

## Phasehood, Case, and Noun Incorporation\*

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### 1. Introduction

Noun incorporation (NI) in Iroquoian languages is generally an optional process, whereby both the NI and non-NI alternants are grammatical (see Baker, 1996, Mithun, 1984, 1986), with discourse factors playing a role. Consider the following examples.<sup>1</sup>

- (1) waʔkhní:nqʔ neʔ ganakdaʔ 'I bought a bed.'  
waʔ- k- hninq- ʔ neʔ ka- nakt- aʔ  
FACT- 1.SG.NOM- buy- PUNC NE AGR- bed- NFS
- (2) waʔgnakdahní:nqʔ 'I bought a bed.'  
waʔ- k- nakt- a- hninq- ʔ  
FACT- 1.SG.NOM- bed- EPEN- buy- PUNC

However, in the presence of a semi-reflexive or reflexive morpheme, NI becomes obligatory (see Barrie, 2006:117 for Oneida).<sup>2</sup>

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<sup>1</sup> All the Iroquoian data is Onondaga unless specified otherwise. The paper uses the following abbreviations: ACC = accusative, BEN = benefactive, CIS = cislocative, DAT = dative, DUC = dualic, EPEN = epenthetic vowel, F = feminine, FACT = factual, JOIN = joiner vowel occurring between incorporated noun and verb stem, M = masculine, NE = element of unclear function found in nominal expressions, NFS = noun forming suffix, NLZR = nominalizer, NOM = nominative, NT = neuter, PRES = present tense, PUNC = punctual, PURP = purposive, REFL = reflexive, SG = singular, SRFL = semi-reflexive, STAT = stative, √ = root.

<sup>2</sup> In (3), /aR/ and /R/ are allomorphs, where /aR/ appears in NI constructions and /R/ appears otherwise. The roots √*wihs* and √*wihsa:th* both mean 'butter'; however, the root √*wihs* is used exclusively also to mean 'ice'. The composition of √*wihsa:th* is unclear, so is treated as a monomorphemic root.

- (3) a.  $\text{\textasciixchar{212}ga:dwihsa:k}$  ‘I will butter it (for myself).’/‘I will put butter on myself.’  
 $\text{\textasciixchar{212}-}$   $k-$  **at-**  $wihs-$   $aR-$   $k$   
 FUT- 1SG.NOM- **SRFL-** ice- apply- PUNC
- b. \*  $\text{\textasciixchar{212}g\acute{a}d\grave{a}:k\text{ owihs(a:th)a}^?$  (\*‘I will butter it (for myself).’)  
 $\text{\textasciixchar{212}-}$   $k-$  **at-**  $R-$   $k$   $\text{owihs(a:th)a}^?$   
 FUT- 1SG.NOM- **SRFL-** apply- PUNC butter
- c.  $\text{\textasciixchar{212}ga:dadwihsa:tha:s}$  ‘I will butter it for myself.’ (preferred over (3a))  
 $\text{\textasciixchar{212}-}$   $k-$  **atat-**  $wihsa:th-$   $aR-$   $s-$   $\emptyset$   
 FUT- 1SG.NOM- **REFL-** butter- apply- BEN- PUNC
- d. \*  $\text{\textasciixchar{212}ga:dad\grave{a}:s\text{ owihsa:tha}^?$  (\*‘I will butter it for myself.’)  
 $\text{\textasciixchar{212}-}$   $k-$  **atat-**  $R-$   $s-$   $\emptyset$   $\text{owihsa:tha}^?$   
 FUT- 1SG.NOM- **REFL-** apply- BEN- PUNC butter
- e.  $\text{\textasciixchar{212}gwihsa:k}$  ‘I will butter it.’  
 $\text{\textasciixchar{212}-}$   $k-$   $wihs-$   $aR-$   $k$   
 FUT- 1SG.NOM- ice- apply- PUNC
- f.  $\text{\textasciixchar{212}g\acute{a}:k\text{ owihsa}^?$  ‘I will butter it.’  
 $\text{\textasciixchar{212}-}$   $k-$   $R-$   $k$   $\text{owihsa}^?$   
 FUT- 1SG.NOM- apply- PUNC butter

