Notes on the (semi)reflexive in Iroquoian

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This paper discusses the semi-reflexive and reflexive morphemes in Northern Iroquoian. We argue that these two morphemes are the result of A-movement between Case marked $\theta$-positions. The semi-reflexive appears in a variety of environments (akin to Romance se), which can be captured under a unified analysis once we assume this morpheme represents a bare person feature with Case and a $\theta$-role. The full reflexive appears in contexts of semantic reflexivity. This analysis assumes a tight connection between phases and Case. We thus derive various related phenomena including obligatory noun incorporation in certain semi-reflexive constructions.

1 Introduction

This paper discusses markers of ‘reflexivity’ in Northern Iroquoian (i.e. the ‘semi-reflexive’ and the ‘reflexive’), with a focus on Onondaga and some Oneida data. Following Chomsky (2006, to appear), we adopt a phase-theoretic approach to Case-licensing and argue that the ‘semi-reflexive’ (SRFL) is a morphosyntactically underspecified morpheme only marked for $\pi$ (i.e., a person feature), which accounts for its syntactic versatility. Specifically, it can be inserted either as an indefinite/impersonal argument or as a copy of a phi-complete DP. We also show that the SRFL triggers obligatory noun incorporation (NI) in languages where this phenomenon is otherwise optional (see Baker, 1996) and interferes with agreement. Finally, we argue that the SRFL reduplicates, yielding the ‘reflexive’ (REFL) morpheme, whenever it associates a DP with two copies (either for emphasis or for binding purposes).

The remainder of this paper is organized as follows. Section 2 gives a brief background on Onondaga. Section 3 introduces the data in which the semi-reflexive morpheme appears. Section 4 presents our analysis of alienable versus

* The Onondaga data in this paper were gathered from our consultants Nora Carrier and Gloria Williams and from Woodbury (2003). The Oneida data is from Daisy Elijah. While we are very grateful to our consultants, all errors are our own. We employ the following abbreviations: ACC = accusative, CIS = cislocative, DU = dual number, DUC = dualic, EPEN = epenthetic vowel, F = feminine, FACT = factual, JOIN = joiner vowel occurring between incorporated noun and verb stem, M = masculine, NOM = nominative, NFS = noun forming suffix, NT = neuter, NZLR = nominalizer, PUNC = punctual, PURP = purposive, SG = singular, STAT = stative aspect, $\sqrt{}$ = root.
inalienable possession. Section 5 discusses the full reflexive morpheme. Section 6 discusses passive-like constructions and Section 7 is a conclusion.

2 Background on Onondaga

The verbal template for Onondaga is shown in Table 1 below.

<table>
<thead>
<tr>
<th>pre-pronominal prefixes</th>
<th>pro-nominal prefixes</th>
<th>SRFL or REFL</th>
<th>Incorporated Noun</th>
<th>verb √</th>
<th>derivational suffixes</th>
<th>aspect suffixes</th>
</tr>
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</table>

The pre-pronominal prefixes generally refer to mood (and tense) and interact with locative and negative morphology. The pronominal prefixes reference both subjects and objects, although the morphophonology is quite complex (Barrie, 2005, Chafe, 1960). The SRFL and REFL are the main focus of this paper and are described below in more detail. The incorporated noun (henceforth, IN) appears immediately to the left of the verbal root. An epenthetic vowel (JOIN) separates the nominal and verbal roots to break up illegal consonant clusters. Various derivational suffixes found here include the benefactive and causative. Finally, an obligatory aspect suffix appears on all verbal forms.

Many languages have two kinds of reflexive marker, and, typically, one of them is polymorphemic and contains the other as a constituent morpheme (1).

(1) a. at- at-at- (Onondaga) b. ziji ta-ziji (Mandarin) c. zich zich-zelf (Dutch) d. hd- tS'-hd- (Dakota)

Cross-linguistically, it is always the polymorphemic reflexive form that obliges Binding Theory and reflexivizes a predicate (in the sense of Reinhart and Reuland, 1993), while the reduced form fails to reflexivize a predicate but is plurifunctional (Alboiu et al, 2004). The following section discusses the distribution of reflexivity in Onondaga.

