



Intonation in Kwadacha (Fort Ware Tsek'ene)

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Looking west (upriver), Ingenika R. (**Indinii gàh**)

Mike Abou

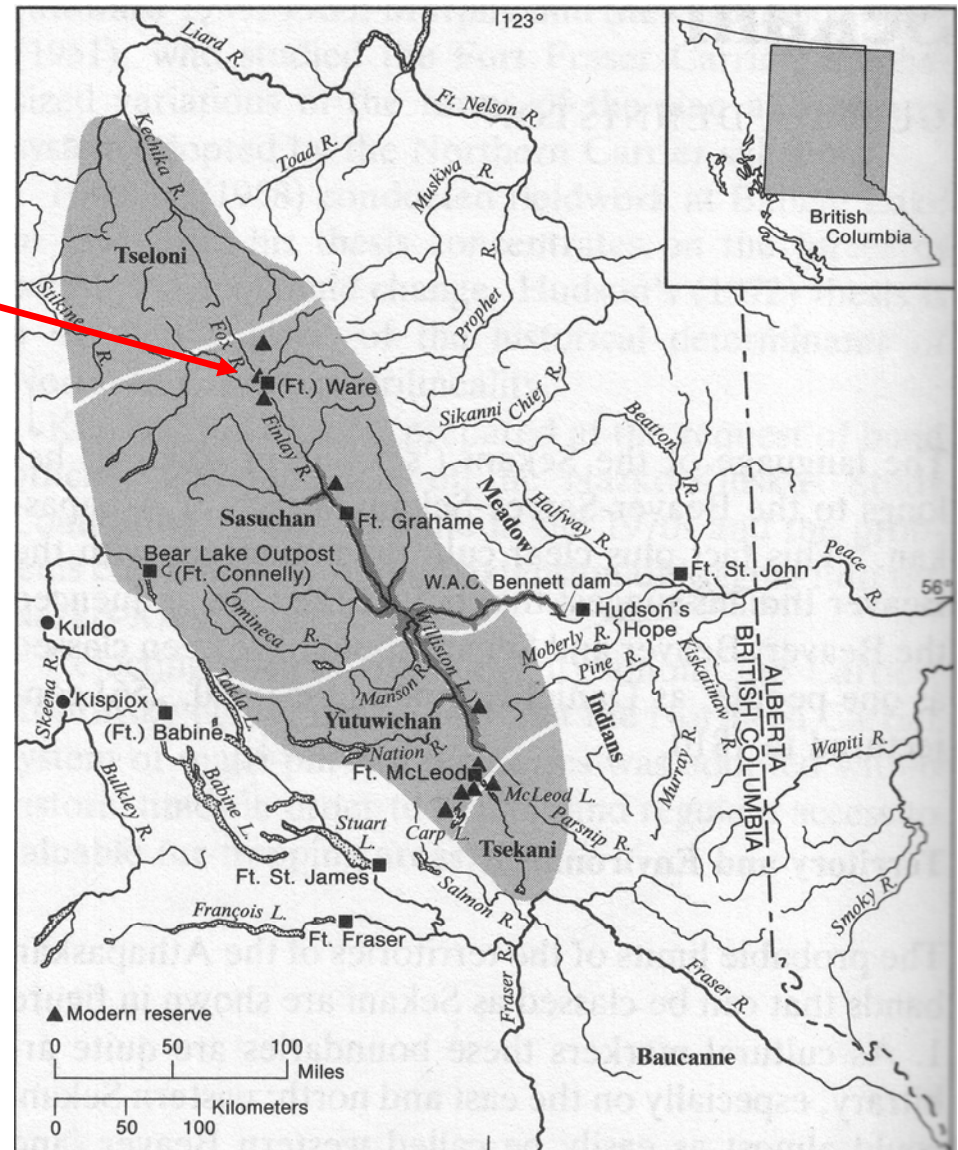


Mary Charlie, Edna McCook



Kwadacha language

- Kwadacha = anglicization of **Kwùdàtą** ‘White R.’
- Also known as Fort Ware **Tsek’ene** (Sekani)
- dialect of **Tsek’ene** with many words borrowed from Kaska (language spoken to north)



Map from
Denniston 1981

Organization

- Background
 - Intonation in Dene languages
 - Tone within words in Kwadacha
- Intonation contours in Kwadacha
 - Declarative
 - Interrogative
 - Uncertainty
- Conclusions and future work

Intonation



looking north, up the Rocky Mountain Trench, above Fort Ware BC

Intonation

- = sentence level tone patterns
 - á (high tone)
 - à (low tone)
- Intonation marking in ‘autosegmental-metrical model’ (term from Ladd 1996)
 - T* = tones aligned to stressed syllables
 - T% = tones aligned with edges of sentences/clauses
 - T- = tones aligned with edges of smaller phrases

Intonation in Dene languages

- Issue: do tonal Dene languages have intonation contours?
- Tonal Dene languages already have lexical tone marking

Navajo

- Tonal (syllable-final *ʔ > low tone)
- McDonough (2003) ‘The Prosody of Interrogative and Focus Constructions in Navajo’
 - noted ‘observations by native speaking linguists (Willie p.c., Austin-Garrison p.c.) that Navajo has no tonal intonation’
 - instrumentally studied declarative, interrogative, and focus constructions
 - concluded ‘no systematic patterns of intonation can be construed for these utterances’

Intonation in other Dene languages

	declarative	yes/no question	imperative	wh-question	coordination	dependent clause
Slave (Rice 1989)	L%	H%			H-	H-
Tanacross (Holton 2005)	H* L%	H* H%	L* L%	H+L* L%		
Dena'ina (Tuttle and Lovick 2007)	L%					

- Tanacross and Slave are tonal; syllable-final *ʔ > high tone
- Slave and Dena'ina descriptions recast in terms of the autosegmental-metrical model
- Dena'ina L% confirmed in quantitative study

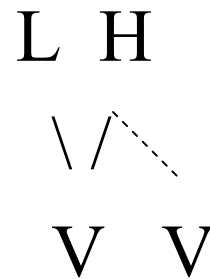
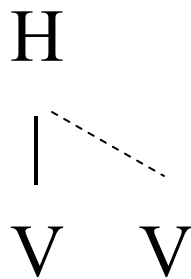
Tanacross

- Of interest because intonation interacts with lexical tone



Rightward H-Spread

- Lexical tone rule, interacts with intonation
 - ‘When a high tone (or rising tone, which is underlying composed of a low-high tone sequence) precedes a low tone prefix syllable, the high tone generally spreads to the following syllable.’ (p. 257)



Rightward H tone spread

- Low tone prefix (underlyingly toneless) preceded by low tone stem remains low

sè:y n_èkʔèh

sè:y n-εk-ʔèh

knife thm-1sg-see:impf

‘I see the knives.’

