.read.PRES
‘Sakial is reading the book’

Sakialma halmaitalai
Sakial.ERG book PROG.read.PRES
‘Sakial is reading { a book / books }’

lit. ‘Sakial is book-reading’
Pseudo-Incorporation

An incorporated noun phrase can replace a nominative argument to name a generic type of theme:

\[
\text{Sakial} \text{ma} \ iasè \ ikei \ uktié
\]

Sakial.ERG food.NOM dog.DAT give.AOR

‘Sakial gave the food to the dog’

\[
\text{Sakial} \text{ma} \ ikei \ iase \ uktié
\]

Sakial.ERG dog.DAT food give.AOR

‘Sakial fed the dog’

lit. ‘Sakial food-gave to the dog’
Pseudo-Incorporation

An incorporated noun phrase can replace an ergative argument to name a generic type of agent or causer:

\[
\text{Kodoi} \quad \text{tohauat} \quad \text{ma} \quad \text{laisne} \quad \text{ndoké}
\]

\[
\text{house.DAT} \quad \text{big.fire.ERG} \quad \text{just} \quad \text{destroy.AOR}
\]

‘The house was just destroyed by the blaze’

\[
\text{Kodoi} \quad \text{laisne} \quad \text{tohauat} \quad \text{ndoké}
\]

\[
\text{house.DAT} \quad \text{just} \quad \text{big.fire} \quad \text{destroy.AOR}
\]

‘The house was just destroyed in a blaze’

lit. ‘The house was just blaze-destroyed’
Pseudo-Incorporation

An incorporated noun phrase can also be added to a clause with an ergative agent and a dative patient.

This extra noun phrase can name a generic instrument or the type of material from which something is made:

\[
\text{Sakial} \text{ma} \quad \text{makai} \quad \text{hané}
\]

Sakial.ERG meat.DAT cut.AOR

‘Sakial cut (into) the meat’

\[
\text{Sakial} \text{ma} \quad \text{makai} \quad \text{kamal} \quad \text{hané}
\]

Sakial.ERG meat.DAT knife cut.AOR

‘Sakial cut (into) the meat with a knife’

lit. ‘Sakial knife-cut (in)to the meat’
Pseudo-Incorporation

An incorporated noun phrase can also be added to a clause with an ergative agent and a dative patient.

This extra noun phrase can name a generic instrument or the type of material from which something is made:

\[
\text{Sakial} \text{ma} \quad \text{kopoi} \quad \text{uosté}
\]
Sakial.ERG   pot.DAT   shape.AOR
‘Sakial made a pot’

\[
\text{Sakial} \text{ma} \quad \text{kopoi} \quad \text{sute} \quad \text{uosté}
\]
Sakial.ERG   pot.DAT   clay      shape.AOR
‘Sakial made a pot out of clay’

lit. ‘Sakial clay-shaped (in)to a pot’
Pseudo-Incorporation

Through a process of **phonological reduction** and **grammaticalization**, an incorporated noun can fuse with the following verb and get reanalyzed as a prefix:

\[
\begin{array}{c}
N \\
\rightarrow \\
V \\
\end{array}
\rightarrow
\begin{array}{c}
Pfx- \\
V
\end{array}
Verb prefixes < incorporated nouns

\[
\text{Sakial} \text{ma} \quad \text{keuli} \quad \text{mul} \quad \text{patlé}
\]
Sakial.ERG chair.DAT cloth cover.AOR
‘Sakial covered the chair with a cloth’

lit. ‘Sakial cloth-covered the chair’

\[
[ \text{mul} \text{ patlə} ] \rightarrow \text{mupatlə}
\]
‘clothe, get dressed’

\[
\text{Sakial} \text{ma} \quad \text{mupatlé}
\]
Sakial.ERG dress.AOR
‘Sakial got dressed’

