PERSON AND NUMBER IN MI'GMAQ*

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1   Introduction

- This talk presents two puzzles concerning the representation of *person* and *number*—and their interaction—in the Eastern Algonquian language, Mi'gmaq
- Algonquian languages have perhaps the most well-known *inverse systems* in the world
- However, Mi'gmaq lacks the person prefixes and "theme signs" familiar from many of its relatives, like Plains Cree:

  (1)   PLAINS CREE

      a.   **ni**-wāpam-**ā**-w
          1-see-DIRECT-3
          'I saw her.'

      b.   **ni**-wāpam-**ikw**-w
          1-see-INVERSE-3
          'She sees me.'   (Zúñiga 2006, 24)

- The Plains Cree inverse system is characterized by two logically separable features...

  1. **Competition for slots**
     - A particular slot—in this case, the prefixal person marker—is filled not with features of a particular grammatical function (i.e. subject agreement), but rather by the *highest ranking argument* along some specific hierarchy
     - Frequently, in Algonquian: 2≫1≫PROX≫OBV≫INANIMATE
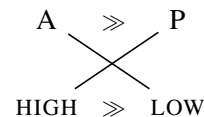
  2. **Direction marking**
     - A *direction marker* specifies whether the higher-ranking argument is the Agent or the Patient, as in (2) and (3)

  (2)   DIRECT: (3)   INVERSE:

  A   ≫   P   A   ≫   P
  | | ╲   ╱
  HIGH ≫ LOW   HIGH ≫ LOW
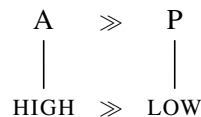
- We have three goals:
  1. Describe the complex system of agreement in Mi'gmaq matrix clauses
  2. Evaluate the presence of an "inverse" in the language
  3. Provide a formalized account for interaction of person (π) and number (#) features

➡ While Mi'gmaq presents some characteristics of an inverse system, we show that the agreement facts cannot be handled by a traditional "prominence hierarchy":

  (4)   1/2 person pronouns ≫ 3rd person pronoun ≫ [+human] ≫ [+animate] ≫ [-animate]

- This talk contributes to a larger body of work that suggests that, while such hierarchies may be useful descriptive tools, they—along with the inverse systems based on them—do not have a formal status in the grammar (see Bruening 2005; Harbour 2006; Preminger 2011; Coon and Preminger 2012)

2   Mi'gmaq person and number

- Mi'gmaq matrix clauses do not look like those from Plains Cree: There are no person prefixes, and there are no immediately obvious reflexes of the direct and inverse markers
  - Historically, the Mi'gmaq "independent indicative" derives from the Proto-Algonquian "conjunct order" (Hewson 1980)
- Instead, in Mi'gmaq transitive matrix verbs with two (grammatically) animate arguments follow the pattern in (5)

  (5)   MI'GMAQ TRANSITIVE TEMPLATE
        Stem-**Slot1**-(Neg)-**Slot2**-(3PL/OBV)

- The lexical stem is followed by two agreement slots
- Negation, marked by -*u*/-*w*, intervenes between the two slots when present
  - Negative forms prevent some of the phonological/irregular operations from occurring between the two slots, making the pattern easier to see
- A third person plural marker appears stem-finally, marking plurality of either subject or object 3rd persons; obviative marking also appears here when present (we do not discuss either of these)

➡ **Preview:** We will argue that Slot 1 is v^0 agreement, and Slot 2 is Infl^0 agreement. The order of morphemes is in accordance with the Mirror Principle (Baker 1985):

(6)

(7)

	V^0	$-v^0$	$-$Neg^0	$-$Infl^0
	Stem	$-$Slot 1	$-$Neg	$-$Slot 2
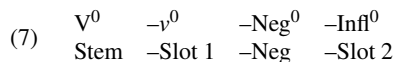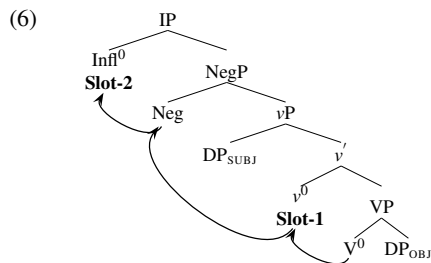
- Using the negated forms, we can break down the forms in Slots 1 and 2 as follows:

(8) SLOT 1

1	*-i'li*
2	*-u'l(n)*
3	*-a*
3>PART-PL	*-ugsi*

(9) SLOT 2

12	*-gw*
13	*-eg*
2PL	*-oq*
1	*(-an)*
2	*-n*
3	*-t/-g*

Speech Act Participant Plural (PART-PL):

12 = 1st person plural, inclusive of hearer

13 = 1st person plural exclusive of hearer

2PL = 2nd person plural

- Across most of the paradigm, **Slot 1** can be straightforwardly characterized as *object agreement for person features* (10)–(11)

  ○ First person plural exclusive objects (13) trigger 1 agreement, while second person plural objects (2PL) trigger 2 agreement

  ↪ What kind of agreement do first person plural *inclusive* objects trigger? Undeterminable, for reasons discussed below

(10) a. SINGULAR OBJECTS

   Mu nem-**i'li**-w-g.

   NEG see-1OBJ-NEG-3

   'She doesn't see **me**.'

   b. Mu nem-**u'ln**-u-eg.

   NEG see-2OBJ-NEG-13

   'We$_{EXCL}$ don't see **you**.'

   c. Mu nemi-**a**-w-gw.

   NEG see-3OBJ-NEG-12

   'We$_{INCL}$ don't see **her**.'

(11) PLURAL OBJECTS

   a. Mu nem-**i'li**-w-eg.

   NEG see-1OBJ-NEG-13

   'You don't see **us**$_{EXCL}$.'

   b. Mu nem-**u'ln**-u-eg.

   NEG see-2OBJ-NEG-13

   'We$_{EXCL}$ don't see **you**$_{SG/PL}$.'

   c. Mu nem-**u'ln**-u-oq.

   NEG see-2OBJ-NEG-2PL

   'I don't see **you**$_{PL}$.'

- Focusing, for example, on the forms in (10), Slot 2 looks like subject agreement...

  ○ With singular objects and third person plural objects, Slot 2 can be accurately characterized as subject agreement

  ○ But things become more complicated in the case of PART-PL *objects* (12, 13, and 2PL)

- Clauses with PART-PL objects divide into two types:

  1. Those with [−PART] (3rd person) subjects (§3)

[−PART]		[PART-PL]	
○ 3	>	12	*He saw us$_{INCL}$*
○ 3	>	2PL	*She saw you$_{PL}$*
○ 3PL	>	13	*They saw us$_{EXCL}$*
○ . . .			. . .

  2. Those with [PART] (1st or 2nd person) subjects (§4)

[PART]		[PART-PL]	
○ 2	>	13	*You saw us$_{EXCL}$*
○ 13	>	2PL	*We$_{EXCL}$ saw you$_{PL}$*
○ 2PL	>	13	*You$_{PL}$ saw us$_{EXCL}$*
○ 1	>	2PL	*I saw you$_{PL}$*
○ . . .			. . .

  ➡ Note that *feature overlap* of PART features is prohibited in Mi'gmaq (see also Lochbihler 2012 on Ojibwe, and Lasnik 1981)—this means that first person inclusive objects (12s) will never appear in the second environment

[PART]		[PART-PL]	
* **2PL**	>	12	*You saw us$_{INCL}$*
* **1**	>	**13**	*I saw us$_{EXCL}$*
* **2**	>	12	*You saw us$_{INCL}$*

3 Puzzle 1: inverse and *-ugsi*

- The sentences in (12) have PART-PL objects, and non-PARTICIPANT (=3rd person) subjects

  ○ In exactly these 3>PART-PL environments, the morpheme *-ugsi* appears in Slot 1

  ○ Slot 2 is *object agreement*; there is no explicit marker of 3rd person

(12)　**A**=[−PART]; **P**=PART-PL

    a.　Mu　nem-**ugsi**-w-gw.
       NEG see-PART.PL-NEG-12
       'He doesn't see us$_{\text{INCL}}$

    b.　Mu　nem-**ugsi**-w-eg.
       NEG see-PART.PL-NEG-13
       'He doesn't see us$_{\text{EXCL}}$

    c.　Mu　nem-**ugsi**-w-oq.
       NEG see-PART.PL-NEG-2PL
   'He doesn't see you$_{\text{PL}}$

- **What is *-ugsi*?**

- *-ugsi* is limited to environments with a third person subject acting on an PART-PL object—traditional "inverse" contexts ($3 > 1/2$). But...

