WSCLA 22 April 21-23, 2017
University of British Columbia

# Algonquian Theme Signs: A Markedness Account

Miloje Despić
(Cornell University)

Michael David Hamilton
(Florida Atlantic University)*

## 1. Introduction

- ***Theme signs*** (in bold & underlined bellow in Cheyenne) are a verbal affix that is at the heart of the famous Person Hierarchy and Direct-inverse system in Algonquian languages

- ***Person Hierarchy***: ranking of persons based on discourse relevance
  - e.g., 2>1>3>$3_{OBV}$

- ***Direct-inverse system***:

  ***Direct***: Subject ranked higher than object on the Person Hierarchy
  e.g., 2>1 in (1a)
  ***Inverse***: Subject ranked lower than the object the Person Hierarchy
  e.g., 1>2 in (1b)

(1) Cheyenne (Leman 2011: 55)

a. né-vôom-**e** (2>1)
2-see- **LOC.DIR**
'You(SG) saw me.'

b. né-vôom-**åtse** (1>2)
2-see-**LOC.INV**
'I saw you(SG).'

- We follow recent analyses which treat theme signs as predominantly object-markers (e.g., Rhodes 1994; McGinnis 1999; Brittain 1999; Oxford 2014b, 2016)

  → This analysis is simpler in that it does not necessitate the existence of the Person Hierarchy and direct-inverse system, whose universality and place in the grammar is not quite clear.

* We would like to thank the participants of the 48th Algonquian Conference, the Ottawa-Carleton Linguistics Reading Group, Will Oxford, and Jim Wood and the graduate students in the Advanced Graduate Syntax Seminar at Yale University.

→ Although this type of analysis works for most, the distribution of the 'inverse' theme sign *-ekw has been particularly difficult to analyze, especially considering that there is variation in theme sign distribution across languages/dialects.

→ We follow a recent line of research in Oxford (2014a, 2016) in proposing a Distributed Morphology (Halle & Marantz, 1993) account which involves:

- post-syntactic feature impoverishment
- analysis of 'inverse' *-ekw as the elsewhere item

→ Our account has novel syntactic and post-syntactic proposals:

- ***Syntactic***: Asymmetric multiple argument indexing of the object via AGREE and the subject via MERGE
- ***Post-syntactic***: Contextual markedness (Nevins, 2011) and varying markedness thresholds are responsible for feature impoverishment and the distribution of elsewhere *-ekw across Algonquian languages

*Roadmap*:
2. Theme signs: background, variation, and reanalysis
3. Proposal: Syntactic, and Post-syntactic
4. Some Implications
5. Conclusion and further questions

## 2. Theme Signs

*2.1 Background*

- Theme signs only appear in transitive verbs that have an animate object.
  - Usually the subject is also animate; there is variation in the grammaticality of forms with an inanimate subject.
- Theme signs are one of many affixes that index the person features of arguments

***Table 1***: Southern East Cree (SEC) (Junker & MacKenzie, 2011-15)

| prefix | verb | suffixes | | | |
|---|---|---|---|---|---|
| person | root | verb final | theme sign | inner suffix | outer suffix |
| *Ni-* | *waap* | *-m* | *-iku* | *-naan* | *-ich* |
| 1 | see | TA | ??? | 1PL | 3PL |
| 'They saw us' (3PL>1PL) | | | | | |

*Table 2*: Cheyenne Leman (2011: 55)

| prefix | verb | suffixes | | | |
|---|---|---|---|---|---|
| person | root | verb final | theme sign | inner suffix | outer suffix |
| *Ná-* | *vôo* | *-m* | *-ae* | *-nĕ* | *-ŏʔo* |
| 1 | see | TA | ??? | 1PL | 3PL |
| 'They saw us' (3PL>1PL) | | | | | |

- There are typically 4 theme signs, as shown in (3) and (4):

(2) Cheyenne (Leman 2011: 55)

a. né-vôom-**e** (2>1)
2-see- **LOC.DIR**
'You(SG) saw me.'

b. né-vôom-**åtse** (1>2)
2-see-**LOC.INV**
'I saw you(SG).'

(3) Cheyenne (Leman 2011: 69)[1]

a. é-sâa-vóom-**ó**-he-ho (3>3OBV)
3-NEG-see-**DIR**-NEG-$3_{OBV}$
'S/he didn' see her/him (obv).'

b. é-sâa-vóom-**ae**-he-ho (3OBV>3)
3-NEG-see-**INV**-NEG-$3_{OBV}$
'S/he (obv) didn't sees her/him.'

- Additional Algonquian descriptive terminology:

*Obviation*: distinction between 3rd persons with respect to (wrt) discourse and referentiality
  - *proximate*: relatively more topical; no morphological reflex
  - *obviative*: relatively less topical; morphological reflex on nominals and verbs

*Table 3*: CHEYENNE TA THEME SIGNS *adapted from Goddard (2000)*

| theme sign | gloss | environments |
|---|---|---|
| ***-e*** | local direct (LOC.DIR) | 2>1 |
| ***-atse*** | local inverse (LOC.INV) | 1>2 |
| ***-ó*** | direct (DIR) | SAP>3, 3>4 |
| ***-ae*** | inverse (INV) | 3>SAP, 4>3 |

- Interestingly, in ditransitives with two objects, the indirect object is relevant for theme signs, not the direct object. Bruening (2001), Lochbihler (2012), and Hamilton (2015) posit that the indirect object is structurally higher than the direct object in Algonquian ditransitives.