We suggest that the SRFL morpheme is a nominal specified only for person,  $\pi$  (Barrie and Alboiu, to appear), on a par with SE in Romance (Alboiu et al., 2004), and other reflexive morphemes (Reuland, 2001), and that it signals obviation of a phasal boundary. The REFL, a reduplicated form of the SRFL, always signals semantic reflexivity and the presence of an additional argument, in addition to phase obviation. We argue below that there is a one-to-one relationship between structural Case and phases. Thus, obviation of a phase removes the Case assigning ability of that phase, thereby forcing NI.

The remainder of this paper is organized as follows. Section 2 describes the patterns of NI in Onondaga which our analysis will account for. Section 3 outlines the theoretical background in which the analysis is couched. In particular, we review Alboiu’s (2006, to appear) analysis of Case valuation by phase. Section 4 presents our analysis of NI and semi-reflexives. Section 5 is a brief conclusion.

## 2. NI in Iroquoian

### 2.1 Onondaga Verbal Morphology and Clause Structure

The following chart (based on Lounsbury, 1949, 1953) illustrates the order of morphemes for Northern Iroquoian languages. The elements contained in double edged boxes are required in all verbal constructions.

**Table 1: Verbal Template for Northern Iroquoian**

pre-pronominal prefixes	pronominal prefixes	SRFL or REFL	Incorporated Noun	verb √	derivational suffixes	aspect suffixes
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We adopt the clausal architecture in (4) (Alboiu and Barrie, 2005, Barrie, 2003). Also, we assume a highly articulated DP for Iroquoian, (5), combining insights from Barrie (2008), Laenzlinger (2005), Ogawa (2001), Alexiadou (2001, 2002) *inter alia*:

(4) CP > TP >  $\nu$ P > TrP > Appl<sub>HIGH</sub>P > VP

(5) d\*P > DP > PossP > NcP > nP > RP >  $\sqrt$ NP

In (5), R<sup>0</sup> denotes PART/WHOLE semantics, noun class morphology (NFS) heads NcP, and the nominalizer (NZLR) heads nP. The DP left periphery mirrors that of CP, with an outer (phasal) d\* head, [+referential], and an inner D, marked for definiteness. Crucially, the nP layer constitutes the thematic domain, while the domain above it is functional.

## 2.2 Iroquoian Possession and Reflexive Benefactives

First, note the interaction between NI and inalienable possession. While NI is generally an optional process in Northern Iroquoian<sup>3</sup>, it is typically required when an inalienably possessed nominal is the direct object. In this case, object agreement is with the possessor. Furthermore, when the subject and IAP are coreferential, a semi-reflexive marker appears, as in (6). None of these properties holds of alienable possession (AP). Instead an independent possessive is used with AP, as in (8).<sup>4</sup>

- (6) a. wa'gadnq̄hga:ʔ  
waʔ- k- at- nq̄h- kaR- ʔ  
FACT- 1SG.NOM- SRFL- hair- cut- PUNC  
'I cut my own hair.'
- b. wa'tgatnq̄ntshaʔdat  
waʔ- t- k- at- nq̄ntsh-a- ʔtat- Ø  
FACT- DUC- 1.SG.NOM- SRFL- arm- JOIN- raise- PUNC  
'I pointed/raised my arm.'
- (7) a. \*wa'gatnakdagá:dat  
waʔ- k- at- nakd- a- gadat- Ø  
FACT- 1.SG.NOM- SRFL- bed- JOIN- raise- PUNC  
'I raised my bed.'

