A reanalysis of clause-marking morphology in Choctaw

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Roadmap

- Introduction to (historical) Choctaw morphology
 - Background on Choctaw (3)
 - The puzzle (4-10)
 - Previous descriptions (11-13)
- Our proposal:
 - The pieces (14-15)
 - Semantics of Tense markers (16-21)
 - Semantics of CP markers (22-27)
 - Stacking multiple shells (28-34)
 - Sequential SR and Fusion (35)
- Summary and conclusion
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Quick background on Choctaw

- A Muskogean language spoken in what is today Mississippi and Oklahoma
 - Originally Mississippi, forced Removal in 1831, resulting in a few separate groups, the largest of which are Choctaw Nation (Oklahoma) and the Mississippi Band of Choctaw Indians
- This talk is specifically about the variety (varieties?) of Choctaw spoken in Choctaw Nation in the nineteenth century
 - Shows some differences from modern varieties, which we'll discuss
- The Historical Choctaw Corpus
 - o 630k words, mainly legal records, some personal correspondences

The puzzle

- Tackling two issues:
 - Case/SR homophony
 - Decomposition of embedded clause endings

Background on switch reference

- Almost an embedded clauses end in a switch reference (SR) suffix
 - Almost all non-embedded clauses end in a sentence final particle (SFP)
- Switch reference: a complementizer that marks whether its clause and the immediately following clause have the same subject or not
- Following Amber (2025), we assume Choctaw has four different sets of switch reference markers that indicate different relationships, namely:

```
coordination
                                  '&:ss'
                                                          '&:ds'
                        -oosh
                                                -0
sequential coordination
                        -cha
                                 'seq:ss' /
                                                          'seq:ds'
                                                -na
                                 'contr:ss' / -ano
                                                          'contr:ds'
contrast
                        -ato
subordination
                                  'sub:ss' /
                        -at
                                                -a
                                                          'sub:ds'
```

Case/SR homophony?

Noted in Broadwell (2006: 299), Gordon & Munro (2017) and Tyler (2020)

	Nominative	Oblique
'Neutral'	-at	-an
'Contrastive	-ato	-ano
'Special'	-oosh	-on

	SS	DS
Subordinating	-at	-an
Sub-contrast	-ato	-ano
Coordinating	-oosh	-on

- No case equivalent for -cha/-na
- BUT diachronic evidence for relationship (Tyler, 2020: 101).
- Similarity in meaning for -ato/-ano AND SR searching for Nom-marked DPs
- Homophony common in SR systems generally (McKenzie, 2015)

Embedded Clauses

- The simplest embedded clause ends with a tense suffix and a switch reference suffix
- (1) Mrs. Sarah Frazier im Executor vlhtoka tok vt Report Bohli tokoke.

Mrs. Sarah Frazier im executor alhtokaatokat report bohlitokokii.

```
Mrs. Sarah Frazier im- executor alhtoka -tok -at
Mrs. Sarah Frazier 3.dat- *executor be.chosen -pst -sub:ss
```

```
report bohli -tok -okii

*report submit -pst -dec

'[The person] chosen as Mrs. Sarah Frazier's executor filed their report.'

(1876, Jack's Fork County Court Affairs, December 83)
```

(1876 Jack's Fork County- Court Affairs, December §3)

But there's other "stuff" that can occur too

"Other stuff"

A dizzying array of similar looking suffixes

• (2) Some before tense suffixes, some after:

```
    bohli tok ak o = submit- tokak -SR
    keyu hatuk o = be.not- hatok -SR
    hlampko hatuk okmut = strong- hatokokm(a) -SR
```

• (3) Other recurring elements:

```
    ai ahnikmut = think- km(a) -SR
    foha tuk mak osh = rest- tokmak -SR
    taha yokmuno = end- yokm(a) -SR
```

Also they occur on nouns

Also they appear on nouns

Things that we typically call nominative and accusative case:

```
(2) (a) Chitokaka yut
chitookakayat
chitokaka -yat
lord -nom
'The Lord...'
```

```
ik yimmo yot
ik yimmoyat
ik- yimmi -o -y -at
3.irr- believe -neg -? -sub:ss
'not believing,...'
```

```
(3) (a) issuba ha issobaha issoba -ha horse -acc '...the horse.'
```

```
(b) chia hat
chiyahat
chi- a -h -at
2s.abs- be -tns -sub:ss
'you are...'
```

(cont.)

(4) (a) ahni yokut

ahniyookat

ahni -yok -at

think -? -sub:ss

'???'