[1] We illustrate this with negative sentences here, since the Cheyenne inverse theme sign in (3b) undergoes certain phonological changes in non-negative version (*évôomāāʔe* 'S/he (obv) saw her/him'; Leman 2011: 55)).

- Thus, theme signs only index the 2 structurally highest arguments

  - The subject and object in transitives, as in (4)
  - The subject and IO in ditransitives, as in (5)

(4) Cheyenne (Leman 2011: 55)

a. Né-vôom-**atse**-meno
2-see-**LOC.INV**-1EXC.A
'We(EXC) saw you(SG).'

b. Né-vôom-**e**-meno
2-see-**LOC.DIR**-1EXC.A
'You(SG) saw us(EXC).'

(5) Cheyenne (Leman 2011: 106)

a. Né-mêt-**atse**-meno
2-give-**LOC.INV**-1EXC.A
'We(EXC) gave her/him to you (SG).'

b. Né-mêts-**e**-meno
2-give-**LOC.DIR**-1EXC.A
'You(SG) gave her/him to us(EXC).'

- These (a) and (b) examples have the same theme signs (*-atse* and-*e*), despite the additional DO in (5).

**Generalization #1: Locality**
Theme signs can only access the person (φ-)features of the subject and structurally highest object

- There are two competing analyses of theme signs, as shown in Table 4:[2]

1. Relational (e.g., Bloomfield 1946; Hockett 1966; Wolfart 1973; Dahlstrom 1991)
   - express φ-features of the subject and object, and relation of the subject & object wrt the Person Hierarchy

2. Object-markers (e.g., Rhodes 1994; McGinnis 1999; Brittain 1999; Oxford 2014b, 2016)
   - only express φ-features of the object
   - Question: How to accommodate *-ekw ('inverse')

*Table 4*

| **PA* | e.g., | Relational | | Object-marking | |
|---|---|---|---|---|---|
| | | Wolfart (1973) | Hocket (1966) | Brittain (1999) | Oxford (2016) |
| **-i* | 2 > 1 | local direct | 2 > 1 | 1st person | 1st person |
| **-eθ* | 1 > 2 | local inverse | 1 > 2 | 2nd person | 2nd person |
| **-aa* | 3 > $3_{OBV}$ | direct | direct | 3rd person | 3rd person |
| **-ekw* | $3_{OBV}$ > 3 | inverse | inverse | SAP | elsewhere |

[2] In Table 2, PA refers to Proto-Algonquian. These forms will be used in order to abstract away from language variation in their exact phonological form. SAP refers to Speech Act Participants, i.e., 1st or 2nd persons.

*2.2.Variation*

- Variation across Algonquian languages complicates a single unified analysis.
- There are 3 main patterns (adapted from Oxford 2014a):

**A. Relational pattern**

→ *-aa and *-ekw appear to index the direct and inverse
→ *-i and *-eθ appear to index the local direct and inverse
— Consistent across most Main clauses (Oxford, 2014a)
— Embedded clauses: Massachusett, Ojibwe (optional at Perry Island), Blackfoot (Subjunctive) (Oxford, 2014a)

*Table 5*: Relational Analysis

| *PA | gloss |
|---|---|
| *-*i* | local direct (2 > 1) |
| *-*eθ* | local inverse (1 > 2) |
| *-*aa* | direct |
| *-*ekw* | inverse |

*Table 6*: Relational distribution

| ↓S/O→ | 1 | 2 | 3 | $3_{OBV}$ |
|---|---|---|---|---|
| 1 | | *-*eθ* | *-*aa* | *-*aa* |
| 2 | *-*i* | | *-*aa* | *-*aa* |
| 3 | *-*ekw* | *-*ekw* | | *-*aa* |
| $3_{OBV}$ | *-*ekw* | *-*ekw* | *-*ekw* | |

(6) NEC (Junker & MacKenzie, 2010-15)

a. chiwaapimin (2>1)
chi-waapim-**i**-n
2-see-***i**-SAP
'You see me'

b. chiwaapimaau (2>3)
chi-waapim-**aa**-u
2-see-***aa**-3
'You see her/him'

c. waapimaau ($3>3_{OBV}$)
waapim-**aa**-u
see-***aa**-3
'S/he sees her/him'

d. chiwaapimitin (1>2)
chi-waapim-**iti**-n
2-see-***eθ-**SAP
'I see you.'

e. chiwaapimikw (3>2)
chi-waapim-**ikw**
1-see-***ekw**
'S/he sees you'

f. waapimikuu ($3_{OBV}>3$)
waapim-**iku**-u
see-***ekw**-3
'S/he sees her/him'

**C. Object-marking pattern**

→ Apart from *-ekw, all theme signs index the object**.**
→ Embedded: PA, Miami-Illinois, Meskwaki, Kickapoo, Menominee, Moose Cree, Ojibwe (Bloomfield), Ojibwe (Manitoulin), Maliseet-Passamaquoddy, Penobscot (Oxford, 2014)

*Table 7*: Object Analysis

| *PA | gloss |
|---|---|
| *-*i* | 1st person |
| *-*eθ* | 2nd person |
| *-*aa* | 3rd person |
| *-*ekw* | elsewhere |

*Table 8*: Object-marking distribution

| ↓S/O→ | 1 | 2 | 3 | $3_{OBV}$ |
|---|---|---|---|---|
| 1 | | *-*eθ* | *-*aa* | *-*aa* |
| 2 | *-*i* | | *-*aa* | *-*aa* |
| 3 | *-*i* | *-*eθ* | | *-*aa* |
| $3_{OBV}$ | *-*i* | *-*eθ* | *-*ekw* | |