<sup>3</sup> This statement requires further qualification which does not affect the rest of the discussion here. First, NI is sensitive to discourse and information structure; so it is not strictly speaking optional. Also, there are lexically-sensitive factors that play a role in NI, too. Certain verbal roots require NI while others prohibit it. Also, certain nominal roots must undergo NI while others cannot. These facts have been addressed previously in the literature (Barrie, 2006, Mithun and Corbett, 1999, Rosen, 1989).

<sup>4</sup> The sentences in (6) are examples of possessor raising constructions. See Michelson (1991).

- b. \* dakada?se:hdęha:wi? 'I brought my own car.'  
 da- k- at a- [se:hd] ęha:wi-?  
 CIS.PURP- 1SG.NOM- SRFL- JOIN- car- have- PUNC
- (8) a. wa?khagá:dat agnakda? 'I raised my bed.'  
 wa?- k- hadat- Ø ag-nakd-a?  
 FACT- 1.SG.NOM- raise- PUNC my-bed-NFS
- b. dakha:wa? age?se:hda? 'I brought my own car.'  
 da- k- ha:wi- a? age-?se:hd-a?  
 CIS.PURP- 1SG.NOM- have- PUNC my-car- NFS

Furthermore, Northern Iroquoian languages allow for a construction we call a *reflexive benefactive*, in which either the SRFL morpheme is obligatory (see (3)a for Onondaga and (9)a for Oneida<sup>5</sup>), or the REFL morpheme is required (see (3)c and (9)b,c).

- (9) a. wa?katwisakalatate? 'I raised the window up for myself.'<sup>6</sup>  
 wa?- k- at- [wis] a- kalatat- e?  
 FACT- 1.SG.NOM- SRFL- ice/glass- JOIN- raise- PUNC
- b. Jan wa?hadadekhqny(\*ę)? 'John cooked food for himself.'  
 wa?- h- adad- e- [khw] qny- (\*ę)- a?  
 FACT- 3SGM.NOM- REFL- EPEN- food- make- BEN- PUNC
- c. wa?gadadnqhsqnyę? 'I made a house for myself.'<sup>7</sup>  
 wa?- k- adad- [nqhs] qny- ę- a?  
 FACT- 1SG.NOM- REFL- house- make- BEN- PUNC

A benefactive morpheme, in addition to a benefactive reading is obligatory with the REFL but not the SRFL (note (9)b).<sup>8</sup> Furthermore, the SRFL need not trigger a benefactive reading (10)a,b and a BEN morpheme cannot appear in its presence, (10)c.

<sup>5</sup> Note that for this particular example, Daisy also accepted a possessive reading (i.e., 'I raised my window.'). Given its sole occurrence, we assume, that 'window' is reanalysed here as IAP (see Nichols, 1992 Inalienability Hierarchy).

<sup>6</sup> The underlining in the Oneida examples indicates that that portion of the word is whispered. This phenomenon occurs in phrase-final position.

<sup>7</sup> Baker (1996:302) discusses an analogous example from Mohawk.

<sup>8</sup> Note that in the absence of the BEN morpheme, the benefactive reading is ruled out (i).

- (i) ęga:dadwıhsa:k  
 ę- k- a:tat- [wıhs] aR- k  
 FUT- 1SG.NOM- REFL- ice- apply- PUNC  
 'I myself will put butter on me.' / (\* 'I will butter it for myself.')

*Phasehood, Case and Noun Incorporation*

- (10) a. wa'gadekhqnya' 'I ate.'  
wa?- k- at- e- khw- qny- a'  
FACT- 1SG.NOM- SRFL- EPEN- food- cook- PUNC
- b. wa'g(ad)nqhsqnya' 'I (myself) made a house.'  
wa?- k- (at)- nqhs- qny- a'  
FACT- 1SG.NOM- SRFL- house- make- PUNC
- c. \*wa'gadnqhsqnye' ('I made myself a house.')
- wa?- k- at- nqhs- qny- e- a'  
FACT- 1SG.NOM- SRFL- house- make- BEN- PUNC

