Height or locality: Cross-linguistic variations in Algonquian peripheral agreement

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Introduction

In the Ojibwe ditransitive example in (1), **peripheral agreement (PerA)** indexes the IO ‘him’, and is prohibited to index the obviative (“4th person”) DO, ‘his child’:

(1) *ngii-noojmotmawaa wniijaansan*
    n-gii-oojmotmaw-aa-Ø wniijaans-an
    1-past-cure for-3.OBJ-AN.SG his.child-obv

‘I cured his child for him.’ (Valentine 2001: 658)

- The accessibility of the IO and the inaccessibility of the DO in (1) can be explained by **locality** (Probe-Goal framework (Chomsky 2000, 2001): functional head=probe, DP=goal).
- However, Passamaquoddy (Eastern Algonquian) challenges the notion of locality because the DO becomes accessible in the counterpart form and is indexed by peripheral agreement. This talk uses the cross-linguistic behaviors of PerA, arguing in favor of Keine’s (2019) analysis that probe’s searching capacity is dependent on its syntactic height.
Plan

1 Background
   Algonquian agreement

2 Variation of PerA

3 Where PIC fails

4 Why horizon

5 Concluding remarks
Algonquian: language family

Algonquian languages are a family of endangered indigenous languages spoken in CA and US.

- **Passamaquoddy**
  New Brunswick (Canada), Maine (US)

- **Ojibwe**
  Manitoba, AB, SK, ON, QC (Canada)
  Michigan, Wisconsin, Minnesota, N. Dakota, Montana (US)

- **Menominee**
  Wisconsin, Michigan

Algonquian family: 25~30 languages (Goddard 1980)
- polysynthetic (rich morphology)
- pro-dropping
- head marking

picture source:
https://upload.wikimedia.org/wikipedia/commons/thumb/4/41/Algonquian_language_map_with_states_and_provinces.svg/800px-Algonquian_language_map_with_states_and_provinces.svg.png
Peripheral agreement (PerA, Goddard 1979) occurs at the right periphery of the indicative verb and usually indexes the nominal features (e.g. number, animacy) of the 3rd person object.

Selectiv opacity effect: some third person objects are accessible for PerA in some languages, while the very same objects become inaccessible in other languages.
## Canonical transitive verbs

The third-person animate plural object is accessible in all three languages, indicated by the peripheral suffix (PA *-aki).

### Examples

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<thead>
<tr>
<th>Language</th>
<th>Verb</th>
<th>Transitive Form</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Ojib</td>
<td>nwicohkemak</td>
<td>n-wicohkem-a -Ø -ak</td>
<td>‘I help them&lt;sub&gt;AN&lt;/sub&gt;’ (Sherwood 1983: 197)</td>
</tr>
<tr>
<td>Ojib</td>
<td>nwaabmaag</td>
<td>n-waabam-aa -Ø -ag</td>
<td>‘I see them&lt;sub&gt;AN&lt;/sub&gt;’ (Valentine 2001: 287)</td>
</tr>
<tr>
<td>Meno</td>
<td>nena·na·wak</td>
<td>n-na·n -a· -w -ak</td>
<td>‘I fetch them&lt;sub&gt;AN&lt;/sub&gt;’ (Bloomfield 1962: 152)</td>
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Ditransitive verbs

- When there are two internal arguments, only in Pass can the DO be accessible for PerA, -\text{al} in (5a), while in the other two languages, PerA indexes the IO, -\text{Ø} in (5b-c).

(5) a. nkissəma\text{al} piksək pəcetesəl
    n-kissəm-a -n -\text{al} piks-ək pəcetes-əl
    1 -feed -3.OBJ-1SG-IN.PL pig-AN.PL potato-IN.PL
    ‘I feed potatoes\text{IN} to the pigs.’ (Sherwood 1983: 125)

b. ngii-noojmotmawaa wniijaansan
    n-gii-oojmotmaw-a\text{-Ø}-\text{-Ø} wniijaans-an
    1-past-cure.for-3.OBJ-1SG-AN.SG his.child-obv
    ‘I cured his child \textbf{for him}.’ (Valentine 2001: 658)

c. newe\text{-htamowa-w}
    n-we\text{-htamowa-a-} -w-\text{-Ø}
    1-tell-3.OBJ-1SG-AN.SG
    ‘I tell of it to \textbf{him/her}.’ (Bloomfield 1962: 152)
Pseudo-transitive verbs

- Pseudo-transitives (Bloomfield 1946) are verbs that are morphologically intransitive but syntactically transitive for being capable of licensing an internal argument.

  (6) a. *k’isahkanəl* can *epeskəmakənəl*
    
    *w*-kiahka -n -əl can *epeskəmakən-əl*
    
    3-throw -3SG-OBV John ball-obv
    
    ‘John threw the ball.’ (Sherwood 1983: 94)

  b. *wmiigwenan*
    
    *w*-miigwe-n-an
    
    3-give.way-3SG-OBV
    
    ‘S/he gives them away.’ (Valentine 2001: 244)

  c. John *kēs-mēkāhkow enoh awāēhsaeh*
    
    John *kēs-mēkāhki-ŵ-Ø* enoh awāēhs-aeh
    
    John past-tell-3-AN.SG that bear-obv
    
    ‘John fought that bear.’ (Johnson 2011: 118)

- Pass & Ojib: the notional object is indexed by PerA.
- Meno: the notional object isn’t accessible; PerA indexes the subject
Now the selective opacity effect of PerA gives rise to a cline.