  ○ It is apparently the only morpheme in the paradigm making direct reference to the relative ranking or features of both subject and object arguments

  ○ And *-ugsi* does not occur in all environments in which third person subjects act on [PARTICIPANT] objects; compare the 3>1SG form in (10a) above

  (13)　a.　$3 > 1$SG
        Mu　nem-**i'li**-w-g.
        NEG see-1OBJ-NEG-3
        'She doesn't see **me**.'　　　　　(= 10a)

      b.　$3 > 1$PL.INCL
        Mu　nem-**ugsi**-w-gw.
        NEG see-PART.PL-NEG-12
        'She doesn't see **us$_{\text{INCL}}$**.'　　　(= 12a)

  ➥ Crucially, the *-ugsi* forms appear with objects that are both [PARTICIPANT] and *plural*

- Locating *-ugsi* in v^0 is consistent with the Mirror Principle order and also provides an account of how a single head could make reference to features both of the subject and the object

  ○ Even in familiar languages like English, v^0 is credited with the dual duty of licensing the object and introducing the subject in its specifier (Chomsky 1995; Kratzer 1996)

  (14)
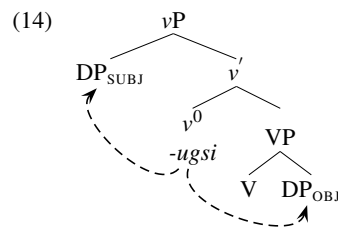
  ○ We return to *-ugsi* below...

4　Puzzle 2: Formalizing the hierarchy

- To this point, we have focussed on the morphological realization of Slot 1, which we argued to be v^0 (object agreement for person; *-ugsi* in 3>PART-PL)

- We now turn to the realization of Slot 2

(15)

V^0	$-v^0$	$-\text{Neg}^0$	$-\textbf{Infl}^0$
Stem	–Slot 1	–Neg	–**Slot 2**

4.1　The facts

- PART-PL arguments are also important for the content of **Slot 2**

  ○ If the object is *not* PART-PL, Slot 2 is simply subject agreement (16)

  (16)　a.　Mu　nem-i'li-w-**g**.
        NEG see-1OBJ-NEG-3
        '**She** doesn't see me.'

      b.　Mu　nem-u'ln-u-**eg**.
        NEG see-2OBJ-NEG-13
        '**We$_{\text{EXCL}}$** don't see you.'

      c.　Mu　nemi-a-w-**gw**.
        NEG see-3OBJ-NEG-12
        '**We$_{\text{INCL}}$** don't see her.'　　　　(= 10)

  ○ When the object is PART-PL, and the subject is 3rd person (*-ugsi* environments), Slot 2 agrees with the object:

  (17)　**A**=[−PART]; **P**=PART-PL

      a.　Mu　nem-ugsi-w-**gw**.
        NEG see-PART.PL-NEG-12
        'He doesn't see **us$_{\text{INCL}}$**

      b.　Mu　nem-ugsi-w-**eg**.
        NEG see-PART.PL-NEG-13
        'He doesn't see **us$_{\text{EXCL}}$**

      c.　Mu　nem-ugsi-w-**oq**.
        NEG see-PART.PL-NEG-2PL
        'He doesn't see **you$_{\text{PL}}$**　　　　(= 12)

  ○ In [PART]>PART-PL environments, then *descriptively* Slot 2 is determined by the hierarchy in (18)

  (18)　SLOT 2 HIERARCHY
        $13 \gg 2\text{PL} \gg \{ 1, 2, 3 \}$

- In these forms, Slot 1 agrees with the person features of the object, as above

- Slot 2 agrees with either the subject or the object, following the hierarchy in (18)

  (19) **A**=[PART]; **P**=PART-PL

    a. Mu nem-i'li-w-**eg**.
        NEG see-1OBJ-NEG-13
        'You don't see **us**EXCL.'

    b. Mu nem-u'ln-u-**oq**.
        NEG see-2OBJ-NEG-2PL
        'I don't see **you**PL.'

    c. Mu nem-u'ln-u-**eg**.
        NEG see-2OBJ-NEG-13
        '**We**EXCL don't see youSG/PL.'