3 The (semi)reflexive data

In Onondaga the SRFL occurs with a variety of predicates that are difficult to capture under a single semantic class. The examples in (2) illustrate various contexts where the SRFL (in bold) is found, including inalienable possession (2)a, inherent reflexives (2)b, internally directed motion / derived unaccusatives (2)c, and events involving external causation / change of state inchoatives (2)d.

1 Note that reflexive markers in Onondaga show morphological variation that is lexically sensitive to the base. Potential forms of the SRFL include: at-, ad-, ade-, ade-, aR, a-, an-, ane-, ah-, ç-, çn-, as-. The REFL reduplicates the SRFL.
On the other hand, the REFL is used to indicate coreference between the subject and an internal argument, with refinements to be discussed in Section 5. The data in (3) is illustrative of semantic reflexivity and (4) shows a reciprocal event.

(3) wa’gadadaehsëthwa?
wa’- k- at- aehsëthw- a’
FACT- 1.SG.NOM- REFL- kick- PUNC
‘I kicked myself.’

(4) wa’thyadadydyahdë?
wa’- t- hy- at- yoda- ht- e’
FACT- DUC- 3.DU.NOM- REFL- laugh- CAUS- PUNC
‘They two made each other laugh.’

4 Inalienable versus alienable possession

While the SRFL can be used to indicate possession on inalienably possessed nouns, as in (5)a-b, below, it cannot generally be used to indicate ownership of alienably possessed nouns (see (5)c-d).
(5) a. wa’gadnqgha:?
   wa'- g-      ad- noh-    gaR- ?
   FACT- 1.SG.NOM- SRFL- hair- cut- PUNC
   ‘I cut my own hair.’

b. wa’agatnentsha’dat
   wa’- t- g-  at- nentsh- a-   ’dat- Ø
   FACT- DUC 1.SG.NOM- SRFL- arm- JOIN- raise- PUNC
   ‘I pointed/raised my arm.’

c. *wa’agatnakdagi:dat
   wa’- k-  at- nakd- a-  gadat- Ø
   FACT- 1.SG.NOM- SRFL- bed- JOIN- raise- PUNC
   ‘I raised my bed.’

d. *dakada’s:hd:qa:wi?
   da- k-    ad- a-    ’se:hd- qa:wi- ?
   CIS.PURP- 1.SG.NOM- SRFL- car- have- PUNC
   ‘I brought my own car.’

Instead, to indicate ownership of an alienably possessed noun, an analytic construction must be used, as in (6)a-b. This construction lacks the SRFL morpheme and the noun does not incorporate but rather occurs as an independent possessive DP.

(6) a. wa’khag:dat agnakda?
   wa’- k-  hadat- Ø ag- nakd- a?
   FACT- 1.SG.NOM- raise- PUNC my-bed- NFS
   ‘I raised my bed.’

b. dakha:wa’ age:’se:ha?
   da- k- ha:wi- a’  age-’se:ha-a?
   CIS.PURP- 1.SG.NOM- have- PUNC my-car- NFS
   ‘I brought my own car.’

The analysis of alienable versus inalienable possession offered below will account for this asymmetry.

4.1 Analysis of Inalienable Possession (IAP)

Alexiadou (1999) also shows that objects of alienable possession behave differently than objects of inalienable possession. Consider the data in (7).
Only possessors of alienable possession behave like predicates (see (7)a). Given the above, we follow Alexiadou (1999), Tomioka and Sim (2007), Ura (1996), inter alia, in assuming distinct structures for alienable versus inalienable possession, such that IAP (or the affected object) is merged lower than the possessor, as a complement to some Head (L - locative P in Alexiadou, affect V in Tomioka and Sim) Low Applicative in (8) – to contrast with a High Applicative, which hosts benefactives, (Alboiu and Barrie, 2005).

