Characterizing the causative alternation in Choctaw

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1 Introduction

By ‘causative alternation’, I refer to this kind of alternation:

(1) a. Suzie broke the glass.
    b. The glass broke.

Choctaw has an alternation like it:

(2) a. fakoh-\textit{li-h} she peeled it off
    fakooh-\textit{a-h} it peeled off
    b. koo-\textit{li-h} she smashed it
    koow-\textit{a-h} it smashed
    c. fam-\textit{mi-h} she whipped him
    fam-\textit{a-h} he was whipped

- Terminology: \textit{-li} marks the \textbf{active} form, \textit{-a} marks the \textbf{non-active} form.
  - N.B. \textit{-li} often assimilates, becoming \textit{-mi, -ni, -fi, -wi...}
- Noteable: some non-active alternants have \textbf{passive-like} meanings.

Choctaw also has a \textbf{morphological causative}:

(3) a. fakoh-\textit{li-h} he peeled it off
    fakoh-\textit{chi-h} she made him peel it off
    b. taloowa-h he sang
    taloowa-\textit{chi-h} she made him sing

Today: I map the non-active (\textit{-a}), active (\textit{-li}) and causative (\textit{-chi}) morphemes to syntactic structure, with revealing consequences.

- The morphemes used to mark the active (\textit{-li}) and the morphological causative (\textit{-chi}) are \textbf{allomorphs} of the same syntactic head:
  \rightarrow \textbf{Voice}_D: a head that introduces an external argument.
- There is only one non-active head (realized as \textit{-a}), which may cover the same semantic space as \textbf{inchoatives} and \textbf{passives}:
  \rightarrow \textbf{Voice}_\{}: a head that does not introduce an external argument.

Roadmap:

Part I
2. Background on Choctaw
3. Argument structure morphology

Part II: an investigation of Voice$_D$
4. Exponing Voice$_D$
5. Interpreting Voice$_D$

Part III: an investigation of Voice$_\{}$
6. Interpreting Voice$_\{}$

7. Conclusion

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1. Huge thanks are due to the Choctaw speakers who were generous enough to teach me their language. In particular: Chris Chickaway, Shayla Chickaway, Pam Smith, Deborah Tubby, Buck Willis and Darlene Willis. Thanks also to Jim Wood for his guidance, as well as to Aaron Broadwell, Raffaella Zanuttini and Hadas Kotek.
2. The gender of arguments isn’t specified in the Choctaw sentences, so I attempt to use a mix of genders in the English translations.
Part I

2 Background on Choctaw

2.1 The language

- Western Muskogean language, spoken in Mississippi (all ages) and Oklahoma (mainly elderly people).
- Data comes largely from fieldwork conducted in Pearl River, MS and Bogue Chitto, MS, 2017-2018 (mainly from 4 speakers in October 2018).
- Previous work on Choctaw: Byington (1870); Nicklas (1974); Munro and Gordon (1982); Davies (1981, 1986); Ulrich (1986); Broadwell (1990, 2006); Haag (1996); Gordon and Munro (2017).
- Important orthographical note! Underlined vowels (â ã) are nasalized (/ˈaː ˈɑː/).

2.2 Choctaw syntax

Fairly rigid head-finality; NOM/ACC case-marking:

(4) Alíkchi-yat alla-m-ə massaali-ch-aachi-h.
    doctor-NOM child-DEM-ACC heal-CAUS-FUT-TNS
    ‘The doctor will heal that kid.’

Pervasive argument drop:

(5) pro pro pro Im-aa-tok.
    DAT-give-PST
    ‘She gave it to him.’

1st and 2nd-person arguments are cross-referenced by clitics on the verb—they show an active/agentive/semantic/split-S alignment:

- See Davies (1981, 1986); Broadwell (1988, 2006); Broadwell and Martin (1993); Tyler (to appear-a, to appear-b) for discussion of agreement/clitic-doubling in Choctaw.

2.3 Choctaw verbal morphology

Suffixes realize 1SG ergative agreement(!), mood, tense, clause-type, evidentiality, switch-reference a.o.:

(7) anopoli -l -aachi-h.
    speak -1SG.ERG -FUT -TNS -if -DS
    ‘if I’m going to speak...’

Outer aspect is realized as a morphological template that applies to the verb stem. These are referred to as ‘grades’ in the Muskogean literature (see Nicklas 1974; Ulrich 1986; Broadwell 2006 for in-depth discussion):

(8) a. allkama-h it closed
    allkáma-h it is closed (result state)
    allkáhama-h it suddenly closed
    allkáàma-h it finally closed
    n-grade
    h-grade
    y-grade
3 Argument structure morphology

In this section:

3.1 The causative (-a/-li) alternation
3.2 Active -li as a transitivizer
3.3 Syntactic causatives

3.1 The causative (-a/-li) alternation

Many Choctaw verbs participate in an alternation that resembles the causative alternation from European languages.

Most commonly, the active form is marked with -li; the non-active form with -a.

(10) a. fakoh-li-h she peeled it off
    fakooh-a-h it peeled off
    b. koo-li-h she smashed it
        koow-a-h it smashed
    c. fam-mi-h she whipped him
        fam-a-h he was whipped

See Appendix A for a rarer alternative realization of the contrast—infixation in the non-active form.

5. I leave evidential markers out of this template. They would take the place of c. Since evidential marking is restricted to root clauses, they cannot be followed by switch-reference/case marking.

N.B. Some vowels change length by a regular phonological process of iambic lengthening—e.g. *fakohlih/fakoohah* (Ulrich 1986; Broadwell 2006).

Active vs. non-active terminology draws a parallel with Greek (Alexiadou and Anagnostopoulou 2004) and Albanian (Kallulli 2006, 2007), which show a similar dichotomy.

Intuitive way to analyze the alternation: -li and -a spell out Voice, +/- specifier.

(11) \[ \text{Voice}_{(D)} \leftrightarrow -li \]
    \[ \text{Voice}_{()} \leftrightarrow -a \]

(12) Non-active verb: *fakoohah* ‘it peeled off’

(13) Active verb: *fakohlih* ‘she peeled it off’

• N.B. Why not have -a/-li spelling out bundled v/Voice (Pylkkänen 2002; Harley 2017)?

→ Evidence comes from stative verbs, which behave morphosyntactically like verbs (hence they have v) but appear to lack a Voice projection—see section 3.2.

N.B. the -a/-li alternation is lexically restricted:

(14) a. Agentive transitive verbs without -li
    ishko-h     she drank it
    chopa-h     she bought it
    oppani-h    she broke it
    ikbi-h      she made it

b. Inchoative verbs without -a
    illi-h      she died
    oppolo-h    it broke
    ittola-h\(^7\) it fell

And the paradigm has idiosyncratic gaps.\(^8\)

(15) Active forms without non-active counterparts
a. lob-bi-h    he pulled it out
   *lob-a-h
b. lhokaf-fi-h he peeled it (of animal skin)
   *lhokaf-a-h

(16) Non-active forms without active counterparts\(^9\)
  a. *chokfoloh-li-h he got dizzy
     chokfolooh-a-h
  b. *anaksho-li-h it got singed
     anakshow-a-h

(17) Pairs where the non-active form exists only as a nominalization
a. anokfil-li-h    she thought it
   anokfil-a       thought (noun)

b. hotiina-h      she counted it
    holltina        number

c. hopooni-h      she cooked it
    hollponi        hominy

d. too-li-h        she played a ball game
    tóowa           ball

Upshot:

• The -a/-li alternation is not productive.