\[
\text{Sakial} \text{ma} \quad \text{pyie} \quad \text{mupatlé}
\]
Sakial.ERG child.DAT dress.AOR
‘Sakial dressed the child’
<table>
<thead>
<tr>
<th>Prefix</th>
<th>Noun</th>
<th>Result</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ksas</td>
<td>patla</td>
<td>ksapatla</td>
<td>‘salt, coat with salt’</td>
</tr>
<tr>
<td>ksas</td>
<td>landa</td>
<td>ksalanda</td>
<td>‘cure/preserve with salt’</td>
</tr>
<tr>
<td>him</td>
<td>eka</td>
<td>himeka</td>
<td>‘be hollow, empty inside’</td>
</tr>
<tr>
<td>inie</td>
<td>tuma</td>
<td>intuma</td>
<td>‘be blind’</td>
</tr>
<tr>
<td>Word</td>
<td>Definition</td>
<td>Word</td>
<td>Definition</td>
</tr>
<tr>
<td>-------</td>
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<td>---------------------------------</td>
</tr>
<tr>
<td>ekpa</td>
<td>‘bear, hold, take’</td>
<td>nakpa</td>
<td>‘carry in one’s hands’</td>
</tr>
<tr>
<td>kahta</td>
<td>‘hit, strike’</td>
<td>nakahta</td>
<td>‘punch, slap’</td>
</tr>
<tr>
<td>katia</td>
<td>‘make a sharp sound’</td>
<td>nakatia</td>
<td>‘clap, applaud’</td>
</tr>
<tr>
<td>pesa</td>
<td>‘brush, sweep’</td>
<td>napesa</td>
<td>‘strum (an instrument)’</td>
</tr>
<tr>
<td>tiyisa</td>
<td>‘raise, elevate’</td>
<td>natiyisa</td>
<td>‘pick up, hold up’</td>
</tr>
<tr>
<td>tupa</td>
<td>‘walk’</td>
<td>natupa</td>
<td>‘crawl on hands and knees’</td>
</tr>
</tbody>
</table>
**sot** ‘word’ > **so-** ‘do s.th with words’

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Derived Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasta</td>
<td>‘go against, oppose’</td>
<td>Sokasta</td>
<td>‘argue’</td>
</tr>
<tr>
<td>Lhila</td>
<td>‘stretch taut’</td>
<td>Solhila</td>
<td>‘exaggerate’</td>
</tr>
<tr>
<td>Moita</td>
<td>‘receive’</td>
<td>Somoita</td>
<td>‘hear news of’</td>
</tr>
<tr>
<td>Niokta</td>
<td>‘return’</td>
<td>Soniokta</td>
<td>‘answer, respond’</td>
</tr>
<tr>
<td>Uata</td>
<td>‘stop, cease’</td>
<td>Souata</td>
<td>‘interrupt’</td>
</tr>
<tr>
<td>Uosta</td>
<td>‘give shape to’</td>
<td>Souosta</td>
<td>‘describe; explain’</td>
</tr>
<tr>
<td>Word</td>
<td>Meaning</td>
<td>Prefix</td>
<td>Meaning</td>
</tr>
<tr>
<td>-------</td>
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<td>------------------------------</td>
</tr>
<tr>
<td>hepa</td>
<td>‘go along, follow path’</td>
<td>mihepa</td>
<td>‘ponder’</td>
</tr>
<tr>
<td>houda</td>
<td>‘be slow’</td>
<td>mihouda</td>
<td>‘be bored, lethargic’</td>
</tr>
<tr>
<td>hyla</td>
<td>‘pass by’</td>
<td>mihyla</td>
<td>‘overlook, ignore’</td>
</tr>
<tr>
<td>kyitsa</td>
<td>‘talk about’</td>
<td>mikyitsa</td>
<td>‘think about’</td>
</tr>
<tr>
<td>lhinta</td>
<td>‘be nimble’</td>
<td>milhinta</td>
<td>‘be smart, clever’</td>
</tr>
<tr>
<td>teka</td>
<td>‘get, fetch, acquire’</td>
<td>miteka</td>
<td>‘presume, infer’</td>
</tr>
</tbody>
</table>
**tsan** ‘body’ > **tsa-** ‘do s.th with/to the (whole) body’

