

Nez Perce embedded indexicals

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1 The problem

- Nez Perce looks like a language with a straightforward dichotomy between direct and indirect reports of thought and speech.

- Direct report: quotation
- Indirect report: normal clausal embedding

- (1) a. *pro* hi-neki-se- \emptyset [*pro* \emptyset -wees sayaq'ic cepeeletpit-pe]
pro 3SUBJ-think-IMPERF-PRES [*pro* 1SUBJ-be.PRES pretty picture-LOC]
She thinks, "I am pretty in the picture."
b. *pro* hi-neki-se- \emptyset [*pro* hii -wes sayaq'ic cepeeletpit-pe]
pro 3SUBJ-think-IMPERF-PRES [*pro* 3SUBJ-be.PRES pretty picture-LOC]
She thinks she is pretty in the picture.

- Nez Perce morphosyntax does not easily disambiguate between quotation and embedding. Ambiguities do arise. . .

- No special C^0 / verbal marking
- No known prosodic disambiguator
- Alternative interpretation of (1a): She thinks that I look nice in the picture.

- Now, a closer look somewhat obscures the difference between the two sentence types, in a way that compromises the analysis in terms of quotation for certain sentences like (1a).

Two predictions of a quotation analysis in particular are not upheld.

1. Quotations are opaque to extraction

- (2) * Who did Katie say "I see t"?

2. Descriptions in quoted speech may not be interpreted *de re*

- (3) Katie said, "I see that idiot."

- These are types of facts that have indeed been reported for otherwise more or less quote-like constructions containing indexicals in a variety of unrelated languages...
 - Amharic (Schlenker 1999)
 - Matses (Munro et al. 2012)
 - Navajo (Speas 2000)
 - Sign languages (in general?): Catalan SL (Quer 2005), Italian SL (Zucchi 2004), ASL
 - Slave (Rice 1986)
 - Uyghur (Sudo 2010)
 - Zazaki (Anand and Nevins 2004)

1.1 The project

- What is the best theory of Nez Perce embedded indexicals?
 - Three contenders to be considered:
 1. Partial quotation
 2. Binding
 3. Operations on contexts
- What can Nez Perce embedded indexicals teach us about Universal Grammar?
 - Shift Together Effects: constraints on shiftiness of indexicals of type α in the context of other indexicals of type α
 - Claim: this is a universal
 - Connections to *de se*: not all shifty indexicals are read *de se*

1.2 Extraction

- For (4) it is clear that the objective case of the object could only have been obtained in the lower clause. In these examples the person marking of the lower verb is quotation-like.

(4) Isii-ne Angel hi-i-caa-qa
 who-OBJ Angel 3SUBJ-say-IMPERF-REC.PAST

[cew'cew'inis-ki *pro* 'e-muu-ce- \emptyset *t*]
 [phone-with *pro* 1SUBJ/3OBJ-call-IMPERF-PRES *t*]

Who did Angel say she was calling?
 \approx Who did Angel_i say I_i am calling *t*?

- Here it is locative expressions in the lower clause that are quotation-like.

(5) Context: Elicited in Lapwai, ID. Lewiston is the closest major city.
 Miniku cew'cew'in'es *pro* hi-i-ca-qa Simiinikem-pe
 which phone *pro* 3SUBJ-say-imperf-rec.past Lewiston-loc

[*t* hi-muu-no'qa ki-nix met'u weet'u *t* hi-muu-no'qa ko-nix] ?
 [*t* 3SUBJ-call-MODAL here-from but not *t* 3SUBJ-call-MODAL there-from] ?

Which phone did they say in Lewiston can call from Lewiston but not from Lapwai?
 Which phone did they say in Lewiston_i *t* can call from here_i but not from there_j?

- The same kind of patterns are easily obtained in relative clauses:

(6) kii hii-wes 'iniit
 this 3SUBJ-be.PRES house

yox ke Jack hi-hi-ce- \emptyset / hi-neki-se- \emptyset ,
 DEM REL Jack 3SUBJ-say-IMPERF-PRES / 3SUBJ-think-IMPERF-PRES

['iin \emptyset -haanii- \emptyset -ya t]
 [I 1SUBJ-make-P-REM.PAST t]

This is the house that Jack says / thinks he built
 \approx This is the house that Jack_i says / thinks I_i built t

1.3 Interpretation *de re*

- Both of the following remarks are fully acceptable, despite *de re* construal of the object description in an embedded clause where the subject indexical behaves as if in a quote:

(7) Context: Beth told me she met Harold. She doesn't know he is a teacher. When we are in class, I say to someone else:

Beth-nim hi-hi-n-e *pro*
 Beth-ERG 3SUBJ/1OBJ-say-P-REM.PAST *pro*

[*pro* 'e-wewkun- \emptyset -ye sepehiteemenew'eetuu-ne]
 [*pro* 1SUBJ/3OBJ-meet-P-REM.PAST teacher-OBJ]

Beth told me she met the teacher.
 \approx Beth_i told me_j I_i met the teacher.

(8) Context: Katie sees a little boy come in and look around. She doesn't know who it is. She tells me about it, and I ask Leslie,

Mine hiiwes Angel?
 where is Angel
 Where is Angel?

