

The relation between phase heads and non-phase heads: Algonquian languages vs. Miyagawa (2010)

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Introduction: Feature Inheritance (FI; Chomsky 2007, Richards 2007, Chomsky 2008 is a recent formalization of the dependency between C^0 and T^0 . Miyagawa (2010) employs FI and differences in feature content of C^0 and T^0 in order to account for the variation between languages with respect to movement and agreement. Under this proposal, C^0 in all languages is merged with both ϕ -features and discourse features (δ -features, e.g., TOPIC, FOCUS and *wh*) and FI can vary in four ways, as schematized in (1). Of these patterns, only Pattern #4 is unattested.

In this paper I propose that Algonquian languages show us that there are (at least) three ways in which this typology is too restrictive: (1) a single language can only exhibit one of these patterns, (2) C^0 and T^0 cannot both have the same feature, and (3) it is limited to the C^0 phase. I conclude that if we relax all of these restrictions, there are (at least) 7 possible patterns of FI.

1. One language one pattern?: An implicit assumption in this typology is that a given language will exhibit a single pattern. However, based on the differences in ϕ and δ agreement on C^0 in main and embedded clauses, Lochbihler & Mathieu (to appear) argue that in Ojibwe (and other Algonquian languages) matrix C^0 has ϕ -features while embedded C^0 only has δ -features. The presence of ϕ -features on matrix C^0 (Independent Order) can be seen by the characteristic presence of person agreement, e.g., (2a), which is lacking on embedded C^0 (Conjunct Order), e.g., (2b). In addition, clauses with *wh*-phrases can only be used with embedded C^0 and these forms appear with *wh*-agreement shown by the change in vowel quality on the verb ('Initial change'), e.g., the contrast between *gii* in (2a) and *gaa* in (2b).

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| (1) a. ni-gii -bakobii-ise
1-PST-in.water-fall(IND)
'I fell in the water.' | b. wenesh gaa -bakobii-ise-d
who wh.PST -in.water-fall-3(CONJ)
'Who fell in the water?' |
|---|---|

Following the same logic for English and assume the Movement Theory of Control (Hornstein, 1999), we can posit that infinitival clauses have C^0 , but it retains both ϕ and δ , which causes the embedded subject to move through embedded C^0 to the matrix clause. This also accounts for the lack of ϕ -agreement on T^0 . In addition, if embedded C^0 were present in infinitival C^0 , it would necessarily have a δ -feature in order to allow for long-distance *wh*-movement into the matrix clause, e.g., an object *wh*-phrase can also move into the matrix clause in addition to the embedded subject, e.g., 'What did Mary persuade John to eat?' This would mean that finite C^0 exhibits Pattern #1 while non-finite C^0 exhibits pattern #4 (and fills in the gap in the original typology).

2. C^0 and T^0 cannot both have the same feature: Following Miyagawa (2010)'s typology, C^0 can either pass or retain a given feature. Based on agreement and anti-agreement in Berber, Ouali (2008) posits that there is a third possibility: SHARE, in which C^0 passes a feature to T^0 and retains a copy. In addition to Berber, Haegeman & Van Koppen (2012) argue that both C^0 and T^0 both have independent ϕ -feature probes in Limburgian and Western Flemish. The availability of this option is supported by a subset of Algonquian languages that have a restrictive pattern of Long-Distance Agreement LDA in which only the structurally

highest argument can undergo LDA, e.g., LDA is only possible with the embedded 2nd person plural subject in (4a) but not the embedded 1st person plural object in (4b) in Mi'gmaq (Eastern Algonquian).

- (2) a. *gej-ugsi-oq* [ges-al-i-**eg**]
 know.AN-3>SAPPL-**2PL** [love-AN-1OBJ-**1PL**]
 'S/he knows that you(-all) love us(ex)'
 b. **gej-ugsi-eg* [ges-al-i-**eg**]
 know.AN-3>SAPPL-**1PL** [love-AN-1OBJ-**1PL**]
 intended: 'S/he knows that you(-all) love us(ex)'

Hamilton & Fry (to appear) argue that this pattern is derived via a simple ϕ -probe, e.g., EPP feature, on C^0 that triggers movement of the structurally highest argument to embedded Spec-CP and allows this argument to be local enough for agreement with the matrix verb. Additionally, Hamilton (2015b) argues that verbs in Mi'gmaq appear with person agreement which is the result of a ϕ -feature probe on T^0 , as evidenced by tense/mood allomorphy (following Nevins 2011). Since LDA always occurs with embedded finite clauses in Algonquian languages, both C^0 and T^0 in Mi'gmaq must both have ϕ -feature probes. We can see that they are also independent of each other as the embedded argument that undergoes LDA need not be the argument that is indexed on T^0 , e.g., LDA is possible with the embedded 1st person subject in (4a), but not with the embedded 2nd person plural object that is indexed on T^0 in (4b). This presents further evidence that C^0 and T^0 can have the same feature and that they probe independently. Adding SHARE to the original typology results in the addition of the three patterns to the typology in (3).

- (3) #5: $C_{\phi,\delta}$ & T_ϕ (FI copy of ϕ) #7: $C_{\phi,\delta}$ & $T_{\phi,\delta}$ (FI copy of ϕ & δ)
 #6: $C_{\phi,\delta}$ & T_δ (FI copy of δ)

3. FI limited to C^0 ?: Although FI in the verbal domain is hinted at by (Richards, 2007), this typology is limited to discussion of FI between C^0 and T^0 . (Hamilton, 2015a) argues for a dependency between Voice^0 and ν^0 in Mi'gmaq that parallels the dependency between C^0 and T^0 . Both Voice^0 and ν^0 display ϕ -agreement with an animate theme DP in transitives, e.g., *-a* and *-al* in (8a) respectively. However, in ditransitives with animate internal arguments, Voice^0 can display ϕ -agreement but ν^0 can only appear with a default form, e.g., *-a* and *-atm* in (8b) respectively.

- (4) a. *elugw-al-a-t-l*
 fix-AN-3OBJ-3-OBV
 'S/he fixes it(AN)'
 b. *elugw-atm-u-a-t-l*
 fix-DFLT-APPL-3OBJ-3-OBV
 'S/he fixes **it**(AN) for her/him'

Hamilton (2015a) links the absence of ϕ -agreement on ν in ditransitives with the presence of a "high" Applicative Phrase (Pylkkänen, 2008) that blocks the dependency between Voice^0 and ν^0 , e.g., *-u* in (8b). If this is the case, then this presents evidence for the presence of a dependency in the verbal domain, and means that the FI typology can be generalized as between phase heads (PHs) and non-phase heads (NPHs) in general, as shown in (5).

- (5) #1: PH_δ & NPH_ϕ (FI of ϕ) #3: PH & $\text{NPH}_{\phi,\delta}$ (FI of ϕ & δ)
 #2: PH_ϕ & NPH_δ (FI of δ) #4: $\text{PH}_{\phi,\delta}$ & NPH (no FI)

Conclusion: The typology of FI is more permissive than hypothesized in Miyagawa 2010. Algonquian languages provide insight into a more accurate picture of variation in relations between PHs and NPHs.

Selected references: Miyagawa, S. (2010). Why agree? why move: Unifying agreement-based and discourse configurational languages. Richards, M. (2007). On Feature Inheritance. *LI*.