(b) pishno yokut

pishnoyookat

pishno -yok -at

we -? -nom

'???'

What have folks said about these? (Haag, 1996)

- Two tense markers: -tok 'past' and -aachi 'future'
 - "Choctaw...may be similar to those languages...that have a binary system: that is, past and future, with present tense inferable contextually." (Haag, 1996:17)
- Two 'predication' markers: -h 'realis' and -k 'irrealis'
 - These can follow the tense markers or a clause with no tense marking
 - "The behavior of nominal predicates (restricted use of -h; lack of pleonastic -a- in present tense) suggests that -h may be a predication marker and not a tense marker." (Haag, 1996:17)

What have folks said about these? (Broadwell, 2006)

- A variety of complementizers form portmanteau suffixes with SR (pg. 269)
- Three tenses: -ttook 'dpst', -tok 'pst', -h 'tns', and possibly -k 'embedded'
 - -k never occurs in matrix clauses
 - the suffix -aash 'previous mention' can only occur after -k
 - -k occurs in mainly in "fossilized" copular constructions, and between -aachi 'irrealis' and kiiyo
 'not be'
- Independently, a generic relativizer -ka which becomes -kat and -ka
- Some names/glosses for certain embedded endings (in 'ss' form):

(5)	-kmat	'irr(ealis)'	- tok at	'pt:comp:ss'	-m at	'd:nm'
	-oosh	'that/for/part:ss'	-tokmat	'pt:irr:ss'	-hmat	'when:ss'
	- ak oosh	'con:nm'	-ookat	'but'	-haatokoosh	'because'
	- k at	'that/when/comp'	- ohmak oosh	'although'	- ookak oosh	'but'

What have folks said about these? (Gordon and Munro, 2017)

- Three types of relative clauses:
 - o Demonstrative RCs, end in *-mat/-ma*, "which marks farther off items"
 - **-kaash** RCs, "the verb of a relative clause with past reference," "No other tense marking appears on the verb of a -kaash RC; -tok, for example, is incompatible with -kaash."
 - -ka RCs, "end in the complement switch-reference markers -kat and ka"
- In their data, -kaash is always followed by the demonstrative -mat/-ma
- And a traditional SR analysis does not explain some of the SR/case marking on relative clauses
 - This doesn't seem to have been true in the nineteenth century, so we won't address it in this analysis.

Our proposal

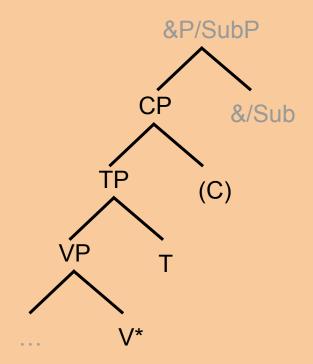
 Broadwell's complementizer -ka, embedded clause -k, and the /k/ in focus/topicalizing akoosh are all actually the same suffix -k.

```
(6) (a) -kat (b) akoosh
-k -at a -k -oosh
-stat -sub:ss be -stat -and:ss
```

- Most nominals are verbalized: anything with a case/SR suffix is actually a clause with SR
- "Shells" composed of three inflectional slots/projections between predicates and SR
- A Fusion based account of the sequential SR set *-cha* and *-na* (Amber, 2025)

The pieces

- Three v-heads: ∅, a, o
- Five tense suffixes: -ttook, -tok, -h, -k, -∅
- Two complementizers: -ma, -aash
- Clauses are encased in "shells":
 - o iterable
 - overt complementizer not obligatory
- Two phonological rules:
 - o ?-> y / _ V
 - ∅ -> y / V[front] _ V[front]



Meaning of the tense markers

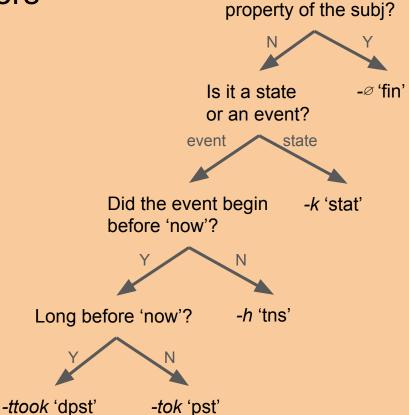
-ttook = distant past, 'dpst'

-tok = past 'pst'

-h = eventive 'tns'

-k = stative 'stat'

-∅ = finite 'fin'



Is it an unchanging

Depicted with Cowper's (2005) features:

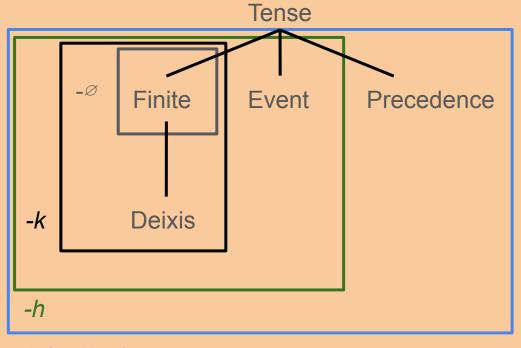
-ttook ⇔ [deixis, event, precedence, distal]

-tok ⇔ [deixis, event,
precedence]

-h ⇔ [deixis, event]

 $-k \Leftrightarrow [\text{deixis}]$

-∅ ⇔ [proposition]



-tok, -ttook

Why -k as 'stative'? (1)

• Used in matrix clauses in the 19th century, so not necessarily embedded:

```
(7) March 17 A.D. 1884, fehnut ma Special County Kot ittafama hikoke.
March 17 AD 1884 fiyihnakma Special County Kot ittafamahiikokiih.
March 17 AD 1884 fiyihna -k -ma -a Special County Kot
March 17 AD 1884 very -stat -rel -sub:ds Special County Court
ittafama -ahii -k -okiih
```

ittafama -ahii -k -okiih meet -pot -stat -decl

'On 17 Mar 1884 the Special County Court is in session.'

(1884 Jack's Fork County- Court Affairs, March §1)

Why -k as 'stative'? (2)

- Used for time, location, degree ('scene-setting') adjuncts
 - Other tenses usually aren't, these also usually don't seem 'irrealis'
- (8) Atukosh chukka taloha ka ponaklut isht Emahaya tok.

Atokoosh chokka taloohakan ponaklat isht ii mahayyatok.

atokoosh	chokka	talooha	-k	-an	
then	house	be.at.pl	-stat	-sub:ds	
ponakla	-t	isht-	ii-	mahaya	-tok
ask	-part	instr-	1p.erg-	follow-pst	

(1886 Kiamichi County- Transcript of Trial of Loring Thomas (Pt. 1) §1.2)

^{&#}x27;We inquired for him **from house to house**.' (Hudson)

^{&#}x27;Then we went from house to house, asking about him.' (our translation)

Why -k as 'stative'? (2)

(9) Kot ittafama hi ai alhpiisa May manti ammona kat ittafama ma Kot ittafamahii ayalhpiyisa May manti ammonakat ittafamama Kot ittafama -ahii a- alhpiyisa May manti Court meet -pot loc- correct May Monday

ammona -k -at ittafama -ma -a **first** -stat -sub:ss meet -rel -sub:ds

'Regular term of Court in session **on first Monday** in May 1873' (Hudson)

(1873 Jack's Fork County- Court Affairs, May §1.1)

Why -k as stative? (3)

- Exhortatives formed with -shkii
- Negated events are, or at least often behave like, states (Horn, 2001:54-55)
- (10)Yohmi kut a nan ulhpoa ut Lecha ak osh immi hashke Yohmikat an nan alhpowa at Lecha akoosh immihashkiih yohmi -k -at annan alhpowa -at Lecha a -k -oosh immi -h -shkiih be.so -stat -sub:ss 1s.dat-livestock -nom Lecha cop -&:ss theirs -tns -exhort -stat cop 'And so **let** Lecha **be the owner** of the livestock' (History Group translation) (1870 Jack's Fork County- Will of Mine §11.1)

(11)Anumpa vlhpisa isht untuchina kvt, Chik hukopo kashke. Anompa alhpisa isht ontotchiinakat, chik honkopokashkiih. chik- honkopa anompa alhpisa isht ontotchiina -at -shkiih commandment eighth -stat -sub:ss 2s.irr- steal -stat cop -exhort -neg 'The eighth commandment is, Thou shalt not steal.'