- Low tone prefix preceded by high tone stem becomes high

ʔóx n_ékʔèh

ʔóx n-εk-ʔèh

fish.hooks thm-1sg-see:impf

‘I see the fish hooks.’

Rightward H tone spread blocked by H

- ‘A high tone may continue to spread rightward so long as no stem syllables intervene, however high tone does not spread to a pre-stem syllable which precedes a high tone stem syllable, as first noted by John Ritter (p.c.).’ (p. 260)

- uʔé† ðíhdah

u-ʔé† ð-ih-dah

3s-with cj-1sg-stay.impf

‘I’m staying with him’

- uʔé† v̄ihdáʔ

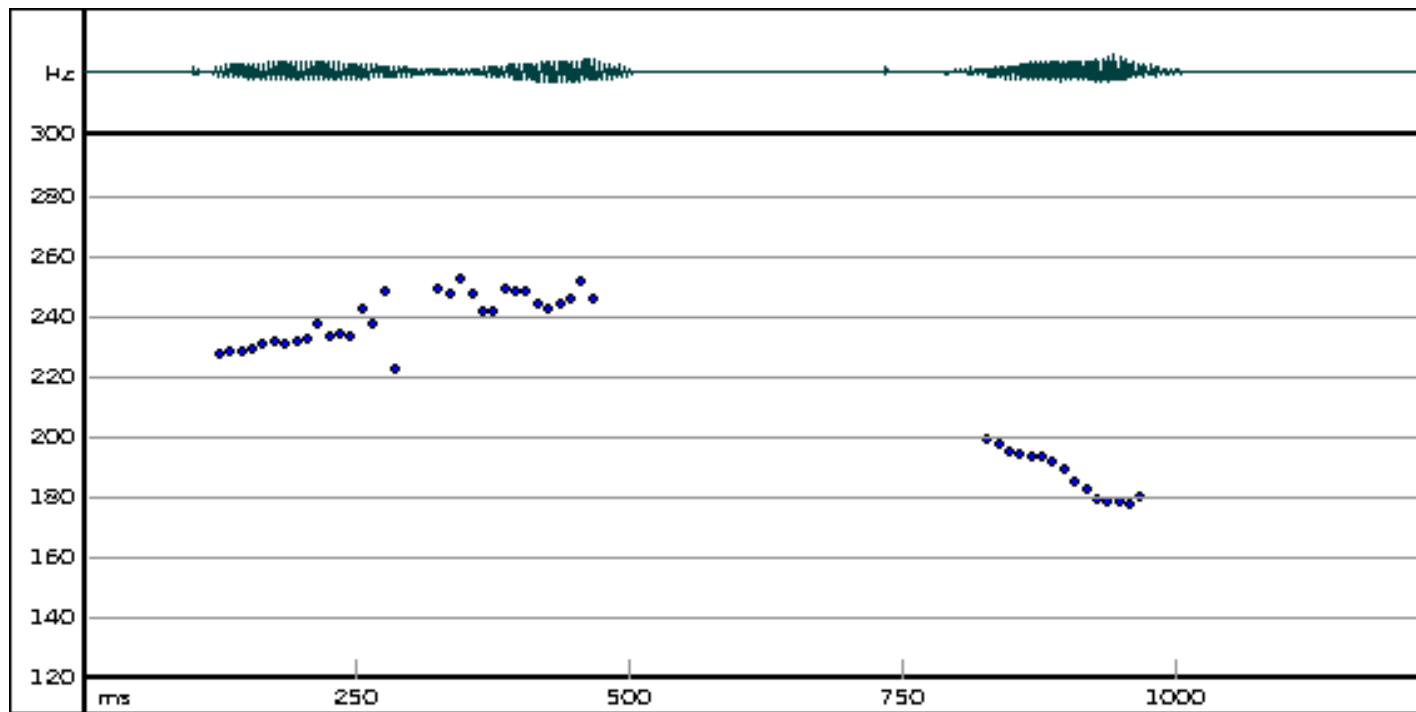
u-ʔé† v̄-ih-dáʔ

3s-with cj-1sg-stay.perf

‘I stayed with him’

The Tanacross wh- question contour

- Pitch track for wh- question with high tone stem
- Holton: intonational L* replaces stem's lexical H, so H spread from noun [dí] 'what' to prefix syllable [ih] can take place (will not be blocked by stem H)
- (SH: wh- question contour therefore probably L*, not H+L*)



dí ih t'é:θ
 lexical tone H → L H
 intonation H+L* L%
 'what are you frying?'

Tanacross summary

- Intonational tones can interact with lexical tones, even replacing them

Word-level tones in Kwadacha



Above Fort Ware, looking west up the Finlay R. towards Prairie Mountain.

