Lexical and syntactic marking of information structure in Siouan languages

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Information structure?

- This talk will demand familiarity with three very broad information-structural types, which can fairly be said to exhaustively categorise sentential content. I will define them here and move on:
- **Focus**.
  - Every sentence has one. Complex sentences may have more than one.
  - As used by Birner and Ward (2006), "Focus" refers to the instantiation of the variable in an *open proposition* — a question or thought that the speaker assumes is salient, important and interesting to her interlocutor.
- **Topic**.
  - Most generally, "Topic" refers to the content of the OP itself. Topics tend to persist in discourse because, as part of a salient OP, they are highly accessible.
  - **Topic Shift** (cf. Féry's (2007) *aboutness* and *frame-setting* topics) is the content which is added to the OP within the sentence and (usually) before the Focus.
  - **Topic Restatement** (cf. Féry's *familiarity* topic) is the content which is already in the OP, and therefore doesn't need to be explicitly said, but is said anyway.
- A: Who's that with the scarf? B: Well, that one with the shawl is Bryan.
- A: I need a wrench. B: Here comes Tamar with a wrench.
- Milah is driving to Milwaukee for vacation. It's expensive to fly to Europe.
- Milah wants to fly to Europe. And fly to Europe she will.

Scope

- I will limit myself to languages I have corpora or texts for.
  - Umóⁿhoⁿ and Páⁿka (Omaha and Ponca)
  - Nakʰón'i'api (Assiniboine)
  - Hóocąk
  - Báxoje and Jíwere-Ñútˆachi (Ioway and Otoe-Missouria)
  - Hiraacá (Hidatsa)
  - Apsáalooke (Crow)
  - I would like to expand this sample, particularly into Ohio Valley. Information-structure marking cannot be assumed to be similar in genetically close languages.
- I will not discuss things which have been extensively discussed by others or myself:
  - Switch-reference
  - Lakhota topic articles
  - Postverbal elements in Umóⁿhoⁿ and Páⁿka
  - I will only discuss proximacy/obviation briefly, not raising all the hypotheses.
  - Clearly, these things will be included in a future CSG volume.

Stressed Pronouns

- A single pronoun serves both for general reference/resumption and for Focus.

- Hóocąk (Horses 1)
  - <u>Taǧiri̧kra</u>   <u>'ee</u>sge   Bill O'Brien and nee Chloris Lowega   wahanąkšąną.
    German.the that.because   I   .PROP   we.talk.DEM.DECL
    Germans, that's why Bill O'Brien and me, Chloris Lowe, are gonna talk.

- Apsáalooke (Bitaalasshia)
  - <u>Hisshishtawia</u>   <u>kon</u> dappeém   ehkaáhik.
    red.eye.woman   that kill.that   know.PUNCT.DECL
    He realised that it was Red Eye Woman that had killed her.

- Omaha (38:10) This example contains both uses of **é**:
  - <u>Zhiⁿgá</u> <u>amá</u> <u>edádaⁿ</u>   ?íthai   tʰédi   <u>é</u>   thashtáⁿbàzhi
    young the   something about.talk.they   EVID.at that by.mouth.stop.they.not
    égaⁿ <u>é</u>   uhé-hnaⁿi.
    thus that win-ITER.they
    Younger ones don't stop talking about whatever they talk about, so they are the ones who get what they want.

Stressed Pronouns

- Ioway and Otoe-Missouria differ in having a general non-Focus resumptive **i-/e-** and a Focus-specific form **éwa.** The non-Focus forms such as **ida** *there*, **eda** *then*, **etawe** *their/his/her*, **igi** *here/now* are Focussed using **aré**-clefts (a later slide).

- Otoe (Wórage Hiⁿkúñi 7)
  - Aré <u>mató</u> <u>xáⁿje</u> <u>éwa</u> gigúⁿdhàshguⁿ.
    it.is grizzly big that to.her.teach.it.seems
    [Puffing tobacco] it was the big grizzly that had taught it to her.

  - Aré hiⁿkúñi mitáwe <u>mató</u> <u>xáⁿje</u> <u>máyaⁿ</u> <u>taⁿdá</u> <u>nahéda</u> <u>aré</u>
    it.is grandmother my grizzly big land where be.at it.is
    <u>ída</u> inú nahé iháre ki.
    it.at with be I.think DECL
    [Remembering her], my grandmother is wherever the big grizzly's country is, with him, I think.

Topic and Focus Markers

- Morphemes specifically marking Topic/Focus are identifiable in Hóocąk and Hidatsa (also Lakhota, Omaha and Mandan, cf. Curl 1999; Ingham 2003; Koontz 2003 Wolvengrey 1990). The Hidatsa marker **-ri** is primarily for Topic Shift, which is largely accomplished by determiners and positional verbs in the Dhegiha and Jíwere subfamilies:

- Hidatsa (First Worker Intrudes on Sun's Realm 67-68)

  - Ši?awirúkʰi   še?erú   wahkúwareec. Harúk <u>Waahkuwiríš</u>   <u>še?erí</u>   kikíiriwareec.
    so.much.when.later DEM.at   be.there.NE   and.DS night.like.sun.the   DEM.TOP INCEP.seek.NE
    Some time later, [Day Sun] was still there. And the Moon was seeking him.

