The cline of the peripheral agreement and its implication about object types

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Introduction

Peripheral agreement

- Peripheral Agreement (PER, “peripheral endings”, Goddard 1979) occurs at the right periphery of the verb.
- PER indexes the phi-features of the object, i.e. number, gender, and obviation.
- **Algonquian independent indicative verb template:**

  \[
  \text{prefix} - \text{stem} - \text{theme} - \text{ftv} - \text{central} - \text{peripheral}
  \]

  \[
  \begin{array}{c|c|c|c|c|c}
  \text{[person]} & \text{[person]} & \text{[number]} & \text{[phi]} \\
  \text{subject} & \text{object} & \text{subject} & \text{object} \\
  \end{array}
  \]

- This talk examines the patterns of PER in 5 languages.
- These patterns are illuminating in revealing the structural difference of the primary object from the secondary object.

*ne-wa·pam-a·w-ena·n-a*
1 -see 3 -ftv-1p 3s
‘We see **him/her** (an.)’

*ne-wa·pam-a·w-ena·n-aki*
1 -see 3 -ftv-1p 3p
‘We see **them** (an.)’
Peripheral pattern (PER)  
Proto-Algonquian

- 3rd-person objects (if definite) are always indexed by PER in Proto-Algonquian.
  - **TA**=monotransitive, animate object
  - **TI**=monotransitive, inanimate object
  - **AI+O**=pseudo-transitive (Bloomfield 1946)
  - **TA+O**=ditransitive, goal-theme

<table>
<thead>
<tr>
<th>Subject</th>
<th>Object</th>
<th>Verb</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TA</strong></td>
<td><em>ne-wa’pam-a·w-aki</em></td>
<td>1 -see -3 -ftv-3p</td>
<td>‘I see them (an.)’</td>
</tr>
<tr>
<td><strong>TI</strong></td>
<td><em>ne-wa’pant-a·n -ari</em></td>
<td>1 -see -0 -ftv-0p</td>
<td>‘I see them (in.)’</td>
</tr>
<tr>
<td><strong>AI+O</strong></td>
<td><em>ne-kapa· -n -a</em></td>
<td>1 -disembark -ftv-3s</td>
<td>‘I disembark it (an.)’</td>
</tr>
<tr>
<td><strong>TA+O</strong></td>
<td><em>ne-nekaθ -a·en-ari</em></td>
<td>1 -abandon -3 -ftv-0p</td>
<td>‘I abandon them (in.) for him’</td>
</tr>
</tbody>
</table>
Plan

1. Overview: crosslinguistic cline
2. PER patterns by verb class
   - TA (mixed vs. non-local)
   - TI (mixed vs. non-local)
   - AI+O=pseudo-transitive
   - TA+O=ditransitive
3. Structural position: primary object vs secondary object
4. Meta-analysis for each language
5. Implications of PER variations about object types
6. Concluding remarks
1. Overview

Cline of PER

- I focus on the object marking indexed by PER in 5 daughter languages.
- The pattern of PER falls in a cline as shown in the “staircase” table below:

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ojibwe</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Oji-Cree</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Menominee</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cree</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
2.1 PER pattern

TA mixed

- The 3p object are indexed by PER in the TA mixed forms in all five languages.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>nə̌-mi·l-á· -w-ak</td>
<td>n-waabam-aa-ag</td>
<td>ni-kii-waapam-aa-k</td>
<td>ne-na:n-a:-w-ak</td>
<td></td>
</tr>
<tr>
<td>1-give.to-3-ftv-3p</td>
<td>1 -see -3 -3p</td>
<td>1-past-see -3 -3p</td>
<td>1-fetch -3 -ftv-3p</td>
<td></td>
</tr>
<tr>
<td>‘I give to them (an.)’</td>
<td>‘I see them (an.)’</td>
<td>‘I saw them (an.)’</td>
<td>‘I fetch them (an.)’</td>
<td></td>
</tr>
</tbody>
</table>

Data in this talk are from reference grammars

- Delaware: Goddard (1979)
- Ojibwe: Valentine (2001)
- Menominee: Bloomfield (1946, 1962)
- Cree: Wolfart (1973)
- except for Oji-Cree: fieldwork (my own and Will Oxford’s)
2.2 PER pattern