Guide to Kwadacha orthography

- Vowels

- Basic vowel qualities

- **ii** = [i]

- **i** = [ɪ]

- **e** = [e]

- **oo** = [u]

- **wu** = [ʊ]

- **o** = [o]

- **u** = [ə]~[ʌ]

- **a** = [ɑ]

- Long versions of some vowels (relatively uncommon)

- **iii** = [i:]

- **ooo** = [u:]

- **ee** = [e:]

- **aa** = [ɑ:]

- Consonants: **kh** [x]; **lh** [ɬ]

- Tones










- $\overset{\grave{}}{V}$ = low tone vowel; e.g. \grave{e}

- $\overset{\acute{}}{V}$ = high tone vowel; e.g. \acute{e}

- $\overset{\grave{}}{V}\overset{\acute{}}{V}$ = rising tone vowel; e.g. $\grave{e}\acute{e}$

- $\overset{\acute{}}{V}\overset{\grave{}}{V}$ = falling tone vowel; e.g. $\acute{e}\grave{e}$






Kwadacha tones

- Low tone < *ʔ; e.g.
 - *tšaʔ ‘beaver’ (Leer 1987) > **tsà’** 
 - **lhàwù** ‘once’ 
- High tone; e.g.
 - *ya: ‘sky’ (Krauss and Leer 1982) > **ya** 
 - **lhawù** ‘stop it’ 
- Rising tone
 - Prefix syllables mostly; e.g. **dàahts’ii** ‘you (pl.) sit’ 
 - cf. high **dahyusè** ‘overhead snow (on branches, etc.)’ 
- Falling tone (rare)
 - Stem *wa:n’-e: ‘edge’ (Krauss and Leer 1982) **taàmah** ‘shore’ 
 - Prefix syllables **dulhaàghsusla** ‘I set them (traps)’ 
 - cf. high **dulhaghts’ùsla** ‘we set them (traps)’ 

Tone and word-final glottal stop

- Word-final glottal stop is predictable from low tone in nouns and verbs
 - **ts'à** 'dish'
 - **-bè** 'pick berries'
- For adverbs, postpositions, contrast between word-final final 0, '
 - **lhùdò** 'dying, setting'
 - **k'udà** 'still, yet'

Status of H tone

- Some prefix syllables are not specified for tone
 - **ah-** 2pS
 - **utsùn aht'ès** ‘you (pl.) are frying meat’ 
 - Contour tone not created when vowels are deleted:
 - **ka ìhhlhah** ‘he is working’
 - **ka ahhlhahq** ‘are you (pl.) working?’ 
- Other prefixes are specified for tone 
 - **ii/a-** gh-conjugation
 - **nùts'ats'ut** ‘we fell down’ 
 - **nàats'ut** ‘he fell down’ 
- Assumption: all vowels surface with H tone if not specified for tone underlyingly or assigned a tone

Intonation contours in Kwadacha



Research question and hypothesis

- Research question
 - Can all systematic aspects of pitch patterns at the sentence level in Kwadacha be accounted for with lexical tones alone (as in Navajo)?
- Hypothesis
 - No. There are three intonation contours:
 - ‘Declarative’: H* L%
 - Yes/no question: L% H%
 - Uncertainty: HL%
 - Hypotheses based on observations of elicited data, one text

Declarative

- What happens to pitch in sentences whose words all have same lexical tone?

– All H lexical tones

- *Mary diih kiiduts.* 

chicken 3s.plucked

‘Mary plucked a chicken.’

- cf. H stem in:

Ma kuniidudz-a? 

who 3s.plucked.you-*wh*

‘Who plucked you?’