<table>
<thead>
<tr>
<th>hompa</th>
<th>‘push forcefully’</th>
<th><strong>tsahompa</strong></th>
<th>‘push with one’s whole body; wrestle’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>hota</strong></td>
<td>‘join, connect’</td>
<td><strong>tsahota</strong></td>
<td>‘mate, copulate’</td>
</tr>
<tr>
<td><strong>kanta</strong></td>
<td>‘be upright, vertical’</td>
<td><strong>tsakanta</strong></td>
<td>‘lean against’</td>
</tr>
<tr>
<td><strong>laha</strong></td>
<td>‘release’</td>
<td><strong>tsalaha</strong></td>
<td>‘cremate’</td>
</tr>
<tr>
<td><strong>mota</strong></td>
<td>‘come together’</td>
<td><strong>tsamota</strong></td>
<td>‘have sex’</td>
</tr>
<tr>
<td><strong>paua</strong></td>
<td>‘wash’</td>
<td><strong>tsapaua</strong></td>
<td>‘bathe’</td>
</tr>
<tr>
<td>???:ki-</td>
<td>‘do s.th using a sharp pointed tool’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hana</td>
<td>‘cut into’</td>
<td>kihana</td>
<td>‘pierce, poke a hole in’</td>
</tr>
<tr>
<td>kahta</td>
<td>‘hit, strike’</td>
<td>kikahta</td>
<td>‘stab, poke, prick, jab’</td>
</tr>
<tr>
<td>taha</td>
<td>‘kill (for food)’</td>
<td>kitaha</td>
<td>‘spear, stab, kill with a harpoon’</td>
</tr>
<tr>
<td>tluha</td>
<td>‘press (on)’</td>
<td>kitluha</td>
<td>‘drill, bore a hole into’</td>
</tr>
<tr>
<td>untapa</td>
<td>‘braid, plait’</td>
<td>kiontapa</td>
<td>‘knit’</td>
</tr>
</tbody>
</table>
Converb constructions

A verb can take the suffix -e to form the **converb** form. A converb immediately precedes and modifies another verb.

When formed from a verb denoting an action, the **converb** names the **means** by which the event named by the main verb is carried out.

- **lihka** ‘cut’
- **lihke** ‘by means of cutting’ [converb]
- **tèpa** ‘remove, strip (from the outside of s.th)’
- **lihke tèpa** ‘remove by cutting’ → ‘cut off’
Converb constructions

*tlynka*  ‘push’

*Sakialma nakà itlynkai*
Sakial.ERG rock.NOM PROG.push.PRES
‘Sakial is pushing (on) the rock’

*tlynke*  ‘by (means of) pushing’

*Sakialma loin tlynke puhtlé*
Sakial.ERG cauldron.DAT push.CV overturn.AOR
‘Sakial pushed over the cauldron’

lit. ‘Sakial overturned the cauldron by [means of] pushing [it]’
Converb constructions

ianta  ‘jump’

Hiuama  ianté
horse.ERG  jump.AOR
‘The horse jumped’

iante  ‘by (means of) jumping’

Hiuà  mutoi  iante  tlisé
horse.NOM  fence.DAT  jump.CV  go:over.AOR
‘The horse jumped over the fence’

lit. ‘The horse went over the fence by [means of] jumping’
Converb constructions

Like an incorporated noun phrase, a converb forms a unit with the verb it modifies. They cannot be separated by intervening elements (e.g., the negative scope marker *n-* or *ntse*):

\[
\text{Hiuà mutoi ntlisuma} \\
\text{horse.NOM fence.DAT NEG-go:over.AOR:NEG}
\]

‘The horse didn’t go over the fence’

\[
\text{Hiuà mutoi ntse iante tlisuma} \\
\text{horse.NOM fence.DAT NEG jump.CV go:over.AOR:NEG}
\]

‘The horse didn’t jump over the fence’
Verb prefixes < eventive converbs

Like incorporated nouns, converbs can undergo phonological reduction and grammaticalization to become verb prefixes (often with semantic shift):

\[
\text{[ kahe } \quad \text{pohua ]} \quad \text{‘burst by hitting’}
\]

\[
\text{hit.CV} \quad \text{burst}
\]

\[
\downarrow \quad \text{reanalysis}
\]

\[
\text{kapohua} \quad \text{‘burst by hitting’}
\]

