Long-distance agreement in Mi'gmaq and Ojibwe: towards a comparative study[*]

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1   Roadmap

In this paper we employ Long-distance agreement (LDA) as a diagnostic for syntactic variation between Algonquian languages/dialects. In section 2, we introduce the three patterns of LDA which will be discussed throughout. In section 3, we discuss potential analyses of LDA and point out their shortcomings. In section 4, we propose a unified analysis of the three patterns, which leads us to conclude that there is variation in inverse systems. Section 5 concludes.

2   Three patterns of LDA

2.1   "Free pattern"

The "free" pattern of LDA occurs in certain dialects of Ojibwe. The usual agreement potential of transitive animate verbs (VTA) in Ojibwe is as follows.[1]

[1]Abbreviations: 0 = inanimate third person singular, 1 = first person, 3 = animate third person singular proximate (discourse salient), 4 = animate third person singular obviative (non-discourse salient), *an* = animate, *comp* = complementizer, CONJ = Conjunct Order, IC = initial change, IND = Independent Order INV = inverse, obj = object, obv = obviative, PL = plural, *pst* = past, VTA = transitive verb with both animate subject and object, VTI = transitive verb with animate subject and inanimate object, X>Y= X subject, Y object.

(1)   VTA Independent Order Inflectional Template (adapted from Valentine (2001:274))
        Prefix - Stem - Theme-sign -Neg - Pron Plural - Mode - Nominal

(2)   n-waabm-aa
        1-see-1>3(ind)
        'I see him/her.' (adapted from Lochbihler 2012:33)

The prefix/proclitic that appears in the independent order reflects the features of the verb's
argument which ranks highest on the Participant Hierarchy.

(3)   Participant Hierarchy (Valentine 2001:268)
        2 > 1 > 3 (proximate) > 3' (obviative) > Inanimate

(4)   VTA Conjunct Order Inflectional Template (adapted from Valentine (2001:276))
        Stem - Theme-sign - Local person/number - Non-local person/number

(5)   ...gii-bashkizw-aa-d
        ...past-shoot-3obj-2(conj)
        '...that you shot him.' (adapted from Mathieu and Lochbihler 2013:43)

In Kitigan Zibi (Maniwaki) Algonquin (the Ojibwe dialect discussed by Mathieu and Lochbih-
ler (2013)), LDA is optional and its presence is said to foreground (topicalize) the agreed-with
argument. When no topicalization is intended (thus, there is no LDA), the matrix verb ap-
pears with default inanimate object agreement, -*daan*.

(6)   n-giken-daan   gii-baashkizw-i(n)-k
        1-know-vti(ind) pst-shoot-2obj-3(conj)
        'I know that he shot you.' (Mathieu and Lochbihler 2013:44)

When LDA does arise, the matrix verb appears in a transitive form and agrees with its own
subject and with an argument of the embedded verb. Mathieu and Lochbihler (2013) claim
that in Kitigan Zibi Algonquin, LDA may involve either the subject (agent) or the object
(patient) of the embedded clause, in both the direct and inverse voices.[2]

(7)   gi-giken-im-**in**   gii-baashkizw-aa-d
        2-know-vta-**1>2(ind)** pst-shoot-3obj-2(conj)
        'I know that **you** shot him.' (Mathieu and Lochbihler 2013:43)

(8)   ni-giken-im-**aa**   gii-baashkizw-aa-d
        1-know-vta-**1>3(ind)** pst-shoot-3obj-2(conj)
        'I know that you shot **him**.' (Mathieu and Lochbihler 2013:43)

In (7), there is agreement between the matrix verb and the subject of the embedded clause,
while (8) shows agreement between the matrix verb and the object of the embedded clause.
Both of these examples are in the direct voice.

(9)   n-giken-im-**aa**   gii-baashkizw-i(n)-k
        1-know-vta-**1>3(ind)** pst-shoot-2obj-3(conj)
        'I know that **he** shot you.' (Mathieu and Lochbihler 2013:44)

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[2]Mathieu and Lochbihler (2013:44) note that this is not true for all dialects of Ojibwe. See Rhodes (1994).