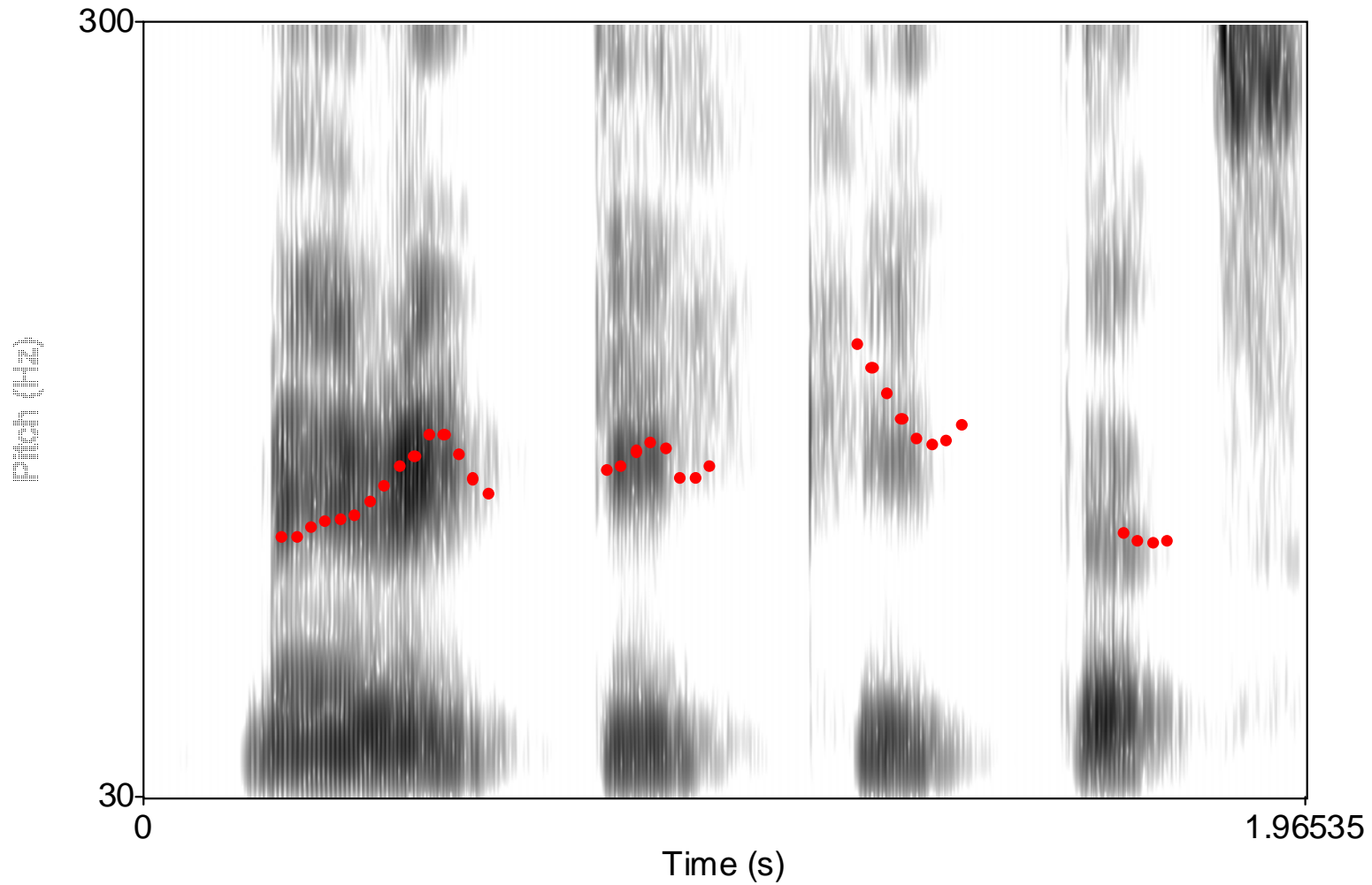
Declarative intonation

- H* L% ‘declarative’ intonation contour
 - H* links to leftmost H tone syllable of verb (upstepping lexical H)
 - L% links to word-final syllable of sentence (creating final falling tone)
- Sentence types using this contour
 - Declaratives (one clause)
 - Wh- questions
 - Yes/no questions (if morphologically formed)

Ma r y **dii h k ii** **d u ts** 🗣️

lexical H H H H H

intonational H* L%



ma ku n ii du dza



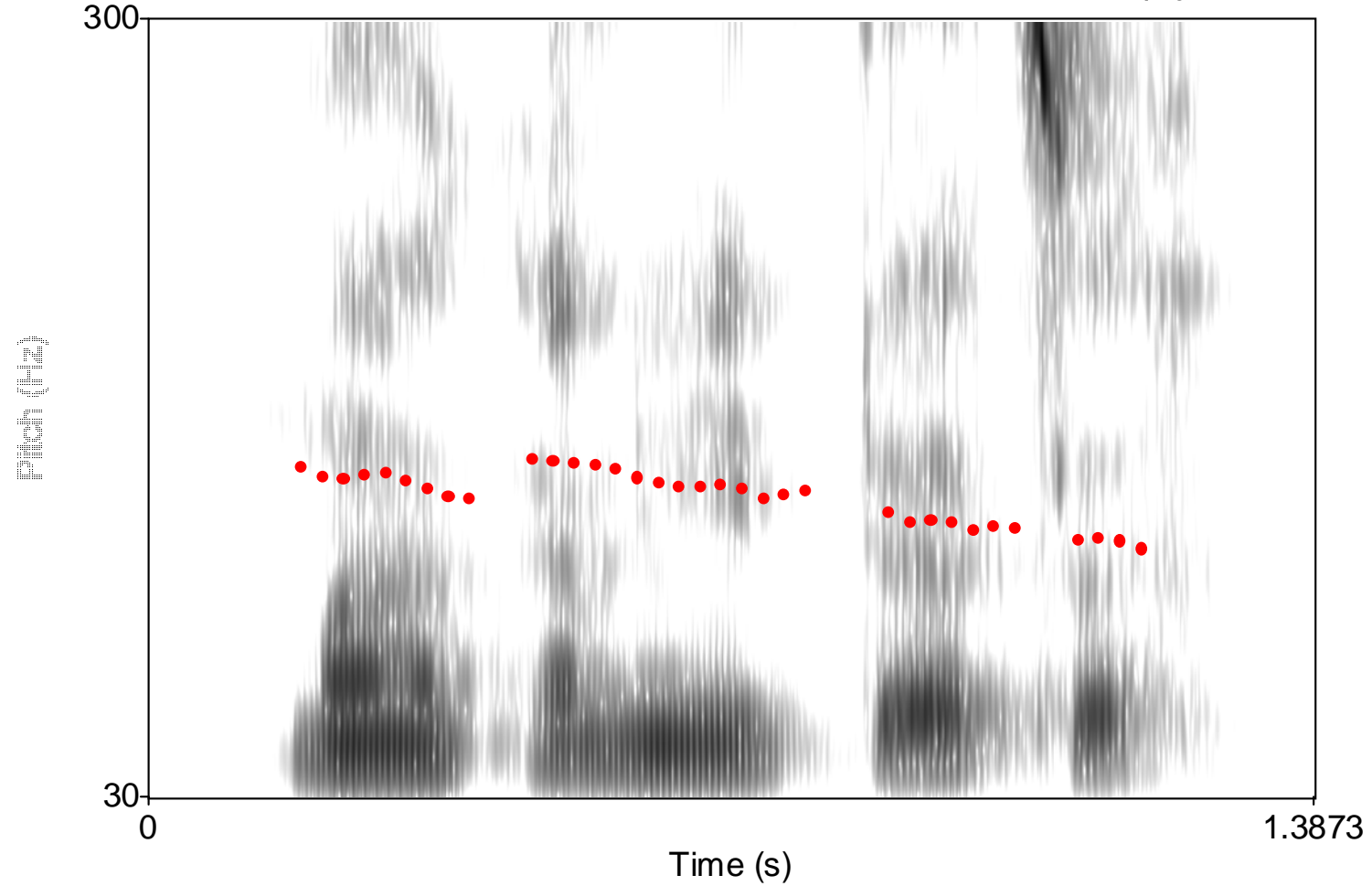
lexical

H H H H H

intonational

H*

L%



A textual example

Kusk'eh zoh khutawnuyeh-ii



in this way only 3s.is.raising.us-*nom*

uwute'e khutawoonehyeh.

well they're.raising.us

‘They did a good job raising us the way they
did.’ (Abou 1999)

L- at right edges of smaller phrases?

Kusk'eh zoh uh]_{AdvP} khutawnuyehii] uwute'e khutawoonehyeh.