Katie-nim hi-i-caa-qa *pro*
 Katie-ERG 3SUBJ/1OBJ-say-IMPERF-REC.PAST *pro*

[*pro* 'a-x-nay'-sa-qa Angel-ne haacwal.]
 [*pro* 1SUBJ/3OBJ-see-PR-IMPERF-REC.PAST Angel-OBJ son]

Katie told me she saw Angel's son.
 \approx Katie_i told me_j I_i saw Angel's son.

2 Identifying indexicals

- Indexical phrases differ from definite descriptions like ‘the speaker’, ‘the place of utterance’ in that they cannot be bound by modal or temporal quantifiers (Kaplan 1989).

(9) *I ≠ the speaker*

- Whenever Obama is speaking, the speaker is president.
- Whenever Obama is speaking, I am president.

- A language whose person features and locative expressions *could* be analyzed as definite descriptions could potentially show exactly the behavior we’ve seen above.¹

Let’s ensure that Nez Perce is not such a language.

- Indexical person features

(10) 1st person *≠ the speaker*

- # ke mawa Tatlo hi-ciiq-ce- \emptyset , **’iin** \emptyset -wees haama
whenever Tatlo 3SUBJ-speak-IMPERF-PRES I 1SUBJ-be.PRES man
Consultant (female): “Whenever Tatlo is speaking, I am a man...?”
- ke mawa Tatlo hi-ciiq-tetu- \emptyset ,
whenever Tatlo 3SUBJ-speak-HAB.SG-PRES
cix-new’eet hii-wes haama
speak-AGT 3SUBJ-be.PRES man
Whenever Tatlo speaks, the speaker is a man.

(11) 2nd person *≠ the listener*

- # ke kaa Angel-nim pee-ciq-ce- \emptyset Payton-a,
when Angel-ERG 3/3-speak-IMPERF-PRES Payton-OBJ,
’iim \emptyset -wees haacwal
you 2subj-be.PRES boy
When Angel talks to Payton, you are a boy.
Consultant: “You are a boy?”

- Locatives: indexical *here*, non-indexical *there* – just like English

(12) Context: a Charlie Brown cartoon. One particular little boy always has a rain cloud hovering over his head wherever he goes.

- ke mine haacwal hii-wes, hi-weqi-yo’qa (**koná**)
wherever boy 3SUBJ-be.PRES 3SUBJ-rain-MODAL there
Wherever the boy is, it rains (there)
Consultant: “You’re already saying wherever the boy is, it rains, but you could say *koná* [there] too.”

¹ This is similar to a view that Ninan (2010) entertains for Amharic, according to which this language’s first-person pronouns are ambiguous between indexical and non-indexical readings.

b. # ke mine haacwal hii-wes, hi-weqi-yo'qa **kíne**
 wherever boy 3SUBJ-be.PRES 3SUBJ-rain-MODAL here
 Wherever the boy is, it rains here
 Consultant: "Doesn't sound right."

(13) a. ke mine Obama hi-c'iq-tetu- \emptyset ,
 wherever Obama 3SUBJ-speak-HAB.SG-PRES,
 'ilxnii-we **koná** hi-wsiix titooqan
 many-hum there 3SUBJ-be.PRES.pl person
 Wherever Obama speaks, many people are there.

b. # ke mine Obama hi-c'iq-tetu- \emptyset ,
 wherever Obama 3SUBJ-speak-HAB.SG-PRES,
 'ilxnii-we **kíne** hi-wsiix titooqan
 many-hum there 3SUBJ-be.PRES.pl person
 Wherever Obama speaks, many people are here.
 Consultant: "I don't think you say *kíne* [here]... you're saying *ke mine*, 'wherever', so I think you have to say *koná* [there]."

- A difference from English: (primarily) non-indexical temporal adverbials

Adverbial expressions which are translated as English indexicals ('today', 'yesterday') don't behave as indexicals on Kaplan's test:

(14) *kii taaqc* 'today' \neq *today*

a. weet'u *pro* hipt ha-ani-siix- \emptyset **kii taaqc**
 not *pro* food 3SUBJ-make-imperf.pl-pres same.day
 They're not making food today

b. kem kaa *pro* 'ew-'nii-sa- \emptyset laqaas-na cicyuqiisin' kałkał,
 when-2 *pro* 2subj/3obj-give-IMPERF-PRES mouse-OBJ cookie
 When you give a mouse a cookie,

kaa *pro* hi-wewluq-o'qa qahasnim weyiq **kii taqc**
 then *pro* 3SUBJ-want-MODAL milk same.day
 he wants some milk that same day (#today).

Comment: "It would mean the same day, it doesn't mean right then and there."

(15) *watiisx* 'yesterday, tomorrow' \neq *yesterday, tomorrow*

a. **watiisx** *pro* ciq'aamqal-niin 'itamyaanwas-x \emptyset -pe-ki-yu'
 1.day.away *pro* dog-with town-to 1SUBJ-S.pl-go-fut
 Tomorrow I'm going into town with my dog.

b. kex mawa *pro* \emptyset -sapak'ayx-tato- \emptyset 'aatamooc,
 whenever-1 *pro* 1SUBJ-wash-HAB.SG-PRES car

kaa **watiisx** hi-weqi-yo'qa
 then 1.day.away 3SUBJ-rain-MODAL

Whenever I wash my car, the next day (#tomorrow) it rains.