→ Naive analysis: specify the roots that go with each suffix.

(18) Naive analysis
\[
\begin{align*}
\text{Voice}_{\{D\}} & \leftrightarrow -li / \{\sqrt{FAKOH}, \sqrt{KOO}, \sqrt{FAM}, ...\} \\
\text{Voice}_{\{\}} & \leftrightarrow -a / \{\sqrt{FAKOH}, \sqrt{KOO}, \sqrt{FAM}, ...\} \\
\text{Voice} & \leftrightarrow \emptyset / \text{elsewhere}
\end{align*}
\]

• Two problems with the naive analysis:

1. The list of alternating roots is duplicated in the definition of each rule.

2. -li is productive, in a related environment...

\(^7\) Although ittola ‘fall’ ends in /a/, it does not alternate with a counterpart -li form *ittoll. For this reason, I do not consider it a member of the -a class of non-active verbs.

\(^8\) The data in (15-17) come from discussing a list in Ulrich (1986) with a single speaker, but even if the data given are not representative of all speakers, they illustrate the relevant point: that the -a/-li alternation is not productive.

\(^9\) This leaves the question of whether the final /a/ in these forms should be considered an exponent of Voice\(_{\{\}}\), or just part of the stem for these speakers. I am unsure, as the only way of determining the status of a verb-final /a/ is to see whether it alternates.
3.2 Active -li as a transitivizer

The active morpheme -li is also used productively to transitivize stative verbs:

(19) -li transitivizing some stative verbs
   a. ossi-h it is small
      ossi-li-h he shrunk it
   b. kapassa-h it is cold
      kapassa-li-h he cooled it
   c. homma-h it is red
      homma-li-h he reddened it
   d. apissa-h it is straight
      apissa-li-h he straightened it

→ a.k.a. an ‘Ø/-li’ alternation (cf. the ‘-a/-li’ alternation)

• N.B. In another language we might call these deadjectival (cf. Alexiadou and Anagnostopoulou 2004 on Greek deadjectival verbs). Why not here?

   → Little evidence for a v/a distinction in Choctaw (though see Broadwell 2006:221).

Analysis: stative verbs lack a Voice layer.\(^{11}\)

(20) Stative verb: ossih ‘it is small’

\[
\begin{array}{c}
\text{vP} \\
\text{NP} \\
\sqrt{\text{ossi}} \\
\text{v} \\
\end{array}
\]

Transitivization simply involves stacking a Voice\(_D\) on top of a stative:

(21) Transitivized stative verb: ossilih ‘he shrunk it’

\[
\begin{array}{c}
\text{VoiceP} \\
\text{vP} \\
\text{Voice\(_D\)} \\
\text{NP} \\
\sqrt{\text{ossi}} \\
\text{v} \\
\end{array}
\]

Revised rules for exponing Voice\(_D\):

(22) Voice\(_D\) ↔ Ø/ {\(\sqrt{\text{ISHKQ}}, \sqrt{\text{CHOPX}}, \sqrt{\text{IKHI}}, \ldots\)}

Voice\(_D\) ↔ -li / elsewhere

   (to be revised further!)

→ Now, roots where Voice\(_D\) is null are listed, rather than roots where Voice\(_D\) is overt being listed.

• This captures the idea that alternating active -li and productive ‘transitivizing’ -li are the same head.

• As for Voice\(_I\): -a is not productive, so the roots still need to be listed somewhere. One possibility:

(23) Voice\(_I\) ↔ -a/ {\(\sqrt{\text{FAKOH}}, \sqrt{\text{KOQ}}, \sqrt{\text{FAM}}, \ldots\)}

Voice\(_I\) ↔ Ø / elsewhere

\(^{10}\) Ulrich (1986) lists a few ‘Ø/-li’ pairs in his list of alternating verbs in Choctaw, but he does not consider them to be separate from the -a/-li pairs, and he does not note their different semantics or the productive use of -li in this context.

\(^{11}\) This is the Voice-less structure Alexiadou et al. (2006) ascribe to unaccusatives. To my knowledge, this structure has not previous been proposed for intransitive stative verbs.
3.3 Syntactic causatives with -chi

Syntactic causatives can be formed from virtually any verb, by adding -chi:

(24) a. fakoh-li-h  
    fakoh-li-chi-h  
    he peeled it off  
    she made him peel it off  

b. koo-li-h  
    koo-li-chi-h  
    he smashed it  
    she made him smash it  

c. taloowa-h  
    taloowa-chi-h  
    he sang  
    she made him sing  

d. chopah-h  
    chopah-chi-h  
    he bought it  
    she made him buy it  

How to analyze this?

• Option 1: -chi is the lone exponent of a dedicated causative head (‘Caus’)
  
  – In the next section (§4), I argue against this.

  → Option 2: -chi is an exponent of Voice\(_D\), alongside -li.

Proposed structure for causativized transitive (see Nie 2018 for a simple Voice-stacking approach to syntactic causatives):

![Diagram of causativized transitive verb: fakohlichih ‘she made him peel it off’]

- Upshot: Voice\(_D\) can be realized as -li or -chi, with both morphemes being productive.

- What conditions the spellout of Voice\(_D\)?
  
  → I.e. can we identify one morpheme as the **conditioned** exponent and one as the **elsewhere** exponent?

Final proposal for Voice\(_D\) exponence rules:

(26) Voice\(_D\) ↔ ø / {√ISHKO, √CHOPA, √IKBI, …}  
     Voice\(_D\) ↔ -li / v  
     Voice\(_D\) ↔ -chi / elsewhere

→ That is, Voice\(_D\) comes out as -chi whenever v-Voice\(_D\) locality is disrupted—as in syntactic causatives.
4 Exponing Voice_{D}

In this section:

4.1 The uses of -chi
4.2 Analysis: -chi as the elsewhere spellout of Voice_{D}

4.1 The uses of -chi

We have seen that -chi is used productively to form syntactic causatives.

• Recall the naive analysis: -chi expones a dedicated causative morpheme (e.g. ‘Caus^0’).

But! -chi introduces **external arguments** in a number of other environments:

4.1.1 Lexical causatives
4.1.2 Emission verbs
4.1.3 Pluractional ‘-f-class’ verbs
4.1.4 Adding effort or affectedness

The picture that emerges is that -chi is inserted wherever -li, for whatever reason, cannot be inserted.

→ i.e. a kind of ‘emergence of the unmarked’.

4.1.1 -chi in lexical causatives

How to distinguish a lexical from a syntactic causative? (see Miyagawa 1984; Harley 2008 a.o. for discussion.)