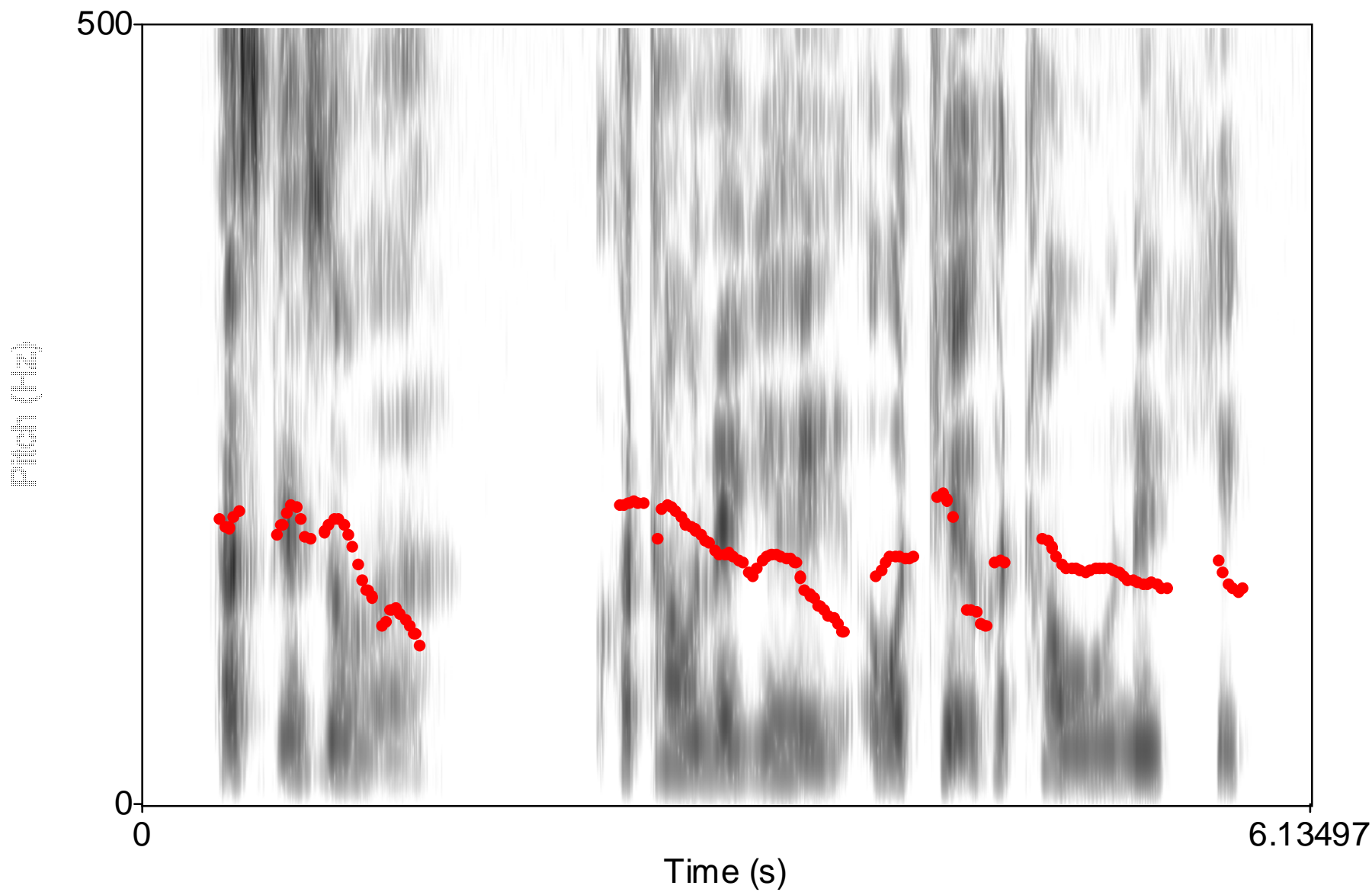


intonational

L-

L-

L%



Yes/no questions

- Morphological

- -o

- **diinh'ànho** ‘are you going to chew it (right away)?’ 

- cf. **diinh'ành** ‘you’re going to chew it (right away)’

- **ko...(-o)**

- **ko nu'iintsèt?**

- Q* you.ate.something

- = **ko nu'iintsèd-o?**

- Q* you.ate.something-*Q*

- ‘Did you eat?’

Intonational yes/no questions

– *Mary kuniiduts?*



3s.plucked.you

‘Did Mary pluck you?’

– *Mary èh k`inints`ulh?*



with you.walk around blindly

‘Are you walking around blindly with Mary?’

cf. *Nu`èh k`its`idnuts`ulh.*



with.you we.walk around blindly

‘We’re walking around blindly with you.’

Yes/no question contour

- L⁰ H⁰
 - L⁰ aligns to leftmost lexical L of question
 - otherwise to left edge of question

Mary **ku nii** **duts?**



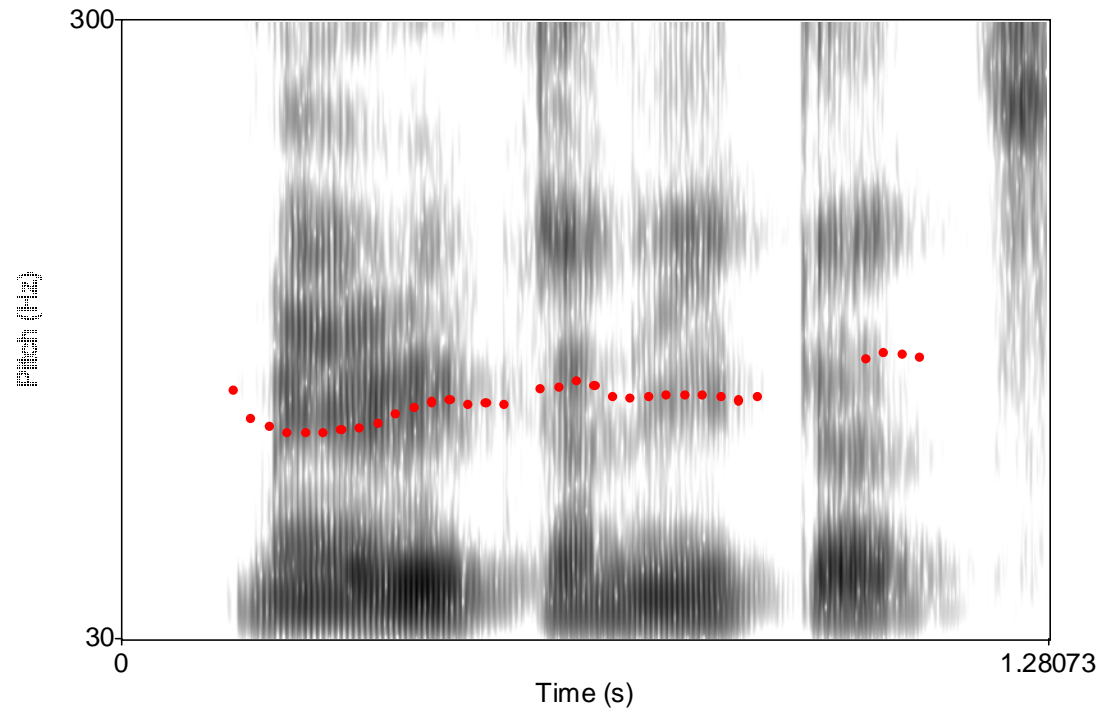
lexical

H H H H H

intonational

L%

H%



Mary èh k'ì nin ts'ulh?