- Conclusions: Nez Perce unembedded indexicals behave like English unembedded indexicals. The problems we face on the quotation analysis should be localized to embedded contexts. Indexicals to be dealt with include:
 - 1st and 2nd person features
 - locative *kíne* ‘here’

3 Against partial quotation

- Quotation need not take an entire sentence in its scope. Embedded clauses may be only partially quoted, a mix of quoted and non-quoted material:
 - (16) He said he “ate” the kefir.
 - (17) The author wrote that “some idiot” won the “single most crucial election”.
- Among the many challenging properties of mixed quotation is the ability of person features to somehow “seep” out of it, at least in certain cases:
 - (18) Katie thinks “I” am eating the pizza.

In English, mixed quotation is certainly a route to funny embedded indexicals. This points us to a way to potentially save the quotation analysis of sentences like (19):²

- (19) Isii-ne Angel hi-i-caa-qa
 who-OBJ Angel 3SUBJ-say-IMPERF-REC.PAST
 [cew’cew’inis-ki *pro* ’e-muu-ce- \emptyset *t*]
 [phone-with *pro* 1SUBJ/3OBJ-call-IMPERF-PRES *t*]
 Who did Angel_{*i*} say “I”_{*i*} was calling *t*?

- A prediction: Whether we embed a particular indexical in “.” is independent of the choices we make for anything else in the clause.
 So the following are all well-formed (if awkward) and may be nearly equivalent:
 - (20) Katie_{*i*} says she_{*i*} thinks she_{*i*} is also here.
 - (21) Katie_{*i*} says she_{*i*} thinks “I” am also here.
 - (22) Katie_{*i*} says “I” think she_{*i*} is also here.
 - (23) Katie_{*i*} says “I” think “I” am also here.

> This is not the pattern we find in Nez Perce.

Quote-like behavior for one person indexical in an embedded clause rules out non-quote-like behavior for another person indexical contained within the same clause.

² This possibility is discussed in connection with Amharic by Schlenker (1999, 35).

- * 3person_j ... "I"_j ... I_k

(24) Katie hi-hi-ce- \emptyset [*pro* \emptyset -neki-se- \emptyset
 Katie 3SUBJ-say-IMPERF-PRES [*pro* 1SUBJ-think-IMPERF-PRES

['iin-k'u \emptyset -wees kine]]
 [I-too 1SUBJ-be.PRES here]]

- Katie_i says she_i thinks she_i is also here.
 ≈ Katie_i says "I"_i think "I"_i am also here.
- * Katie_i says she_i thinks I_j am also here
 ≈ Katie_i says "I"_i think I_j am also here.

The missing reading of (24) is conveyed in a way parallel to the English:

(25) a. Katie hi-hi-ce- \emptyset [*pro* hi-neki-se- \emptyset
 Katie 3SUBJ-say-IMPERF-PRES [*pro* 3SUBJ-think-IMPERF-PRES

['in-k'u \emptyset -wees kine]]
 [I-too 1SUBJ-be.PRES here]]

Katie_i says she_i thinks I_j am also here

- 3person_j ... 3person_j ... I_k

- * 3person_j ... you_k ... "I"_j

(26) Lori hi-neki-se- \emptyset
 Lori 3SUBJ-think-IMPERF-PRES

['ee \emptyset -wees qetu kuhet 'in-im-x]]
 [you 2SUBJ-be.PRES more tall 1SG-GEN-from]]

Lori_i thinks that you_j are taller than me_k/ * "me"_i

(27) Context: a student complains to the teacher that another student has hit him. The teacher approaches the accused and asks, "Is it true that you hit this person?"

'etke ki-nm hi-hí-n-e *pro*
 because this.one-ERG 3SUBJ/1OBJ-say-P-REM.PAST *pro*

['ee 'e-pt'é- \emptyset -ye / * \emptyset -'ipt'e- \emptyset -ye *pro*]
 [you 2SUBJ/3OBJ-hit-P-REM.PAST / 2SUBJ/1OBJ-hit-P-REM.PAST *pro*]

- Because this one told me that you did hit him.
- * Because this one_i told me_j that you_k did hit "me"_i.

- Generalization

(28) *Shift together: person*

In a given embedded clause, either all or no person indexicals behave as if quoted.

- A pattern first identified for Slave embedded indexicals by Rice (1986)
- Discussed at length in connection with Zazaki indexicals by Anand and Nevins (2004), from whom I have borrowed the name

- The same goes for the locative indexical.

(29) *Shift together: locative*

In a given embedded clause, either all or no locative indexicals behave as if quoted.

- *(distant place)_i ... "here"_i ... here_j

(30) Miniku cew'cew'in'es *pro* hi-i-ca-qa Simiinikem-pe
 which phone *pro* 3SUBJ-say-IMPERF-REC.PAST Lewiston-LOC

[*t* hi-muu-no'qa koná / *kin-ix
 [*t* 3SUBJ-call-MODAL there / *here-from

met'u weet'u *t* hi-muu-no'qa kin-ix] ?
 but not *t* 3SUBJ-call-MODAL here-from] ?

- Which phone did they tell you in Lewiston_i can call from there_i (Lewiston) but not from here_j (Lapwai)?
- * Which phone did they tell you in Lewiston_i *t* can call from “here”_i but not from here_j?

Consultant: “You can’t use both of them [i.e. *kinix* ‘here’ ... *kinix* ‘here’]. You’d have to be one place or the other.”

- The trouble here for mixed quotation is that it is too fine-grained a tool.