NI is obligatory in these constructions, (11), as expected with the SRFL and REFL morphemes, even though NI is optional in both the plain, and transitive benefactive, (12), constructions. (11)-(12) are Oneida:

- (11) \*wa?katkalatate? owise? ('I raised the/my window up (for myself).')
- wa?- k- at- kalatat-e? owise?  
FACT- 1.SG.NOM- SRFL- raise- PUNC window
- (12) a. wa?khwisakalatatste? 'I raised the window up for her.'
- wa?- khe- wis- a- kalatat-st- e?  
FACT- 1.SG.NOM.3.SG.F.ACC- ice/glass- JOIN- raise- BEN- PUNC
- b. wa?khekalatatste? owise? 'I raised the window up for her.'
- wa?- khe- kalatat-st- e? owise?  
FACT- 1.SG.NOM.3.SG.F.ACC- raise-BEN- PUNC window

In sum, then, we observe the following facts. First, only IAPs are available in possessor raising constructions. APs are excluded from this construction. Second, NI is obligatory in the presence of both the SRFL and REFL morphemes. Third, a reflexive benefactive reading is obligatory with the REFL+BEN and may occur with the SRFL. However, the SRFL is incompatible with the BEN in reflexive benefactives.

### 3. Theoretical Framework

#### 3.1 On Case-Licensing Mechanisms

Our analysis of these data is couched within Chomsky's recent version of the MP (Chomsky, 2006, to appear). First, A-features are a property of the phase head, which are transferred to a proxy Head or they will interfere with later cycles (Richards, 2007) and "the derivation will crash at the next phase" (Chomsky, 2006:13). We also assume that Spell-Out can check off certain uninterpretable features (Alboiu, 2006, Branigan, 2005). Furthermore, we claim that phases (Chomsky, 2001 et seq.) and Case are tightly

integrated in a one-to-one relationship, whereby each phase domain is capable of valuing one and only one Case marked DP. More specifically, following Alboiu (2006, 2007, to appear), the following two facts hold. (i) If a DP is A-Probed, it receives structural Case (i.e., a Case value);<sup>9</sup> and (ii) if a DP is not A-Probed, it will not get a Case value but may nonetheless be Case-licensed at Spell-Out. The broader implications of this approach is that Case-licensing is dissociated from Case-valuation (as in Marantz, 2000). Also, in the absence of a Case value, some other ‘repair’ strategy plays a role in Case-licensing (e.g., NI, Baker, 1988, default Case, Schütze, 1997, P insertion).

We argue that NI in Iroquoian is *forced* exactly when phasehood is voided (i.e., the phase loses its Case assigning ability). We focus on the possessive and reflexive benefactive constructions to illustrate the NI repair strategy.

### 3.2 The Structure of (In)alienable Possession

There are other well-known cross-linguistic differences between IAP and AP (Alexiadou, 2001, 2002, Guéron, 2002, Tomioka and Sim, 2007 inter alia). APs can be predicative, (13)a, while IAPs cannot, (13)b.<sup>10</sup> IAPs can undergo core argument processes such as reflexivization (shown for Iroquoian) and passivization, (14)a, but APs cannot (14)b.

(13) a. The apples are John’s.                      b. \* The fingers are John’s.

(14) a. John was kicked in the back. (=John’s back was kicked)  
b. \* John was kicked in the bike. (\*where John’s bike was kicked)

Therefore, based on (5), we assume two distinct structural configurations for IAP versus AP, as in (15). (15)a shows that the inalienable possessor is merged low and the nominal domain need only project up to *n*P, while (15)b shows the alienable possessor merged higher, in SpecPossP, with the nominal domain projecting to full *d*\*P status:

(15) a. [<sub>*n*P</sub> [<sub>RP</sub> inalienable possessor [<sub>√NP</sub> ]]]  
b. [<sub>*d*\*P</sub> [<sub>DP</sub> [<sub>PossP</sub> alienable possessor [<sub>*N*Cp</sub> [<sub>*n*P</sub> [<sub>RP</sub> [<sub>√NP</sub> ]]]]]]]]]

Such an approach is further supported by the fact that IAPs are thematically involved with the possessum (Tomioka and Sim, 2007) and may be morphologically marked as Theme or Classifiers (Alexiadou, 2002). The AP, on the other hand, behaves as a non-thematic element (Alexiadou, 2002).