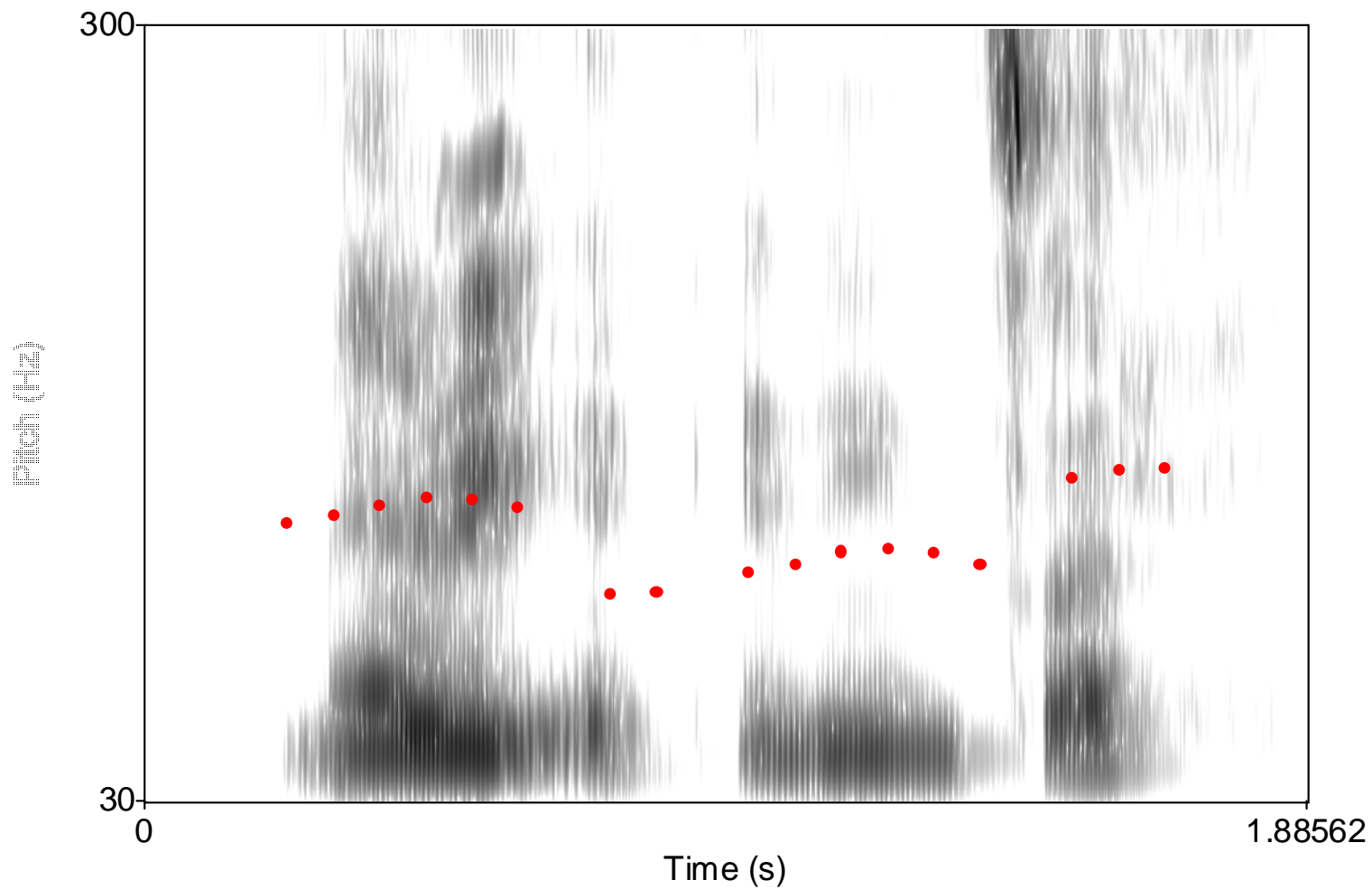


lexical

H H L L H L

intonational

L% H%



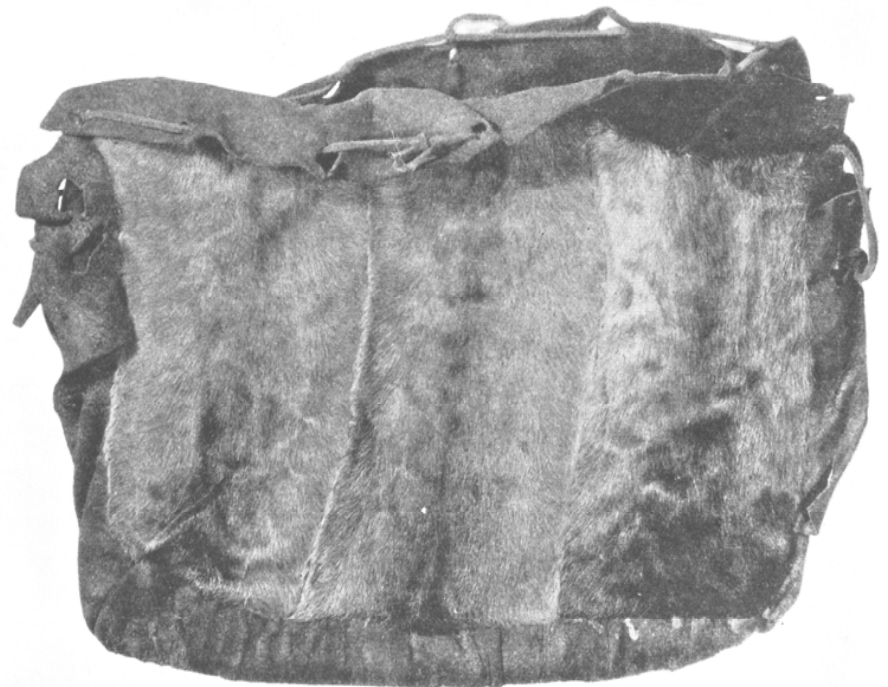
Uncertainty

- Semantics of **la** vs. **so/sa**
 - **la** in Kwadacha: assertion with certainty, focus
 - **la** cognates in other Dene languages
 - Kaska: ‘**lā** is used to assert that something occurred or is true’ (Pat Moore (p.c.))
 - Tsuut’ina: **la** is the ‘inferential particle’ (Sapir 1925:192)
 - Western Apache **lá** supplies ‘an emphatic reading, consistent with focus, to the preceding DP’ in non-wh contexts (Potter 1997:138-139)
 - Navajo, **lá**, often glossed “Evid” (evidentiality particle), ‘denotes primarily that the idea which it modifies has just occurred to one, just been discovered, or just been brought to one’s attention. It is often translatable by English phrases such as **I find, I found, I discovered.**’ (Young and Morgan 2000: 305).

- **Toohgwuna la.**

hide bag certainty

‘It’s a moose hide bag (with hair left on).’



Cf. copula with cliticized **la**

last’e ‘I am’

lant’e ‘you are’

looht’e ‘he/she/it is’

lats’iiht’e ‘we are’

laht’e ‘you (pl.) are’

laghiht’e ‘they are’

(used in positive or negative sentences, but not questions)

so...-ìì uncertainty

- semantic opposite of la
 - ‘maybe, might’
 - la and so/sa never occur in same sentence
- ‘variants’: sa, dèso, kwùso, kòòso
- -ìì used after consonant-final verbs
 - 0 after vowel-final verbs

Uncertainty contour

- HL%
 - aligned with right edge of verb stem
 - prefix stem
 - H L
 - L replaces H stem tone
 - H does not replace L prefix tone: HL created
- Uncertainty contour required in sentences with **so_q** and variants (but not limited to such sentences)

- *Edna* **la** **usanii mewuyàh.** 

certainty alone 3s.is.suffering

‘It’s Edna who is suffering alone.’

- *Edna* **so** **idè’è usanii mewuyàhì.** 

uncertainty back alone 3s.is.suffering

‘It might be Edna who’s suffering alone back there.’

- **Yìnònè *Mary* la k'ànustà.** 

across certainty I.see.her

‘I (definitely) see Mary across there.’

- **Yìnònè *Mary* sò k'ànustà.** 

across uncertainty I.see.her

‘That might be Mary I see across there.’

- **Uyii la dàna dèt'ẹ.** 

that certainty money 3s.has

‘That guy (definitely) has money.’

- **Uyii so_q dàna dèt'ẹ.** 

that uncertainty money 3s.has

‘That guy might have money.’

Uyii so_ɔ dàna dèet'è.