• Lexical causatives may have **идiosyncratic meanings**:

(27) -chi-formed verbs with idiosyncratic meanings

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. haksi-h</td>
<td>he is drunk/confused</td>
</tr>
<tr>
<td>haksi-chi-h</td>
<td>she tricked him</td>
</tr>
<tr>
<td>b. tiwa-h</td>
<td>it opened</td>
</tr>
<tr>
<td>tiwaa-chi-h</td>
<td>she stirred it</td>
</tr>
<tr>
<td>c. ayiska-h</td>
<td>she fixed it</td>
</tr>
<tr>
<td>ayiska-chi-h</td>
<td>she cleaned it</td>
</tr>
</tbody>
</table>

• Lexical causatives may be based on **bound roots**:

(28) -chi-formed verbs based on bound roots

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. *imaaba-h</td>
<td>she taught him</td>
</tr>
<tr>
<td>imaaba-chi-h</td>
<td></td>
</tr>
<tr>
<td>b. *ataapa-h</td>
<td>she stopped it</td>
</tr>
<tr>
<td>ataapa-chi-h</td>
<td></td>
</tr>
</tbody>
</table>

• Lexical causatives encode **direct causation** (i.e. they are monoeventive):

(29) -chi-formed verbs that encode direct causation

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. haloppa-h</td>
<td>it is sharp</td>
</tr>
<tr>
<td>haloppa-chi-h</td>
<td>she sharpened it</td>
</tr>
<tr>
<td>b. nona-h</td>
<td>it was cooked</td>
</tr>
<tr>
<td>nonaa-chi-h</td>
<td>she cooked it</td>
</tr>
<tr>
<td>c. ikkana-h</td>
<td>she learned</td>
</tr>
<tr>
<td>ikkanaa-chi-h</td>
<td>she taught her</td>
</tr>
</tbody>
</table>
d. shila-h
   shilaa-chi-h

12. Many previous works on Choctaw mention that non-active shila ‘dry’ alternates with an active form shiliili. The speakers I asked were aware of shiliili, but generally used the lexical causative shilaachi.

13. The ‘double-chi’ examples are not necessarily outright ungrammatical, since speakers are sometimes able to interpret them as simple causatives, as in (1). I assume that this interpretation is available as an ‘extra effort’ use of -chi (see section 4.1.4) applied to a syntactic causative, but further investigation is required.

   (i) Talowa-chi-chi-lii-sh
       hilhaa-chi-li-tok.
       sing-caus-lg-caus-1sg.erg-pTCP
dance-caus-1sg.erg-pst
       ‘I made them sing and dance.’

   (ii) Taloowa-chi-chi-li-cha-aachi¯-h-o¯?

(30) Syntactic causatives cannot be causativized

a. taloowa-h ‘she sang’
   taloowa-chi-h ‘he made her sing’
   #/*taloowa-chii-chi-h
b. hilha-h ‘he danced’
   hilhaa-chi-h ‘she made him dance’
   #/*hilhaa-chii-chi-h

(31) Lexical causatives can be causativized

a. tiwaa-chi-h ‘he stirred it’
   tiwaa-chi-chi-h ‘he made him stir it’
b. haloppa-chi-h ‘he sharpened it’
   haloppa-chii-chi-h ‘she made him sharpen it’
c. nonaa-chi-h ‘he cooked it’
   nonaa-chi-chi-h ‘she made him cook it’

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dance-caus-1sg.erg-pst
   ‘I made them sing and dance.’

14. Speakers tend to find these easier to judge when the causee is 1st/2nd-person, and thus clitic-doubled:

   (i) Is-sa-haloppa-chii-ch-aachi¯-h-o¯?

(33) v-obliteration rule
Delete v / {√NONA, √HAKSI, √ATAAPA, …} _

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(i) Is-sa-haloppa-chii-ch-aachi¯-h-o¯?
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Obliterating \( v \) means that the trigger for VI of \(-li\) is gone; so elsewhere \(-chi\) inserted instead.

- A legitimate complaint: this is hacky!
  
  → Perhaps. But we have a phenomenon where one productive unmarked form \(-li\) is replaced with another even more unmarked form \(-chi\) in a listed set of environments.
  
  * ‘Retreat from the unmarked to the even more unmarked’
  → Having the conditioning environment for \(-li\) be a functional head \((v)\), and having it deleted in certain listed contexts to produce elsewhere \(-chi\), could be a plausible way of dealing with this.

4.1.2 \(-chi\) in emission verbs

\(-chi\) is used in the formation of a small class of intransitive noise emission verbs:

\[\text{(35) a. shiniika-} \chi -h \quad \text{it made a racket/buzzed} \]
\[\text{b. chamaaka-} \chi -h \quad \text{it rang} \]
\[\text{c. shachaaka-} \chi -h \quad \text{it made a rustling noise} \]

Proposed structure (see Rappaport Hovav and Levin 2000 for an unergative analysis of emission verbs):\(^{15}\)

\[ \text{Like the lexical causatives, these verbs can be causativized:} \]
\[\text{(37) chamaakachii-} \chi -h \quad \text{‘she rang it’} \]
Again, I propose that in the context of these roots, \( v \) is obliterated.

Where we are:

- So far: two cases where elsewhere form \(-chi\) emerges because \( v \) is deleted.
  
  – lexical causatives, emission verbs
- Next: two cases where \(-chi\) emerges because something gets between \it and \( v \).
  
  – pluractional verbs, ‘extra effort’ verbs

\(^{15}\) For the sake of balance, see Perlmutter (1978) for an unaccusative analysis of emission verbs and Pross (2015) for an analysis in which they are neither unaccusative nor unergative.
4.1.3 Plurational ‘f-class’ verbs

Choctaw has some change-of-state verbs where an -f appears between the root and the -a/-li morpheme.

(38) Some f-class verbs
   a. kala-f-ì-h  ‘she scratched it’
      kala-ì-a-h  ‘it was scratched’
   b. boka-f-ì-h  ‘she burst it’
      boka-a-ì-a-h  ‘it burst’
   c. lhila-f-ì-h  ‘she tore it’
      lhila-a-ì-a-h  ‘it tore’

- When the verb describes multiple actions (either with a plural object or repeated action on the same object), extra -li node appears:

(39) Plurational allomorphy in the -f-class
   a. kalaa-f-ì-ì-h  ‘it was scratched (once)’
      kala-ì-li-ì-h  ‘it was scratched (lots)’
   b. bokaa-f-a-ì-h  ‘it burst’
      boka-li-li-ì-h  ‘they burst’
   c. lhilaa-f-a-ì-h  ‘it tore’
      lhila-li-li-ì-ì-h  ‘it tore lots’

- Intuition behind analysis: -chi emerges because -li breaks up v-Voice{D} adjacency.

→ Proposal: ‘plurational -li’ is a dissociated Voice{D} node, inserted postsyntactically (in the sense of Halle and Marantz 1993).