## 4. Analysis

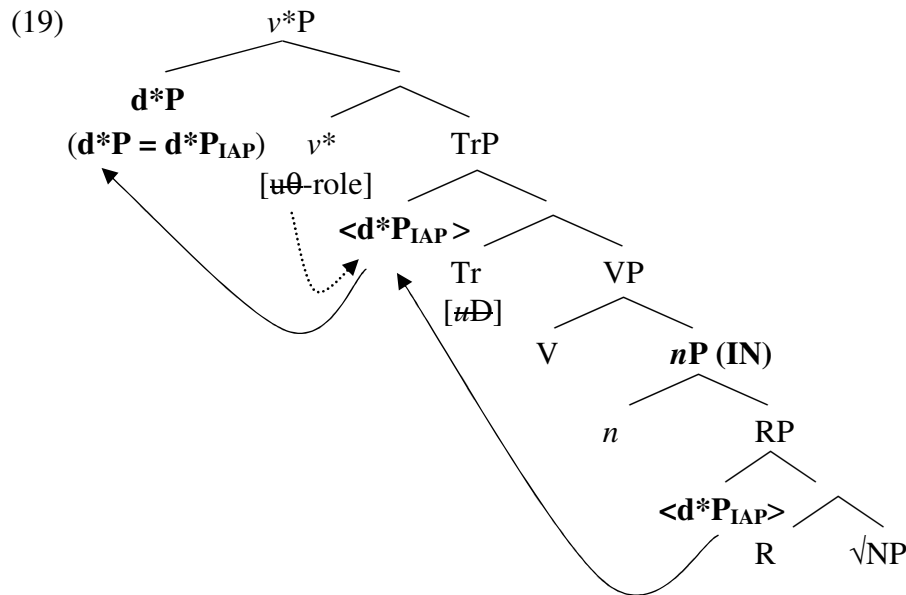
Our analysis explains obligatory NI as a means of satisfying the Case Filter. Specifically, since we assume that there is a one-to-one relationship between phases and Case values,

<sup>9</sup> where, ‘A-probed’ refers to the fact that the DP is a Goal in an A-chain.

<sup>10</sup> For reasons of space, we cannot review the entire range of empirical facts concerning the alienable/inalienable distinction. The reader should consult the references mentioned for further details.



position (in essence, an instance of A-movement). Thus, in (18), a complete, phasal d\*P (specified as [1sg]) is merged in Spec,RP, with  $\sqrt{\text{NP}}$  *netsh* ‘arm’ the complement of R. Given that A-movement cannot cross phasal boundaries, this domain projects to nP, but not further, and is in turn selected as the complement of V.<sup>12</sup> Recall that the phase head (i.e.,  $v^*$ ) transfers its relational features to a proxy head. Assuming that  $\phi$ -features are not a property of the  $v^*$  phase but that EPP is (Alboiu, 2006, Baker et al., 2005), Tr heads are equipped with  $u\text{D}$ . Suppose further that nP cannot satisfy this feature in view of its deficient nature.  $u\text{D}$  will check against the  $d^*\text{P}_{\text{IAP}}$ , with subsequent dislocation of the possessor to Spec,TrP. Following Alboiu (ibid.), A-Probing of the IAP ensures both Case-licensing and a Case value. The theta-role feature on  $v^*$  will target the highest nominal in the structure (assuming there is no other nominal in the Numeration) and will merge it as Spec, $v^*\text{P}$ . This ensures the desired semantic reflexivity. Note that the copy in Spec, $v^*\text{P}$  will subsequently enter a syntactic relationship with the finite T domain, which has relevant A-Probing features from the CP phase, so this copy will in turn be Case-licensed and Case-valued. Following the general *Condition on A-Chains* (Reinhart and Reuland, 1993), when both copies of the theta-chain are Case-marked (i.e., receive a Case value) vocabulary insertion of an underspecified D (i.e., the SRFL in Iroquoian) is forced in the lower position. This accounts for the presence of the underspecified SRFL morpheme in the stead of  $d^*\text{P}_{\text{IAP}}$ . Crucially, nP is not A-Probed, hence without a Case value, so a language specific repair strategy (i.e., NI) is forced in order to license this argument. The following tree shows the derivation for (18).