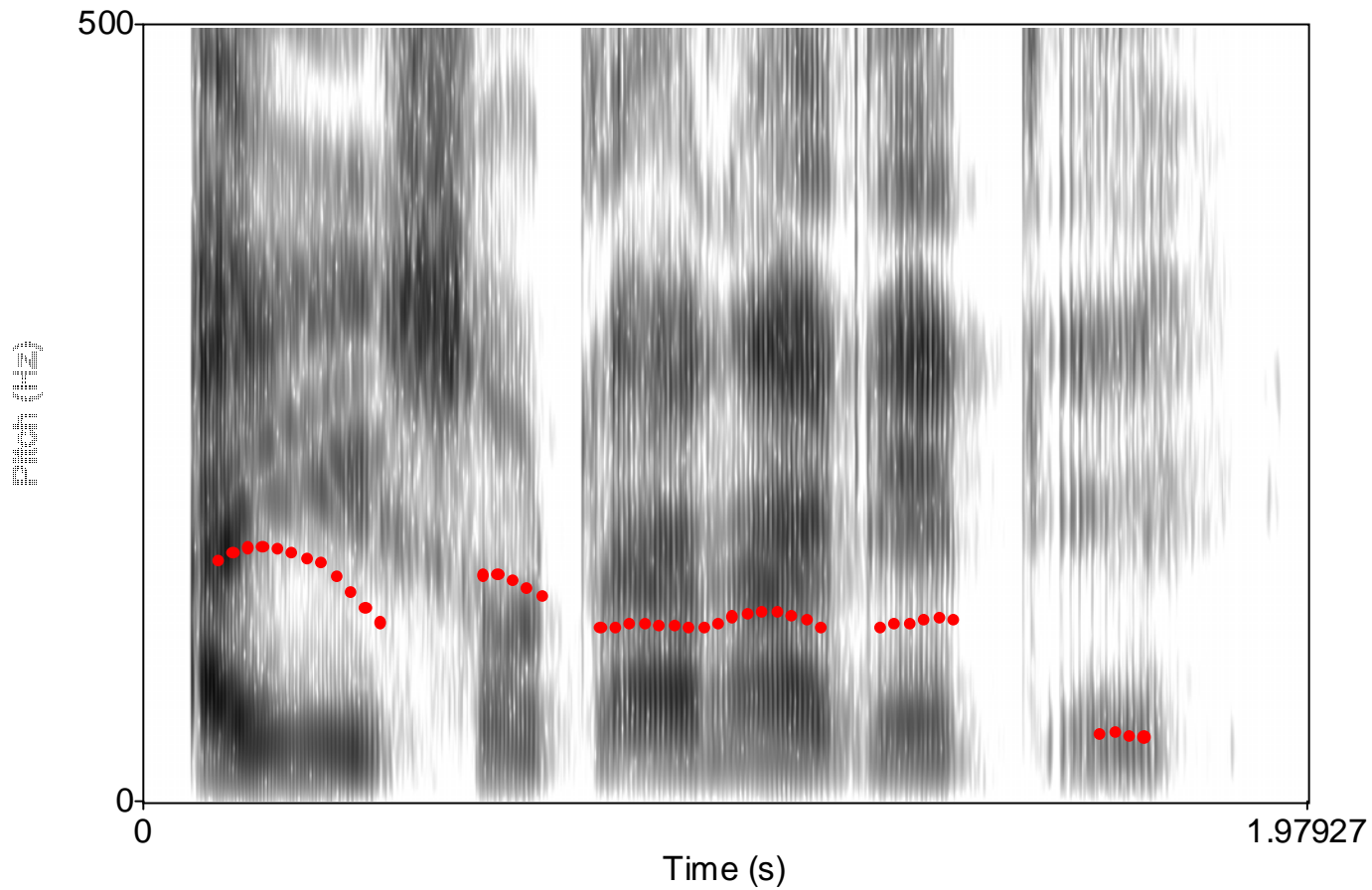


lexical

H H H L H L H

intonational

H L%



A textual example

- **Dèsoq ùkwùne nàghuda-ne** 

I wonder those they.are.living-*rel.pl*

dèsoq koodidii.

I wonder they.think about.it

‘I wonder what those who are still living are thinking about that now.’ (Abou 1999)

- Cf. **kwùjoo nadidii** ‘he’s saying it again’ 

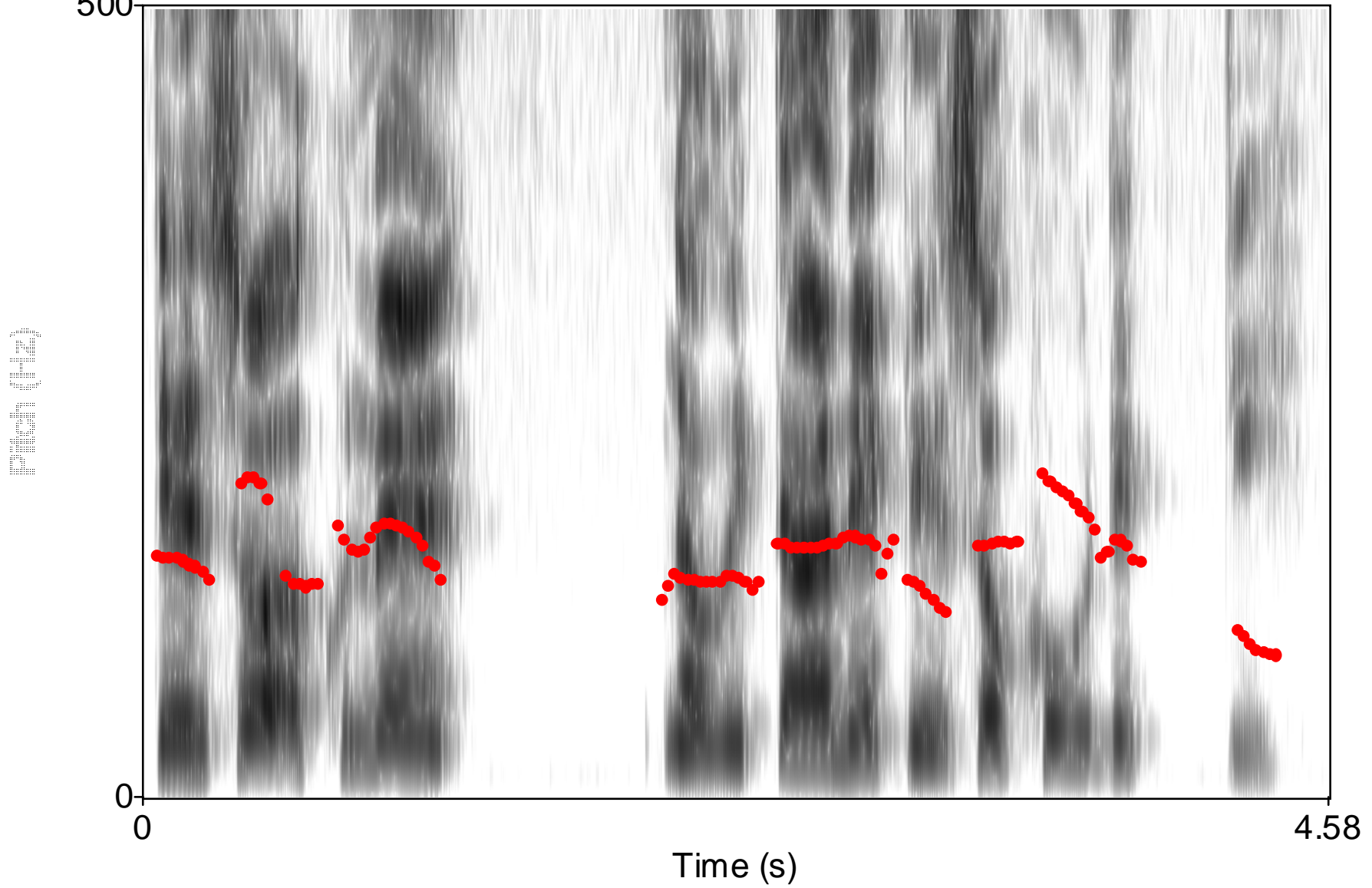
Dè sọ ùkwùne

nàghuda ne dè sọ koo di dùi.



Intonational

H L



Conclusions

- 3 hypothesized intonation contours
 - ‘Declarative’: H* L⁰%
 - Yes/no question: L⁰% H⁰%
 - Uncertainty: HL⁰%

Future research

- Quantitative investigation
 - More speakers
- More textual data
- More sentence types
 - embedded clauses
 - coordinate structures
 - postposed constituents

Musii cho



Speakers Mike Abou, Edna McCook, Mary Charlie

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Looking up the Finlay River towards Prairie Mountain; village of Fort Ware on the right

Coordinate structure

- **Wootunudindah ii tl'oh dawdinh'a.** 
'Go among them and ask them.' (Abou 1999)

Wootunudin dahii tl'oh daw dinh 'a.