Patterns of “shift together” call for a treatment of embedded indexicals above the level of the indexicals themselves.

4 Funny indexicals [?] = bound indexicals

- The binding theory offers a set of independently justified tools for regulating the form of referring expressions in the context of other, similar referring expressions. Can it be used to accommodate the Nez Perce facts?
- Stechow (2003) on embedded indexicals in Amharic: feature deletion under binding (a phenomenon found in English and German: Heim (2008), Kratzer (2009))

- Prediction: Constraints on the co-occurrence of bound and unbound indexicals will be derivable from general principles of binding theory.

- (31) a. * 3person_j ... I_j ... I_k
 b. * 3person_j ... you_k ... I_j
 c. * (distant place)_i ... here_i ... here_j

- Temporal indexicals provide a test case for the analysis in terms of binding.

These are bindable, but not indexical (as we saw above), so they provide a way of probing how general a solution the binding approach allows us.

- Test result:

It's fully possible for one temporal Adv in an embedded clause to be bound by a matrix adverbial/tense while an additional temporal Adv in the same embedded clause remains free:

- (32) a. ✓ Monday_{t_l} ... one day later_{than t_l} ... same day_{as t*}
 b. Angel hi-i-ca-qa hal̆paawinaaq'it-pa
 Angel 3SUBJ-say-IMPERF-REC.PAST Monday-LOC
 [pi-pit'in hi-pe-weecée-yu' watiisx 'itq'o taaqc]
 [PL-girl 3SUBJ-S.PL-dance-FUT 1.day.away or same.day]
 Angel said on Monday_{t_l} that the girls would dance either one day later_{t_l+1} (Tuesday) or today_{t*} (Friday).

- (33) a. ✓ One week ago_{t_l} ... same day_{as t_l} ... one day later_{than t*}
 b. Naaqc k'ayx-pa,
 one week-LOC,
 weet 'aayat hi-i-cee-ne [pro 0-kiy-u' kii taaqc
 Y.N lady 3SUBJ-say-IMPERF-REM.PAST [pro 1SUBJ-go-FUT same.day
 'itq'o watiisx]
 or 1.day.away] ?
 One week ago_{t_l}, did the lady say_{t_l} she would go that same day_{t_l}, or tomorrow_{t*+1}?

- Sharp difference between indexicals (person, locatives) and non-indexical temporal adverbs.
- The trouble for the binding theoretic approach is similar to the trouble for mixed quotation. The attraction of these devices is their potential ability to reconcile funny indexicals to familiar phenomena without additional stipulation.

But Nez Perce funny indexicals do not support this easy reconciliation.

5 Indexical shifting

- Standard theory of indexicals (descended from Kaplan):
 - (34) Interpretation wrt a context (and an assignment), $\llbracket \cdot \rrbracket^{C,g}$
 - (35) Contexts modelled as tuples of parameters, e.g. $\langle \text{Speaker, Addressee, Location, Time, World} \rangle$
 - (36) Indexical reference is determined by appropriate contextual parameters, e.g. $\llbracket I \rrbracket^{C,g} = \text{Speaker}(C)$
 - (37) Context is fixed for every utterance; ordinary quantifiers do not manipulate it (in contrast to the assignment, g)

- Modifications:
 - (38) Some linguistic expressions directly manipulate contexts.³
 - (39) Shifty attitude reports involve *overwriting of contextual parameters*. (Anand and Nevins 2004)

- Shift together effects captured:

All embedded 1st person indexicals depend on the same overwritten Speaker parameter.
- The most straightforward road to overwriting would be for parameters of context to be overwritten directly by arguments of the embedding verb.

... understanding ‘arguments’ in the extended sense familiar from event semantics
- Case study: *hi* ‘say/tell’
 - (40) Semantics of an ordinary, non-‘shifty’ speech report

$$\llbracket DP_s \text{ tell } DP_o \text{ CP} \rrbracket^{C,g}(w) = 1$$
 iff there is a saying event e in w with agent $\llbracket DP_s \rrbracket^{C,g}$ and addressee $\llbracket DP_o \rrbracket^{C,g}$ such that for all worlds w' compatible with what is said in e ,

$$\llbracket CP \rrbracket^{C,g}(w') = 1$$

 - In a shifty report, the difference is that the complement is interpreted not with respect to the original context C but with respect to a modification of C that takes into account the subject and object of the speech verb, and the location associated with the speech event:
 - (41) Semantics of a ‘shifty’ speech report

$$\llbracket DP_s \text{ tell } DP_o \text{ OP CP} \rrbracket^{C,g}(w) = 1$$
 iff there is a saying event e in w with agent $\llbracket DP_s \rrbracket^{C,g}$ and addressee $\llbracket DP_o \rrbracket^{C,g}$ such that for all worlds w' compatible with what is said in e ,

$$\llbracket CP \rrbracket^{C[\llbracket DP_s \rrbracket^{C,g} \rightarrow \text{Speaker}], [\llbracket DP_o \rrbracket^{C,g} \rightarrow \text{Addressee}], [\text{location}(e)(w) \rightarrow \text{Loc}]}, g}(w') = 1$$

³ Schlenker 1999, 2003, Anand and Nevins 2004

6 Indexical shifting part II: The case for separable operators

- Now we are distinguishing two types of speech reports:
 - Non-shifty version: no indexicals shift.
 - Shifty version: all indexicals shift.