(40) f-class verb kalaffih ‘she scratched it’

```
VoiceP
  NP
    vP
      Voice{D} -li
        NP
          v
            √ Kalah v
              f
```

In plurational contexts—dissociated Voice{D} node is inserted as sister to v:

(41) Plurational verb kalalih(ì)chih ‘she scratched it lots’

```
VoiceP
  NP
    vP
      Voice{D} -chi
        NP
          v[pi]
            √ Kalah v[pi]
              Voice{D} -li
                v[pi]
                  Voice{D} -h -li
                    -h
```

N.B. This Voice{D} is a solely morphological creature and is not visible to interpretation!
• What’s the evidence that ‘pluractional -li’ is the same as ‘Voice\{D\} -li’?
→ Like ‘regular’ -li, it undergoes **optional deletion** before -chi:

(42) Optional deletion of -li before -chi: syntactic causatives
a. tapto-li-h `he chopped it up`
tapto-(lii)-chi-h `she made him chop it up’
b. balii-li-h `he ran’
bali-(li)-chi-h `she made him run’

(43) Optional deletion of -li before -chi: pluractional active verbs
a. kala-h-li-h `it was scratched lots’
kala-h-(lii)-chi-h `she scratched it lots’
b. lhila-h-li-h `it tore lots’
lhila-h-(lii)-chi-h `she tore it up’

Upshot: -chi expones \(\text{Voice}_{\{D\}}\) when adjacency between \(\text{Voice}_{\{D\}}\) and \(v\) is broken.\(^{18}\)

16. -li-deletion cannot happen where it would result in an illegal consonant cluster. For instance, it cannot take place in *bash-li-chi-h `he made her cut it’*, which would produce *bashchih.*
18. The syntactic pluractionality feature, to which the morphology is sensitive, is marked on \(v\). This makes theoretical sense given that (a) pluractionality in Choctaw involves the pluralization of events, and (b) \(v\) is where event semantics are introduced (Kratzer 1996; Folli and Harley 2007; Harley 2017).

---

### Dual allomorphy marked with -chi

**Interesting aside:** **dual** forms of some motion verbs are marked with -chi:

(44) a. ala-h ‘she arrived’
itt-ala-a-chi-h ‘the two of them arrived’
b. ona-h ‘she got there’
itt-ona-a-chi-h ‘the two of them got here’
c. iya-h ‘she went’
itt-iya-a-chi-h ‘the two of them went’

---

#### 4.1.4 -chi in ‘extra effort’ verbs

Broadwell (1990, 2006) discusses the ability of -chi to add ‘extra effort’ on the part of the agent or ‘extra affectedness’ on the part of the object.

(45) ‘Extra effort/affectedness’ uses of -chi
a. tiwi-h ‘she opened it’
tiwi-chi-h ‘she opened it up and made a mess of it’
b. Tanapo tokaffi-li-tok.
gun fire.ACT-1SG.ERG-PST
‘I fired the gun.’
c. Pállami-h-o struggle.GG-TNS-DS gun fire.ACT-CAUS-1SG.ERG-PST
‘I had a hard time firing the gun.’
d. Shilosh aayálhto fokki-li-tok.
shoe box put.PL-1SG.ERG-PST
‘I put the shoes in the box.’ (Broadwell 2006:131, reglossed)
e. Shilosh aayálhto fokki-chi-li-tok.
shoe box put.PL-CAUS-1SG.ERG-PST
‘I forced the shoes into the box.’ (Broadwell 2006:131, reglossed)
Proposed structure:

(46) ‘Extra effort’ use of -chi in tokaffichih ‘she managed to fire it’

\[
\text{VoiceP} \\
\text{NP}_1 \\
\text{VoiceP} \\
\text{Voice}_{(\text{D})} \\
\text{PRO}_1 \\
\text{vP} \\
\text{Voice}_{(\text{D})} \\
\text{NP} \\
\sqrt{\text{TOKA}} \\
\sqrt{-f}
\]

• This is essentially a syntactic causative, except:
  – the external argument of the higher Voice$_{(\text{D})}$ binds the external argument of the lower Voice$_{(\text{D})}$.

• N.B. This (incomplete) analysis bears some relation to Taraldsen’s (2010) analysis of Norwegian agentive get-passives and St’át’imcets out-of-control morphology.

4.2 Analysis: Voice$_{(\text{D})}$ ↔ -chi / elsewhere

We have seen four uses of -chi outside of canonical syntactic causatives:

• Lexical causatives
• Noise-emission unergatives
• Pluractional change-of-state verbs
• ‘extra effort’ verbs

Analysis: -chi is the elsewhere realization of Voice$_{(\text{D})}$

(47) Voice$_{(\text{D})}$ ↔ -chi / elsewhere

Putting it all together:

(48) Vocabulary Insertion rules for Voice$_{(\text{D})}$

\[
\begin{align*}
\text{Voice}_{(\text{D})} & \leftrightarrow \emptyset / \{\sqrt{\text{ISHKO}}, \sqrt{\text{CHOP}, \sqrt{\text{IKBI}}, \ldots}\} \\
\text{Voice}_{(\text{D})} & \leftrightarrow -li / \sqrt{\ldots} \\
\text{Voice}_{(\text{D})} & \leftrightarrow -chi / \text{elsewhere}
\end{align*}
\]

A prediction:

• -li should be found on some unergatives (since its rule is not sensitive to presence vs. absence of internal argument).
  → Yes: in particular, manner-of-motion verbs—see appendix B for further discussion of intransitive -li verbs.

(49) Manner-of-motion verbs formed with -li

<table>
<thead>
<tr>
<th>verb</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>balii-li-h</td>
<td>she ran</td>
</tr>
<tr>
<td>balaa-li-h</td>
<td>she crawled</td>
</tr>
<tr>
<td>okshinil-li-h</td>
<td>she swam</td>
</tr>
<tr>
<td>binii-li-h</td>
<td>she sat down</td>
</tr>
<tr>
<td>chanal-li-h</td>
<td>it rolled</td>
</tr>
<tr>
<td>yanal-li-h</td>
<td>it flowed</td>
</tr>
</tbody>
</table>
Tests for unergativity/unaccusativity

Are those motion verbs actually unergative? Two pieces of evidence that yes, they are unergative (see also Broadwell 1988):

1. Unergative subjects are doubled by an ERG clitic:

   (50) \{ii- / *pi-\} balii-li-tok.
   \{1PL.ERG- / *1PL.ABS\} run-ACT-PST
   ‘We ran.’

2. Unergatives reject subject possessor raising (Tyler to appear-d):

   (51) a. Katie-at ofi im-illi-tok. (unacc.)
       Katie-NOM dog DAT-die-PST
       ‘Katie’s dog died.’ (lit. ‘To Katie died the dog.’)
   b. *Katie-at ofi i-balii-li-tok (unerg.)
       Katie-NOM dog DAT-run-ACT-PST
       (‘Katie’s dog ran.’)

Another prediction:

- -chi may be used to form syntactic causatives of non-active verbs
  → Yes (although speakers find these odd to varying degrees):

(52) Syntactic causatives of non-active verbs

   a. fam-a-h
      fam-aa-chi-h
      he was whipped
      ‘because of her, he got whipped’
   b. boow-a-h
      boow-aa-chi-h
      he was beaten up
      ‘because of her, he got beaten up’
   c. alwash-a-h
      alwash-aa-chi-h
      it is frying
      ‘he made it fry’

(53) Syntactic causative of non-active

   VoiceP
   NP
   VoiceP Voice(D)
   vP Voice()
   vP -chi
   vP
   v
   √FAM v

Next: more evidence for the unification of -chi and -li, from interpretation.