(1894 The Shorter Catechism of the Westminster Assembly of Divines pgs. 27-30 §8)

The lower CP: -ma and -aash

- We analyze these as follows:
 - o -ma = clausal argument 'rel'
 - -aash = restrictive relative clause marker 'restr'
- Gordon and Munro (2017:4) show that modern Choctaw allows
 - Co-occurrence of both complementizers, i.e.: VB-T-aash-ma
 - -pa as a proximal complement to distal -ma
- In the nineteenth century corpus *-pa is unattested (cf. thousands of -ma), and *-aashma- is almost unattested (one token from 1920)
 - These must be later (20th century) innovations

The meaning of -ma

- Used with "if/when" type embeddings, minimal pairs seem to mean:
 - without -ma: clauses with -ma:: relative clauses, head is argument of the matrix clause: adjunct, entire clause is argument of the matrix clause
 - Re (13): #Was the sheriff holding him or was he holding something/someone else?
- (13) Sheriff ut halullekma keyokma nata toko? Sheriffat halallikma kiyokma natatoko?

```
sheriff -at halalli -k -ma kiyokma nata -tok -o sheriff -sub:ss hold -stat -rel or be.what -pst -Q
```

'Was he prisoner of the sheriff or not?' (Hudson translation)
(1883 Kiamichi County- Transcript of Trial of J.W. Everidge (Pt. 2) §6)

Nominals with -ma

Animate nominals tend not to occur with -ma:

0	alla 'child':	alla ya	1199	alla ma	35
0	hattak 'man':	hattak a	899	hattak ma	18
0	ohooyo 'woman':	ohooyo ha	122	ohooyo ma	14
0	issoba 'horse':	issoba ha	118	issoba ma	2

- For a bare nominal + ma + SR versus a bare nominal + SR:
 - Verbalizing a nominal and then adding -ma to the bare finite form of that verb doesn't really change the meaning
 - No real difference between "a man" and "a situation in which somebody is a man"

Refrain from an explicit formalization of the semantics for -ma, will gloss as 'rel' here

Nineteenth century use of *-aash* (on new, unique entities)

- At the beginning of utterances (or in this example entire texts) for previously unmentioned entities:
 - o "the year which was [in/during] 1856"
- (14) Affammi 1856 fokakash ohoyo amasha tuk...

afammi 1856 fokkakaash ohooyoh amashatok...

```
afammi
        1856
                  fokka -k -aash
                                         ohooyo
                                                                asha
                                                                         -tok
                                                  -h
                                                      am-
         1856
                  during
                           -stat-prev
                                                      1s.dat-
                                                                be.at
year
                                         woman
                                                  -n
                                                                         -pst
'in about year 1856- I lived with a woman...' (Hudson translation)
```

(1872 Red River County- Case No. 007 §1.3)

Nineteenth century use of *-aash* (with plural subjects)

(15) No 37 illappak atuk a Kot ut wakili- nan anole kush hoyot ai im Xhaponaklot im ulhtaya mut...

No. 37 illappakaatoka Kotat wakiili- nan anoolikaash hoyot ayimahaponaklot im alhtayaahamat...

No. 37	illappa	-k a	-tok - <u>a</u>	Kot -at wakili	nan anooli -k -aasl	h
No. 37	this	-stat cop	-pst -sub:ds	Court-nom raise	testify -stat -prev	/
hoyo	-t a-	im-	ahaponaklo	-t im- alhta	ayaha -ma -at	
search	-part loc-	3.dat-	ask.smb	-part 3.dat- read	ly.iter -rel -sub:ss	

'Court took up petition Case No 37. Court- after having heard the testimony of witnesses' (Hudson)

'Court took up [case] number 37, and once the witnesses [the ones who are testifying] were asked about being ready...' (my translation)

(1880 Kiamichi County- Court Affairs, March §13.1)

Nineteenth century use of -aash

- Can be used with the introduction of a particular subject
- Always attached to contextually distinct entities or a set of entities

- Summary: -aash restricts the subject set to the (maximal) subset for which the predicate is true
- Syn/sem speaking: restrictive relativiser.
 - John, who was tall, not restrictive
 - The man who was tall restrictive, contextually unique
 - "The people pertinent to this case" specifies multiple things with shared property.

Multiple shells: (1) the auxiliary o

- The auxiliary verb o is only ever followed by the stative tense -k
 - Proposal: o is a "do"-verb with no semantic content, it is introduced to enable a 'stativizing shell' around the predicate
 - "The state of the world is such that the clause (including the lower tense marker) is true"
- Predicted difference between e.g. VB-kat vs. VB-T-okat (two fictional exs.)