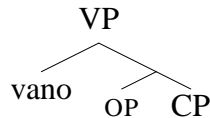
Things are more complex than this. This bears on the grammatical locus of the shifter.

6.1 Verbs and selected operators

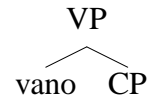
- According to Anand and Nevins, indexical shifting in Zazaki occurs only in the complement of the verb *vano* ‘say’.

Proposal: the shifty operator is syntactically factored out

(42) a. Syntax of the shifty version



b. Syntax of the non-shifty version



- Supporting evidence from Slave (Rice 1986):

(43) Slave indexical shift by verb

- ‘tell’: either shifts 1st and 2nd person, or does not shift
- ‘want’: either shifts 1st person, or does not shift
- ‘say’: obligatorily shifts 1st person

- AN interpretation: verbs (optionally) select shifty operators:

(44) OP_V shifts all person indexicals.

(45) OP_{auth} shifts only 1st person indexicals.

(46) Slave indexical shift by verb: operator-theoretic parse

- TELL (OP_V) CP
- WANT (OP_{auth}) CP
- SAY OP_{auth} CP

(47) Zazaki *vano* ‘say’ = SAY (OP_V) CP

The underlying idea here is that the various flavors of OP are functional items drawn from a universal store of possible UG context shifters. Substantive universals.

- Language variation has to do with lexical and selectional choices:

(48) English: no indexicals shift under any attitude verbs
 Analysis: No shifting operators in the lexicon.

(49) Matses (Munro et al. 2012): all indexicals shift obligatorily with all speech/attitude verbs.

Analysis: All verbs select for OP_V

- For Nez Perce, shifting involves both person and locative indexicals:

(50) OP_{V+} shifts all person and locative indexicals

Two verbs have been investigated in depth:

(51) Nez Perce indexical shift by verb

- SAY/TELL (OP_{V+}) CP
- THINK (OP_{V+}) CP

- The alternative: lexical ambiguity of attitude verbs
... a view which becomes more costly as the systematicity of the ambiguity increases

6.2 Intermediate shifting: the evidence

- The generalizations about indexicals under *hi* ‘say/tell’ and *neki* ‘think’ seem to be that:

- (52)
- 1st and 2nd person indexicals must shift together; they may both shift, or both not shift.
(see §3)
 - Locative *kíne* may shift or not shift.
(compare shifty *kíne* ‘here’ in (5) and non-shifty *kíne* in (30))
 - Locative shift entails person shift.**

- Considering locative shift and person shift as potentially independent phenomena, let us consider four cases:

(53) Interaction of person and locative shift

	Locative Shift	No Locative Shift
Person Shift	A BOTH	B JUST PERS
No Person Shift	**C JUST LOC	D NEITHER

- ✓ Case A (BOTH):

- (54) Talmaks-pa *pro* hi-pe-hi-n-e
 Talmaks-LOC *pro* 3SUBJ-S.PL-say-P-REM.PAST

[*pro* weet'u kíne \emptyset -wisiinu' kii k'ayx-pa]
 [*pro* not here 1SUBJ-be.FUT.PL this week-LOC]

They said at Talmaks they won't be up there this week
 They_i said_j at Talmaks (in the past_k) we_i won't be here_j this week_{t*}.

- ✓ Case D (NEITHER):

- (55) *pro* hi-nees- \emptyset -n-e *pro*
pro 3SUBJ-O.PL-say-P-REM.PAST *pro*

[*pro* weet'u kíne \emptyset -wees kii kaa]
 [*pro* not here 1SUBJ-be.PRES right now]

He told them that I'm not here right now.

- ✓ Case B (JUST PERS):

- (56) Context: my friend is calling me on his cellphone and describing his location. He is trying to make it to Lapwai, but he is lost.

pro hi-hi-ce- \emptyset [*pro* kíne \emptyset -pay-ca- \emptyset]
pro 3SUBJ-say-IMPERF-PRES [*pro* here 1SUBJ-arrive-IMPERF-PRES]

met'u weet'u *pro* hi-pay-ca- \emptyset kíne
 but not *pro* 3SUBJ-arrive-IMPERF-PRES here

He says he is arriving here, but he is not arriving here.
 He_i says I_i am arriving here, but he_i is not arriving here.

- (57) Mi-px pee- \emptyset -n-e Muune-ne Harold-nim
 where-to 3/3-say-P-REM.PAST Muna-OBJ Harold-ERG

[*pro* \emptyset -neki-se- \emptyset [*pro* \emptyset -ki-yu' t kin-ix]]?
 [*pro* 1SUBJ-think-IMPERF-PRES [*pro* 1SUBJ-go-FUT t here-from]]

Where did Harold tell Muna he thinks he will go from here?
 Where did Harold_i tell Muna I_i think I_i will go from here?