5 Interpreting Voice{D}

In this section:

5.1 -li and -chi assign the same role to their specifier.
5.2 -li and -chi both support instruments and beneficiaries.
5.1 **Voice\(_D\)** assigns agent or causer role

Voice\(_D\) can assign an agent or causer/initiator role to its specifier:

(54) a. Agent subject with -\(\text{-li}\)
   Sippokni-m-a\(_\text{aa}k\) akaka im-awash-li-li-tok.
   elder-DEM-ACC chicken DAT-fry-\text{ACT}-1SG.ERG-PST
   ‘I fried chicken for the elder.’

   b. Agent subject with -\(\text{-chi}\) (syntactic causative)
   Sa-shki-t sa-hoopooni-chi-tok.
   1SG.ABS-mother-NOM 1SG.ABS-cook-CAUS-PST
   ‘My mother made me cook.’

(55) Causer subject with -\(\text{-li}\)
   a. Kapass-aatok-o\(_\text{cold-because}\) kafi-yat sa-bbak libish-li-h.
      cold-because-DS coffee-NOM 1SG.ABS-hand warm-\text{ACT}-TNS
      ‘It’s cold so the coffee is warming up my hands.’

   b. Tali-t aapisa koo-li-tok.
      rock-NOM window smash-\text{ACT}-PST
      ‘The rock smashed the window.’

(56) Causer subject with -\(\text{-chi}\) (syntactic causative)
   a. Ililli-yat nittak ik-t\(\text{a}k\)-ho-h-o
      illness-NOM day irr-finish.NEG-TNS-DS
      sa-kaanalli-chi-tok.
      1SG.ABS-move.\text{ACT}-CAUS-PST
      ‘The illness made me leave before the day was through.’

   b. Palah shohmalaali-t sa-tahpalaa-chi-tok.
      light shine-NOM 1SG.ABS-shout-CAUS-PST
      ‘The bright light made me cry out.’

So -\(\text{-li}\) and -\(\text{-chi}\) cover the same semantic space: they assign an agent or causer/initiator role to their specifier.\(^{19}\)

- This is consistent with the analysis that -\(\text{-li}\) and -\(\text{-chi}\) realize the same syntactic head \(\text{Voice}\_D\).

Next: -\(\text{-li}\) and -\(\text{-chi}\) both license instruments and beneficiaries.

5.2 **Voice\(_D\)** supports instruments and beneficiaries

Active verbs marked with -\(\text{-li}\) license instruments and benefactive applicatives:

(57) a. Active verb with instrument
   Okissa-y\(_\text{a}\) code isht tiw-wi-li-tok.
   door-ACC code INSTR open-\text{ACT}-1SG.ACT-PST
   ‘I opened the door with a code.’

   b. Active verb with beneficiary
   A\(_\text{-ki}y\_\text{at}\) iti \(\text{a}\)-palhal-li-tok.
   1SG.DAT-father-NOM wood 1SG.DAT-split-\text{ACT}-PST
   ‘My father split the logs for me.’

19. If instrumental subjects are a separate category from causers/agents (controversial, cf. Alexiadou and Schäfer 2008), I suspect that they can be introduced by both -\(\text{-li}\) and -\(\text{-chi}\) too, though I currently only have data for -\(\text{-li}\):

   (i) Bashpo-p-ato nipi-p-a\(_\text{bashl-aahii-kiyo-o}\), i\(_\text{ila}-\)ak
      knife-DEM-\text{CONT} meat-DEM-ACC cut.ACT-MOD-BUT-COMP-DS other-DEM-FOC
      ish-ish\(\text{i}\) mak-ahiina-h.
      2SG.ERG-get must-MOD-TNS
      ‘This knife won’t cut the meat, you need to get a different one.’ CC_10-09-18

(Note that it is very hard to find plausible instrument subjects for syntactic causatives, that aren’t ambiguous with a causer reading).
In syntactic causatives, instruments can associate with either the causer or the causee:

(58) Ambiguous reading of instrumental phrase
Yam-aash tabi ishit sa-noowa-chi-h.
That-FOC stick INSTR 1SG.ABS-walk-CAUS-TNS
‘That man made me [walk with a stick],’ (he caused me an injury)
‘That man [made me walk] with a stick.’ (he prodded me with a stick)

Benefactive applicatives in syntactic causatives are similarly ambiguous:

(59) a. Beneficiary of causing (higher) event
Chi-yaya-chi-l-aachi-ni-h.
2SG.DAT-cry-CAUS-1SG.ERG-FUT-TNS
‘For you, I’m going to make him cry.’

b. Beneficiary of caused (lower) event
Sa-shki-t sa-ttibaapishi
1SG.ABS-mother-NOM 1SG.ABS-sibling
Dat-1SG.ABS-cook-CAUS-PST
‘My mom made me cook for my brother.’

Analysis:

- Each Voice\{D\} introduces a new position for:
  - ...instrument phrases to adjoin (Bruening 2013).
  - ...ApplPs to be merged in their complement (see Broadwell 2006; Tyler to appear-a, to appear-c for discussion of applicatives in Choctaw).

Upshot:

- -chi and -li (and ‘Ø’)
  - ...introduce an external argument
  - ...assign it an agent or causer role
  - ...license instruments
  - ...license benefactive applicatives

→ Proposal: they are allomorphs of Voice\{D\}.

Next: the non-active verbs formed with -a.

Part III: an investigation of Voice\{\}

6 Interpreting Voice\{\}

Recall the proposed structure of non-active -a verbs (stative shown for comparison):

(60) Non-active verb: ‘it peeled off’

\[
\text{vP} \quad \text{Voice}_{\{} \quad \text{vP} \\
\text{NP} \quad \sqrt{\text{FAKOH}} \quad \sqrt{\text{OSSI}}
\]

Stative verb: ‘it is small’

\[
\text{vP} \quad \text{Voice}_{\{} \quad \text{vP} \\
\text{NP} \quad \sqrt{\text{OSSI}} \quad \sqrt{\text{OSSI}}
\]
There is less going on with non-actives morphologically: Voice\{1\} only has the alternating allomorph (-a) and the Ø allomorph (e.g. ili ‘die’, oppolo ‘break’, ittola ‘fall’).

- Though see Appendix A on <1>-infixation in non-actives.

(61) VI rules for Voice\{1\}
    Voice\{1\} ↔ -a / {√FAKOH, √KOÖ, √FAM, ...} -
    Voice\{1\} ↔ Ø / elsewhere

I focus here on the interpretation of the non-actives.