(7) Moose Cree (Ellis, 1971)

a. waapamiyan (2>1)
waapam-**i**-yan
2-see-***i**-2
'As you see me'

b. waapamat (2>3)
waapam-**aa**-t
see-***aa**-3
'As you see her/him'

c. waapamaat (3>$3_{OBV}$)
waapam-**aa**-t
see-***aa**-3
'As s/he sees her/him'

d. waapameθaan (1>2)
waapam-**eθ**-aan
2-see-***eθ-**1
'As I see you'

e. waapamesk (3>2)
waapam-**es**-k
see-***eθ**-3
'As s/he sees you'

f. waapamekot ($3_{OBV}$>3)
waapam-**eko**-t
see-***ekw**-3
'As s/he sees her/him'

**B. Mixed pattern**

→ All theme signs index the object, except for *-ekw which indexes some 'inverse' forms.
→ Embedded: Plains Cree, Ojibwe (Parry Island), Cheyenne, Delaware (Oxford, 2014a)
→ Main & Embedded: Mi'gmaq (Listuguj-dialect)

*Table 9*: Mixed distribution

| ↓S/O→ | 1 | | 2 | | 3 | $3_{OBV}$ |
|---|---|---|---|---|---|---|
| | SG | PL | SG | PL | | |
| 1 | | | *-*eθ* | | *-*aa* | *-*aa* |
| 2 | *-*i* | | | | *-*aa* | *-*aa* |
| 3 | *-*i* | *-*ekw* | *-*eθ* | *-*ekw* | | *-*aa* |
| $3_{OBV}$ | *-*i* | *-*ekw* | *-*eθ* | *-*ekw* | *-*ekw* | |

(8) Plains Cree (Wolfart, 1973)

a. eewaapamiyan (2>1)
ee-waapam-**i**-yan
CONJ-see-***i**-2
'As you see me'

d. eewaapametaan (1>2)
ee-waapam-**et**-aan
CONJ-2-see-***eT**-1
'As I see you'

b. eewaapamaayeek (2PL>3)
ee-waapam-**aa**-yeekw
CONJ-see-***aa**-2PL
'As you-all see her/him'

c. eewaapamaat (3>3OBV)
ee-waapam-**aa**-t
CONJ-see-***aa**-3
'As s/he sees her/him'

e. eewaapamikoyeek (3>2PL)
ee-waapam-**iko**-yeek
CONJ-see-***ekw**-2PL
'As s/he sees you-all'

f. ee-waapamikot (3OBV>3)
ee-waapam-**iko**-t
CONJ-see-***ekw**-3
'As s/he sees her/him'

*2.3 Reanalysis*

→ Theme signs are BOTH **object-marking** AND **relational**

- Step #1: (mostly) Object-marking (Oxford, 2016):
  - theme signs (apart from *-*ekw*) index the object
  - e.g., *-*i* ↔[1]; *-*eθ* ↔[2]; *-*aa* ↔ [3]

*Table 10*: Object Analysis

| *PA | gloss |
|---|---|
| *-*i* | 1st person |
| *-*eθ* | 2nd person |
| *-*aa* | 3rd person |
| *-*ekw* | elsewhere |

**Generalization #2: Asymmetry**
Only the φ-features of the object are overtly indexed

→ Step #2: (partially) Relational:
- the subject's person features are crucial in the distribution of *-ekw (see Table 11)
- e.g., 6/8 cells of the paradigm are (nearly) identical across the 3 patterns.
  - SAP subject: theme signs are (almost always) object-marking.
  - 3rd person subject: *-ekw (mostly) limited to these forms.

*Table 11*

| ↓O/S→ | **SAP subject** | **3rd person subject** |
|---|---|---|
| 1OBJ | *-*i* 2 > 1 | |
| 2OBJ | *-*eθ* 1 > 2 | |
| 3OBJ | *-*aa* SAP> 3 | *-*ekw* $3_{OBV}$ > 3 |
| 3OBJ.OBV | *-*aa* SAP > $3_{OBV}$ | *-*aa* 3 > $3_{OBV}$ |

**Generalization #3: 3rd person subjects**
Distribution of the elsewhere is (mostly) limited to forms with 3rd person subjects

→ This leaves variation as being limited to 3 > SAP forms

*Table 12*

| ↓O/S→ | A: Relational | B: Mixed | C: Object-marking |
|---|---|---|---|
| 3 > 1 | *-*ekw* | *-*i* | *-*i* |
| 3 > $1_{PL}$ | | *-*ekw* | *-*i* |
| 3 > 2 | *-*ekw* | *-*eθ* | *-*eθ* |
| 3 > $2_{PL}$ | | *-*ekw* | *-*eθ* |

→ Variation in 3>SAP contexts
- *-ekw in all 3>SAP contexts (A: Relational)
- *-ekw in only 3>SAP-**PL** contexts (B: Mixed)
- *-ekw in no 3>SAP contexts (C: Object-marking)