- ~~X~~ Case C (JUST LOC):

(58) Elicited in Lapwai, ID

'in-lawtiwaa keelepoonya-pa hi-neki-se- \emptyset
 my-friend California-LOC 3SUBJ-think-IMPERF-PRES

['iin \emptyset -weku' koná / *kíne hal̥paawit-pa]
 [I 1SUBJ -be.FUT there / *here Sunday-LOC]

My friend in California_i thinks I will be there_i / * here_i on Sunday

(59) Context: Harold is in Clarkston. I and my consultant are in Lapwai.

a. pay's Harold hi-neki-se- \emptyset
 maybe Harold 3SUBJ-think-IMPERF-PRES

[pro \emptyset -wees Clarkston-pa]
 [pro 1SUBJ-be.PRES Clarkson-LOC]

Maybe Harold thinks that I am in Clarkson.

b. # pay's Harold hi-neki-se- \emptyset
 maybe Harold 3SUBJ-think-IMPERF-PRES

[pro \emptyset -wees kíne Clarkston-pa]
 [pro 1SUBJ-be.PRES here Clarkson-LOC]

Intended: Maybe Harold thinks_i that I am here_i in Clarkson_j.

Consultant: "You could only say this if you were in Clarkston."

- Likewise, let us take a sentence where *kíne* 'here' is to be interpreted in a shifted way:

(60) 'in-lawtiwaa-nm Boston-pa hi-nees- \emptyset -n-e pro
 my-friend-ERG Boston-LOC 3SUBJ-O.PL-say-IMPERF-REM.PAST pro

[weet'u kíne (Taamsas) hii-wes kii kaa]
 [not here (Taamsas) 3SUBJ-be.PRES right now]

My friend in Boston told them that Taamsas is not there right now.

My friend in Boston_i told them that Taamsas is not here_i right now.

Taamsas is a name for ARD; can I swap in the 1st person indexical? No.

(61) 'in-lawtiwaa-nm Boston-pa hi-nees- \emptyset -n-e pro
 my-friend-ERG Boston-LOC 3SUBJ-O.PL-say-IMPERF-REM.PAST pro

[pro weet'u kíne \emptyset -wees kii kaa]
 [pro not here 1SUBJ -be.PRES right now]

My friend in Boston told them that he is not there right now.

My friend_j in Boston_i told them that I_j am not here_i right now.

*My friend_j in Boston_i told them that I_k am not here_i right now.

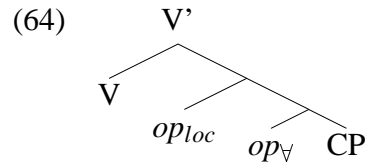
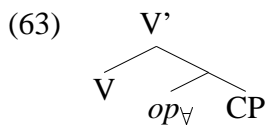
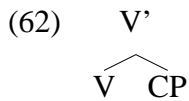
- Conclusion:

Locative shift entails person shift.

6.3 Intermediate shifting: analysis

- Three patterns in the complement of *hi* ‘say, tell’ and *neki* ‘think’:
 1. shift person and locative
 2. just shift person
 3. shift nothing
- Systematic three-way ambiguity?
- The operator-theoretic approach offers arguably a more attractive view of these issues.
 - One lexical entry for *hi* ‘say, tell’ and one for *neki* ‘think’
 - Two shifters:
 1. OP_{\forall} : shifts all person indexicals. (also for Slave, Zazaki)
 2. OP_{loc} : shifts locative indexicals.
 - Syntax: OP_{loc} selects OP_{\forall}

The different readings therefore correspond to three possible syntactic parses:



> *Semantics of the shifters, with events:*

- Complementizers as introducers of event(uality) variables, connecting attitude event(uality)s to propositions via their content⁴

$$(65) \quad \llbracket C^0 \rrbracket^{C,g} = \lambda p \lambda e. \forall w' \in \cap CON(e)[p(w')]. \quad (\text{Anand and Hacquard 2008})$$

- The content of an event of saying is the set of worlds compatible with what is said.
The content of an event of thinking is the set of worlds compatible with what is thought.
- ‘Say’ and ‘think’ are simple predicates of events

$$(66) \quad \llbracket hi \rrbracket^{C,g} = \lambda e. \text{saying}(e)$$

$$(67) \quad \llbracket neki \rrbracket^{C,g} = \lambda e. \text{thinking}(e)$$

- See the appendix for an example of how this goes in simple sentences

⁴ Kratzer 2006, Anand and Hacquard 2008

- OPs shift the context against which their complement is interpreted, overwriting contextual parameters with event parameters⁵

$$(68) \quad \llbracket \text{OP}_{\forall} \rrbracket^{C,g} = \lambda P \lambda e. \llbracket P \rrbracket^{C[\text{EXT}(e) \rightarrow \text{Speaker}, \text{GOAL}(e) \rightarrow \text{Addressee}], g}(e)$$

$$(69) \quad \llbracket \text{OP}_{loc} \rrbracket^{C,g} = \lambda P \lambda e. \llbracket P \rrbracket^{C[\text{LOC}(e) \rightarrow \text{Loc}], g}(e)$$