(10)   gi-giken-im-**aa**   gii-baashkizw-in-aan
        2-know-VTA-**2>3(ind)** PST-shoot-2OBJ-1(CONJ)
        'He knows that I shot **you**.' (Éric Mathieu (p.c.))

In (9), there is agreement between the matrix verb and the subject of the embedded clause, while (10) shows agreement between the matrix verb and the object of the embedded clause. Both of these examples are in the inverse voice.

2.2   "Restricted pattern"

There are two attested patterns of "restricted-LDA" in Algonquian[3]:"subject-LDA" and "hierarchy-based-LDA. In subject-LDA, LDA can only occur with the agent/experiencer in the direct and inverse voices, e.g., Plains Cree (Dahlstrom 1991) and some speakers of Ottawa (Rhodes 1994). In hierarchy-based-LDA, LDA occurs with agent/experiencer in the direct voice, and patient in the inverse voice. In all patterns, including free-LDA, LDA can only occur with the patient of the passive/unspecified actor, but this may be related to the fact that in these constructions, only the patient has specified ϕ features (Ritter and Rosen 2005).

The Mi'gmaq example in (11) shows the patterning of both restrictive-LDA patterns in the direct, where only the embedded subject, *Lance*, can be the target of matrix object agreement, as in (17), but not *gaqpesaq* 'smelts', as in (11-b).[4] In the Mi'gmaq example in (17), if *Lance* is overt, it cannot be preceded by any element from the embedded clause. I'm unsure of whether other restricted-LDA languages have a similar word order constraint. However, in (11-b), there is no word order or argument deletion, which will allow LDA with the object in this or any direct voice context.

(11)   a.   geji-**'g**   **Lance** wigp-a-j-i   gaqpes-aq
             know.VTA-**3 Lance** like.taste.of-3OBJ-3-PL smelt-PL
             'I knows that **Lance** like smelts'
        b.   *geji-**'g-ig**   Lance wigp-a-j-i   **gaqpes-aq**
             know.VTA-**3-an.pl** Lance like.taste.of-3OBJ-3-AN.PL **smelt-pl**
             intended: 'I know that Lance likes **smelts**'

The forms which crucially distinguish between the two restricted-LDA patterns are in the inverse. In a subject-LDA language, LDA is only possible with the agent/experiencer of the inverse voice, while in a hierarchy-based-LDA language, LDA is only possible with the patient. In the example in (12-a) from the Ottawa dialect of Ojibwe, *aniniw-an* "the men-OBV" is the obviative-marked embedded target of LDA agreement with the matrix verb, as is shown by the appearance of both the theme sign -*aa* which marks 3rd person object, and the 3rd person plural marker -*ag* on the matrix verb. This LDA-pattern is grammatical in the subject-LDA languages, but ungrammatical in the hierarchy-based-LDA languages. In the example in (12-b), on the other hand, it is *Maagii* "Marge" the embedded proximate

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[3]Thanks to Will Oxford for clarification on the distinction.
[4]Mi'gmaq generally follows the VTA Independent Order Inflectional Template introduced in (1), minus the prefix.

argument which is agreed with, as shown by the appearance of the theme sign -*aa*, as well as the absence of the 3rd person plural marker which appeared in (12-a).

(12)   Rhodes 1994

    a.   ni-gikenim-**aa-ag**   **aniniw**-an gii-baashkzw-*igo*-d   Maagii
        1-know-**3.an.obj-3pl man-obv**   PST-shoot-INV-3SUBJ Marge
        'I know that **the men** shot Marge.'

    b.   ni-gikenm-**aa**   **Maagii** gii-baashkzw-*igo*-d   aniniw-an
        1-know-**3.an.obj Marge** PST-shoot-INV-3SUBJ man-OBV
        'I know that the men shot **Marge**.'