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Locality: the PIC

Locality is a fundamental property of natural language syntax.

E.g., object shift in Icelandic ditransitives: only the higher object can be shifted:

(7) a. Ég lána Maríu ekki bækurnar.
   I lend Maria.DAT not books.ACC
   ‘I do not lend the books to Maria.’

b. *Ég lána bækurnar ekki Maríu.
   I lend books.ACC not Maria.DAT
   (Collins and Thráinsson 1996)

Locality is formally defined by the PIC (phase impenetrability condition, Chomsky 2000:108):

• In a phase $\alpha$ with head $H$, the domain of $H$ is not accessible to operations outside $\alpha$, only $H$ and its edge are accessible to such operations.

The extraction of the wh-element cannot directly land in Spec-CP but must move cyclically.

(8) $[_{\text{CP}} \ C[+wh] \text{Who do you [}_{\text{vP}} \ t_3 \text{ think [}_{\text{CP}} t_2 \text{ we should [}_{\text{vP}} \ t_1 \text{ hire }]\text{]}] \text{?}$

$\wedge$

(8a) $t_3$: Spec-vP (phase edge)

CP and vP are phases

✓ agreement
The argument configuration of Algonquian languages is schematized in (9).

- Voice introduces the external argument of a canonical transitive (Oxford 2014),
- Appl introduces IO of a ditransitive (i.e. Pylkkänen’s (2008) high applicative, see Quinn 2006),
- pseudo-tran lacks Voice (Hirose 2003; Tollan & Oxford 2018)

(9)  a. Tran: [CP [Infl [VoiceP SUBJ Voice [vP OBJ ]]]]
    b. Ditran: [CP [Infl [VoiceP SUBJ Voice [ApplP IO [vP DO ]]]]]
    c. Pseudo: [CP [Infl [vP SUBJ v [RootP OBJ ]]]]
Where the PIC fails

CP and vP are phases (Chomsky 2000, the vP corresponds to VoiceP in Algonquian)

The prediction of the PIC: the C-probe could only access the DPs within the CP domain or at Spec-VoiceP (edge of the CP-phase).

The PIC holds in canonical transitive verbs:

transitive clauses: \[ C \left[ \text{Infl} \ [\text{VoiceP} \ SUBJ \ OBJ \ [vP \ \_ \ ]] \right] \]

The prediction: shifts to Spec-VoiceP after valued by Voice\(^0\) (cf. Oxford 2014; Xu 2021)

The immediate problem comes from ditransitive verbs: the DO is supposed to be inaccessible for C, however, this is not the case in Passamaquoddy.

ditransitive clauses:

\[
C \left[ \text{Infl} \ [\text{VoiceP} \ SUBJ \ IO \ [\text{ApplP} \ \_ \ [vP \ DO \ ]] \right] \]

✓ works for Ojibwe and Menominee
X does not hold for Passamaquoddy

Therefore, the delimiting edge cannot be a fixed boundary, calling for flexibility to it.
Horizon allows flexibility

Keine (2019) examined the selective opacity phenomenon in Hindi where finite clauses (CPs) are opaque for A-movement but not for A-bar movement; non-finite clauses are transparent for both A and A-bar movement.

The horizon theory thus derives a height-locality connection: probe’s search capacity is dependent on its structural position.

- The higher the probe is, the more structures are transparent to it.
- The probe \( \pi_2 \) can access a wide range of elements in the structure than the probe \( \pi_1 \).

The horizons account can extend from movement to agreement: “Movement is a uniform process (Internal Merge) because selective opacity is a manifestation of the Agree relation that movement is parasitic on.” (Keine 2019: 16)
Why horizon

Both phases and horizons at the core are overlapping for attributing the success/failure of agreement to unavailability of certain domains.

The major appealing advantage of Keine (2019)’s model over the classical phases is it allows flexibility of imposing the location of this crucial delimiting edge.

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Analogically, Keine’s proposal regards that the capacity of a probe to unlock elements in certain domains varies: the higher the probe is, the more capable of it to unlock an area.

**Upshot:** Algonquian data extend the flexibility of horizons even further, that is, microparameters are shown not only in *where* the delimiting edge is but also *whether* it can be unlocked by the probe.
Parametric variation in ditransitive verbs

- IO is accessible for Passamaquoddy C but inaccessible for C in Ojibwe and Menominee.

(10) a. nkisəmanəl piksək pəcetesəl
   n-kissəm-a -n -əl piksək pəcetesəl
   1 -feed -3.OBJ-1SG-IN.PL pig-AN.PL potato-IN.PL
   ‘I feed potatoes_in to the pigs.’ (Sherwood 1983: 125)

b. newə-htamowa-w
   n-we-htamowa-a -w-Ø
   1-tell-3.OBJ-1SG-AN.SG
   ‘I tell of it to him/her.’ (Bloomfield 1962: 152)

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parametric variation:
- vP is a horizon in Ojib & Meno
Parametric variation in ditransitive verbs

- IO is accessible for Passamaquoddy C but inaccessible for C in Ojibwe and Menominee.