TI mixed

- Cree drops out first, not indexing the object by PER, resulting in the number of the inanimate object being neutralized.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee*</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-pən-am-án-a</td>
<td>n-waaband-aa-n-an</td>
<td>ni-kii-takahshikaat-aa-n-an</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-look.at-0-ftv-0p</td>
<td>1 -see -0-ftv-0p</td>
<td>1-past-kick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘I see them (in.)’</td>
<td>‘I see them (in.)’</td>
<td>‘I kicked them (in.)’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee*</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>ne-po:n-a:-n-an</td>
<td>ni-wâpaht-ê-n</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-put.in-0-ftv-0p</td>
<td>1 -see -0-ftv</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘I put them (in.) in the pot’</td>
<td>‘I see it/them (in.)’</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*only for singular SAP subject, if the SAP subject becomes plural, it’ll pattern with Cree, no PER.
2.3 PER pattern

TA non-local

- Menominee further drops out along with Cree, not indexing the obviative object in the non-local TA form.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>(w)-mi.l-á.-wá.w-al</td>
<td>w-vaabam-aa-waa-an</td>
<td>niishin naapewak o-kii-nihs-aa-waa-n mihshin waapoosoon.</td>
<td>na:n-e:-w-ak</td>
<td>wâpam-ê-w-ak</td>
</tr>
<tr>
<td>3 -give.to-3 3p -obv</td>
<td>3 -see -3 -3p -obv</td>
<td>two men 3-past-kill-3 3p -obv many rabbits</td>
<td>fetch-3 -ftv-3p</td>
<td>see -3 -ftv-3p</td>
</tr>
<tr>
<td>‘They give to him/them (obv.)’</td>
<td>‘They see him/them (obv.)’</td>
<td>‘Two men killed many rabbits (obv.)’</td>
<td>‘They fetched him/them (obv.)’</td>
<td>‘They see him/them (obv.)’</td>
</tr>
</tbody>
</table>
2.4 PER pattern

TI non-local

- Same pattern as in previous TA non-local forms, PER is not indexing the object in Menominee and Cree.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{w-pən} -\textit{am-(ə)nē-wāw-i(ə)}</td>
<td>\textit{w-waaband-aa-na-waa-an}</td>
<td>\textit{Menii o-kii-waapat-aa-n-an nihsin ciimaanan.}</td>
<td>\textit{po:n -am-w-ak}</td>
<td>\textit{wâpat-am-w-ak}</td>
</tr>
<tr>
<td>3 -look.at-0 -ftv -3p -0p</td>
<td>3 -see -0 -ftv -3p -0p</td>
<td>Mary 3-past-see -0 -ftv-0p three boats</td>
<td>put.in -0 -ftv -3p</td>
<td>see -0 -ftv-3p</td>
</tr>
<tr>
<td>‘\text{They look at} \textbf{them} \text{(in.)}’</td>
<td>‘\text{They see} \textbf{them} \text{(in.)}’</td>
<td>‘\text{Mary saw} \textbf{three boats} \text{(obv.)}’</td>
<td>‘\text{They put} \textbf{it/them} \text{(in.) in the pot}’</td>
<td>‘\text{They see} \textbf{it/them} \text{(in.)}’</td>
</tr>
</tbody>
</table>
2.5 PER pattern
AI+O

- Object not indexed by PER further extends to Oji-Cree in AI+O verbs.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>nə-wañí-n -a·k</td>
<td>n-miigwe -n -ag</td>
<td>ataawe-w wapikon-iin</td>
<td>čaan ne-toowemate-m</td>
<td>âpacihtâ-w</td>
</tr>
<tr>
<td>1 -see -ftv-3p</td>
<td>1-give.away-ftv-3p</td>
<td>buy -3 flower -0p</td>
<td>John 1-have.friend -1s</td>
<td>use -3</td>
</tr>
<tr>
<td>‘I forgot them (an.)’</td>
<td>‘I give them (an.) away’</td>
<td>‘She buys flowers (in.)’</td>
<td>‘I have John as a friend.’</td>
<td>‘He uses it’</td>
</tr>
</tbody>
</table>
2.6 PER pattern
Theme of TA+O

- Only in Delaware, theme is indexed by PER, the rest of 4 languages pattern like ordinary TA, agreeing with goal.

<table>
<thead>
<tr>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1—3+0</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

- **Delaware**
  - *na-míl-a-n* -a
  - 1 -give -3 -ftv-0p
  - ‘I gave them (in) to him’

- **Ojibwe**
  - *ni-gii-miin-aa-Ø* Mani mzinegen
  - 1-past-give -3-3s Mary book
  - ‘I gave a book to Mary’

- **Menominee**
  - *ne-weenntamow-a:-w-Ø*
  - 1 -tell -3 -ftv-3s
  - ‘I tell it to him.’