Mi'gmaq patterns as a hierarchy-based-LDA language, as in the inverse forms above, only the proximate embedded argument can undergo LDA. However it only displays this pattern in constructions where there are two 3rd person arguments. This makes sense given that the inverse in the Proto-Algonquian only appeared in the forms with two 3rd persons (Bloomfield 1946), and Mi'gmaq forms have been argued to be derived from the Proto-Algonquian conjunct order (Hewson 1985).[5] In the example in (13), LDA can only occur with the proximate argument of the embedded clause, and crucially not the obviative marked *Mali-al* 'Mary-OBV'.

(13)   geji-**'g**   Mali-al   ges-al-∅-t-l
    know.VTA-**3** Mali-OBV like/love-VTA-INV-3-AN.SG
    'I know **s/he** is loved by Mary'; *'I know **Mary** loves her/him'

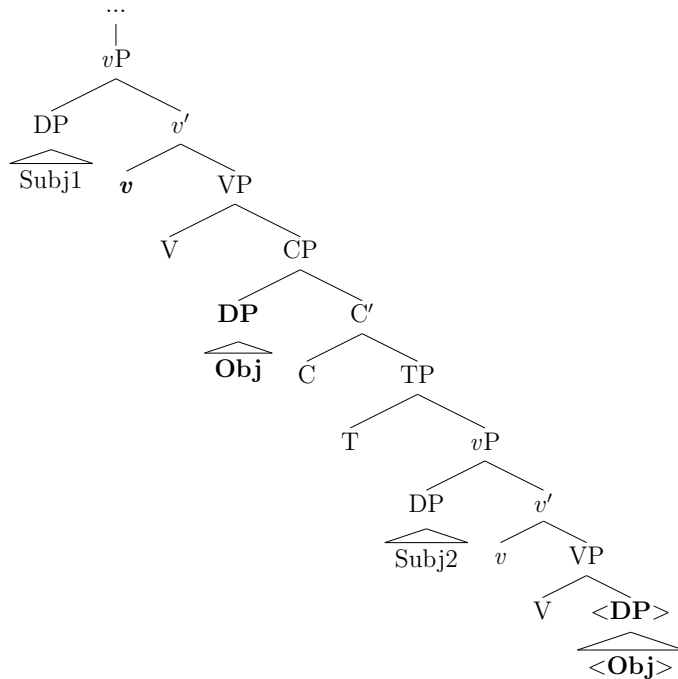# 3   Potential analyses

3.1   A′-agreement

It is a fact that in many languages which show (cross-clausal) LDA, including Algonquian languages, the agreed-with embedded argument is interpreted as a discourse topic (see Polinsky and Potsdam 2001 for Tsez, Bruening 2001 for Passamaquoddy, Branigan and MacKenzie 2002 for Innu-aimûn, Boeckx 2004; Bhatt 2005 for Hindi, Bobaljik and Wurmbrand 2005 for Itelmen, Etxepare 2006 for (substandard) Basque). Branigan and MacKenzie (2002), following Polinsky and Potsdam (2001)'s analysis of Tsez LDA, propose that LDA in Innu-aimûn involves (sometimes) covert topicalization of the agreed-with embedded object. This allows the establishment of an Agree relation between the matrix v and this topicalized DP, since v and the topic DP are now in a sufficiently local relation. For concreteness, consider the following example.

(14)   Tshi-tshissît-**âtin**   kâ-uîtshi-shk   Pûn utâuia.
    2-remember-**1>2pl** PRT-helped-3>2PL Paul father
    "I remember that Paul's father helped **you**." (Branigan and MacKenzie 2002:389)

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[5]Thanks to Will Oxford for discussion regarding this point.

(15)