- The Hidatsa marker can introduce a local Topic without changing the larger one:

- Hidatsa (The Story of a Girl Who Became a Bear 22-23)

  - He?ešaak atʰéerahta <u>ráak</u> ruxpáaka éecakaati <u>pʰée</u>wareec. <u>Wacéeri</u> waa?itáhta úu?arušʰa <u>arutéekreeší</u>wareec.
    Then going in among the houses, she ate up every one of the people. Even when the men shot with arrows, she was never dying.

- The primary purpose of the Hóocąk Topic marker **-gi(ži)** appears to be the Topicalisation of entire clauses. We may suppose its use on arguments is a special case of this, as it only occurs in such cases as this, and never on determined DP's:

- Hóocąk (Picture Description 10)

  - <u>Tee</u> <u>hižą</u> <u>hožukjane</u>gi   reexharuporoknągre že'e   hi'ųanąga ...
    DEM one in.put.FUT.TOP   drum.DEM   DEM   with.do.and
    This one [team] that is going to load [the moccasin] will use the drum and ...

Topic and Focus Markers

- Despite being primarily Topic markers, both of these sometimes mark Focus:

- Hidatsa (First Worker Captures Prairie Dogs but … 54)
  - Hiró <u>waaruwišíaš</u> <u>šeʔeri</u>hícki.
    here IND.some.bad.the DEM.TOP.EVID
    Here has been some bad fellow, *the one from before.*

- Hóocąk (Ceexjį 7)
  - <u>'Eeja wooǧe xete hiiregi jaagu nųųgiwąkirekjane</u>gi 'eesge hąąke wiižukra wawi'ųįňąnįšųnų.
    If they made a lot of noise, they'd run, that's why *they wouldn't use the guns.*

- Additionally, both languages abound with Topic Shifts without Topic markers.

- Hidatsa (First Worker Intrudes on Sun's Realm 25)
  - HeʔešaЗ<u>rúk</u> <u>Waapiwiríš</u> atáʔkʰuuwareec.
    and.DS day.sun.the appear.CONT.come.back.NE
    Then Day Sun coming over the horizon appeared.

Bracketing

- In a recent study of determiners in Omaha and Ioway/Otoe-Missouria (Gordon 2009), I have identified "bracketing" of information – separation of thought chunks and topics – as the primary pragmatic purpose not only of established articles, but of related items as well. Alongside the more general bracketing positional verbs **náŋe**, **háŋe**, **gráŋe** and the article **nahá**, Ioway/Otoe-Missouria **^šuⁿ** *anyway* and **gašúⁿ** *enough/now* often bracket Topic Shifts, with the final instance occurring just before the sentence Focus.
- Otoe (Wékaⁿ Béñeiŋe ¶7)
  - Aré <u>másugràŋe nahé^suⁿ</u> <u>táha-wónayiⁿ nahé^suⁿ</u> <u>táhagùta nahé^suⁿ</u> <u>agúje nahé^suⁿ</u> ***dagúre bróge wóhià-a***.
    So <u>war bonnets,</u> <u>deerskin shirts,</u> <u>deerskin leggings,</u> <u>moccasins,</u> **he won all these things**.
- Ioway/Otoe (Udwáⁿge Mishjíŋe 7; 16)
  - Udwáⁿge rixóge<u>^shuⁿ</u>   akírage   skúñewi re.
    Muskrat   P.you.reprimand.anyway   challenge not.PL   IMP
    Though Muskrat reprimand you, do not challenge him.
  - Itámi   <u>gasuⁿ</u> bé,   áñe   ki.
    his.wife now   leave say.they DECL
    His wife, he left, they say.

Proximacy/Obviation

- To add to the set of hypotheses, both of whose principal contributors (Koontz 1989 and Bad Moccasin 2005) are here right now, regarding the distinction between the Dhegiha "proximate" and "obviative" animate articles (respectively, *akʰá/amá* and *thiⁿ/tʰaⁿ/kʰe/thiⁿkʰé/thaⁿkʰá/ma*), I coded 50 instances of each set from Dorsey texts with Ponca sources (25 each from both stories and letters) and found Topic persistence to be highly predictive:
  - 42/50 obviative articles were non-persistent Foci.
  - 4/50 obviative articles were Presentations.
    - 4 persisted as objects, 0 as subjects.
  - 4/50 obviative articles was a Topic Restatement (1 unaccusative subj, 3 obj)
  - 22/50 proximate articles marked Topic Shifts.
    - 16 persisted as subjects, 2 as objects, 4 as both.
  - 10/50 proximate articles were Presentations.
    - 9 persisted as subjects, 1 as both subject and object.
  - 18/50 proximate articles were Topic Restatements (all of them subjects).
- Although this makes a compelling case, the prevalence of subjects among the proximate Topic Restatements and of objects among the obviative Topic Restatements indicates that **Case cannot be entirely ruled out here**. The only categorical statement that emerges here is that none of the obviative articles marked a referent which later trigged subject-verb agreement.
- Unlike switch-reference in Missouri Valley, or topic-shift articles in Lakhota, obviation is associated with *future*, as opposed to *already obtaining*, non-persistence.