    ○ In (19a–b), Slot 2 agrees *again* with the object: there is no reflex of the subject's features on the stem

    ○ In (19c), Slot 2 agrees with the higher-ranking subject

- ➤ Crucially, the ranking in (18) cannot be characterized by person or number features alone:
    ○ 1PL≫2SG (19a)
    ○ 2PL≫1SG (19c)

In short. . .
- Slot 2 agrees with an PART-PL whenever possible, regardless of whether it is the subject or object
    ○ { 1, 2, 3, 3PL } > **PART-PL**
    ○ **PART-PL** > { 1, 2, 3, 3PL }
- When *both* subject and object are PART-PL, [13]≫[2PL]
    ○ **13** > 2PL
    ○ 2PL > **13**
- There is no evidence for the relative ranking of [12] because features of subject and object cannot overlap; we assume [12]≫[13]≫[2PL] for reasons discussed below


4.2 Analysis

- Following Bruening (2005) on Passamaquoddy, assume that a single DP, **either the subject or the object**, raises to Spec,IP, as in (20)

(20)
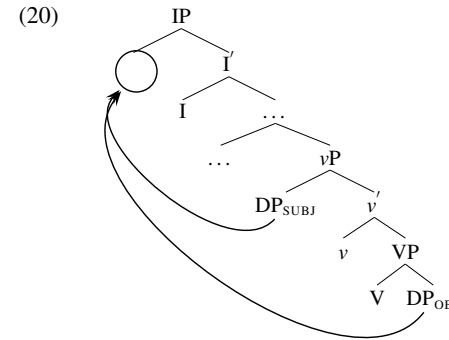
- In Mi'gmaq, this DP triggers Slot 2 agreement

- To capture the hierarchy effects in Slot 2, we propose that it is the highest ranked DP which moves to Spec,IP
    ○ The highest-ranked PART-PL DP must move to Spec,IP
    ○ If there is no PART-PL DP, the subject must move to Spec,IP

- ➤ But how does Infl[0] know which is the "highest-ranked"?

- Assume a feature geometric approach to pronominal features, where the pronoun (= *referring expression*) is broken down into person and number features (as in Harley and Ritter 2002):

(21)
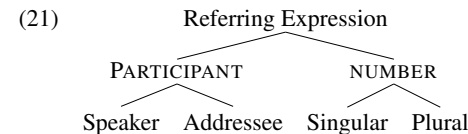
    ○ Features are monovalent and only appear if they have a positive value

    ○ Lower features entail dominating features, e.g. Speaker entails Participant

    ○ 3rd person is the absence of a PARTICIPANT node (see Forchheimer 1953; Benveniste 1971 on 3rd person as the absence of person)

    ➤ Underlined nodes represent the default interpretation of the dominating organizing node—we propose Addressee is default for Participant in Mi'gmaq

(22) 1 PL INCL   (23) 1 PL EXCL   (24) 2 PL
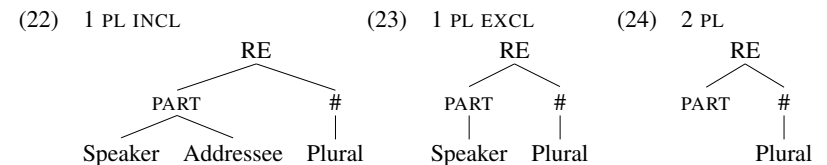
- Infl has a [+EPP] feature; it attracts the closest DP to its specifier

- An intermediate projection, F(unctional)P, attracts the highest ranking PART-PL to its specifier

(25)

FP
DP$_{\text{PART-PL}}$ F$'$
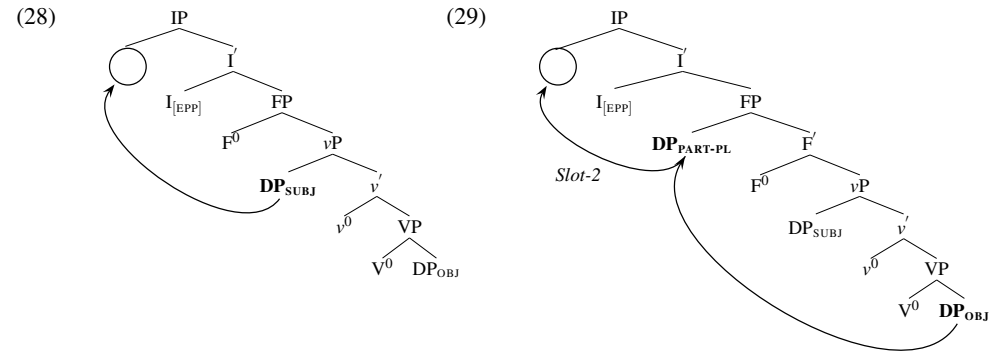   F^0 vP
              t$_{\text{SUBJ}}$ v'
                        v^0 VP
                            V^0 DP$_{\text{OBJ}}$