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                    ...
                    │
                    vP
              ┌─────┴─────┐
             DP           v′
             │        ┌───┴───┐
           Subj1      v       VP
                          ┌───┴───┐
                          V       CP
                              ┌───┴───┐
                             DP       C′
                             │    ┌───┴───┐
                            Obj   C       TP
                                      ┌───┴───┐
                                      T       vP
                                          ┌───┴───┐
                                         DP       v′
                                         │    ┌───┴───┐
                                       Subj2   v      VP
                                                  ┌───┴───┐
                                                  V     <DP>
                                                         │
                                                       <Obj>
```

Branigan and MacKenzie (2002)'s account works well for languages which show the free LDA pattern: if the subject of the embedded clause has a [Topic] feature, it will raise to spec-CP and become accessible to matrix v for Agree purposes; if it is the object of the embedded clause which has a [Topic] feature, it will Agree with matrix v.

However, this account does not allow for a principled explanation of the restricted LDA pattern. The only way to constrain which arguments may covertly move to spec-CP is to stipulate which arguments may or may not have a [Topic] feature. This is clearly undesirable.

Branigan and MacKenzie (2002) are deliberately vague about the mechanism behind this topicalization. We believe it could be implemented in oen of two ways. First, the movement could be driven by an attraction-like system (like Chomsky (2000)'s probe-goal system): the embedded C has a [Topic] feature which must be checked by attracting a DP with a [Topic] feature to spec-CP. Second, the movement could take place because of greed: the embedded argument has a [Topic] feature that it must check against the [Topic] feature of C by moving to spec-CP. Note that neither of these implementation strategies allows for a more principled explanation of the restricted LDA pattern than the other: in both cases, it still must be stipulated that certain arguments may not bear a [Topic] feature.

3.2 Raising-to-object

One potential analysis is that LDA is a raising-to-object construction. The biggest problem with this analysis is that LDA constructions are unambiguously CPs and can embed interrogative complement clauses, as in (17). This differs from raising-to-object-type constructions in Mi'gmaq, which cannot involve interrogative clauses, as in (11-b), or a clause with any overt CP element.