- **Oji-Cree**
  - *Menii o-miin-aa-n*
  - Cawn-an masinahiikan-an
  - Mary 3 -give -3 -obv John-obv book -0p
  - ‘Mary gives John books’

- **Cree**
  - *ni-àtotamaw-ê-w-Ø*
  - 1 -tell -3 -ftv-3s
  - ‘I tell it to him’
Recap

Diachronic cline

- In 4 daughter languages, Ojibwe, Oji-Cree, Menominee, and Cree, PER not indexing the object gradually extends.

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ojibwe</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Oji-Cree</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Menominee</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cree</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
3. Structural positioning

Primary vs. secondary object

- Structurally, the primary object differs from the secondary object.
- Typologically, Alg. ditransitives have the secundative alignment (Haspelmath 2005).

<table>
<thead>
<tr>
<th>Case</th>
<th>Structure</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA/TI</td>
<td>Agent Goal [VP Goal]</td>
<td>Goal = primary; Theme = secondary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Object shift”: goal is moved out from VP (Diesing 1992; Holmberg 1986)</td>
</tr>
<tr>
<td>AI+O</td>
<td>Agent [VP Theme]</td>
<td>Theme is structurally lower than goal, inside the VP.</td>
</tr>
<tr>
<td>TA+O</td>
<td>Agent Goal [VP Theme]</td>
<td>Locality effect: each language varies in how far they can agree.</td>
</tr>
</tbody>
</table>
4.1 Analysis
Delaware

- Locality is not rigid in Delaware.

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delaware</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

TA/TI
Agent Goal [VP Goal]

AI+O
Agent [VP Theme]

TA+O
Agent Goal [VP Theme]
4.2 Analysis

Ojibwe

- Locality isn’t very restricted to VP-external object only.
- **Intervening restriction**: the lower Theme cannot be accessed if it’s blocked by an argument along its way.

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ojibwe</strong></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
</tbody>
</table>

**TA/TI**

Agent **Goal** [\(\text{VP} \quad \text{-Goal}\)]

- **AI+O**: VP-internal Theme can be accessed.

**AI+O**

Agent [\(\text{VP} \quad \text{Theme}\)]

**TA+O**

Agent **Goal** [\(\text{VP} \quad \text{Theme}\)]

- **TA+O**: Goal situating before Theme blocks the agreement
4.3 Analysis
Oji-Cree

- Oji-Cree also bans an intervening argument before Theme.
- **Local restriction**: only the VP-external object can be accessed.

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oji-Cree</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TA/TI</th>
<th>Agent</th>
<th>Goal</th>
<th>[VP  -Goal-]</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI+O</td>
<td>Agent</td>
<td>[VP  Theme]</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA+O</td>
<td>Agent</td>
<td>Goal</td>
<td>[VP  Theme]</td>
</tr>
</tbody>
</table>

- **TA+O**: goal stands before theme
- **AI+O**: theme is VP-internal

4.4 Analysis

Menominee

- Menominee seems not to allow Goal to shift out of the VP in certain conditions.
- **Shifting constraint:** 3rd-person Goal cannot move out the VP if there’s already one outside.

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menominee</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### TA mixed

- **SAP 3** 
  - [VP 3]
  - TI/TA mixed: 3rd-person Goal can shift out, thus accessible.

### TI mixed

- **SAP 0** 
  - [VP 0]
  - TI/TI mixed: 3rd-person Goal can shift out, thus accessible.

### TA/TI non-local

- **3** 
  - [VP 0/3]
  - TI/TI non-local: 3rd-person Goal cannot shift out, thus not meeting locality requirement.

### AI+O

- **Agent** 
  - [VP Theme]

### TA+O

- **Agent** 
  - **Goal** 
  - [VP Theme]
4.5 Analysis

Cree

- A more strict shifting constraint: the shifted Goal must be proximate and animate (3).

<table>
<thead>
<tr>
<th></th>
<th>TA mixed</th>
<th>TI mixed</th>
<th>TA/TI non-local</th>
<th>AI+O secondary object</th>
<th>TA+O secondary object</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cree</td>
<td>✓</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

- **TA mixed**: SAP 3 [\[VP 3\] ]  
  - TA mixed: 3 Goal can be shifted

- **TI mixed**: SAP [\[VP 0\] ]  
  - TI mixed & and TA/TI non-local: 3' or 0 cannot shift out of the VP, thus inaccessible.