→ Recall that they cover the same semantic ground as inchoatives/anticausatives and passives:

(62) a. fakoh-li-h
    fakooh-a-h
    she peeled it off
    it peeled off

b. fam-mi-h
    koow-mi-h
    she whipped him
    he was whipped

6.1 Non-active forms with and without implicit agents

A sample of non-active forms:

(63) Non-active forms with implicit agent

a. fam-mi-h she whipped him
   fam-a-h he got whipped

b. tapto-li-h she chopped it up
   taptow-a-h it got chopped up

(64) Non-active forms without implicit agent

a. akam-mi-h she closed it
   alhkam-a-h it closed (*it was closed)

b. koo-li-h she smashed it
   koow-a-h it smashed (*it was smashed)

Three tests for the presence of implicit agent:

6.1.1 Ability to license purpose clauses
6.1.2 Ability to license rationale clauses
6.1.3 Ability to license intentional beneficiaries

...and two test for the absence of an implicit agent:

6.1.4 Ability to license beneficiaries in ‘success-with-difficulty’ readings
6.1.5 Ability to license ilaap ‘by itself’

6.1.1 Licensing purpose clauses

Purpose clauses may not co-occur with clauses which lack an agent:

(65) a. She burst the ball [to scare the child]. (overt agent)
    b. The ball was burst [to scare the child]. (implicit agent)
    c. #The ball burst [to scare the child]. (no agent)
In Choctaw, certain non-active verbs license purpose clauses:

(66) */fammi/* 'whip'/‘be whipped’

a. Alla nakni-m-a fammi-tok, 
child boy-DEM ACC whip.ACT-PST
[im-alhpisaa-ch-aachi-k-at].
DAT-right-CAUS-FUT-COMP-SS
‘She whipped the boy to make him behave.’

b. Alla nakni-m-at fama-tok, 
child boy-DEM-NOM whip.NACT-PST
[im-alhpisaa-ch-aachi-k-a].
DAT-right-CAUS-FUT-COMP-DS
‘The boy was whipped to make him behave.’

(67) */tabl/* 'cut down'/‘be cut down’

a. Iti okla tabl-tok [chokka tree PL cut.ACT-PST house
ik-on-ittóolo-k-aachi-k-a].
IRR-SUP-fall.NEG-NEG-FUT-COMP-DS
‘They cut down the tree so it wouldn’t fall on the house.’

b. Itii-yat tapa-tok [chokka tree-NOM cut.NACT-PST house
ik-on-ittóolo-k-aachi-h-o].
IRR-SUP-fall.NEG-NEG-FUT-TNS-RDFT
‘The tree was cut down so it wouldn’t fall on the house.’

...but other non-active verbs fail to license purpose clauses:

(68) */bokaffi/* 'burst' (tr./intr.)

a. [Alla nokshobl-aachi-h-o] tóowa-m-a
child scare.ACT-FUT-TNS-RDFT ball-DEM-ACC
bokaffi-tok 
burst.ACT-PST
‘To scare the child, she burst the ball.’

child scare.ACT-FUT-TNS-DS ball-NOM burst.NACT-PST
‘To the scare the child, the ball burst.’

(69) */kooli/* 'smash' (tr./intr.)

outside window smash.ACT-PST [thing steal-FUT-TNS-SS]
‘She smashed the window to steal stuff.’

b. [kochi aapi-at koowa-tok [iskali outside window-NOM smash.NACT-PST [money hokop-aachi-h-o].
steal-FUT-TNS-DS]
‘The window smashed to steal the money.’

→ Non-active forms do not behave uniformly with respect to the presence/absence of implicit agent.

6.1.2 Licensing rationale clauses

Same logic as with purpose clauses. Rationale clauses are only licensed in the presence of an agent:

(70) a. I closed the door [because it was cold]. (overt agent)
   b. The door was closed [because it was cold]. (implicit agent)
   c. #The door closed [because it was cold]. (no agent)

Again, certain non-active verbs license rationale clauses:

(71) */chokcholi/* 'tickle'/‘be tickled’

a. Allosi-m-a ii-chokcholi-tok [yoppa-chi
baby-DEM-ACC 1PL.ERG-tickle.ACT-PST
laugh-CAUS
pi-nna-h-aatok-o].
1PL.ABS-want-TNS-because-DL
‘We tickled the baby because we were trying to make it laugh.’
b. Allosi-m-at chokchowa-tok [yoppa-chi
baby-DEM NOM tickle.NACT-PST laugh-CAUS
pi-nna-h-aatok-ŋ].
1PL.ABS-want-TNS-because-DS
‘The baby was tickled because we were trying to make it laugh.’

(72) icholi/ichowa ‘write’/‘be written’
a. Holisso icholi-li-tok, [alla tiik-m-a
paper write.ACT-1SG.ERG-PST [child girl-DEM-ACC
im-isht-ilaawata sa-nna-tok-oosh].
DAT-INSTR-brag 1SG.ABS-want-PST]
‘I wrote the poem because I wanted to impress a girl.’
b. Holisso chito moma-k-at ichowa-h, [ohooyo
paper big all-COMP-NOM write.NACT-TNS, [woman
alhiiha okla im-isht-ilaawata banna-h-aatok-ŋ].
group PL DAT-INSTR-brag want-TNS-because-DS]
‘All books are written because people want to impress women.’

...but other non-active verbs do not license rationale clauses:

(73) akammi/alkama ‘close’ (tr./intr.)
cold-TNS-because-DS door-DEM-ACC PL close.ACT-PST
‘Because it was cold, they closed the door.’
cold-TNS-because-DS door-DEM-NOM close.NACT-PST
‘Because it was cold, the door closed.’

(74) kooli/koowa ‘smash’ (tr./intr.)
a. [Okla kochch-ahii-kiyo-aatok-oŋ] aapisa
[PL go.out-MOD-not-because-DS] window
kooli-li-tok.
smash.ACT-1SG.ERG-PST
‘Because they couldn’t get out, I smashed the window.’
b.#[Okla kochch-ahii-kiyo-aatok-oŋ] aapisa-yat
[PL go.out-MOD-not-because-DS] window-NOM
koowa-tok.
smash.NACT-PST
‘Because they couldn’t get out, the window smashed.’

This supports the conclusion:
→ Some non-active forms lack an implicit agent, while others have one.

6.1.3 Licensing intentional beneficiaries
A beneficiary can be happily added to a verb where there is an implicit
agent:

(75) a. I closed the door for Mary. (overt agent)
b. The door was closed for Mary. (implicit agent)

Beneficiaries can be added to verbs without agents, but they cannot be
intentional:

(76) a. The door opened for Mary. (OK if the door is an automatic door)

b. #The door closed for Mary. (no agent)

As we would expect by now, Choctaw non-active verbs split.

Some non-active verbs easily license benefactive applicatives:

20. I can only apologize for these example sentences.
(77) *ichowa* ‘be written’

\[
\text{Holissó sokko-yat am-*ichowa*-tok.}
\]
paper thick-NOM 1SG.DAT-write.NACT-PST

‘The book was written for me.’

(78) *kashoofa* ‘be cleaned’

\[
\text{Ayípa-m-á a-*kashoofa*-tok.}
\]
table-DEM-NOM 1SG.DAT-clean.NACT-PST

‘The table was cleaned for me.’

Other non-active verbs cannot license intentional beneficiaries:

(79) *tiwa* ‘open’ (intr.)

\[
\text{Assanóochí illá-h-ó okissa-at i-*tiwa*-h,}
\]
adult only-TNS-ACC door-NOM DAT-open.NACT-TNS

\[
\text{alla-ano kiiyó-h hi-kak-ó.}
\]
child-ACC.CONTR not-TNS do.so.although-SR.DFLT

‘The door only opened for the adults, but not for the kids.’