[nokoowa- k] -at	[nokoowa- tok] -o-k] -at
'[While] she is/was angry, she'	'Having been angry, she'
describes manner or a state which is at least simultaneous with the matrix verb because this embedded verb has no temporal specification of its own, i.e. it is the state of the subject which concurs with the matrix state or event	describes context or justification, no implication of simultaneity

Multiple shells: (1) the auxiliary o

(16)hatak hohchiffo Abel Suckey illuppat shukha yat imi kiyo hosh abit tok okat Chahta okla i nan ulhpisa...kobaffi hattak hohchiffo Abel Sucky ilappat shokhayat immi kiyohoosh abittookokat Chahta okla i nan alhpisa kobaffi hattak hohchiffo Abel Sucky ilappa -at shokha -at named Abel Sucky this -sub:ss piq -sub:ss man immi kiyo abi -ttook -h -oosh -at not theirs -&:ss do -stat -sub:ss -tns kill -dpst Chahta okla inan alhpisa kobaffi break Choctaw people 3.datlaw

(1892 Red River County- Case No. 043 §1.3)

^{&#}x27;This man Abel Sucky, **having killed** a pig that didn't belong to him, has broken the law(s) of the Choctaw people.'

Multiple shells: (2) the auxiliary a

• The verb a can occur as a copula in the lower 'shell', but is silent in the third person generic tense (*ah 'is')

```
(17) (a) Clerk seya hut...

Clerk siyaahat...

clerk si-

clerk 1s.erg-

be -tns -sub:ss

'Being the Clerk, I...'

(b) Nakne attok

nakni attook

nakni a -ttook

male be -dpst

'It was a male [horse].'
```

- As an "outer shell" verb it retains a copular "it is (the case that)" meaning:
 - o X a-k 'a state in which [the world is such that] X'
 - o X a-tok 'an event in the past in which [the world was such that] X'
 - o (etc.)

Multiple shells: (2) the auxiliary a

- Some pragmatic machinery: topicalizing ak-& and hatok-& 'because'
- "(Look,) it's raining- I'm not going out right now."
- (18) Opia hatuko Kot ut fohut tiapushki

Opiiyahaatoko Kotat fohat tiyaapashkii.

```
opiya -h a -tok-o Kot -at foha-t tiyaapa -shkii evening -tns cop-pst -sr:ds Court -sr:ss rest -part adjourn -exh
```

'It being late, Court adjourned' (Hudson translation)

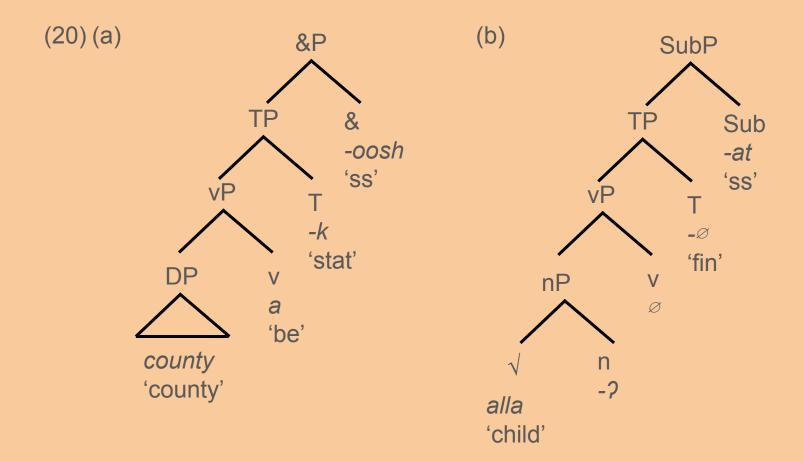
['Because sunset happened']

(1871 Jack's Fork County- Court Affairs, February (Pt. 1) §5)

Multiple shells: (3) Nominals as embedded clauses

Last one! How nominals work in this analysis:

```
(19) nana ammih moma ka um ulla yat ai ittibai halalachi mako...
    nana ammih momaka am allayat ayittibahalallaachimako...
    nana ammi
                -h
                     moma -k -a
                                                   alla
                                                                        -at
                                          am-
                 -n all -stat-sub:ds 1s.dat- child
                                                                    -fin -sub
    mine
        ittibahalalli
                     -aachi
                             -ma -k
    a-
    loc- be inherited -fut -rel -stat
                                              -&:ds
    'And for all of my possessions, [those who are] my child(ren) will inherit them'
                                      (1888 Red River County- Case No. 087 §1.3)
```



(21) Nan ikhuna <u>i</u> kana sia mak osh sa hohchifo ha takalichi lishke.