Clefts

- The Jíwere branch having a genuine copula, **aré**, it is the only part of Siouan which can be said to have true clefts.
- Ioway/Otoe (Udwáⁿge Mishjíŋe 11)
  - "Udwáⁿge, dagúre ra^úⁿ hna?" é. "<u>Xrá aré</u> ha^úⁿ hñe ke," é.
    "Muskrat, what will you be?" he asked. "<u>It's an eagle</u> I'll be," he said.
- Otoe (Wórage Hiⁿkúñi 4)
  - <u>Járe</u> éwa ch^émi hñe ga. *<u>It is this one</u> who will surely kill me.*
- Ioway (Twin Holy Boys 3)
  - <u>Hiⁿnáge wáŋe gratógre aré</u> chíbóthraje úmiⁿnaⁿwasguⁿ.
    <u>It was a woman with her husband</u> living in the tipi, it seems.
- **Aré** takes what precedes it as a Focus, and can also be used as a discourse continuity device to introduce prior Focus into the background of a new sentence:
- Otoe (Wórage Hiⁿkúñi 4)
  - **Aré** <u>ríre</u> rigráwaⁿ ke. *<u>It was you</u> I was calling for (when I called before).*
- Ioway/Otoe (Udwáⁿge Mishjíŋe 11; Twin Holy Boys 117; 121)
  - **Aréchi** "Wákida mína re," é. *That's why he said, "Sit and watch them."*
  - **Aréda** áⁿje gríañe ke. *And then their father returned, they say.*
  - **Aré** Dóre éwana: "Hiⁿñégo," éasguⁿ. *But Dóre on the other hand said, "No."*

Clefts

- There is a distinction between discourse markers with a quasi-referential **aré** such as those above, and clefts, some of which have a double-**aré**. Such collocations Focus on what comes before **aré**, rather than just using it as a pivot.
- Otoe (Wórage Hiⁿkúñi 5)
  - <u>**Arédare**</u> inúⁿ máñi gráshguⁿ ˆa. <u>***It was right then***</u> *that she headed back home walking with him.*
- Another distinction is that between **aré**-connectors and subordination. The information-structural distinction is whether the two halves are to be interpreted as separate assertions with their own merit. Contrast:
- Ioway/Otoe (Udwáⁿge Mishjíɲe 11; 15)
  - Náhje egráñi skúñe, <u>**aréchi**</u> chˆéha skúñe ke. *He doesn't have his heart, <u>**so therefore**</u> I won't kill him.*
    - (In this case, these are two separate assertions, each one the discourse equivalent of a Focus.)
  - Udwáⁿge rixóge daⁿna ke, **gasúⁿgi itámi inú yáⁿ iwáhuɲe<u>chi</u>ˆàsguⁿ.**
    *Muskrat was very angry, <u>**because**</u> he finally knew that [Rabbit] had slept with his wife, it seems.*
    - (In this case, we have already known the subordinate content for a long while: it is the discourse equivalent of a late Topic.)

Incorporation

- Noun incorporation in Missouri Valley Siouan appears to respect IS-distinctions in much the same way as "bracketing" in Mississippi Valley. The nouns and verbs that make up a large compound do not differ in information status.

- Hidatsa (EL 10:48) Topic Shift – Focus:
  - Maapúkšaruwácahtahš iitáruupawarec.
    snake.one.only.the   face.two.NE
    The snake being only one, still it had two faces.

- Of course not everything *within* a given IS-status must be smashed into a single word: in this Crow sentence, the Focus and Topic Shift both contain an incorporation, while the Topic Shift also has an instrumental phrase:

- Crow (Bitaalasshia) Topic Shift – Focus
  - Hehtáa baattáche aák biíttaashteelitdialaalak   bulutchíwasshihkaatbiik.
    but   rawhide   with me.shirt.so.make.you.if   I.get.I.think.about.so.I.will.DECL
   *But if you make me a shirt from rawhide, I'll figure out a way to get him.*