*(Door is an automatic door with a poorly-calibrated sensor)*

(80) *alhkama* ‘close’ (intr.)

\[
\text{#Okissa-yat sa-shki im-*alhkama*-tok.}
\]
door-NOM 1SG.ABS-mother DAT-close.NACT-PST

‘The door closed for my mother.’

Some members of each class:

(81) a. Some -a verbs which have implicit agents

\[
\begin{array}{ll}
\text{fam-a-h} & \text{he was whipped} \\
\text{tap-a-h} & \text{it was cut down} \\
\text{chokchow-a-h} & \text{he was tickled} \\
\text{ichow-a-h} & \text{it was written} \\
\text{kashoof-a-h} & \text{it was cleaned} \\
\end{array}
\]

b. Some -a verbs which lack implicit agents

\[
\begin{array}{ll}
\text{bokaaf-a-h} & \text{it burst} \\
\text{koow-a-h} & \text{it smashed} \\
\text{alhkam-a-h} & \text{it closed} \\
\text{tiw-a-h} & \text{it opened} \\
\end{array}
\]

Next: two tests that diagnose the absence of an implicit agent.

6.1.4 Ability to license ‘success-with-difficulty’ readings

6.1.5 Ability to license *ilaap* ‘by itself’

6.1.4 Licensing ‘success-with-difficulty’ readings

When beneficiaries are added to unaccusatives, they may receive a ‘success-with-difficulty’ reading (cf. Schäfer 2007):

(82) People had been trying to open the jammed door all day. But after Katie gave it one particularly hard shove, it finally opened for her.

An important property: the beneficiary is coreferential with the person performing the action.

(83) After a hard shove, the door opened for her. (opener = beneficiary)

This requires that there is no implicit agent.

→ When there is an implicit agent, that agent cannot be coreferential with the beneficiary:
(84) The door was opened for her. (opener ≠ beneficiary)

→ Therefore, if a non-active verb licenses a success-with-difficulty reading, **there can be no implicit agent.**

(85) Some non-active verbs licensing success-with-difficulty readings

a. Kánah-at móyyoma-t tali-p-a **kochofi**
   someone-NOM metal-DEM-ACC bend.ACT

   bánna-sh má-ya-na shohbi-kak-ə, polaka
   want.LG-SS be.PL.LG-and.DS all.day-although.DS finally
   Katie-ano i-kochoofa-h.

   Katie-ACC.CONTR DAT-bend.NACT-TNS

   ‘People had been trying to bend this piece of metal all day, but it finally bent for Katie.’

b. Kánah-at okissa tìwwi bánna-sh
   someone-NOM door open.ACT want.LG-SS

   má-ya-na himmak-a-kak-ə, Katie-ano
   be.PL.LG-and.DS now-?-although-ACC Katie-ACC.CONTR
   i-tïwaa-tok.

   DAT-open.NACT-PST

   ‘People had been trying to open the door for ages, but it finally opened for Katie.’

Conclusion: some non-active verbs lack implicit agents.

(86) a. The window closed (all) by itself. (no agent)

b. *The window was closed (all) by itself. (implicit agent)

(87) ‘by itself’ modification in Hebrew (Kastner 2017:4-5)

a. (no agent) ha-tsamid hitparek me-atsmo
   the-bracelet dismantled from-itself
   ‘The bracelet fell apart of its own accord.’

b. (implicit agent) *ha-kisa porak me-atsmo
   the-chair dismantled.PASS from-itself
   ‘The chair was dismantled of its own accord.’

Choctaw has a similar expression: **ilaap(-akili).** As we would expect, it happily modifies non-agentive non-active verbs:

(88) **alwashaa** ‘fry’ (intr.)

   Akàkoshi car apakna bòhli-na **ilaap alwashaa-tok.**

   egg car on.top put.LG-and.DS itself fry.NACT-PST

   ‘I put the egg on top of the car and it fried by itself.’

(89) shila ‘dry’ (intr.)

   Himmak nittak lashpa-h-aatok-ə baalokka-at **ilaap**

   now day hot-TNS-because-DS pants-NOM itself

   shiil-aachì-h.

   dry.NACT-FUT-TNS

   ‘Because it is hot today, the pants will dry by themselves.’

→ Again, more evidence that some non-active verbs do not introduce an implicit agent.
Can agentive -a verbs ever lack agentive semantics?

Answer: perhaps...

- Ilaap(akili) is generally rejected with agentive non-active verbs:

  (90) *Ilaap itself whip.NACT-TNS
      ‘He got whipped by himself.’

- But given enough context, even typically-agentive non-active verbs can license by itself:

  (91) a. Ná chi-ppashi achiifa chi-nna-kiyo-h, ilaap
      NPI 2SG.ABS-hair wash.ACT 2SG.ABS-want-not-TNS itself
      wash.NACT-FUT-TNS
      ‘You don’t need to wash your hair, it will get washed by itself!’

  b. Oven-m-at ilaap kashoofa-h.
      oven-DEM-NOM itself clean.NACT-TNS
      ‘That oven gets clean by itself.’
      (of a self-cleaning oven)

  c. Hachi-shachonna-at katit ilaap taptowa-h?
      2PL.DAT-onion-NOM how itself chop.NACT-TNS
      An-aano sa-nishkin low-aachi-h.
      me-ACC.CONTR 1SG.ABS-eye burn.NACT-FUT-TNS
      ‘How y’all’s onions get chopped up by themselves? For me, my eyes will always burn.’

Further investigation is required, but it may be that Voice_{1} retains its ability to not introduce an implicit agent, for all verbs.

In summary:

- Choctaw non-active verbs split into two classes, on the following tests for an implicit agent:
  - Ability to license purpose clauses
  - Ability to license rationale clauses
  - Ability to license intentional beneficiaries
  - Ability to license ‘success-with-difficulty’ readings
  - Ability to license ‘by itself’

Analysis:

- The interpretation of Voice_{1}—whether or not it introduces agentive semantics—is determined by the root.

  → This can be implemented in a contextual alloosemy framework (Marantz 2013; Wood 2015; Myler 2016; Wood and Marantz 2017).

(Apologies for the lack of formalization—input appreciated!)

Next: an invariant component to the interpretation of Voice_{1}: it always licenses instrumental phrases.

6.2 Non-active forms all permit instrumental phrases

In English, instrumental phrases require an implicit agent (from Bruening 2013):

(92) a. The enemy sank the ship with a torpedo. (overt agent)
    b. The ship was sunk with a torpedo. (implicit agent)
    c. *The ship sunk with a torpedo. (no agent)
However, this is not universal! Unaccusatives/anticausatives in some languages license instruments:

(93) **Greek unaccusatives license instruments**

   a. Ta mallia mu stegnosan **me to** pistolaki.
      the hair my dried.ACT with the hairdryer
      ‘The hair dried with the hairdryer.’
      (Alexiadou and Anagnostopoulou 2009)

   b. To pani skistike **me to** psalidi.
      the cloth tore.NACT with the scissors
      ‘The cloth tore with the scissors.’
      (Alexiadou and Anagnostopoulou 2009)

Choctaw patterns with Greek.