**Generalization #4: Variation**
Languages systematically vary in the distribution of the elsewhere in 3 > SAP forms

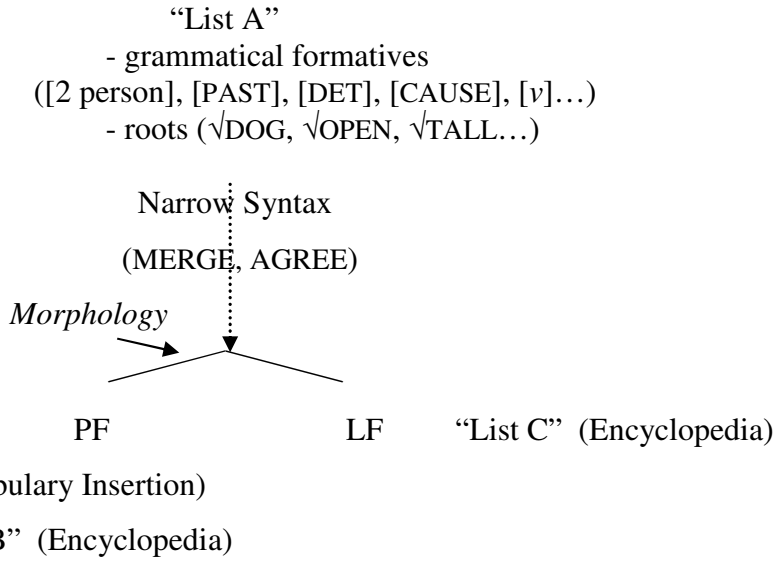
In sum, these are the 4 generalizations that any analysis of themes signs should be able to derive:

1. **Locality**: Theme signs only index the structurally closest object.
2. **Asymmetry**: Theme signs index the object, with the subject only factoring in the distribution of the elsewhere.
3. **3rd person subject**: distribution of the elsewhere is (mostly) limited to forms with 3rd person subjects.
4. **Variation**: languages systematically vary in the distribution of elsewhere in 3 > SAP forms. In particular, the elsewhere item appears:
    a. In all 3 > SAP forms, regardless of the number properties of the SAP object, or
    b. In 3 > SAP forms in which the SAP object is plural.

## 3. Proposal

- We adopt a Distributed Morphology (DM)-style approach to agreement and spell-out (e.g., Arregi and Nevins 2012).
- Syntax: limited to operations involving morphosyntactic features, which do not have any morphological content (e.g., MERGE and AGREE)
- Post-syntax: includes (among other things) operations like feature impoverishment and Vocabulary Insertion (VI)…

(8) The Grammar, DM style:




- There are two aspects to our proposal:
  - **Syntactic**: Asymmetric multiple argument indexing via AGREE and MERGE

→ *Locality*: Voice copies 2 feature sets via 2 different methods
  (i) the most local c-commanded argument (object) via AGREE, and
  (ii) the argument in its specifier (subject) via MERGE

→ *Asymmetry*: 2 different methods leads to an asymmetry between indexing (or satisfying) vs. interacting (or conditioning) features (e.g., Deal, 2015)
  (i) the features of the object (via AGREE) are indexed, but
  (ii) the features of the subject (via MERGE) are limited to restricting the indexing argument (Legate, 2014)

  - **Post-syntactic**: Contextual markedness and varying markedness thresholds determine the insertion of elsewhere *-*ekw*

→ Contextual markedness (Nevins, 2011): certain features are marked in certain contexts (e.g., Nevins 2011), which leads to underspecification – this drives the distribution of the elsewhere.

a. [+proximate] is marked in the context of [−proximate][3] (3OBV > 3)
b. [+participant] is marked in the context of [−participant] (3 > SAP)

  - the elsewhere is (mostly) limited to 3rd person environments because it is [−participant] and [± proximate]

[3] Bruening (2001) posits both [proximate] and [obviative] syntactic features, with the latter being marked.

→ Markedness threshold: variation results from differences in markedness thresholds between languages involving [±participant]. In some languages, the contextually marked [+participant] may require the presence of another marked feature (i.e., plural) in order to be deleted.

(a) **Pattern A**: lowest threshold; elsewhere in all 3>SAP forms
(b) **Pattern B**: higher threshold; elsewhere in only 3>SAP$_{\mathbf{PL}}$ forms
(c) **Pattern C**: highest threshold; elsewhere in no 3>SAP forms

*3.1 Syntax: Agree and Merge*

- We map the theme sign to Voice (e.g., Bruening 2001, Béjar & Rezac 2009, Oxford 2014b)

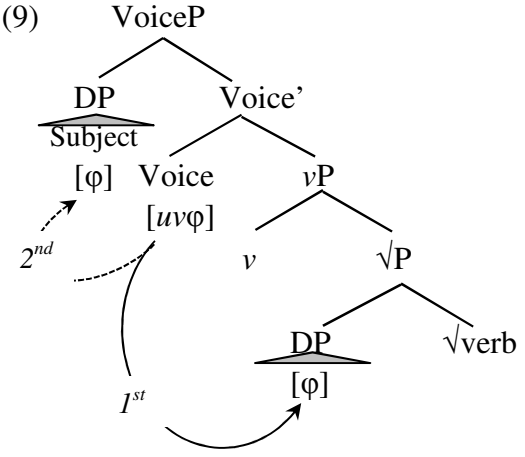
- Recall the locality and asymmetry generalizations from the previous section:

    - **Locality**: Theme signs only index the structurally closest object.
    - **Asymmetry**: Theme signs index the object, with the subject only factoring in the distribution of the elsewhere

*A. Cyclic Agree* (e.g., Béjar & Rezac 2009)

- ordered, one-by-one argument probing, as in (9)
    - 1st: an unvalued φ-probe on Voice probes the structurally highest object (downward)
    - 2nd: if necessary, Voice probes the subject (upwards)
    - — Asymmetry: emphasizes the primacy of the structurally highest object
    - — Locality: however, since there is no bleeding of subject probing, it is unclear why the subject is ever probed if the object is indexed (and the subject must always be probed for theme signs)