> ‘burst violently or suddenly’

> ‘explode, rupture’
**ka(h)-**  ‘forcefully, suddenly, unexpectedly’

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>atia</strong></td>
<td>‘approach’</td>
<td><strong>kahatia</strong></td>
<td>‘lunge at, thrust’</td>
</tr>
<tr>
<td><strong>heulhta</strong></td>
<td>‘pull’</td>
<td><strong>kaheulhta</strong></td>
<td>‘pull hard, yank’</td>
</tr>
<tr>
<td><strong>patla</strong></td>
<td>‘cover’</td>
<td><strong>kapatla</strong></td>
<td>‘smother’</td>
</tr>
<tr>
<td><strong>sasa</strong></td>
<td>‘find, encounter’</td>
<td><strong>kasasa</strong></td>
<td>‘stumble on unexpectedly’</td>
</tr>
<tr>
<td><strong>sòlha</strong></td>
<td>‘throw’</td>
<td><strong>kasòlha</strong></td>
<td>‘hurl, throw hard’</td>
</tr>
<tr>
<td><strong>tsypa</strong></td>
<td>‘submerge’</td>
<td><strong>katsypa</strong></td>
<td>‘drown’</td>
</tr>
</tbody>
</table>
Verb prefixes < eventive converbs

\[
\begin{array}{ccc}
\text{[ ekpe } & \text{tsyipa } & \text{]} \\
\text{hold.CV } & \text{submerged }
\end{array}
\]

‘be submerged by being held’

↓ \textit{reanalysis}

\[
\begin{array}{ccc}
\text{ketsyipa } & \text{‘hold s.th underwater,}
\end{array}
\]
\[
\begin{array}{ccc}
\text{} & \text{keep s.th submerged in liquid’}
\end{array}
\]
**ke-** ‘keeping, holding, maintaining’

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Ke-Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>luma</td>
<td>‘be open’</td>
<td>keluma</td>
<td>‘hold open, sustain’</td>
</tr>
<tr>
<td>mainka</td>
<td>‘be fixed in place’</td>
<td>kemainka</td>
<td>‘hold in place, support’</td>
</tr>
<tr>
<td>mokta</td>
<td>‘come home’</td>
<td>kemokta</td>
<td>‘welcome, invite, host’</td>
</tr>
<tr>
<td>peuta</td>
<td>‘wait for’</td>
<td>kepeuta</td>
<td>‘anticipate’</td>
</tr>
<tr>
<td>teha</td>
<td>‘stay/leave behind’</td>
<td>keteha</td>
<td>‘hold back, detain, delay’</td>
</tr>
<tr>
<td>toilha</td>
<td>‘stand’</td>
<td>ketoilha</td>
<td>‘hold up(right), support’</td>
</tr>
<tr>
<td>Term</td>
<td>Meaning</td>
<td>Un-terminology</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>hista</td>
<td>‘lead’</td>
<td>unkista</td>
<td>‘lead in circles; confuse’</td>
</tr>
<tr>
<td>loda</td>
<td>‘roll over’</td>
<td>undoda</td>
<td>‘roll up’</td>
</tr>
<tr>
<td>lhoma</td>
<td>‘add, increase’</td>
<td>untloma</td>
<td>‘multiply’</td>
</tr>
<tr>
<td>nesapa</td>
<td>‘ask’</td>
<td>untsapa</td>
<td>‘wonder, ask oneself’</td>
</tr>
<tr>
<td>paha</td>
<td>‘fold’</td>
<td>umpaha</td>
<td>‘fold up, fold over’</td>
</tr>
<tr>
<td>tapa</td>
<td>‘weave’</td>
<td>untapa</td>
<td>‘twist, braid’</td>
</tr>
</tbody>
</table>

**un-** ‘circular motion, action directed inward/towards self’
Okuna does not have adjectives; instead, properties and attributes are expressed by \textit{stative verbs} (e.g., \texttt{toha} ‘be big’).