Pitch Prosody

- The pitch peaks and troughs of which pitch prosody consists do not just equally fall and rise; nor are they haphazard.
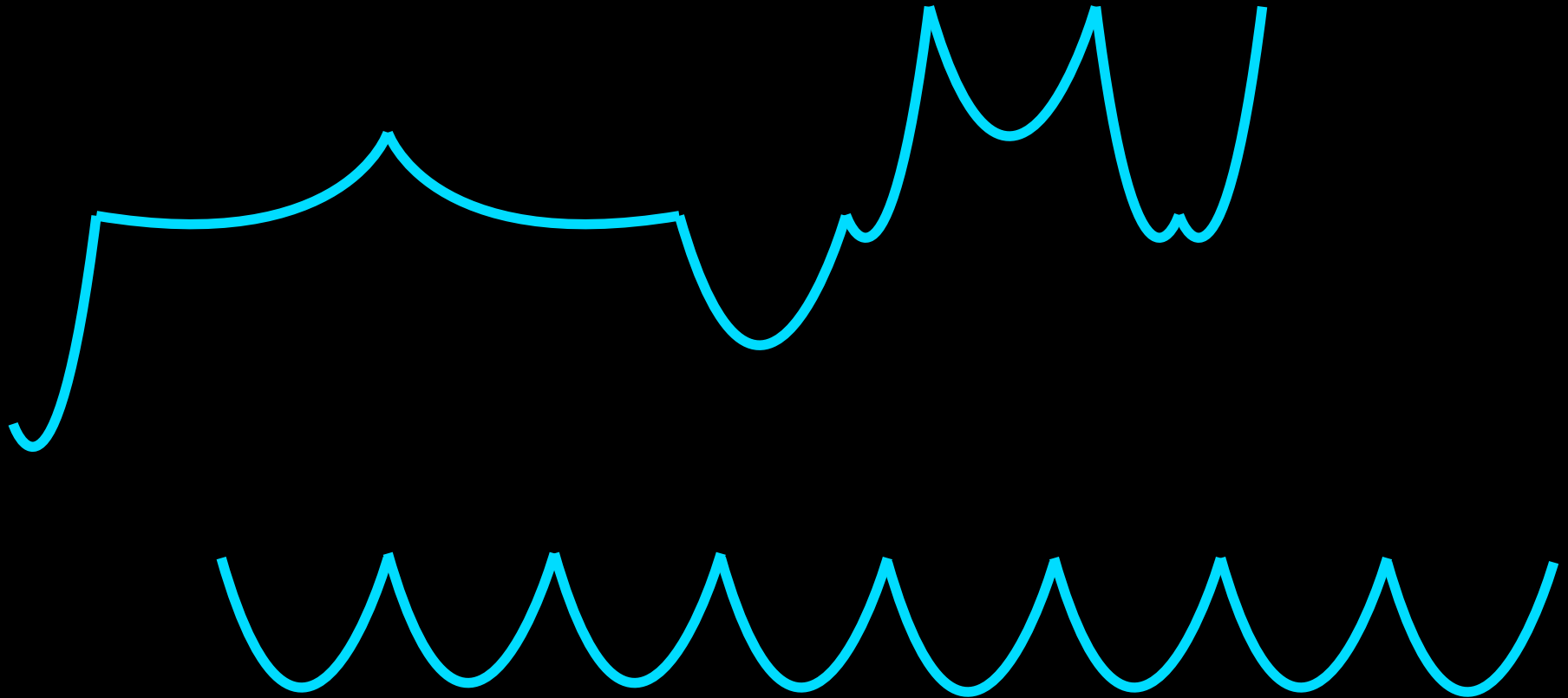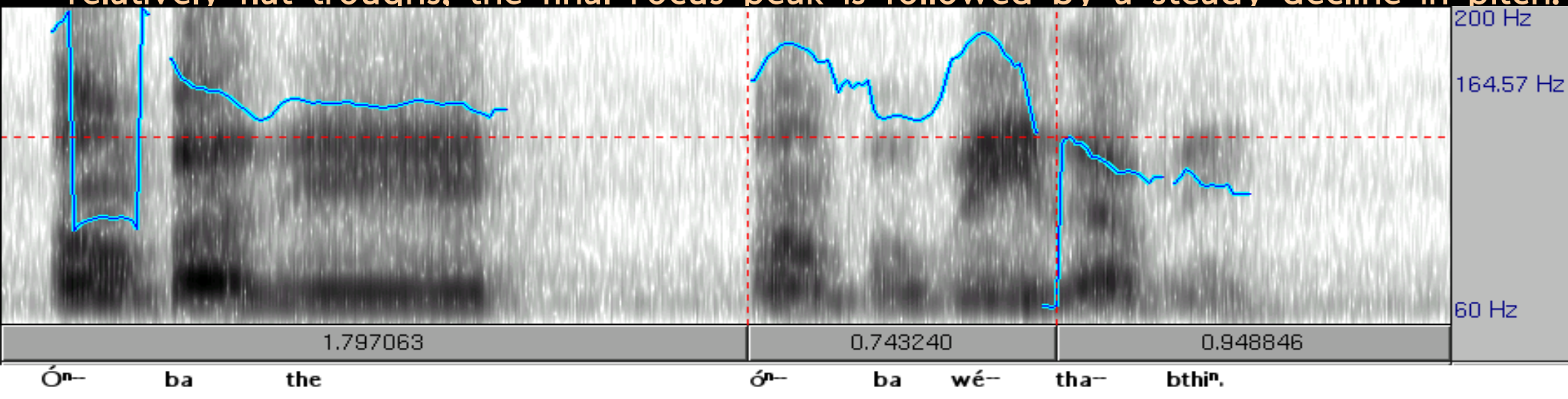
Pitch Prosody