#### 4.2 Alienable Possession (AP)

In this case, V selects a **d\*P, a phasal nominal domain**, with the  $d^*\text{P}_{\text{AP}}$  in Spec,PossP, as per (15). Recall that ‘possessor raising’ is ruled out in these cases (i.e., NI is ruled out), (7), yielding instead data as in (8). The AP cannot A-move across the d\*P but will

<sup>12</sup> Phasehood must be voided (Hornstein, 2001:137), which also explains why IAP can passivize.



nonetheless be Case-licensed and Case-valued internal to the nominal, given the phasal nature of this domain.<sup>13</sup> Given that the AP is not a lower copy within a Theta-chain, no underspecified morpheme is required and the SRFL cannot be inserted. The d\*P nominal, complement of V, is A-probed by [*u*D] on Tr, hence Case-valued. Subsequently, a third d\*P argument merges to satisfy the theta-role of *v*\*. In turn, this argument will be A-probed by T. In sum, with AP, there are three nominal arguments (subj, obj and poss), all of them complete d\*P domains Case-licensed via A-probing. Therefore, no NI ensues.<sup>14</sup>

### 4.3 Reflexive Benefactive

With benefactives, the benefactive goal is merged in a High Applicative domain given linearization facts in Iroquoian (see Alboiu and Barrie, 2005). Following McGinnis (2003), High Applicatives, constitute phasal domains, so these constructions are expected to license three complete d\*P arguments (benefactive, object, subject) in accord with the number of phasal domains ( $\text{Appl}_{\text{HIGH}}$ , *v*\*P, CP). Consequently, all d\*Ps will be A-Probed and will acquire a Case value. Specifically, the CP phase is responsible for valuing *u*Case on the subject d\*P; *v*\*P values *u*Case on the benefactive d\*P; and  $\text{Appl}_{\text{HIGH}}$ P values *u*Case on the object d\*P. That they do so is clear, since NI is optional (see (12)).

However, recall the *reflexive benefactive* construction, in which the SRFL or (more typically) the REFL morpheme is obligatory and so is NI (see Section 2.2. for the relevant data). We propose that these constructions uniformly exhibit a Low Applicative domain (as in Pytkänen, 2002). This domain is inherently non-phasal (McGinnis 2003) and signals transfer of possession between two arguments. For example, in (3)a, (10)a,b, the Theme argument is transferred to the Goal, which in these constructions is an identical referent with the subject. Semantic reflexivity between the Goal and the subject argument is ensured via d\*P movement, as previously discussed. Since both the Goal and the subject require Case licensing, the Goal is overtly realized as the SRFL and the Theme is forced to undergo NI. In addition, one can optionally insert a High Applicative head, hosting the benefactive morpheme and requiring a benefactive argument. When coreferentiality is forced not only between the Goal and the subject but also with the benefactive argument, there is an additional A-movement operation involved across the  $\text{Appl}_{\text{HIGH}}$ P. As with any instance of A-movement, the d\*P cannot cross a phasal boundary, which implies that this movement **voids phasehood** of the High Applicative domain. To sum up, in these instances, the Goal merged in the specifier of the Low Applicative phrase will A-move into the  $\text{Spec,Appl}_{\text{HIGH}}$ P, and further into  $\text{Spec,v*P}$ . This yields three coreferential arguments (i.e., subject, benefactive, Goal), two of which will have to surface as underspecified nominals (i.e., [ $\pi$ ]). The SRFL thus reduplicates, resulting in the