In (8), DP₁ refers to the inalienably possessed object (IAP); DP₂ refers to the possessor argument; and DP₃ refers to the agent/external argument. Assume following Chomsky (2006, to appear) that the phase head is responsible for A-related properties; assume further (following Alboiu, 2006a, Baker et al., 2005) that v* has uD/EPP but no uφ. Thus, uD has to be transferred to the proxy head (here Tr). Following Alboiu (2006b), whichever DP checks this feature will be part of an A-chain and hence syntactically saturated (i.e., Case-checked) with Case-valuation following at Spell-Out (dependent on other factors, with discussion beyond the scope of this paper). Given that the closest contender (in terms of c-command) is DP₂, the possessor argument will dislocate to Spec,TrP. Assume further, following Hornstein (2001) and Kayne (2002) that identity of reference between arguments (i.e. semantic reflexivity) is derived via DP movement between two theta-role positions. Here, DP₂ is the closest Goal, so moves from Spec,Appl_LOW to Spec,v*P, via Spec,TrP where it checks Case. DP₃ then raises to SpecTP (not shown), again a Case-checking position.

Suppose that in Iroquoian, Case-marked DPs surface as pronominal prefixes (agreement markers or clitics - less relevant here) in the Inflectional
domain. Unsuprisingly, linearization of these agreement markers mirrors the DP argument hierarchy in the predicational domain such that, the Agent is higher than the Theme (or Benefactive if there is one):

\[(9) \quad \text{DP.agent} > \text{DP.theme/benefactive (etc.)} \]
\[\text{(higher DP, then lower DP, in terms of c-command)}\]

In the presence of semantic reflexivity as in (9), the Agent and the possessor argument are coreferential, so we get: \(\text{DP}_2 (=\text{DP}_3) > \text{DP}_2\). Given that both copies are Case-marked (once in Spec,TrP, once in Spec,TP), they need both be pronounced, which, following the general Condition on A-Chains (Reinhart and Reuland, 1993), forces vocabulary insertion of an underspecified D (i.e., the SRFL) in the lower copy position, resulting in \(\text{AGR}_{\text{DP}_2-\text{at}}\). The SRFL is specified for \(\pi\) (i.e. a person feature), as in Reuland (2001) and Alboiu, Barrie and Frigeni (2004).\(^2\) \(\text{DP}_1\) (i.e. the possessum) is Caseless, so forced to incorporate in order to be syntactically licensed.

### 4.2 Analysis of Alienable Possession (AP)

Following den Dikken (1997), with alienable possession, \(V^0\) selects a Predicate Phrase or a Small Clause, as illustrated in (10) with a PP predicate.

\[(10) \quad [\text{XP} \quad \text{NP}_{\text{possessum}} \quad [\chi \quad \chi \quad [\text{PP} \quad \text{P} \quad \text{DP}_{\text{possessor}}]]] \]

(10) shows the possessor behaving like a restrictive modifier of the possessum, a property of predicates. Alternatively, in (11), \(V^0\) directly selects a PredP which contains both the possessor and the possessum, with the possessor acting as the predicate. Both structures account for the asymmetry in (7). In (11), as with IAP, \(v^*\) discharges its A-related property to Tr and the closest DP, the alienably possessed (AP) object \(\text{DP}_2\), dislocates from its theta-position to Spec,TrP to check off this feature and thereby get Case. While the possessor \(\text{DP}_1\) could, in principle incorporate and thus be syntactically licensed, it cannot move to Spec,\(v^*\)P or it would violate the Minimal Link Condition. Consequently, the possessor cannot be coreferential and identical to the external argument Agent \(\text{DP}_3\) and AP cannot be construed via a synthetic structure involving the SRFL. This explains the data in (5) and (6).

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\(^2\) Baker (1996) argues convincingly that DPs independent of the verbal complex do not occupy A-related positions in Iroquoian. Rather, A-related positions are occupied by pro elements. We take these pro arguments to form A-chains with the pronominal prefixes.