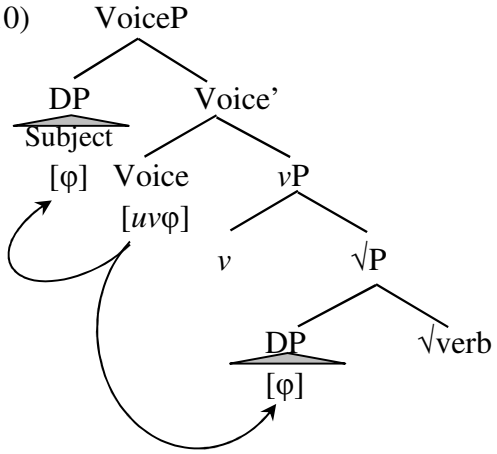
(9)



*B. Multiple Agree* (e.g., Hiraiwa 2001, 2005, Nevins 2007, 2011, Zeijlstra 2004)

- simultaneous argument probing, as in (10)
    - an unvalued φ-probe on Voice probes all arguments at the same time.
        - — Locality: allows both the subject and object to be probed (but in ditransitives, we would need an additional assumption to limit probing to the subject and indirect object, e.g., Despić et al. forthcoming).
        - — Asymmetry: however, it is unclear how to mimic the asymmetry between the subject and the object (without additional assumptions)

(10)

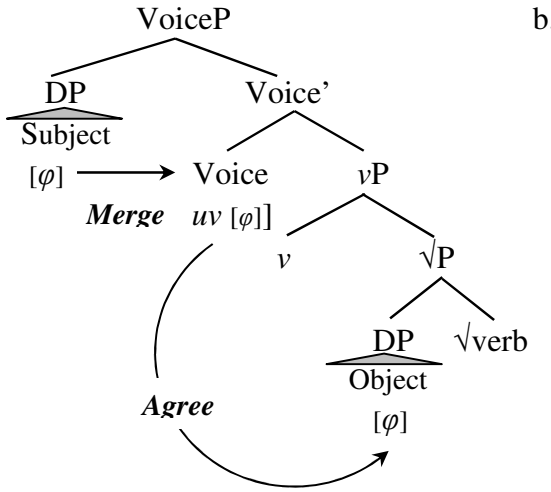



→ We propose an alternate approach to derive both of our locality and asymmetry generalizations

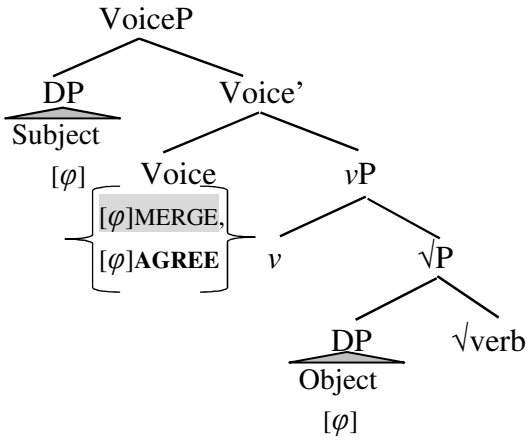
*C. Agree & Merge*

- capitalizes on the unique ability for Voice to have access to the φ-features of multiple arguments via different methods, as in (11)
    - structurally highest object is probed (downwards) via Agree
    - subject φ-features are accessed via Merge
        - — Locality: the φ-features of the subject and structurally highest object are gathered
        - — Asymmetry: the difference in feature collection between Agree and Merge offer an explanation for the asymmetry.

(11) a.



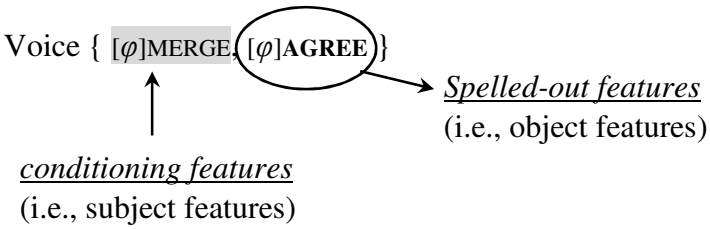

b.




— Legate (2014) discusses a range of elements in Spec-VoiceP that delimit the features on Voice.

- Post-syntactically only the features of the object are spelled out:

(12)




- Although features of the subject do not get spelled-out, they can affect the features of the object. In particular, we propose that they can trigger contextual markedness of the object's features

- Nevins (2011) argues that the number system in languages with dual number should be represented as in (13):

(13) a. Singular = [+singular, −augmented]
b. Dual = [−singular, −augmented]
c. Plural = [−singular, +augmented]
d. The combination [+singular, +augmented] is impossible

- In addition, Nevins proposes the following markedness conditions:

(14) a. *Context-free markedness statement*: The marked value of [± singular] is [−].
b. *Context-sensitive markedness representation*: In the context [−singular], the marked value of [±augmented] is [−].

- (14a) simply says that plural is more marked that singular, for which there is overwhelming typological evidence (e.g., Harley and Ritter 2002, Nevins 2011 etc…).

- The statement in (14b), on the other hand, says that the markedness of particular feature may be *determined by the presence of another feature*: if the feature [−singular] is present, the feature [−augmented] is marked. The context-sensitive markedness has also clear parallels in phonology (Nevins 2011: 421):

(15) *Context-sensitive markedness of laryngeal features*
In the context [−sonorant], the marked value of [± voice] is +.