- I propose the following means of retrieving information about Topic Shift, Focus and Topic Restatement from prosody based on Rudin's Omaha field tapes:
    - an identifiable highest pitch peak within Focus and also Topic Shift if present;
    - a pitch boundary (red horizontal line) which is more or less a lower bound prior to Focus and an upper bound afterward;
    - steeper slope and earlier onset for the pitch decline immediately following final Focal peak, as opposed to earlier pitch peaks;
    - flattening – that is, lower slope – of both peaks and troughs after Focus.
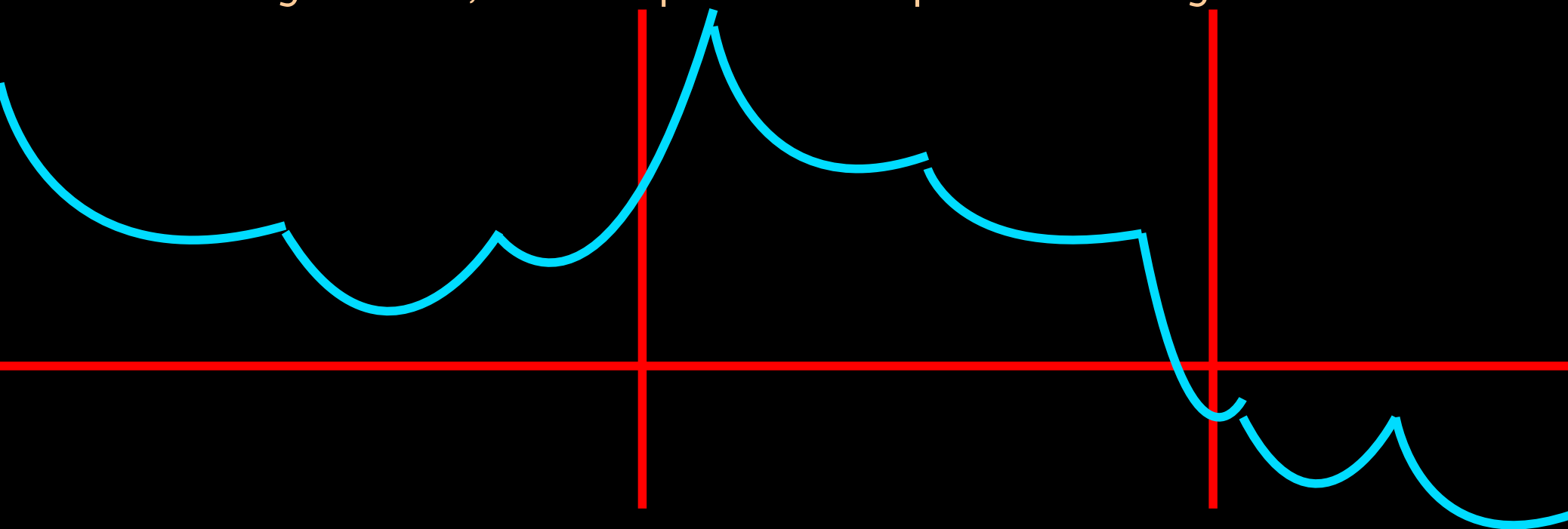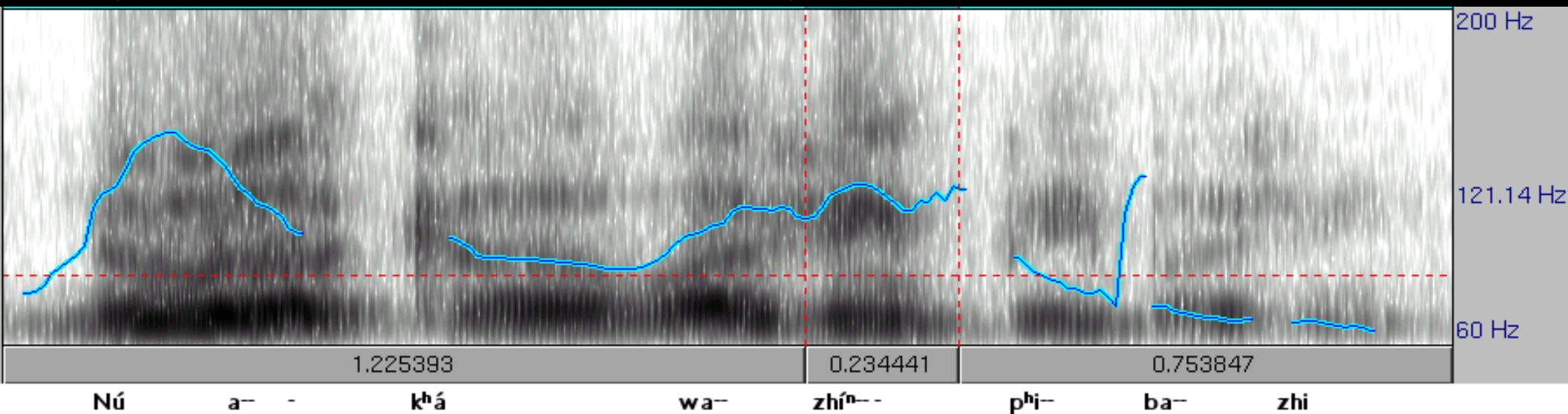
Pitch Prosody

- Omaha (Blackbird Hill – Clifford and Bertha Wolfe) Topic Shift has peaks and relatively flat troughs; the final Focus peak is followed by a steady decline in pitch.
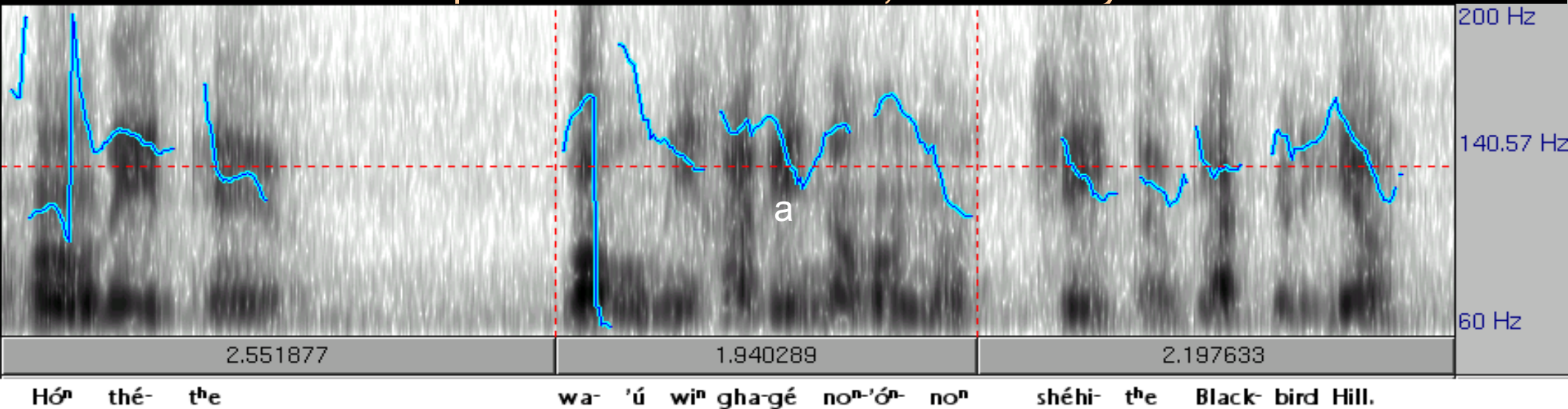