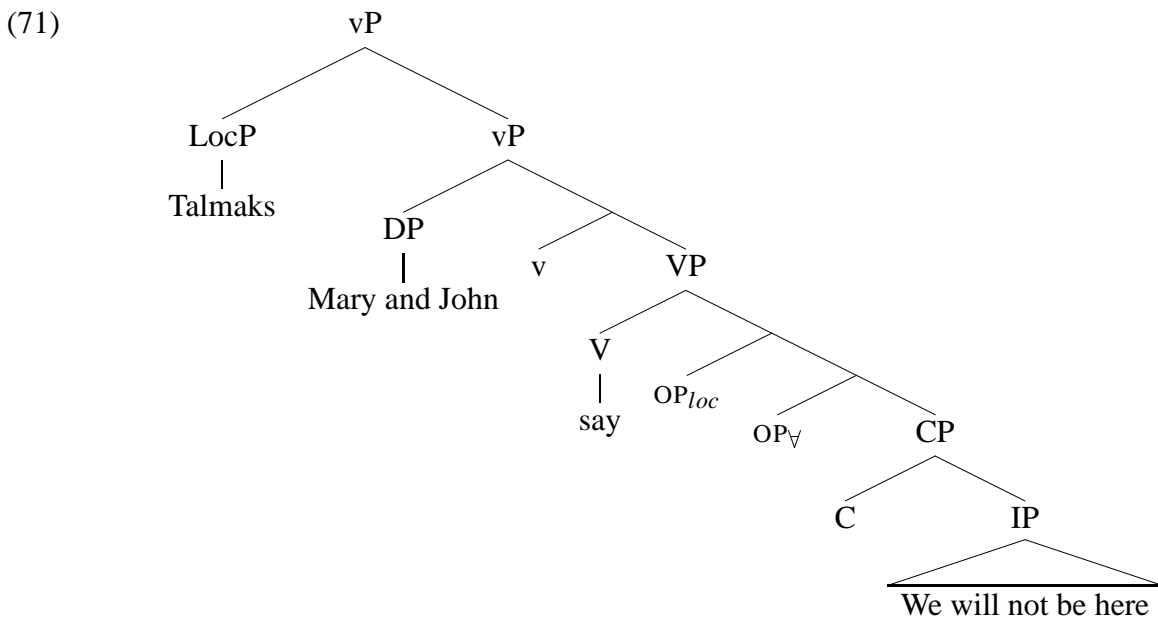
- Example with both shifters (ignoring everything to do with time):

(70) Talmaks-pa Meeli kaa Caan hi-pe-hi-n-e
 Talmaks-LOC Mary and John 3SUBJ-S.PL-say-P-REM.PAST

[*pro* weet'u kine Ø-wisiinu']

[*pro* not here 1SUBJ-be.FUT.PL]

[Mary and John]_i said at Talmaks_j that we_i won't be here_j



$$(72) \quad \llbracket (70) \rrbracket^{C,g}$$

$$= \exists e. \text{Loc}(\text{Talmaks})(e) \ \& \ \text{Agent}(M+J)(e) \ \& \ \text{saying}(e) \ \& \ \llbracket \text{OP}_{loc} \llbracket \text{OP}_{\forall} \text{CP} \rrbracket \rrbracket^{C,g}(e)$$

$$= \exists e. \text{Loc}(\text{Talmaks})(e) \ \& \ \text{Agent}(M+J)(e) \ \& \ \text{saying}(e) \ \& \ \llbracket \text{OP}_{\forall} \text{CP} \rrbracket^{C[\text{LOC}(e) \rightarrow \text{Loc}], g}(e)$$

$$= \exists e. \text{Loc}(\text{Talmaks})(e) \ \& \ \text{Agent}(M+J)(e) \ \& \ \text{saying}(e)$$

$$\ \& \ \llbracket \text{CP} \rrbracket^{C[\text{LOC}(e) \rightarrow \text{Loc}, \text{EXT}(e) \rightarrow \text{Speaker}, \text{GOAL}(e) \rightarrow \text{Addressee}], g}(e)$$

$$= \exists e. \text{Loc}(\text{Talmaks})(e) \ \& \ \text{Agent}(M+J)(e) \ \& \ \text{saying}(e) \ \& \ \forall w' \in \cap \text{CON}(e)$$

$$\llbracket \neg \llbracket \text{be-here} \rrbracket^{C[\text{LOC}(e) \rightarrow \text{Loc}, \text{EXT}(e) \rightarrow \text{Speaker}, \text{GOAL}(e) \rightarrow \text{Addressee}], g}(\llbracket \text{we} \rrbracket^{C[\text{LOC}(e) \rightarrow \text{Loc}, \text{EXT}(e) \rightarrow \text{Speaker}, \text{GOAL}(e) \rightarrow \text{Addressee}], g}(w')) \rrbracket$$

$$= \exists e. \text{Loc}(\text{Talmaks})(e) \ \& \ \text{Agent}(M+J)(e) \ \& \ \text{saying}(e) \ \& \ \forall w' \in \cap \text{CON}(e)$$

$$\llbracket \neg \text{be.at.Talmaks}(M+J)(w') \rrbracket$$

⁵ Let *EXT* be a function from an event to its agent or a state to its holder; let *GOAL* be a function from an event to its goal; let *LOC* be a function from an event to its location

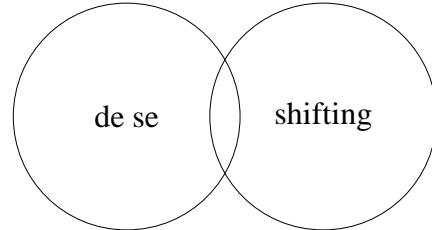
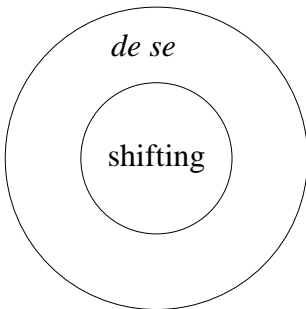
- Observations