(16) *Context-sensitive markedness of vowel color features*
In the context [−back], the marked value of [± round] is +.

(17) VI for object features of Voice (see Oxford 2016):
a. 1st person: [+participant, +speaker] ↔ -**i*
b. 2nd person: [+participant, (+hearer)] ↔ -**eθ*
c. 3rd person: [−participant] ↔ -**aa*
d. elsewhere: ∅ ↔ **ekw*

- *Contextual markedness proposal*: [+] values in the object feature set are marked in the context of their opposing [−] values in the subject feature set:

(18) a. [+Proximate] is marked in the context of [−Proximate]
b. [+Participant] is marked in the context of [−Participant]

- The positive value of a feature present on the object with which Voice agrees is directly negated by the negative value of the same feature already present on Voice, due to Merge with the subject.

- In some languages (pattern A), the marked [+Participant] feature is deleted post-syntactically via impoverishment prior to vocabulary insertion.

(19) a. *[[+Participant]]$_{Voice}$ (where [+Participant] is marked due to the presence of [−Participant])
b. [+Participant] → ∅/ [ ___ ]$_{Voice}$ (where [+Participant] is marked due to the presence of [−Participant])

- This triggers the elsewhere insertion, since only (17d) is compatible with this new environment.

- However, in some languages (Pattern B) the contextual markedness of [+Participant] is not sufficient to trigger impoverishment by itself – the language specific markedness threshold is too high.

- Another marked feature is needed to create a markedness accumulation situation and thus trigger the impoverishment rule that would resolve it – i.e., plural.

(20) a. *[[−singular], [+Participant]]$_{Voice}$ (where [+Participant] is marked due to the presence of [−Participant])
b. [+Participant] → ∅/ [ ___ [−singular]]$_{Voice}$ (where [+Participant] is marked due to the presence of [−Participant])

- In the Pattern C languages, even a combination of two marked features doesn't pass the language-specific markedness threshold.

- This kind of variation in markedness thresholds and feature neutralization occurs in other language groups/families as well.

- 2 marked features: In Slavic in general gender distinctions are neutralized in non-nominative plural adjectival and pronominal forms (see Despić 2017 and references therein for details)

- 1 marked features: In nominative plural forms there is variation, as in Table 13:

*Table 13*

| | Russian (Pattern A) | | | Polish (Pattern B) | | | BCS (Pattern C) | | |
|---|---|---|---|---|---|---|---|---|---|
| | MASC | FEM | NEUT | MASC | FEM | NEUT | MASC | FEM | NEUT |
| NOM | On-i | | | On-i | On-e | | On-i | On-e | On-a |

- The rule in (21a) applies across Slavic and deletes gender when it combines with two marked features [−NOM] and [−singular].

- In the context of just one marked feature (nominative plural), gender is neutralized in different ways depending on the language:
  a. In BCS, gender is not neutralized at all.
  b. In Russian it is neutralized in all plural nominative forms (21b) (this also holds for Belorussian, Ukrainian, Bulgarian and Macedonian)
  c. In Polish, only one gender feature (i.e., [±feminine]) is neutralized (21c).

(21) a. [GEN] → ∅/ [ __ [−NOM], [PL]] (across Slavic)
b. [GEN] → ∅/ [ __ [PL]] (Russian)
c. [±feminine] → ∅/ [ __ [NOM], [PL]] (Polish)

- *More general point*: addition of the marked feature *plural* increases the likelihood of feature neutralization (via impoverishment) and the insertion of the elsewhere item.

*Table 12*

| ↓O/S→ | A: Relational | B: Mixed | C: Object-marking |
|---|---|---|---|
| 3 > 1 | *-*ekw* | *-*i* | *-*i* |
| 3 > $1_{PL}$ | | *-*ekw* | *-*i* |
| 3 > 2 | *-*ekw* | *-*eθ* | *-*eθ* |
| 3 > $2_{PL}$ | | *-*ekw* | *-*eθ* |

- Recall that the elsewhere appear in all $3_{OBL}$ > 3 contexts:
  - [−Proximate], [−Participant] > [+Proximate], [−Participant]

- Evidently this means that the constraint in (22a) hold across Algonquian and triggers (22b). This again leads to the appearance of the elsewhere, since this is the only item compatible with the new context.

(22) a. *[[−Participant], [+Proximate]]$_{Voice}$ (where [+Proximate] is marked due to the presence of [−Proximate])

b. [−Participant] → ∅/ [ ___ [+Proximate]]$_{Voice}$ (where [+Proximate] is marked due to the presence of [−Proximate])

- This could be, for instance, because the marked [+Proximate] is more marked than other marked features and always triggers markedness accumulation. Or, both [−Participant] and [+Proximate] are marked in the context of [−Proximate] etc.

## 4. Some Implications

→ A possible extension of the inverse to SAP forms (Oxford 2014b: 7.3.2.4, Valentine 2001: 7.2.2)

- In some Ojibwe dialects, such as Nishnaabemwin (Valentine 2001: 287, 295), in the 1PL > 2 pattern, instead of the original object-agreement theme sign *-in,* the element *–igo* appears in both the conjunct and the independent.

- However, in 1SG > 2 contexts, the expected theme sign *–in* appears.

- To the extent that *–igo* can be analyzed as a variant of the elsewhere *–igw*, it poses a challenge to all analyses of theme signs:[4] It raises two questions: (i) why would the elsewhere be extended to contexts with SAP subjects, and (ii) why would the plural number of *the subject* matter?