When a stative verb appears in the \textit{converb} form, it can modify another verb to indicate the \texttt{manner} in which the event denoted by that verb takes place (cf. manner adverbs like ‘quickly’).
Converb constructions (cont.)

kiota  ‘be quick’

Hastine  kiota
deer.NOM  be:quick
‘The deer is quick’

kiote  ‘quickly, by being quick’

Hastinma  kiote  ikiompai
deer.ERG  be:quick.CV  PROG.run.PRES
‘The deer is running quickly’
Converb constructions (cont.)

**kela**  ‘be together, be in a (reciprocal) relationship’

[Sakial] ka [Elim.NOM] ahkame kelat
Sakial and Elim.NOM sibling be:together.PL
‘Sakial and Elim are siblings’
(lit. ‘Sakial and Elim are in-a-mutual-relationship [as] siblings’)

**kele**  ‘together, mutually’

[Sakial] ka [Elim.ERG] satlai kele tokit
Sakial and Elim.ERG roof.DAT be:together.CV fix.AOR.PL
‘Sakial and Elim fixed the roof together’
Verb prefixes < stative converbs

Stative converbs can undergo grammaticalization to become prefixes expressing manner (or degree):

\[
\begin{array}{ccc}
& \text{kele} & \text{iasa} \\
\text{be:together.CV} & \text{eat} \\
\end{array}
\]

\[ \text{reanalysis} \]

\[
\begin{array}{c}
\text{keliasa} \\
\end{array}
\]

‘eat together’

‘eat together, have a meal’
**kel-** ‘mutually, reciprocally, (to/with) each other’

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
<th>Kel-Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ehua</strong></td>
<td>‘have, own’</td>
<td><em>kel ehua</em></td>
<td>‘own jointly/collectively’</td>
</tr>
<tr>
<td><strong>hutopa</strong></td>
<td>‘depend on’</td>
<td><em>kel hutopa</em></td>
<td>‘be interdependent’</td>
</tr>
<tr>
<td><strong>milhta</strong></td>
<td>‘turn; change’</td>
<td><em>kel milhta</em></td>
<td>‘reach consensus’</td>
</tr>
<tr>
<td><strong>ohtla</strong></td>
<td>‘resemble’</td>
<td><em>kel ohtla</em></td>
<td>‘be similar, alike’</td>
</tr>
<tr>
<td><strong>otla</strong></td>
<td>‘separate’</td>
<td><em>kel otla</em></td>
<td>‘part ways, disband, disperse’</td>
</tr>
<tr>
<td><strong>uktia</strong></td>
<td>‘give’</td>
<td><em>kel uktia</em></td>
<td>‘trade, exchange’</td>
</tr>
</tbody>
</table>
**ta(h)-** ‘intensely’ ( < *tama* ‘be strong, mighty’)

<table>
<thead>
<tr>
<th></th>
<th>‘be alone’</th>
<th><em>taheupa</em></th>
<th>‘be all alone; be unique’</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>eupa</em></td>
<td>‘be alone’</td>
<td><em>taheupa</em></td>
<td>‘be all alone; be unique’</td>
</tr>
<tr>
<td></td>
<td>‘be enjoyable’</td>
<td><em>tahenka</em></td>
<td>‘be delightful’</td>
</tr>
<tr>
<td><em>henka</em></td>
<td>‘be enjoyable’</td>
<td><em>tahenka</em></td>
<td>‘be delightful’</td>
</tr>
<tr>
<td></td>
<td>‘eat’</td>
<td><em>taiasa</em></td>
<td>‘eat heartily, eat one’s fill’</td>
</tr>
<tr>
<td><em>iasa</em></td>
<td>‘eat’</td>
<td><em>taiasa</em></td>
<td>‘eat heartily, eat one’s fill’</td>
</tr>
<tr>
<td></td>
<td>‘know’</td>
<td><em>taiona</em></td>
<td>‘know for certain’</td>
</tr>
<tr>
<td><em>iona</em></td>
<td>‘know’</td>
<td><em>taiona</em></td>
<td>‘know for certain’</td>
</tr>
<tr>
<td></td>
<td>‘be known, familiar’</td>
<td><em>takoipa</em></td>
<td>‘be widely known, famous’</td>
</tr>
<tr>
<td><em>koipa</em></td>
<td>‘be known, familiar’</td>
<td><em>takoipa</em></td>
<td>‘be widely known, famous’</td>
</tr>
<tr>
<td></td>
<td>‘be surprising’</td>
<td><em>tasonka</em></td>
<td>‘be astounding, amazing’</td>
</tr>
<tr>
<td><em>sonka</em></td>
<td>‘be surprising’</td>
<td><em>tasonka</em></td>
<td>‘be astounding, amazing’</td>
</tr>
</tbody>
</table>
**lia-** ‘to an extended degree’ ( < *liakna* ‘be long’)