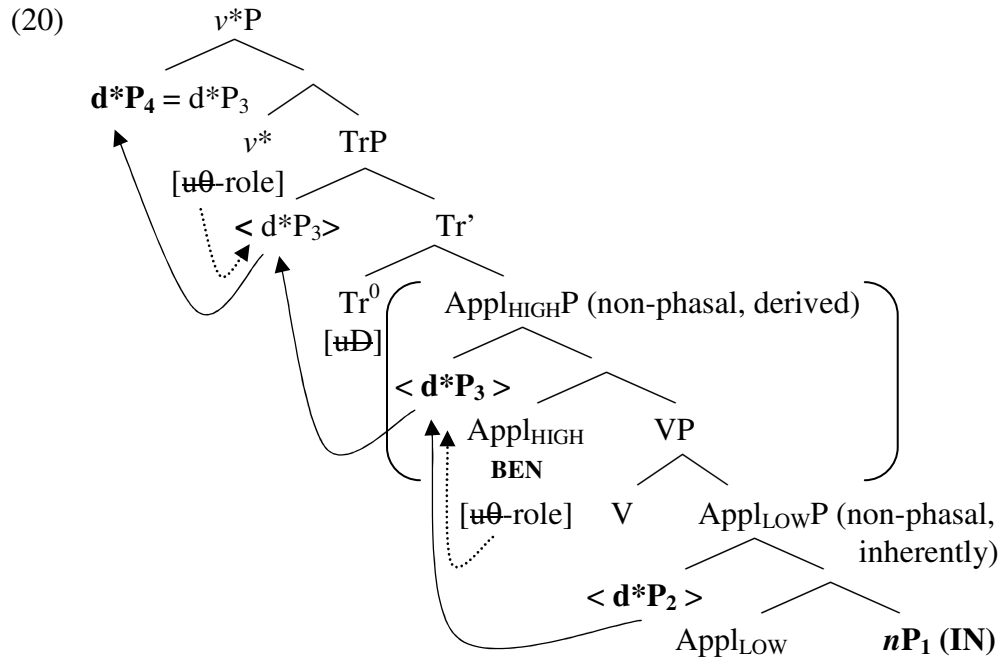
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<sup>13</sup> This is why AP cannot passivize.

<sup>14</sup> The question arises as to why phasehood cannot also be obviated here as for IAP. Note that the AP is merged high, in the nominal functional domain. Given that V, the incorporating domain is lexical, we assume functional material cannot incorporate. Alternatively, if we assume APs are predicates (den Dikken, 1997), failure to move to an argument position would fall out from incompatibility between semantic types.

REFL morpheme. The tree structure with relevant properties is shown in (20), with brackets around the High Applicative to indicate observed optionality.<sup>15</sup>

The asymmetric behaviour with respect to NI in possessive constructions and with reflexive benefactives receives a straightforward account under the approach to Case and phases advocated here.



## 5. ‘Repair’ Strategies Beyond NI

### 5.1 On P Insertion: Romanian Possessives

Let us next briefly consider the Romanian data in (21).

- (21) a.   Își           spală           mîini-le / mere-le.  
 REFL.DAT   wash.3SG.PRES   hands-the /apples-the  
 ‘S/He is washing (the) hands / apples for her/himself.’
- b.    Se            spală            pe mîini-(\*le) / \*copil.  
 REFL.ACC   wash.3SG.PRES   P hands-the / child  
 ‘S/He is washing her/his hands.’, but not ‘S/He is washing her/his child.’