- Non-active verbs with implicit agents license instrument phrases (of course):

(94) **Instrumental phrases with agentive non-active verbs**

   a. Bashpo ishit bashaa-tok.
      knife INSTR cut.NACT-PST
      ‘It was cut with a knife.’

   b. Am-aayi¯pa-at chokka ishit tiwwi-m-a ishit
      1SG.DAT-table-NOM house.key-DEM-ACC INSTR
      koloofta-t taha-tok.
      gouge.NACT-PTCP finish.NACT-PST
      ‘My table was scraped with a key.’

   c. Alla nakni-m-at iti ishit boowa-tok.
      child boy-DEM-NOM wood INSTR beat.NACT-PST
      ‘The boy was beaten with a stick.’

- Non-active verbs **without** implicit agents license instrument phrases too.\(^{21}\)

\(^{21}\) The sentences in (95) are translated as passives, since this was the translation favored by speakers. I do not claim that these verbs acquire passive-like interpretations when an instrument phrase is added (though this is possible). Further investigation is required.
7 Conclusion

The pieces of Choctaw argument structure:

<table>
<thead>
<tr>
<th>(96)</th>
<th>Voice_{D}</th>
<th>Morphology</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice_{D}</td>
<td>-li, -chi, Ø</td>
<td>agent/causer (assigned to Spec)</td>
<td></td>
</tr>
<tr>
<td>Voice_{I}</td>
<td>-a, Ø</td>
<td>manner, (agent) (implicit)</td>
<td></td>
</tr>
</tbody>
</table>

- One syntactic head can have at least two productive morphological realizations:
  - Voice_{D} ↔ -chi, -li
  → This is an argument that syntactic causatives can be formed without distinct Voice\textsuperscript{0} and Caus\textsuperscript{0} heads.

- One syntactic head can have multiple interpretations:
  - Voice_{D} may assign an agent or causer role to its specifier (undetermined by the root).
  - Voice_{I} may or may not introduce an implicit agent (determined by the root).

References


Appendix A: $<l>$-infixation

For many verbs that begin with $a$-, $ho$- or $ha$-, an /l/ is infixed after this syllable in the non-active alternant:

(97) a. akam-mi-$h$ she closed it
    alhkam-a-h it closed

b. awash-li-h she fried it
    alwash-a-h it fried

c. atooko-li-h they elected him
    alhitok-a-h he was elected

• Here, $<l>$ appears alongside -$a$, making this a case of multiple exponentence.

And for many of these verbs (including (?)all of the $ho$-$ha$- verbs), the alternants are distinguished solely by the presence/absence of $<l>$:

(98) a. achiifa-$h$ she washed it
    ahechifa-$h$ it was washed

b. hochiifo-$h$ she named him
    holchifio-$h$ he is named

c. hotiina-$h$ she counted them
    holhtína number (noun)

d. habiina-$h$ she received it
    halbína gift (noun)
Appendix B: Intransitive -li verbs

Choctaw has a number of intransitive verbs that sport -li. They fall into three main classes (plus one):

(99) Verbs with incorporated body parts\(^{22}\)

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ok-mochoh-li-h</td>
<td>she blinked</td>
</tr>
<tr>
<td>ok-misijka-li-h</td>
<td>she raised her eyebrows</td>
</tr>
<tr>
<td>nok-bikii-li-h</td>
<td>she had something caught in</td>
</tr>
<tr>
<td>yosh-bokoo-li-h</td>
<td>her throat</td>
</tr>
<tr>
<td>yosh-milaa-li-h</td>
<td>she is grey-haired</td>
</tr>
<tr>
<td></td>
<td>she is bald</td>
</tr>
</tbody>
</table>

(100) Motion and change-of-posture verbs

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>balii-li-h</td>
<td>she ran</td>
</tr>
<tr>
<td>balaa-li-h</td>
<td>she crawled</td>
</tr>
<tr>
<td>okshinil-li-h</td>
<td>she swam</td>
</tr>
<tr>
<td>binii-li-h</td>
<td>she sat down</td>
</tr>
<tr>
<td>chanal-li-h</td>
<td>it rolled</td>
</tr>
<tr>
<td>yanal-li-h</td>
<td>it flowed</td>
</tr>
</tbody>
</table>

(101) Internal causation verbs\(^{23}\)

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>bikob-li-h</td>
<td>it blossomed</td>
</tr>
<tr>
<td>paka-li-h</td>
<td>it blossomed</td>
</tr>
</tbody>
</table>

- We know that the -li is a ‘Voice\(_D\) -li’ because it undergoes optional deletion before -chi and participial -t:

(102) ‘Fully unaccusative’ -li verbs

<table>
<thead>
<tr>
<th>Verb</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>kata-li-h</td>
<td>it is tight</td>
</tr>
<tr>
<td>masaa-li-h</td>
<td>she healed</td>
</tr>
<tr>
<td>walhal-li-h</td>
<td>it boiled</td>
</tr>
</tbody>
</table>

- By contrast, more canonical unergatives are marked with Ø (taloowa ‘sing’, hilha ‘dance’) or -chi (cf. section 4.1.2 on noise emission verbs).

There is also small class of intransitive -li verbs, which cause more problems:

22. Choctaw does not have productive noun incorporation.
23. The internal causation verb anii-chi-h ‘blister’ can likely be given the same analysis as the ‘blossom’ verbs, mutatis mutandis regarding the realization of Voice\(_D\).

Appendix C: Stative verbs, and stative interpretations of non-active verbs

Stative interpretations confound tests for agents, since they invariably license purpose clauses (rationale clauses too, not shown):

(104) a. The meat is dried [to stave off diseases].

b. #The meat dried [to stave off diseases]

We see the same effect with Choctaw stative roots:

- If a verb has a stative interpretation, it can license a purpose/rationale clause, regardless of whether there is an implicit agent:

(105) [Kána-t ittiy-aa-bóowa-sh kiyō-h-o] [someone-NOM RECIP-LOC-beat.NACT-LG-SS not-TNS-DS] [himah-at apissa-h. road-NOM straight-TNS]

‘So that people don’t hit each other, the road is straight.’
Non-active eventive verbs can stativized in various ways, and then they start licensing purpose/rationale clauses too:

(107) [Abíika-m-a ab-aachi-k-a] nipi-m-at
disease-DEM-ACC kill-FUT-COMP-DS meat-DEM-NOM
shila-t taha yaa-tok.
dry.NACT-PTCP finish.NACT be-pst
‘In order to kill diseases, the meat was totally dry.’

(108) [Naa paka¯li okchay-aachi-k-a] abooshi-t libiisha-t
flower alive-FUT-COMP-DS room-NOM warm.NACT-PTCP
tookalhlhi-h
be.always-TNS
‘So that the flowers stay alive, the room is always warm.’

The stative vs. eventive interpretations of Choctaw verbs requires more investigation.

Appendix D: An alternative way to transitivize statives

Many stative roots can be transitivized with -li or -chi:

(109) Two ways of transitivizing stative roots

a. niyaa-li-h she fattened it
   niyaa-chi-h
b. awaata-li-h she widened it
   awaata-chi-h

Two options, as yet unresolved:

• Option 1: the two forms have the same meaning.
• Option 2: the two forms have different meanings, reflecting different structures.