- Day   this   day   third

- man   the   mind   good   PROX.not

Pitch Prosody

- Here we see the low-pitch section after Focus, followed by a new Focus:

| 2.551877 | 1.940289 | 2.197633 |

| Hóⁿ | thé- | tʰe | | wa- | 'ú | wiⁿ | gha-gé | noⁿ-'óⁿ- | noⁿ | | shéhi- | tʰe | Black- bird Hill. |

- Night this-the   woman a cry   hear-ITER   that.far-the

- Here we see a pitch peak *within* the low-pitch Topic-Restatement section.

| 3.396838 | | 0.376 | 1.614025 |

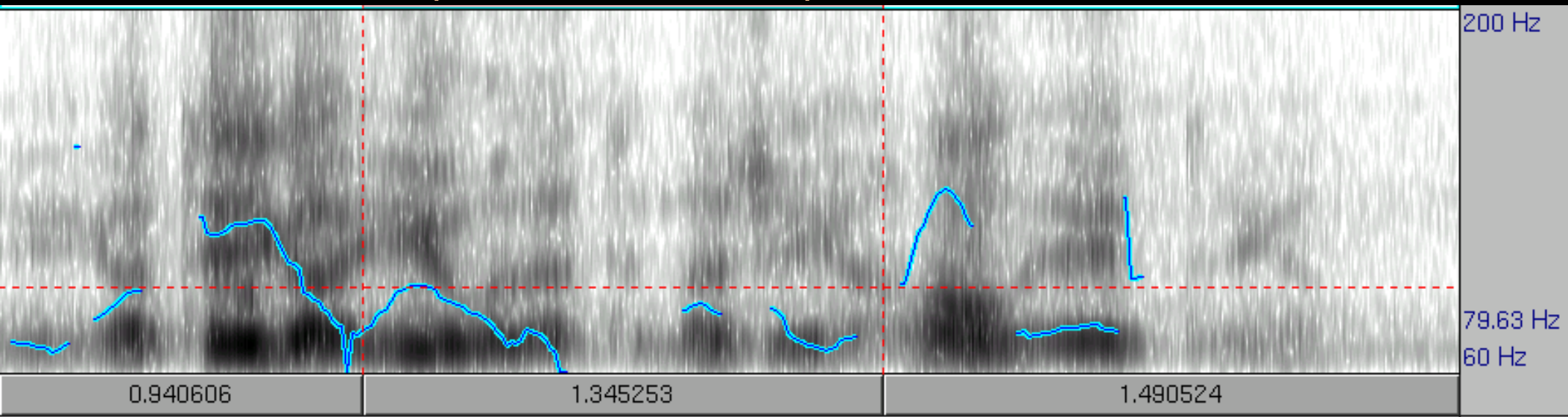| Gá- | a- | kʰa | | í- | u- | tha | | ká- | shi | noⁿ | zhíⁿ- | bi- amá. |
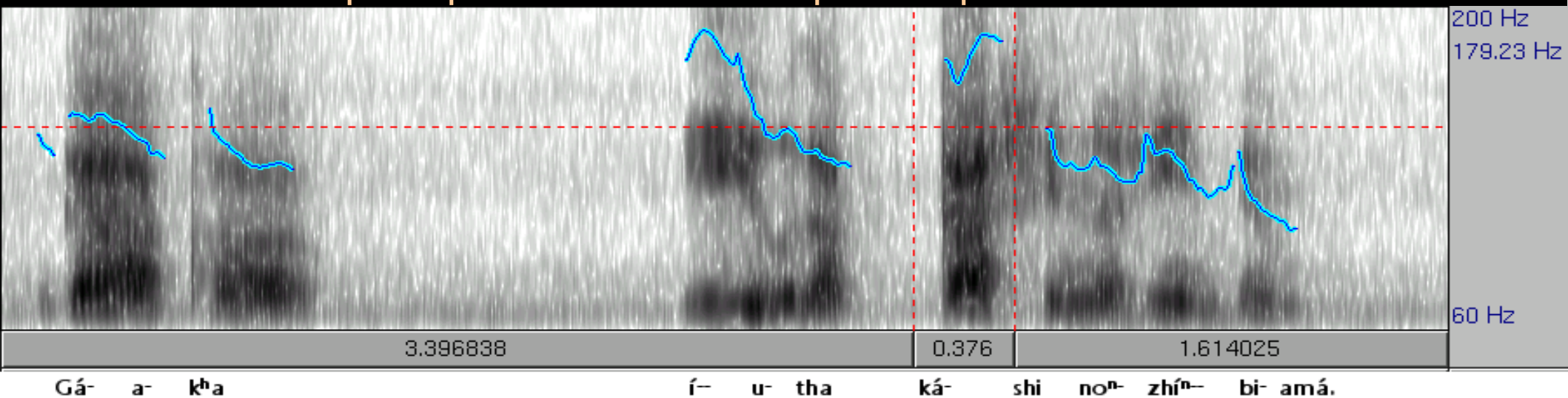
- That-the   story   long.ago stand-PROX-REPT

Pitch Prosody

- Here we can note both of the features from the previous slide: a new clause with its own Topic Shift – Focus structure after the second red line, and between the two red lines a low-pitch section with a peak on *íutha*.