[4] The situation is more complex, since *–igo* corresponds to special lengthened version of *-igw* that appears in the so-called "unspecified actor" forms (e.g., *I am seen, you are seen*) (See Oxford 2014b: 261-26 and Valentine 2001: 270-272)

- On our analysis a positive feature [+X] is marked in the context of the [−X]: this is true for [±participant] and [±proximate]. We think it is quite conceivable that this kind of principle could be generalized to other features, like [±hearer].

(23) VIs for Nishnaabemwin (see Oxford 2014b: 262, Valentine 2001: 270):
a. 1st person: [+participant, +speaker] ↔ *-i*
b. 2nd person: [+participant, +hearer] ↔ *-in*
c. 3rd person: [−participant] ↔ *-aa*
d. elsewhere: ∅ ↔ *ikw*

- In addition to (23), in Nishnaabemwin [+hearer] is marked in the context of [−hearer] (see (18)).

(24) a. *[[+Participant], [+hearer]]$_{Voice}$ (where [+hearer] is marked due to the presence of [−hearer])
b. [+Participant] → ∅/ [ ___ [+hearer]]$_{Voice}$ (where [+hearer] is marked due to the presence of [−hearer])

- Again, the elsewhere insertion is triggered, since only (23d) is compatible with this new environment. This provides an answer to the first question, since 1 > 2 contexts involve [−hearer] > [+hearer].

- But why would this be limited to **1PL > 2**? Answer: Because not all 1st persons necessarily include [−hearer] in their representation. But 1PL exclusive (which is relevant here) must include [−hearer].

- Watanabe (2013) provides an argument for the necessity for [−hearer], on the basis of the distribution of subject marker in Fula. These markers appear as prefixes in 1PL exclusive, 3SG and 3PL, as shown in *Tables 14-15*.

- *Fula Subject Markers* (Watanabe 2013: 472-473):

*Table 14*: Relative past active 'washed'

| | | ***SG*** | ***PL*** |
|---|---|---|---|
| 1 | ***Exclusive*** | lootu-**mi** | **min**-looti |
| | ***Inclusive*** | | lootu-**ɗen** |
| 2 | | lootu-**ɗaa** | lootu-**ɗon** |
| 3 | | **ʼo**-looti | **ɓe**-looti |

*Table 15*: Relative future active 'will wash'

| | | ***SG*** | ***PL*** |
|---|---|---|---|
| 1 | ***Exclusive*** | lootay-**mi** | **min**-lootata |
| | ***Inclusive*** | | lootet-**en** |
| 2 | | lootat-**aa** | lootot-**on** |
| 3 | | **ʼo**-lootata | **ɓe**-lootata |

- Watanabe argues that these three categories form a natural class in that they all *must* include [−hearer]; as shown in *Table 16*, [−hearer] is not necessary in 1st person singular (given its number properties), for instance:

*Table 16*: Binary Person Features (Watanabe 2013: 474)

| | | ***SG*** | ***PL*** |
|---|---|---|---|
| 1(+3) | ***Exclusive*** | [+speaker, (−hearer), +singular] | [+speaker, **−hearer,** −singular] |
| 1+2(+3) | ***Inclusive*** | | [+speaker, +hearer, −singular] |
| 2(+3) | | [−speaker, +hearer, +singular] | [−speaker, +hearer, −singular] |
| 3 | | [−speaker, **−hearer**, +singular] | [−speaker, −**hearer**, −singular] |

- It thus seems possible that in 1S > 2 contexts, the 1S subject doesn't include [−hearer]. Consequently, (24) does not apply and the elsewhere insertion is not triggered.

- In contrast, in 1PL (excl.) > 2 contexts the subject does include [−hearer] – (24) is employed and the elsewhere is inserted.

- This state of affairs is actually expected on our account given its general logic, while it seems problematic for approaches that rely on the Person Hierarchy.

## 5. Summary and Further Questions

*Summary*

- We proposed an account of theme signs based on data and aspects of Oxford (2016).
  - Our account involved unique syntactic and post-syntactic proposals:
  - *Syntactic*: Asymmetric multiple argument indexing of the object via AGREE and the subject via MERGE.

  → Locality: Voice copies 2 feature sets via 2 different methods.

  → Asymmetry: 2 different methods leads to an asymmetry between indexing vs. conditioning features.

  - *Post-syntactic*: Contextual markedness (Nevins, 2011) and varying markedness thresholds are responsible for the distribution of elsewhere (*-ekw) across Algonquian languages. Interaction of the combination of certain feature sets causes markedness which leads to underspecification, which drives the distribution of the elsewhere (Oxford, 2016)
  - Consequence: Person Hierarchy is a result of smaller contrasts, such as [± Participant], [±Proximate], and possibly [±hearer] and/or [±speaker]

*Further Questions*

- Clause variation: There is often language internal variation in patterns between clauses. In general, the elsewhere is more dominant in matrix clauses than in embedded clauses. That is, markedness thresholds tend to be lower in matrix clauses.
- Is there a featural reflex related to clause type, e.g., a marked [matrix] feature which increases the level of markedness in matrix clauses? Or is this triggered via a different process?

*References:*


Arregi, Karlos and Andrew Nevins. 2012. *Morphotactics: Basque auxiliaries and the structure of Spellout*. Dordrecht: Springer.

Béjar, Susana & Milan Rezac. 2009. Cyclic agree. Linguistic Inquiry 40(1). 35–73.