(16) a. geji-∅-a-t-l   **ta'n**   **wen** ges-al-ugsi-oq
          know.VTA-3obj-3-an.sg COMP? **who** like/love-VTA-3>SAPPL-2PL
          'I know **who** loves you-all'

      b. pew-al-g   (*ta'n   wen) **natuen**   'gs-al-ulsi-ninew
          want-VTA-3 (COMP? WHO) **someone** like/love(ic)-VTA-3>SAPPL-2PL
          'I want someone to love you-all'

4   Proposal

There are two paths of analysis: either all Algonquian languages have an identical underlying syntactic structure and LDA is an epiphenomenon composed of different operations in different languages, or LDA is a uniform phenomenon and it is the syntactic structure of Algonquian languages which displays variation. We opt for the latter approach.
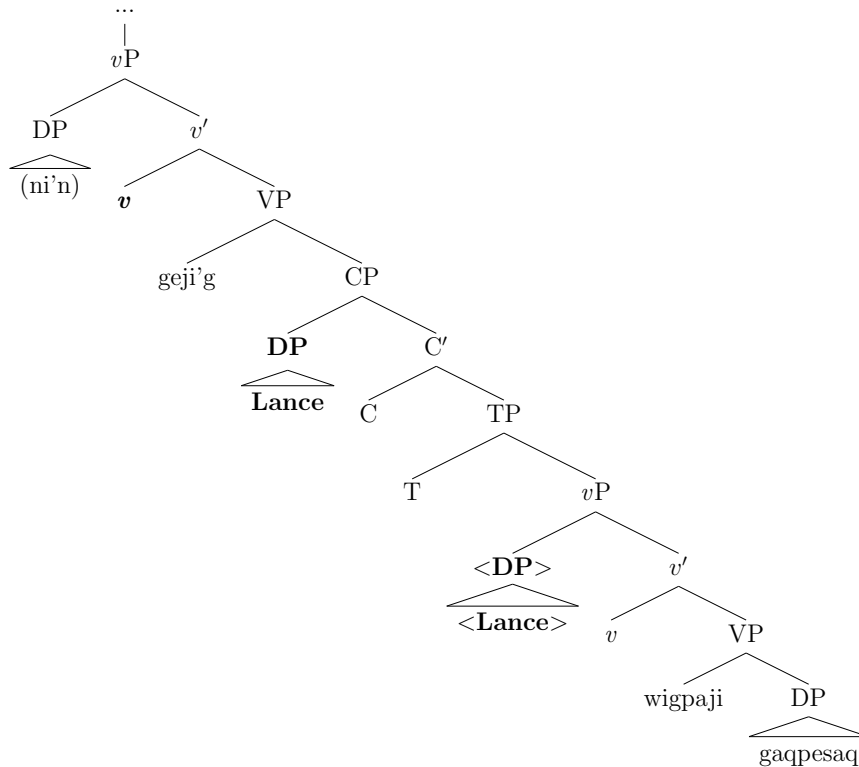
Essentially, LDA involves both syntax and discourse properties, as discussed in section 3.1. The proposal is that LDA is triggered by an embedded argument which has been attracted to Spec-CP in order to check the discourse (δ) feature on C, following Polinsky and Potsdam (2001) and Branigan and MacKenzie (2002). This happens via two different mechanisms: in free-LDA languages, the probe on C searches for a DP bearing the δ feature, whereas in restricted-LDA languages, the probe on C attracts the closest DP. This directly accounts for the ability for any DP in a free-LDA language to participate in LDA, whereas only the structurally highest argument in restricted-LDA languages can participate in LDA. We further propose that in languages which show restricted-LDA, the syntactic representation of the inverse differs, thus giving rise to the observed variation. Specifically, in subject-LDA languages the inverse has no syntactic effect (it is purely a morphological artefact), while in hierarchy-based-LDA languages, the inverse is indeed syntactic.

Given this proposal for free-LDA languages, any argument bearing a δ feature may move to the embedded Spec-CP position and become accessible to matrix v for the purposes of Agree. Thus this sheds little light on the syntax of the embedded clause of free-LDA languages.

For restricted-LDA languages, on the other hand, LDA can be seen as a diagnostic for the relative structural position of embedded DPs. In the direct, in both restricted-LDA patterns, only the subject can undergo LDA, which suggests that subject DPs are structurally higher than object DPs. In the example in (17), represented in (18), the probe on embedded C attracts the embedded subject *Lance* from its base generated position in Spec-vP, which is structurally higher than the embedded object *gaqpesaq*, base generated in the complement of the embedded verb.

(17) geji-**'g**   **Lance** wigp-a-j-i   gaqpes-aq
      know.VTA-**3** **Lance** like.taste.of-3OBJ-3-PL **smelt-pl**
      'I knows that **Lance** like smelts'

(18)