Recursive IS

- Information structure recurs at many levels besides the sentential level I have considered here, with propositions, subpropositions, arguments and discourse sequences often having structures of their own. Individual sentences may have multiply layered Topics and Foci, sometimes producing configurations with Focus before Topic Shift, as in the Hidatsa example below:
- Hidatsa (The Story of a Girl Who Became a Bear 30)
  - <u>Warúuš</u>   šeʔeríwa   atiʔahúwa   réecʰaak ...
    older.sister.the DEM.TOP.IND house.much.IND   not.be.cause.SS
    <u>My older sister</u> [is who] destroyed so many houses [the whole village].

Recursive IS

- In this Otoe example are two separate assertions: *she had passed through the land* and *regarding the land she had passed through, it was difficult*. The former is new information, albeit plausibly inferrable information, which has not yet been invoked. But the former is clearly more important, so we get an **aré**-cleft. Note the diversity of possible IS-representations of the English translation.
- Otoe (Wórage Hiⁿkúñi 4)
  - Máyaⁿ <u>wochéxi</u> <u>aré</u> uwáshguⁿ.
    land   difficult   it.is   in.go.it.seems
    The land, it was <u>difficult</u>, that she had passed through.
    The land was <u>difficult</u> that she had passed through.
    It was a <u>difficult</u> land she had passed through.
    The land she had passed through was <u>difficult</u>.
- Likewise, this Hidatsa sentence contains two assertions: *they came to our land* and *they came to our land only once*. The speaker has chosen to construct the sentence as if the former were already presupposed, a Topic Restatement:
- Hidatsa (EL 18:4)
  - <u>Nuwahcáahta</u> úʔšiiʔwarec   mata-awáʔheeru.
    once.only   arrive.here.NE our-land.among
    Only once did they come here to our lands.

Discontinuity

- Syntax is never completely malleable. Sometimes you can't group things together by information structure alone, viz., the famously mobile focussing adverbs in Germanic languages. In this Hidatsa relative clause the Topic-Restatement object is pre-Focal because it apparently does not want to escape its relative clause. In the subsequent causative construction it is post-Focal:
  - (Underlined are the V and O; in white are the Foci.)
- Hidatsa (The Water Buster Account 13j-k)
  - Waa?aahtú?aš ookúre?e íškaak. Wiháarak Wirii?iikiráawatuš kuré?ehkaak waa?aahtúu?aš. *They selected an owner for the skulls. When we finished, they made Getting-Married-by-Water own the skulls.*

- But on the other hand, highly marked word order may be invoked to preserve information-grouping, as in this Hidatsa example with possessee-possessor order, where the girl is a Topic Restatement and "say name" is the Focus:
- Hidatsa (EL 27:39)
  - Céešawíaš   héewarec   náaši wíakaašaš.
    wolf.woman.the say.NE   name   woman.young.the
    Wolf Woman was the young girl's name.

OSV

- Hidatsa (EL 3:14).
  - Matawácʰo? maapúkšihtíawa   šéʔri   pʰéekšáwa.
    our.relations   snake.big.a   DEM.TOP   eat.up.FREQ.DS
    There's this big snake that our relatives keep getting eaten by. (EL 3:14)
- Assiniboine (Įktomi and Fox 33)
  - ... tʰanó žé   iyúha   tʰemyápi.
    meat DEM   they.all eat.up.PL
    ... then that meat, all of them ate it up.
- Hóocąk (Ceexji 1)
  - ... ceexjįnąągrešge   Hoocąkrašge   woonį   hahirešųnų.
    buffalo.DEM.also   Hoocąk.the.also them.hunt arrive.there.they.HAB
    ... these buffalo, the Hóocąks used to go hunting them.
- Ioway/Otoe (Udwáⁿge Mishjíŋe 5)
  - Shigé   mawódada   máha   ródada nahéˆshuⁿ   máyaⁿda na   máwoda
    again   vegetable.RED dirt   inside be.FOC   land.at   tree   vegetable
    uráthˆiⁿ nahéˆshuⁿ   brógehsji Udwáⁿge etáwe añéna   akídawàhi
    to.fixed be.FOC   all.very   Muskrat   be.his had.and   guard.them
    And all the vegetables growing inside the earth and on the trees above the land, Muskrat had them for his own and guarded over them.

OSV

- Further questions
- Do all languages have OSV? None yet for Apsáalooke, but limited data.
- Does all Siouan OSV have the same functions?
  - Topic-Shift O, Focus S(V).
  - Focus O, Topic-Restatement SV.
- Are there identifiable functions for which OSV is *obligatory*? If it is optional, what other means mark the appropriate IS-contexts? Prosody? Topic or Focus markers?
- Cumberland (2005:373) argues for Assiniboine that OSV is only possible when S is inanimate. Is this true, or an epiphenomenon of other constraints? Is it true of other languages?