- **TA/TI non-local**: 3 [\[VP 0\] ] 3'  
  - TA/TI non-local

- **AI+O**: Agent [\[VP Theme\] ]  
  - AI+O secondary object

- **TA+O**: Agent Goal [\[VP Theme\] ]  
  - TA+O secondary object
5.1 Implications

**AGREE variations**

- Variations of PER indexing the secondary object (Theme) manifest the locality effect (VP-internal object may not be accessible).

  - **TA+O**
    
    \[ P \ldots \text{Goal} \ [\text{VP Theme}] \]

  - **AI+O**
    
    \[ P \ldots \ [\text{VP Theme}] \]

- Variations of PER indexing the primary object (Goal) reveal language-specific constraints on object shift (“non-3” object may not be shifted).

  - **TA mixed**
    
    \[ \ldots \text{AGENT} \ 3 \ [\text{VP 3}] \]

  - **TI mixed**
    
    \[ \ldots \text{SAP} \ 0 \ [\text{VP 0}] \]

  - **TA/TI non-local**
    
    \[ \ldots \ 3 \ 3' \ [\text{VP 3}] \]
5.2 Implications

Object types and their position

- Object type and object shift:
  - Primary object = GOAL, shifted, VP-external
  - Secondary object = THEME, unshifted, VP-internal

- Tying back to Diesing’s VP (cf. Mapping Hypothesis, 1992), it’s about semantic mapping:
  - VP-external object $\rightarrow$ definite;
  - VP-internal object $\rightarrow$ indefinite

- Can her definiteness-mapping be extended to animacy-mapping in Algonquian?
5.3 Implications

Animacy-mapping

- Yes, it can.
- Further evidence is found in Delaware TA inverse forms where *animate* subject is indexed by PER while *inanimate* subject is not indexed.

<table>
<thead>
<tr>
<th>animate</th>
<th>inanimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>nā-mi·l -akw-w-ak</em></td>
<td><em>n-təmso-ko-h -na paxksi·kan-al</em></td>
</tr>
<tr>
<td>1 -give.to-inv -ftv-3p</td>
<td>1-cut -inv-ftv-1p knife -0p</td>
</tr>
<tr>
<td>‘Someone give to me.’</td>
<td>‘Some knives cut us.’</td>
</tr>
</tbody>
</table>

- Simply speaking, animate subject is introduced higher than the inanimate subject, parallel to previous PER primary vs secondary object patterns (see detailed analysis in Xu 2020).
Concluding remarks

- I present the cline of peripheral agreement from 5 Algonquian languages.
- I propose that secondary object (theme) is inherently lower than primary object (goal).
- The crosslinguistic variation of PER reflects the parameterization of Agree:
  - **locality effect**: peripheral agreement is sensitive to local object arguments but subject to variations when the object is more distant.
  - **shifting constraint**: object shift may not take place if the object is inanimate or is obviative.
- Last, animacy and obviation play a very active role in Algonquian grammar. PER indexing phi-features (gender and obviation) unsurprisingly reflects the sensitivity to such grammatical categories.
I sincerely thank:

• Dr. Will Oxford for his guidance and valuable input!
• Samson Beardy for sharing his Oji-Cree knowledge with me.
• Dr. David Pentland for his comment on the Plains Cree data.
• my Algonquian morphosyntax reading group peers, Tiffany and Zlata.
• UMGF for the financial support
Menominee TI mixed
Plural SAP subject

- SAP subject’s number seems also play a role in the patterning of PA.

<table>
<thead>
<tr>
<th></th>
<th>Delaware</th>
<th>Ojibwe</th>
<th>Oji-Cree</th>
<th>Menominee</th>
<th>Cree</th>
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<td>1s—0p</td>
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<td>✓</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
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</tr>
</tbody>
</table>

1s—0p

- *ne-po:n-a:-n-an*
- 1-put.in-0-ftv-0p
- ‘I put **them** (in.) in the pot’

2s—0p

- *ke-po:n-a:-n-an*
- 2-put.in-0-ftv-0p
- ‘You (sg) put **them** (in.) in the pot’

1p—0

- *ne-po:n-ε:-menaw*
- 1-put.in-0-1p
- ‘**We** put **it/them** (in.) in the pot’

2p—0

- *ke-po:n-ε:-muaw*
- 2-put.in-0-2p
- ‘You (pl) put **it/them** (in.) in the pot’