- It would be possible to maintain that each coordinate is shifted by its own shifter: the shifter for 2nd person (OP_{add}) selects the shifter for 1st person (OP_{auth})
This may be advantageous given that GOAL is plausibly not defined for thinking states
- If we allow that 2nd persons and 1st persons shift independently, we can deal with the cases reported as counterexamples to Shift-Together from Catalan Sign Language by Quer (2005) – locatives shifting independent of person, 1st shifting independent of 2nd

7 Indexical shifting part III: Attitudes de se

- What is the connection between indexical shifting and attitudes *de se*?
- *The view from Anand (2006)*

What the Nez Perce data say



- The Nez Perce generalizations:
 - Person indexicals must be interpreted *de se* / *de te*
 - Locative indexicals impose no similar constraint

7.1 Person indexicals

- First person indexicals are read *de se* (like all known cases of shifty 1st person indexicals)

(73) Context: A lady gets very sick and then recovers. Her recovery is so miraculous that they mention it on TV. They show the lady in a very ill condition; she looks awful. She sees this TV report later and she doesn't even recognize herself, she was so sickly at that time.

'aayat hi-neki-se-0 [*pro* 0-k'oomay-n-a]
 woman 3SUBJ-think-IMPERF-PRES [*pro* 1SUBJ-be.sick-P-REM.PAST]

The woman_i thinks I_i was sick.

Consultant: "No, if she doesn't recognize that's her?"

'aayat hi-neki-se-0 [*pro* hi-k'oomay-ca-0]"
 woman 3SUBJ-think-IMPERF-PRES [*pro* 3SUBJ-be.sick-IMPERF-PRES]

[The woman_i thinks she_i is sick.]

(74) Context: a woman is examining a portrait of herself.

pro hi-neki-se- \emptyset [*pro* \emptyset -wees sayaq'ic cepeeletpit-pe]
pro 3SUBJ-think-IMPERF-PRES [*pro* 1SUBJ-be.PRES pretty picture-LOC]
 She_i thinks I_i am pretty in the picture.

- a. The woman looks at the picture and recognizes herself.
- b. # The woman looks at the picture but does not recognize that it is her own portrait.

Consultant: "She's recognizing herself."

(75) a. 'aayat hi-neki-se- \emptyset

woman 3SUBJ-think-IMPERF-PRES

[(kii 'aayat) hii-wes sayaq'ic cepeeletpit-pe.]

[this woman 3SUBJ-be.PRES pretty picture-LOC]

She_i thinks *pro*_i / this woman_i is pretty in the picture.

b. weet'u *pro* 'ipnee-suk-se- \emptyset

not *pro* 3SG.REFL-recognize-IMPERF-PRES

She doesn't recognize herself.

When the attitude is not *de se*, speakers must use a 3rd person subject in the lower clause.⁶

- Parallel findings hold of shifted 2nd person indexicals. They must be interpreted *de te*. (Unlike in Uyghur (Sudo 2010))

(76) Context: A woman has had her portrait painted. Her husband takes a look at the portrait.

hama-pim pee-x-ey'-ce- \emptyset cepeeletpit
 husband-ERG 3/3-see-PR-IMPERF-PRES picture

(Her) husband sees her picture,

kaa *pro* pee- \emptyset -ce- \emptyset *pro*
 and *pro* 3/3-say-IMPERF-PRES *pro*

[ta'c 'ee hikepe \emptyset -wees]

[good you in.appearance 2SUBJ-be.PRES]

and he tells her_i that you_i look good.

Consultant: "He recognized her in the picture."

⁶ It is a bit unclear why this sentence does not violate Condition C when the parenthesized subject is included. Perhaps, on that version, it is a clause-level quotation.

- Where the husband comments on the lady in the picture without recognizing that individual as his addressee, the wife, a third person expression must be used:

(77) Context: As above.

hama-pim pee- \emptyset -ce- \emptyset pro
 husband-ERG 3/3-say-IMPERF-PRES pro

[ta'c kii 'aayat hii-wes hekipe]
 [good this woman 3SUBJ-be.PRES in.appearance]

The husband tells her_i this woman_i looks good.

Consultant: “He thinks it’s a nice looking lady in the picture, but he has no idea that it’s her own portrait.”

- What we learn from this is that the following constraints on person indexicals are in force:

(78) A shifty 1st person indexical may only refer to individuals that the attitude holder identifies as his or her counterparts.

(79) A shifty 2st person indexical may only refer to individuals that the attitude holder identifies as counterparts of his or her addressee.

7.2 Locative indexicals

- Speakers have no concerns about the use of shifted *kíne* ‘here’ in non-*de se* scenarios.

(80) Context: A man is visiting a city building and he sees a photograph of Bill Clinton shaking hands with someone. He doesn’t know that the picture was taken right where he was standing, some years ago.

haama hi-neki-se- \emptyset [Clinton hi-weeke kíne]
 man 3SUBJ-think-IMPERF-PRES [Clinton 3SUBJ-be.PAST here]

The man thinks_j Clinton was here_j.

Consultant: “That would be wherever the man was and wherever he saw the picture.”

The judgment is not affected by a reminder that the man does not know where the picture was taken.

- Another example of *kíne* ‘here’ picking out the location of thought, even though the thinker does not know that that is her location:

(81) Context: Costco is a large, prominent store in Clarkston.

'aayat hii-wes Clarkston-pa
 woman 3SUBJ-be.PRES Clarkston-LOC

The woman is in Clarkston_i,

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