\(^3\) Note that the \(\pi\) (person) feature is a prerequisite for Case-checking (Uriagereka, 2006), so any DP argument must minimally bear this feature.
Now, there are some exceptions where AP does allow for the SRFL and noun incorporation (NI). Consider the ambiguous Oneida example in (12).

(12) \text{wa'k-at-
wis-a-kalátat-e?} \quad \text{[Oneida]}

\text{FACT-I-}SRFL-\text{-window-JOIN-raise-PUNC}

a. ‘I raised my window.’

b. ‘I raised the window for myself.’

We follow Nichols (1992) who proposes the inalienability hierarchy below:

(13) \text{The Inalienability Hierarchy} \quad \text{(Nichols, 1992:160)}

body parts and/or kinship terms > part-whole > spatial relations >
culturally basic possessed items > other

Given that ‘windows’ could be viewed as ‘culturally possessed items’ thus transcending into the inalienable, for (12)a, we assume the structure for IAP discussed in 4.1. For the Benefactive reading in (12)b, we propose the structure in (14). In (14), DP$_1$ refers to the Theme and is directly selected by the root. DP$_2$ refers to the Benefactive Goal and is thus selected by a High applicative head (Alboiu and Barrie 2005) and DP$_3$ refers to the external argument. The Benefactive DP$_2$ moves from Spec,App$_{\text{HIGH}}$ to Spec,v*P, via Spec,TrP where it checks Case. DP$_3$ (in effect, the moved DP$_2$) then raises to SpecTP (not shown), another Case-checking position. Given that Spec,App$_{\text{HIGH}}$ and Spec,v*P are both theta-positions, we get \text{DP$_2$ (\text{\bowtie DP$_3$})}$ > DP$_2$ as pronominal prefixes (on a par with IAP) and the lower copy will surface as \text{at-}. The Theme, DP$_1$, is forced to incorporate.
However, $\text{Appl}_{\text{HIGH}}^0$ is arguably a phasal head, following McGinnis (2001, 2003). Given A-movement requirements, we assume that in (14) phasehood is voided (see Hornstein, 2001). If this analysis is correct, it predicts that when $\text{DP}_3 \neq \text{DP}_2$ (i.e., in the absence of semantic reflexivity), phasehood is maintained. Assuming that Case is a property of the phase (Alboiu, 2006a, Chomsky, 2006), $\text{Appl}_{\text{HIGH}}^0$ can check Case, so NI of the Theme should no longer be obligatory as there are now three Case positions, one per phasal head: $\text{Appl}_{\text{HIGH}}^0$, $v^*^0$, and $C^0$. 

(15) 

\[
\begin{align*}
\text{DP}_3 & \quad V^0 \\
& \quad <\text{DP}_2> \\
& \quad \text{Tr'} \\
& \quad <\text{DP}_2> \\
& \quad \text{Tr} \\
& \quad \text{Tr}_0^0 \\
& \quad [u\Delta] \\
& \quad \wedge
\end{align*}
\]
DP$_3$ then raises to SpecTP (not shown), a Case-checking position. (15) shows the two phasal domains within v*-P and the positions to which the Theme and Benefactive move for Case licensing. That the prediction is empirically borne out can be seen in (16) from Oneida, where NI is indeed optional.

(16) a. wa’khewisakalà:tatste$^7$
   wa$^2$- khe- wis- a- kalatat- st- e$^9$
   FACT- l:her- window-JOIN- open- BEN- PUNC
   ‘I opened the window for her.’

   b. wa’khehalà: tatste$^7$ owishe$^9$
   wa$^2$- khe- halatat- st- e$^9$ owishe$^9$
   FACT- l:her- open- BEN- PUNC window
   ‘I opened the window for her.’

Note that agreement (or the T-related pronominal clitic domain) follows the hierarchical order of DP$_3$ > DP$_2$ > DP$_1$, yielding NOM:ACC:ACC (with bolded Cases containing overt morphemes and ACC as Ø, for inanimates).