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>lia- Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>hosta</em></td>
<td>‘be powerful’</td>
<td><em>liahosta</em></td>
<td>‘be mighty’</td>
</tr>
<tr>
<td><em>hotsma</em></td>
<td>‘be angry’</td>
<td><em>liahotsma</em></td>
<td>‘be enraged, livid’</td>
</tr>
<tr>
<td><em>kaihpa</em></td>
<td>‘be down’</td>
<td><em>liakaihpa</em></td>
<td>‘be a long way down’</td>
</tr>
<tr>
<td><em>luma</em></td>
<td>‘be open, ignited’</td>
<td><em>lialuma</em></td>
<td>‘be wide open; be roaring [fire]’</td>
</tr>
<tr>
<td><em>tima</em></td>
<td>‘lie, be situated’</td>
<td><em>liatima</em></td>
<td>‘be remote, distant, far off’</td>
</tr>
<tr>
<td>(tsi)-</td>
<td>‘briefly, abruptly; with minimal effort’</td>
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<td></td>
</tr>
<tr>
<td>(hàta)</td>
<td>‘shout, cry’</td>
<td>(tsi hàta)</td>
<td>‘cry out suddenly, exclaim’</td>
</tr>
<tr>
<td>(kahta)</td>
<td>‘hit, strike’</td>
<td>(tsi kahta)</td>
<td>‘jab, prod, poke’</td>
</tr>
<tr>
<td>(lima)</td>
<td>‘open; ignite’</td>
<td>(tsi lima)</td>
<td>‘quickly open and then close; flash, glint’</td>
</tr>
<tr>
<td>(milhta)</td>
<td>‘turn’</td>
<td>(tsi milhta)</td>
<td>‘swerve’</td>
</tr>
<tr>
<td>(muka)</td>
<td>‘close; extinguish’</td>
<td>(tsi muka)</td>
<td>‘quickly close and then open; wink, blink’</td>
</tr>
</tbody>
</table>
Natlang analogues (Talmy 2007)

Instrument/cause verb prefixes in Atsugewi (Hokan; California):

- ci- ‘using one’s hands’
- ma- ‘using one’s feet’
- ca- ‘by means of the wind blowing on s.th’
- uh- ‘by means of pounding/chopping/batting with a long thin object’
- mi- ‘by means of cutting with a knife’
- cu- ‘by means of poking/piercing/propping with a long thin object’
Natlang analogues (Talmy 2007)

Instrument/cause verb prefixes in Atsugewi (Hokan; California):

$m'aast'aq’ipsnukka$

$/’w-ma-st’aq’-ipsnu-ikk-a/$

3sSUB-using.feet-move.icky.material-inside-to.here-INDIC

‘He tracked up the house with muddy feet’

more lit. ‘He moved icky material into here using his feet’
Natlang analogues (Talmy 2007)

Manner of motion verb formatives in Nez Perce/Nimipuutímt (Sahaptian):

*Hi-qqo-láhsa-ya*
3sgSUB-galloping-go.up-PST
‘He galloped up’ (lit. ‘He galloping-ascended’)

*ʔipsqi-* ‘(by) walking’
*wilé:* ‘(by) running’
*tuk’weme-* ‘(by) slithering’
*tu:k’e-* ‘(by) using a cane’