```
                    …
                    |
                    vP
              ┌─────┴─────┐
             DP           v′
            ╱──╲      ┌────┴────┐
           (ni'n)     v         VP
                          ┌─────┴─────┐
                        geji'g        CP
                                 ┌────┴────┐
                                DP         C′
                               ╱──╲   ┌────┴────┐
                             Lance    C         TP
                                           ┌────┴────┐
                                           T         vP
                                               ┌─────┴─────┐
                                            <DP>           v′
                                           ╱────╲     ┌────┴────┐
                                        <Lance>       v         VP
                                                           ┌────┴────┐
                                                        wigpaji      DP
                                                                    ╱──╲
                                                                  gaqpesaq
```

In the inverse, on the other hand, both patterns differ. In subject-LDA languages, just as shown in the direct, the embedded subject is remains base generated in a structurally higher position than the embedded object. This is clear since the embedded subject is always more accessible than the embedded object regardless of the ϕ featural values of the base generated DPs. Thus, the embedded C will continue to attract the embedded subject.

Crucially, the ϕ featural content of base generated DPs in hierarchy-based-LDA languages, does play a role in the inverse. As proposed in Bruening 2001, 2009, the highest ranking argument in the inverse, i.e. the object, moves to Spec-TP. This causes the embedded object to be structurally higher than the embedded subject, thus attracted to the embedded Spec-CP by the probe on C. In the example in (19), represented in (20), the embedded object *Maagii* 'Marge' is base generated as the embedded object and undergoes movement to Spec-TP, as it is the proximate argument, thus ranked higher than the obviative embedded subject *aniniwan* 'the men'. This causes *Maagii* to be the closest goal for the probe on embedded C, thus is attracted to the embedded CP and accessible to matrix vP for Agree.

(19)   ni-gikenm-**aa**   **Maagii** gii-baashkzw-igo-d   aniniw-an (Rhodes 1994)
          1-know-**3.an.obj Marge** PST-shoot-INV-3SUBJ man-OBV
          'I know that the men shot Marge.'

(20)
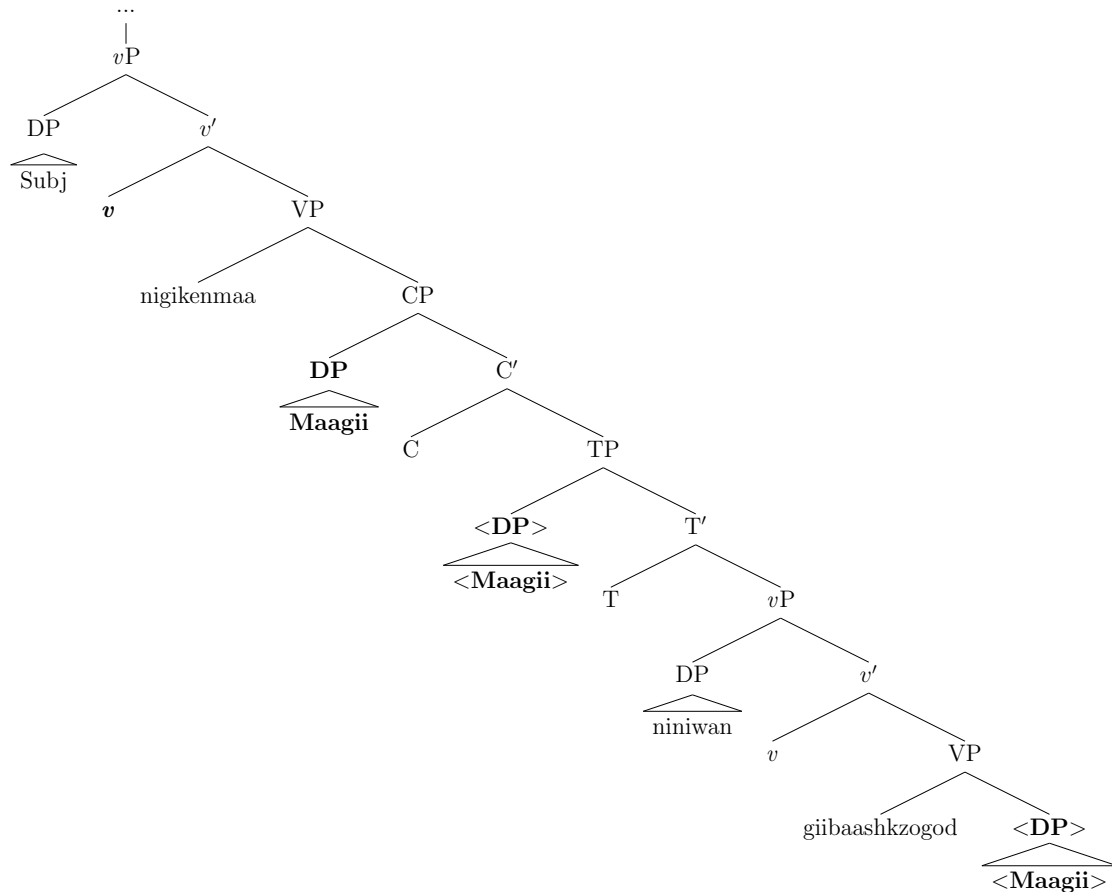
This example, is ungrammatical in subject-based languages, since LDA would only be possible with *aniniwan* 'the men'. In this sense, the hierarchy-based-LDA languages have an inverse system which is syntactic, whereas the inverse in subject-LDA languages, is purely morphological.

5   Conclusion

We have shown that there are (at least) three different patterns of LDA in Algonquian: free-LDA, subject-LDA, and hierarchy-based-LDA. We have argued that LDA is a unified phenomenon which allows us to probe syntactic variation within the Algonquian language family. LDA patterns support the conclusion that there is syntactic variation within the inverse systems of different Algonquian languages/dialects.

This is bound to have consequences in other parts of the grammar. If this conclusion is on the right track, we should be able to find other reflexes of this variation.

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