Nan ikhaana <u>i</u> kana siyaamakoosh sahohchiffoha takaalichilishkii.

```
nan ikhaana
                              kana
                                          si-
                 i-
                                                      a
                                                                  -ma
                                                                        а
                                                                              -k
                                                                                    -oosh
knowledge
                  3.dat-
                              friend
                                          1s.abs-
                                                            -fin
                                                                  -rel
                                                                              -stat -&:ss
                                                      cop
                                                                        COD
```

```
sa- hohchiffo -h -a takaalichi -li -shkii
1s.abs- be.named -tns -sub:ds sign -1s.erg -exhort
```

'I respectfully subscribe myself a friend of learning.' (Allen Wright)

'Being a friend of learning, I sign my name.' (our translation)

(1880 Introduction to A Choctaw in English Definition §6)

(22) ...Achit koat mak osh Apissa hoki.

...achit koat makoosh apisahokiih.

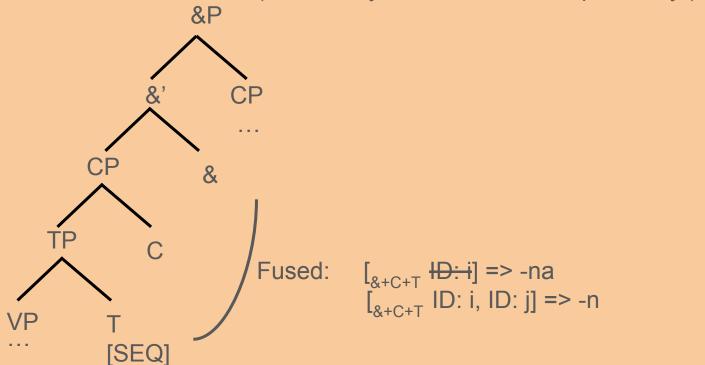
```
achi -t koat Ø -Ø -ma a -k -oosh apisa -h -okiih say -part court v -fin -rel cop -stat -&:ss judge -tns -decl
```

'By order of the Court,...'

(1888 Red River County- Court Affairs, September §5.10)

Sequential SR (-cha, -na)

Fusion of &, C, and T/M/A (whatever you want to call "sequentiality"):



Conclusion

- We can identify consistent semantics for the affixes proposed here
 - o ∅, a, o, -ttook, -tok, -h, -k, -∅, -ma, -aash
- They combine in ways that seem to predict the meanings of complex embedded clause endings
 - Testable predictions about the nuanced differences between certain endings
- We can also think about specific semantic changes between 19th and 21st century Choctaw
- Use in pedagogy and description

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Appendix A: semantic change in the lower CP

- What changed to give us -pa and -aash-ma?
- Demonstrative pronouns vs. complementizers:

```
    this: ilappa / yappa : *-pa
    that: ilamma / yamma : -ma
```

- Speakers analogize the relationship between -ma and ilamma to create -pa from ilappa
 - Now there is a contrast between proximal and distal in the complementizers, shifting the semantics to being primarily deictic
- Because the semantics of *-pa/-ma* form a natural contrast that is unrelated to the semantics of *-aash*, they are reanalyzed as forming separate projections
 - Permitting their co-occurrence, which is now felicitious
 - Leading to a reanalysis of -aash as a 'previous mention' marker in modern varieties?

Appendix B: -hma 'when' vs. -kma 'if'

- Two similar suffixes:
 - -hma 'when', used for past or present events which definitely happen(ed)
 - -kma 'if', used mainly for future events, could either happen or not (but not always, see 13.)
- In our analysis, the difference should be purely one of tense:

```
(23) (a) -hmat (b) -kmat
-h -ma -at
-tns -rel -sub:ss -stat -rel -sub:ss
```

- Describing a particular contextualizing event vs. surmising about future states of the world:
 - "When he came through the door..." (event)
 - "If/once he's come through the door..." (possible future state)

Appendix C: Another example of -ma

Versus "Where were you able to say it, having caught the horse?"

```
(12) Issuba ilappa kunimma ya ish atakche tukmut ish anola hinla ali tok.
    Issoba ilappa kanimmaya ish atakchitokmat ish anoolahila alitok.
          ilappa kanimma -a ish- a- takchi
    issoba
   horse this where -sub:ds 2s.erg- loc tie.up
   -tok -ma -at ish- anoli -ahila -N a -li
                                                          -tok
   -pst-rel -sub:ss 2s.erg- tell -able -Q say -1s.erg -pst
   'I asked, "Can you say where you caught this horse?"
        (1886 Kiamichi County- Transcript of Trial of Nelson Wesley (Pt. 1) §2.10)
```