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    ‘I feed potatoesIN to the pigs.’ (Sherwood 1983: 125)

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    n-we·htamowa-a· -w-Ø
    1-tell-3.OBJ-1SG-AN.SG
    ‘I tell of it to him/her.’ (Bloomfield 1962: 152)

ditransitive: $C \left[ \text{Infl} \left[ \text{VoiceP} \right] \right. \left. \text{SUBJ} \right. \left. \uparrow \text{IO} \right. \left. \left[ \text{ApplP} \right. \left. \left. \left[ \text{vP} \right. \left. \left. \left. \left. \text{DO} \right] \right] \right] \right] \right]$
Parametric variation in ditransitive verbs

- IO is accessible for Passamaquoddy C but inaccessible for C in Ojibwe and Menominee.

\[(10)\]  
\[\begin{align*}
\text{(a) } & \text{ nkissəmanəl piksək pəcetesəl} \\
& n\text{-kissəm}-a \text{-n -əl piks}-ək pəcetes-əl \\
& 1 \text{-feed } -3.\text{OBJ-1SG-IN.PL} \text{ pig-AN.PL potato-IN.PL} \\
& \text{‘I feed } \text{potatoes}\text{IN to the pigs.’} \text{ (Sherwood 1983: 125)} \\
\text{(b) } & \text{ newe·htamowa·w} \\
& n\text{-we·htamowa}-a \text{-w-Ø} \\
& 1\text{-tell-3.\text{OBJ-1SG-AN.SG}} \\
& \text{‘I tell of it to } \text{him/her.’} \text{ (Bloomfield 1962: 152)}
\end{align*}\]

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parametric variation:
- vP is no longer a horizon in Pass
Parametric variation in pseudo-transitive verbs

- The (obviative) object is accessible for C in Passamaquoddy and Ojibwe but inaccessible for C in Menominee.

- **For Ojibwe**:
  
  (11) a. *wmiigwenan*
  
  \[
  \text{w-miigwe-n-an} \quad \text{wniijaans-an}
  \]
  
  3-give.way-3SG-OBV his.child-obv
  ‘S/he gives them away.’ (Valentine 2001: 244)

  b. John *kēs-mēkāhkow enoh awāehsaeh*
  
  John past-tell-3-AN.SG that bear-obv
  ‘John fought that bear.’ (Johnson 2011: 118)

- **For Meno**:

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parametric variation:
- RootP is a horizon in Meno
Parametric variation in pseudo-transitive verbs

- The (obviative) object is accessible for C in Passamaquoddy and Ojibwe but inaccessible for C in Menominee.

(11) a. wmiigwenan
    w-miigwe-n-an  wniijaans-an
    3-give.way-3sG-OBV  his.child-obv
    ‘S/he gives them away.’ (Valentine 2001: 244)

b. John kēs-mēkāhkow enoh awēhseah
   John kēs-mēkāhki-ū-Ø enoh awēhse-aeh
   John past-tell-3-AN.SG that bear-obv
   ‘John fought that bear.’ (Johnson 2011: 118)

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parametric variation:
- RootP is a horizon in Meno
Parametric variation in pseudo-transitive verbs

- The (obviative) object is accessible for C in Passamaquoddy and Ojibwe but inaccessible for C in Menominee.

(11) a. *wmiigwenan*

\[ \text{w-miigwe-n-an} \quad \text{wniijaans-an} \]

3-give.way-3SG-OBV  his.child-obv

‘S/he gives *them* away.’ (Valentine 2001: 244)

b. *John kēs-mēkāhkow enoh awēhsaeh*

\[ \text{John kēs-mēkāhki-\u0140 enoh awēhs-aeh} \]

John past-tell-3-AN.SG that bear-obv

‘*John* fought that bear.’ (Johnson 2011: 118)

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parametric variation:

- RootP is no longer a horizon in Pass & Ojib
Concluding remarks

The cross-linguistic patterns of Algonquian PerA favors Keine’s syntactic height. Concretely, the probe’s searching capacity is not blocked by a fixed edge but dependent on its syntactic height.

I show that the delimiting edge of a probe’s search is subject to parametric variations.

\[
\text{search capacity of Ojib C} \\
\text{search capacity of Meno C}
\]

This talk deepens our understanding to horizons: they may vary not only by where they are located but also by whether they can be unlocked by the structurally higher probe.

Connecting to previous literature, the challenging evidence to the PIC comes from LDA (long distance agreement, cf. A Polinsky & and Postdam 2001 for Tsze), this talk brings in new empirical evidence showing that the PIC of the phase theory (Chomsky 2000, 2001) is too strong.
Thank you!

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Xu, Yadong. 2019. The cline of the peripheral agreement and its implication about object types. Paper presented the 52nd Algonquian Conference. University of Wisconsin-Madison (Online).