In sum, the SRFL at- is a morphosyntactically underspecified Case-checked morpheme, marked for π (person) and spelled-out as a copy of a phi-complete DP, specifically φ: at. In the next section we discuss the prototypical reflexive (REFL) and its use in reciprocals, reflexives and emphatics.

5 Reduplication: reciprocals, prototypical reflexives & emphatics

The reduplicated form, at-at-, is compulsory with reciprocals, but often also occurs with prototypical reflexives and emphatics with semantic reflexivity (e.g. IAP).

5.1 Reciprocals

Basically, obligatory reduplication only appears consistently with reciprocals.

(17) wa’hødatge:dahè$^7$
   wa$^2$- hø- *(at)at- ged- a- hè$^9$
   FACT- 3.PL.M NOM- REFL- scratch- EPEN- DIST- PUNC
   ‘They scratched each other.’

(18) wa’tyadaáshè:twa$^9$
   wa$^2$- t- hy- *(ad)ad- aeshétw- a$^9$
   FACT- DUC- 3.DU NOM- REFL- kick- PUNC
   ‘They kicked each other.’
Büring (2005: 206) argues that each other as a whole is doubly dependent on its antecedent, that is reciprocals are “doubly anaphoric: (p. 209). He follows Sauerland (1998:14) who argues that reciprocals are a complex structure with two variables (range and contrast) that are both bound by the antecedent in questions. The following example illustrates this, with (19)a really being (19)b. Furthermore, binding properties of (19) are represented in (20).

(19) a. The students know each other.
    b. The students each know (each of) the other(s)

(20) \[ \text{DP each [np other a\textsubscript{a}-contrast] a\textsubscript{b}-range]}\]

(20) is paraphrasable as “each other than himself, among them,” showing that with reciprocals there are two variables bound by the same antecedent. In our example, the student binds both the contrast and the range arguments. This yields a DP with two copies, which triggers obligatory reduplication.

5.2 Reflexives

With prototypical reflexive constructions there are semantic effects (in terms of agentivity) related to the choice between the use of the REFL versus the SRFL morphemes. Specifically, lack of agentivity seems to require the REFL (i.e., reduplication), whereas agentivity does not.

(21) waˈgadatgweːdah
    waˈ- t- g- adat- gwɛːdaR- ah
    FACT- DUC- 1.SG.NOM- REFL- scratch- PUNC
    ‘I scratched myself.’ (by accident)

(22) waˈgatgɛːdaʔ
    waˈ- g- at- ged- aʔ
    FACT- 1.SG.NOM- SRFL- scratch- PUNC
    ‘I scratched myself.’ (on purpose, e.g. because I was itchy)

(23) waˈgadatjiʔeːdəʔ
    waˈ- t- g- ad- atjiʔet- eʔ
    FACT- DUC- 1.SG.NOM- SRFL- pinch- PUNC
    ‘I pinched myself.’ (on purpose, e.g. to stay awake)

(24) waˈgadadeˈsgọthwaʔ
    waˈ- g- adad- e- ?sgọthw- aʔ
    FACT- 1.SG.NOM- REFL- EPEN- burn- PUNC
    ‘I burned myself (by accident).’
We propose that whenever agentivity is involved, the structure is as in (25) with the same morphosyntatic effects as seen in the previous section.

(25)

\[
\begin{array}{c}
\text{v}^* \text{P} \\
\text{DP}_2 \\
\text{(DP}_2 = \text{DP}_1) \\
\text{v}^* \text{'P} \\
\text{<DP}_1 > \text{TrP} \\
\text{Tr'P} \\
\text{Tr}_0 \text{VP} \\
\text{[uD]} \\
\text{V}^0 \\
<\text{DP}_1 > \\
\end{array}
\]