(26)

FP
DP$_{\text{PART-PL}}$ F$'$
         F^0 vP
              DP$_{\text{SUBJ}}$ v'
                        v^0 VP
                            V^0 t$_{\text{OBJ}}$
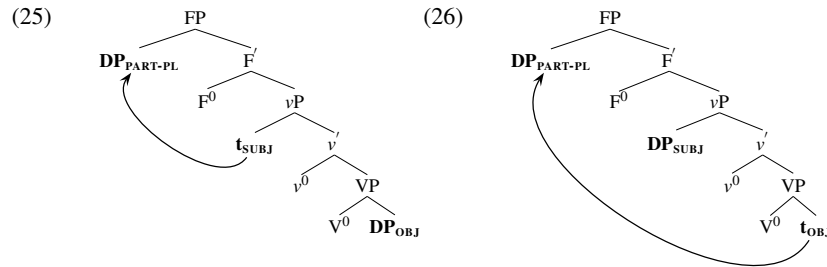
- Assume FP contains a complex feature geometric probe with the maximum number of person and number features specified: **[[PART [SPKR] [ADDR]], [PL]]**

  1. Probe for DP with full set of features specified: **[[PART [SPKR] [ADDR]], [PL]]**

  2. If no 1PL.INCL is found, "peel off" the [ADDR] node and probe for 1PL.EXCL: **[[PART [SPKR]], [PL]]**

  3. If no 1PL.EXCL is found, "peel off" the [SPKR] node and probe for 2PL: **[[PART], [PL]]**

➼ Note that 2nd person must be the default interpretation for PARTICIPANT in Mi'gmaq, perhaps consistent with its general prominence across the family; see the discussion of Ojibwe in Harley and Ritter 2002

- We now return to our examples from (13) above:

(27) a. Mu nem-i'li-w-**g**.
         NEG see-1OBJ-NEG-3
         '**She** doesn't see me.'   (= 10a)
      b. Mu nem-ugsi-w-**gw**.
         NEG see-PART.PL-NEG-12
         'She doesn't see **us**$_{\text{INCL}}$.'   (= 12a)

- In both constructions, v^0 is responsible for Slot 1 agreement

- In both, the complex probe on F^0 searches for a highly specified PART-PL DP

  ○ In (27a), none is found; no movement to FP is triggered. Infl^0 attracts the highest DP—the subject in Spec,vP—to its specifier, triggering 3rd person singular subject agreement (28)

  ○ In (27b), the object is found and moves to Spec,FP. Now Infl^0 searches and finds the PART-PL object and moves it to Spec,IP, triggering 1st person inclusive agreement (29)
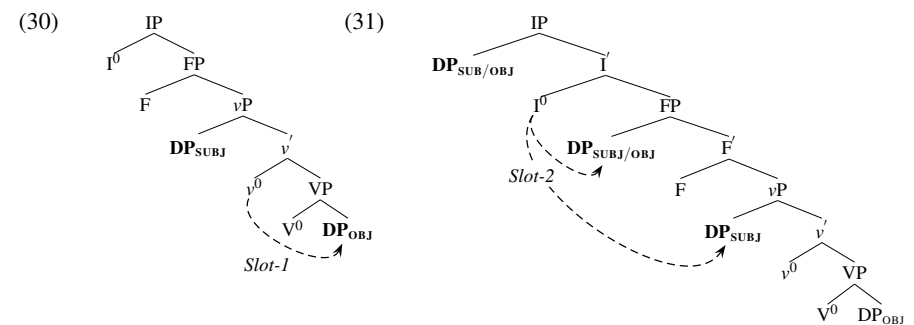
(28)