Bliss, Heather & Will Oxford. 2014. Patterns of syncretism in nominal paradigms: A pan-algonquian perspective. In 46th Algonquian conference, Mohegan tribal nation, Uncasville, October, vol. 25,.

Bloomfield, Leonard. 1946. Algonquian. In Harry Hoijer (ed.), Linguistic structures of Native America, vol. Viking Fund Publications in Anthropology 6, 85–129. Viking Fund.

Brittain, Julie. 1999. A reanalysis of transitive animate theme signs as object agreement: Evidence from Western Naskapi. In 30th Algonquian Conference, 34–46.

Bruening, B. 2005. The Algonquian inverse is syntactic: Binding in Passamaquoddy. Manuscript, University of Delaware.

Bruening, Benjamin. 2001. Syntax at the edge: Cross-clausal phenomena and the syntax of Passamaquoddy: Massachusetts Institute of Technology dissertation.

Bruening, Benjamin. 2009. Algonquian languages have A-movement and A-agreement. Linguistic Inquiry 40(3). 427–445.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. Step by step: Essays on minimalist syntax in honor of Howard Lasnik, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–15.

Dahlstrom, A. 1991. *Plains Cree morphosyntax*. Garland.

Deal, Amy Rose. 2015. Interaction and satisfaction in φ-agreement. In Proceedings of NELS 45.

Despić, Miloje. 2017. Investigations on Mixed Agreement: Polite Plurals, Hybrid Nouns and Coordinate Structures. *Morphology*; Published online: April 10. DOI 10.1007/s11525-017-9301-3.

Despić, Miloje,Michael David Hamilton & Sarah E. Murray. forthcoming. A Cyclic and Multiple Agree account: Person/number marking in Cheyenne. *Natural Language & Linguistic Theory* .

Ellis, C Douglas. 1971. Cree verb paradigms. International Journal of American Linguistics 37(2). 76–95.

Halle, Morris. 1997. Distributed Morphology: Impoverishment and Fission. In *MIT Working Papers in Linguistics*, eds. Benjamin Bruening, Yoonjung Kang and Martha McGinnis, 425-449. Cambridge: MIT.

Halle, M. & A. Marantz. 1993. Distributed morphology and the pieces of inflection. In *The View from Building 20*, eds. Kenneth Hale and S. Jay Keyser. MIT Press, Cambridge, 111-176.

Hamilton,Michael David. 2015a. Default agreement in Mi'gmaq possessor raising and ditransitive constructions. In Proceedings of NELS 45.

Hamilton, Michael David. 2015b. The syntax of Mi'gmaq: A configurational account: McGill University dissertation.

Harley, Heidi & Elizabeth Ritter. 2002. Person and number in pronouns: A feature-geometric analysis. Language 78(3). 482–526.

Hiraiwa, Ken. 2001. Multiple agree and the defective intervention constraint in Japanese. MIT working papers in linguistics 40(40). 67–80.
Hiraiwa, Ken. 2005. Dimensions of symmetry in syntax: Agreement and clausal architecture: Massachusetts Institute of Technology dissertation.
Hockett, Charles F. 1966. What algonquian is really like. International Journal of American Linguistics 59–73.
Junker, M.-O. & M. MacKenzie. 2010-15. East cree (northern dialect) verb conjugation (4th ed.).
Junker, M.-O. & M. MacKenzie. 2011-15. East Cree (southern dialect) verb conjugation (4th ed.). Available at: http://verbs.eastcree.org/.
Legate, Julie Anne. 2014. Voice and v: Lessons from Acehnese. MIT Press.
Leman, Wayne. 2011. A reference grammar of the Cheyenne language.
Lochbihler, Bethany. 2012. Aspects of argument licensing: McGill University dissertation.
Macaulay, Monica. 2009. On prominence hierarchies: Evidence from Algonquian. Linguistic Typology 13(3). 357–389.
MacKenzie, Marguerite Ellen. 1980. Towards a dialectology of Cree-Montagnais-Naskapi: University of Toronto dissertation.
McGinnis, Martha. 1999. Is there syntactic inversion in Ojibwa. In Papers from the Workshop on Structure & Constituency in languages of the Americas, vol. 17, 101–118.
Nevins, Andrew. 2007. The representation of third person and its consequences for person-case effects. Natural Language & Linguistic Theory 25(2). 273–313.
Nevins, Andrew. 2011. Multiple agree with clitics: Person complementarity vs. omnivorous number. Natural Language & Linguistic Theory 29(4). 939–971.
Oxford, William Robert. 2013. Multiple instances of agreement in the clausal spine: Evidence from Algonquian. In Proceedings of WCCFL, vol. 31,.
Oxford, Will. 2014a. Variation in TA theme signs. In 46th Algonquian conference.
Oxford, William Robert. 2014b. Microparameters of agreement: A diachronic perspective on Algonquian verb inflection: University of Toronto dissertation.
Oxford, William Robert. 2016. Inverse marking as impoverishment. In Proceedings of WCCFL 34, .
Rhodes, Richard. 1994. Agency, inversion, and thematic alignment in Ojibwe. In Proceedings of the 20th annual meeting of the Berkeley Linguistics Society, 431–446.
Watanabe, Akira. 2013. Person-number interaction: Impoverishment and natural classes. *Linguistic Inquiry 44(3)*. 469–492.
Wolfart, H Christoph. 1973. Plains Cree: A grammatical study. Transactions of the American Philosophical Society 63(5). 1–90.
Zeijlstra, Hedde. 2004. Sentential negation and negative concord. Netherlands Graduate School of Linguistics.