In (21)a, the benefactive reading indicates a High Applicative domain, headed by the DAT clitic (see also Diaconescu and Rivero, 2007). In effect, three phasal domains are

<sup>15</sup> Some questions, however, remain. It is unclear why in some contexts the presence of a Low Applicative domain will license a reflexive benefactive reading. Clearly, the presence of the High Applicative domain – as evidenced by the benefactive morpheme and the presence of the REFL - is preferred (see (3)c) or the only possibility (data not included for lack of space).

available, so three DP arguments (i.e., subject, benefactive, Theme) are independently Case-valued. However, in (21)b, with the ACC reflexive, an AP is illicit. In (21)b there is no High Applicative (as evidenced by the absence of the DAT, as well as interpretation-wise) and a structure as in (19), with a non-phasal nominal domain must be assumed. This claim is empirically supported by the impossibility of definiteness marking on the internal argument (i.e., lack of a d\*/DP, phasal level). Given that the possessum is syntactically not A-Probed, it will require some other mechanism to license it or else the derivation will crash. We propose that a preposition P is inserted as a Case-licensing repair strategy. APs, which require phasal d\*P, are excluded in (21)b, as expected.

## 5.2 On Default Case: English PRO

Various current research has shown that PRO bears structural Case (Cecchetto and Oniga, 2004, Schütze, 1997, *inter alia*). For English, Alboiu (2007) has argued that infinitive C is not construed independently of T in the absence of the C *for*. Rather, a conflated C/T projection is merged, with C lacking any A-related features to transfer to its proxy T head.<sup>16</sup> Given that the (C)/T head does not A-Probe, [ $\mu$ Case] on PRO cannot be valued and an overt subject is ruled out, (22). Instead PRO is Case licensed at Spell-Out and **default** Case (à la Schütze, 1997) ensues; this is shown in (23).

- (22) a. [<sub>CP</sub> For her to give up now] was unthinkable.  
 b. [<sub>CP</sub> (\*For) PRO<sub>arb</sub> / \* her to give up now] was unthinkable.

(23) Prepositionless CP infinitives (Alboiu, 2007)

[ <sub>CP</sub>	PRO <sub>arb</sub>	C/T	<PRO <sub>arb</sub> >	v	....]
	[D, <del><math>\mu</math>Case:DEF</del> ...]	[INF] <i>to</i>		V	

‘Default’ Case should then be taken as a last resort argument-licensing mechanism. Caution is, however, needed as Spell-Out seems incapable of salvaging phasal d\*Ps via some ‘default’ value, as suggested by the ungrammaticality of *\*There seems Max to be happy*, where phasal d\*P, *Max*, is ruled out. Note that PRO itself is deficient (i.e., it might be a DP but it lacks referentiality, so lacks d\*Ps) and can thus presumably be ‘rescued’ without a Case value. In (23), PRO has moved to the left edge of the phase to try and satisfy its deficiencies. One can assume a generic operator approach as in Manzini and Roussou (2000). Alternatively, arbitrariness and logophoricity are default readings ensured at Spell-Out and satisfied at the semantic-pragmatic interface. What is crucial is the fact that PRO is in some sense deficient, so can be syntactically licensed (i.e., Case-licensed) in the absence of A-Probing and an actual Case value.

## 6. Conclusions

We showed that a phase-based approach to structural Case is independently supported by instances of obligatory NI in Iroquoian possessive constructions, as well as by other cross-linguistic repair strategies. This is a welcome result as it provides empirical

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<sup>16</sup> For merged projections, see Culicover (1999), Giorgi & Pianesi (1997), Haider (1988).

evidence for Chomsky's feature-inheritance model, whereby A-related features, such as Case, are not intrinsic properties of T or V but of the phase head, specifically C or  $v^*$  (or High Applicative), and implicitly,  $d^*$ . It seems that a Case value is required by any  $d^*P$  nominal argument but that more deficient nominals (e.g., PRO,  $nP$ , etc) may remain syntactically inert (i.e., need not entertain an A-chain) and can be salvaged at Spell-Out.

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*Phasehood, Case and Noun Incorporation*

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Alboiu & Barrie

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