IP
    I
I$_{\text{[EPP]}}$ FP
          F^0 vP
               DP$_{\text{SUBJ}}$ v'
                         v^0 VP
                             V^0 DP$_{\text{OBJ}}$

(29)

IP
    I
I$_{\text{[EPP]}}$ FP
          DP$_{\text{PART-PL}}$ F$'$
   Slot-2   F^0 vP
                     DP$_{\text{SUBJ}}$ v'
                               v^0 VP
                                   V^0 **DP$_{\text{OBJ}}$**

- **Recap:**

  ○ Highly specified PART-PL DPs are privileged for Slot 2 (Infl^0) agreement by being attracted to an intermediate projection, FP

  ○ If none are present, the derivation does not crash; an agreement probe must try to agree, but failure is okay (Preminger 2011)

  ○ In the absence of a PART-PL DP, the structurally higher subject moves to Spec,IP to satisfy the EPP

5 Summary and conclusions

- In this talk, we examined the Mi'gmaq transitive animate paradigm

- We proposed that the first slot on the stem is v^0 agreement (30)

  ○ v^0 triggers Slot 1 agreement, normally for the object's π features

  ○ In 3>PART-PL environments, Slot 1 is realized as *-ugsi*

(30)

IP
I^0 FP
    F vP
     DP$_{\text{SUBJ}}$ v'
               v^0 VP
                   V^0 **DP$_{\text{OBJ}}$**
   Slot-1

(31)

IP
DP$_{\text{SUB/OBJ}}$ I
        I^0 FP
  Slot-2   **DP$_{\text{SUBJ/OBJ}}$**   F$'$
                     F vP
                      DP$_{\text{SUBJ}}$ v'
                                v^0 VP
                                    V^0 DP$_{\text{OBJ}}$

- Slot 2 is Infl^0 agreement (31)

  ○ Infl^0 agrees with a PART-PL argument when present, regardless of grammatical function

  ○ This is achieved by an intermediate probe, F^0, which searches for a maximally specified pronoun: **[[PART [SPKR] [ADDR]], [PL]]** → **[[PART [SPKR]], [PL]]** → **[[PART], [PL]]**

- **Does Mi'gmaq have an inverse system?**

  (32)　COMPONENTS OF AN INVERSE SYSTEM
  1. Direction markers
  2. Competition for slots

- Is *-ugsi* a direction marker?
  - Like other direction markers, it is sensitive to the features of the subject and object
  - It appears in "inverse" environments ([3]>[PART-PL]), but only a subset of them
  - **What is important here:** there is no general "inverse" marker
    - In languages like Plains Cree, there are "local" and "non-local" inverse markers
    - In Mi'gmaq, the "inverse marker" is even more restricted
    - Furthermore, we do not want this to be an integral component of Mi'gmaq grammar, since neighboring dialects lack *-ugsi* altogether (Pacifique 1939, Reprinted 2007)
  - ➡ Inverse morphemes make reference to specific person and number features. Making additional reference to a hierarchy becomes redundant

- Is there competition for slots?
  - Yes... when PART-PL is involved

- ➡ *Answer:* Qualified yes. But this shows us that the different components need to be evaluated separately; there is no one way to be "inverse"

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- **How can we capture "hierarchy effects"?**
  - In Mi'gmaq, a traditional prominence hierarchy of the type frequently attributed to Silverstein 1976 cannot account for the realization of Slot 2:
    - 1PL≫2SG (19a)
    - 2PL≫1SG (19c)
  - These facts can be accounted for under a feature geometric approach in which the Infl⁰ probe privileges DPs with the most specified features

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  - **Outstanding questions**:
    - Is the constraint on feature overlap connected to other parts of the agreement system (e.g., the complex probe on FP)?
    - When "peeling off" features, why are person features removed first before number features? Could this be connected to the different behaviour of 3PL agreement in Mi'gmaq?

(33)　a. Mu　nem-ugsi-w-oq-**ig**.
　　　　NEG see-PART.PL-NEG-2PL-3PL
　　　　'**They** don't see you$_{PL}$.'

　　　b. Mu　nemi-a-w-oq-**ig**.
　　　　NEG see-3OBJ-NEG-2PL-3PL
　　　　'You$_{PL}$ don't see **them**.'

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