Focussing adverbs

- Of 36 permutations of Focus, Topic Shift and Topic Restatement among subjects, objects and verbs in one- and two-argument clauses, fully 16 are not predicted to license non-canonical word order, and among these 16 are some of the most frequently occurrinng permutations. How is information structure conveyed within SOV?

- Focus is most often demarcated from Topic Restatement by adverbs and suffixes:
- Ponca (709:3)
  - Wanáshe   táⁿga enáxci   áthixùde ha.

    Policeman big   that.only.very unclear   DECL

    Only the matter with the aforementioned big policeman is unclear.
- Hidatsa (EL 17:83)
  - ... maapáheeruhša Apúhkawikáa?š   háa?ahkuac

    day.on.to.even   cap.low.PL.the   say.continue.they.DECL

    ... even today they are still called the Low Caps.

VX: topic restatement

- Hidatsa (EL 11:50).
  - Šéʔruhaak maa-arucakáaka éecʰiri úʔšiak   núutaaʔwarec maapúkšaš.
    DEM.at.SS IND-REL.be.bird   all   come.SS   eat.they.NE   snake.the
    Then all the birds came and ate *the snake.*

- Assiniboine (Big Snake 3)
  - Wąmnáka miní žé.
    I.see   lake DEM
    I saw that lake.

- Hóocąk (Ceexji 11): *no cases of VO, only VS (same for Apsáalooke)*
  - … wanį roogųįňeanągašge wąąkšik hijąhįnąąka.
       meat want.they.and.also Indian   different.DEM
    … and those other Indians wanted the meat too.

- Ioway (Twin Holy Boys 146)
  - Ídare   wáñiⁿgriwàsguⁿ   ihdóge pahíⁿ.
    then.it.is them.have.get.back.here.they.it.seems elbow   sharp
    Right then it seems they got back carrying the sharp elbows.

VX: topic restatement

- For Ponca and Omaha, I have argued that postverbal position for topic restatement is obligatory (Gordon 2008, see also). But its use is rare in Hóocąk, Crow and Dakotan, and even Hidatsa and Ioway/Otoe-Missouria have preverbal Topic Restatements.

- Hidatsa (Lowie 55:13h-l).
    - Éecʰiri íkakoowihaak waaʔaahtúuʔaš <u>kuraʔahkataar</u>ak, ráahak, <u>waaʔaahtúuʔaš</u> <u>ookúreʔe</u> íškaak, wiháarak Wiriiʔiikiráawatuš <u>kuréʔehkaak</u> <u>waaʔaahtúuʔaš</u>, šeʔerúhaak <u>waaʔaahtúuʔaš</u> Wiriiʔiikiráawatuš aatíkua <u>kirušáaʔa</u>c.
    When everyone was done looking at them, they <u>took</u> <u>the skulls</u> <u>back</u>, left, selected <u>an owner for</u> <u>the skulls</u>; when we finished, they <u>made</u> Getting-Married-by-the-Water <u>the owner of</u> <u>the skulls</u>, then they <u>put</u> <u>the skulls</u> <u>away</u> at Getting-Married-by-the-Water's house.

- Ioway/Otoe (Udwáⁿge Mishjíŋe 10)
    - "<u>Kéta</u>ⁿ pískuñi xáⁿje. <u>Ri</u>wára^uⁿ ke. Chˆéri hñe ke," éˆasguⁿ. Edá <u>Kéta</u>ⁿ pá ujíⁿna páhi gixúge ke. Wanáthuxri xúⁿna. Aréchi <u>Kéta</u>ⁿ náⁿthuxri <u>níŋe</u> ke, áñe ki.
    [Muskrat] said, "Big bad <u>Turtle</u>. <u>You</u> are to blame. I'll kill <u>you</u>." And striking <u>Turtle's</u> head, he broke his skull in. The brains spilled out. That's why <u>Turtle</u> <u>has no</u> brains, they say.

VX: presentation

- Postverbal Presentation only in Assiniboine (also in Omaha and Ponca for locatives and story openers, absent in all other languages).

- Assiniboine (Big Snake 15)
    - Hį́įk žé owá zécʰa oyákapi káya wįcʰášta.
      and DEM all thus tell.they they.say man
      And they told a man how it all happened.

- Omaha story-opener (Udwáⁿge Mishjíŋe 13)
    - Pahóⁿga tʰédi athábi-amá Mashcíⁿge amá.
      Prior the.at go.PROX-CONT Rabbit DET
      Once, Rabbit was going along.

VX: further questions

- Clearly the use of VS is more widespread than that of VO. There are ample syntactic explanations for this, but what are the historical reasons?
- Word-order variation has only abstract implications for the acoustic stream. That is, no word-order variant has a particular form-function bundle – viz., a "word" – to stabilise it historically. Thus, these variations are not as easy to subject to the comparative method as, say, grammatical morphemes are. Nonetheless, we can look at grammaticisation processes that rely on word order and find mutual information between word order and the form of morphemes.
- If word-order variation is so unstable, it should diffuse quickly. Why, then, are Hidatsa and Apsáalooke so different? Is word order a salient group-identity marker?
- Are form-function correlations themselves stable enough to look at comparatively?
- Non-Dhegiha languages do not appear to use either VS or VO as often as Dhegiha languages do for Topic Restatement; but they appear to allow more presentational use of this word order. Is there a reason for this?
  - Avoid resorting to a binary here! Jíwere and Hidatsa are obvious intermediate cases.

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