The Theme, DP_1, moves to the Spec,v*P to yield semantic reflexivity; given that v* is phasal, DP_1 gets Case-checked in Spec,TrP. Subsequently, DP_2 (=DP_1) will move to Spec,TP (not shown) and the agreement morphemes will consist of two Case-checked copies of DP_1. This yields φφ φφ_i at, as discussed. With respect to semantic reflexivity in the absence of agentivity, we propose that an additional indefinite argument is involved. This indefinite is semantically the ‘External Causer’ of the event and its morphosyntax is underspecified as [D, π], as no phi-properties are specified. Note that such a D will be Spelled Out as the SRFL at-. Interestingly, other languages seem to allow for a similar pattern. Lidz (2001) argues that, in Kannada, the verbal reflexive morpheme –kol (VRM) occurs “when the verb denotes an externally caused eventuality”. In the Onondaga instances, given semantic reflexivity, the Theme, DP_1 moves to an Experiencer, DP_2, position, as shown below.

(26)
The Experiencer is merged in a High applicative phrase, whose phasal properties syntactically license the Theme via a proxy head X. Support for the Experiencer as a High applicative argument is shown in (27) given the obligatory presence of the BEN morpheme.

(27) wa’gadadihwatšę:ny’a’s
    wa’- g- adad- ihw- a- tsh,ny- a- *(s)- Ø
    FACT- I- REFL- thing- JOIN- find- EPEN- BEN- PUNC
‘I found fault with myself.’ (*on purpose)

The agreement morphemes in the T-related domain reflect that the hierarchical order of indefinite DP>Exp DP>Theme DP, morphosyntactically specified as π>φ₁>φ₂, is linearized as φ₂;at;at, with 3rd π following the phi-complete DPs (a plausible assumption given cross-linguistic property of clitics, e.g. Romance).

This analysis is in line with proposals for se passives in Romance (see McGinnis, 1999 inter alia) and can help explain the plurifunctionality of the SRFL in Iroquoian which we further strengthen in Section 6.

5.3 Emphatics

Note that an emphatic also triggers insertion of the REFL morpheme (i.e., reduplication). Compare (28) with (29).

(28) wa’gada’da’se:hdohae’
    wa’- g- atat- a’seht- ohae- ’
    FACT- 1.SG.NOM- REFL- car- wash- PUNC
‘I myself washed my own car.’

(29) wa’gada’da’se:hdohae’
    wa’- g- at- a’seht- ohae- ’
    FACT- 1.SG.NOM- SRFL- car- wash- PUNC
‘I washed my car.’

Suppose that the emphatic is an adjunct to the AP DP argument. Given the phasal nature of adjuncts, the emphatic constitutes yet another Case-marked/visible copy, triggering φ₂;at;at. In sum, while the REFL implies semantic reflexivity (A-movement between two θ-positions), the SRFL can be found in semantically reflexive environments, but need not.

6 Passive-like constructions

The data in (30)-(32) show samples of Onondaga passive-like constructions.
As for non-agentive reflexives, all plurifunctional instances of the SRFL are instances of unaccusative verbs. This is confirmed by obligatory ACC Case, a general property of unaccusatives in Onondaga. Compare (31, 32) with (33, 34).

(33) Gwide’wa’hahnhôhwâ:k
    Peter FACT-3.SG.NT.NOM-door-apply-PUNC
    ‘Peter closed the door.’

(34) owâ:de’wa’gahnhôhwâ:k
    wind FACT-3.SG.NT.NOM-door-apply-PUNC
    ‘The wind closed the door.’

Consequently, we assume a weak (non-phasal) vP, with an underspecified DP inserted in SpecvP. A schematic representation of this domain is shown below.

(35) \[ v_\Pi \pi [v^0 [vP V^0 DP]] \]

This entails that agreement clitics denote a phi-complete DP (selected by the verbal root) and [D, \pi], which surfaces as \( \phi_i:at \).

7 Conclusions

We have argued that the SRFL morpheme \( at- \) is an indefinite nominal simply specified for a \( \pi \) feature. Furthermore, we have shown that the presence of the REFL \( at-at- \) obligatorily indicates semantic reflexivity. Assuming that all Case-marked DP copies need to be pronounced, we have shown that the lower copies are underspecified, so are Spelled Out as the SRFL.
References


