

# Clause typing and feature inheritance of discourse features

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*Abstract* The aim of this article is two-fold. First, we claim that  $\delta$ (delta/discourse)-features, as well as  $\phi$ (phi)-features, can be inherited from C to T (Richards 2007; Chomsky 2008), as evidenced by wh-agreement on T in Ojibwe (Algonquian). Our analysis supports Miyagawa's (2010) hypothesis that discourse and agreement features are two sides of the same coin, which can be distributed differently cross-linguistically. Second, we propose that although  $\phi$  and  $\delta$  typically bundle together on a single C head, this is not the case in all languages and in fact will vary parametrically. Ojibwe clause typing is partitioned between agreement/ $\phi$  features on independent order (i.e. plain matrix) C, and discourse/ $\delta$  features on conjunct order (e.g. embedded) C. This parameter, that certain features may or may not bundle on C, captures a significant cluster of properties in Ojibwe: Initial Change, lack of person prefixes in the conjunct order in contrast with the independent, as well as the availability of long-distance agreement. Our proposal supports the idea that much cross-linguistic variation reduces to the distinct feature structures making up functional heads, such as  $v$ , D, and C, rather than to primitives.

Feature inheritance – clause typing – discourse features – wh-agreement – Ojibwe – Algonquian  
– feature bundles – long-distance agreement

## 1. Introduction

Wh-agreement is a well-described phenomenon found in many different languages, including Irish (McCloskey 1979), Hausa (Tuller 1986; Green 1997), Chamorro (Chung 1994, 1998), and Palauan (Georgopoulos 1985). Depending on the language, wh-agreement surfaces on C or on  $v$ .<sup>1</sup> The present article argues that: i) the phenomenon of *Initial Change* in Ojibwe is in fact wh-agreement; and ii) T is the locus of wh-agreement in Ojibwe.<sup>2</sup> Wh-agreement is illustrated in (1): the declarative sentence in (1a) uses the plain past tense morpheme *gii-*, but the interrogative in (1b) instead uses the *changed* past morpheme *gaa-*. The tense morpheme undergoes *Initial Change* (Bloomfield 1957), referring to the change in vowel quality at the left edge of the verbal complex (e.g. *ii* becomes *aa*).<sup>3</sup>

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<sup>1</sup> Wh-agreement either surfaces on every C/ $v$  along the path of movement or only on the C/ $v$  closest to the highest copy of the wh-element.

<sup>2</sup> Ojibwe is spoken in Canada, mainly in western Québec, Ontario, Manitoba and parts of Saskatchewan, and in parts of the United States (e.g. Michigan, Wisconsin, Minnesota). The dialects referred to in this article are those found in Valentine's (2001) grammar, including Ojibwe/Ojibwa, Odawa/Ottawa, Severn Ojibwe (Oji-Cree), Nipissing Algonquin and Algonquin. Fieldwork was carried out at Cape Croker (Neyaashinigming) with the Chippewas of Nawash Unceded First Nation, Indian Reserve No. 27, on the eastern shore of the Saugeen (Bruce) Peninsula, and with the Algonquin community at Kitigan Zibi, at Barriere Lake and at Lac Simon, Québec.

<sup>3</sup> All examples are from Ojibwe unless otherwise specified, and glosses are adapted from the literature for clarity and consistency with data elicited directly from speakers. All remaining errors are our own. Gloss abbreviations are as follows: 0=inanimate; 1=1<sup>st</sup> person; 2=2<sup>nd</sup> person; 3=3<sup>rd</sup> person; 3'=3<sup>rd</sup> person obviative; CONJ=conjunct;

- (1) a. ngii-bkobiise  
       ni-gii-bakobii-ise  
       1-PAST-in.water-fall(IND)  
       ‘I fell in the water.’  
       b. wenesh      gaa-bkobiised?  
           wenesh      gaa-bakobii-ise-d  
           who          wh.PAST-in.water-fall-3(CONJ)  
           ‘Who fell in the water?’ (Valentine 2001:980)

The declarative in (1a) is in the independent order, which refers to the verbal mode (i.e. system of inflectional affixes) used in declarative main clauses in Ojibwe. The wh-question in (1b) is in the conjunct order, a verbal mode using another set of inflectional affixes, and found in embedded clauses as well as interrogative, focus, and relative constructions. The independent order is morphologically characterized by its prefixal agreement markers (e.g. *ni-* ‘1<sup>st</sup> person’ in (1a)) and by the set of agreement suffixes used (seen in transitive examples below). On the other hand, conjunct agreement markers are always suffixal and from a different set of suffixes than found in the independent (e.g. *-d* ‘3<sup>rd</sup> person’ in (1b)).

We argue that alternation between independent and conjunct morphology as well as the appearance of Initial Change in questions like (1b) is a reflex of the different role C plays in the verbal orders. We claim that independent C introduces  $\phi$ (phi)-features (exclusively) but that conjunct C introduces discourse or  $\delta$ (delta)-features (exclusively). In the first case, T inherits its subject  $\phi$ -features from C (realized as a prefix, Richards 2007; Chomsky 2008), and in the second case T inherits  $\delta$ -features from C (e.g. focus features for wh-agreement), thus no person prefix surfaces (discussed below).

This state of affairs gives support to Miyagawa’s (2010) thesis that discourse features and agreement features are two sides of the same coin: both are introduced by C and passed down to T. Ojibwe provides an interesting case that utilizes both agreement and discourse features on C, but these two sets of features are distributed among different clause types (e.g. matrix and subordinated clauses) and do not occur on the same head. We discuss a typology relating to the featural content of C, that is transferred to T by inheritance, indicating that languages can bundle agreement and discourse features on C, or, like Ojibwe, exhibit one type of feature to the exclusion of the other.

The parametric featural content of C sheds light on the account of long-distance agreement (LDA)<sup>4</sup> of embedded arguments with matrix verbs in Ojibwe. A topic argument is raised to the left edge of its clause via (topic) discourse features transferred down to T from C, and triggers  $\phi$ -agreement with matrix *v*. Embedded C does not bear a  $\phi$ -probe in Ojibwe (only a  $\delta$ -probe), and does not intervene between an embedded argument and  $\phi$ -probe on a matrix verb (Richards

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EMPH=emphatic particle; FUT=(volitional) future tense; IND=independent; INFL=inflection; INTR=intransitive; NEG=negation; OBJ=object; OBV=obviative; PART=particle; PAST=past tense; PL=plural; POSS=possessive; PRES=present tense; PRET=preterit; PREV=preverb; PROC=proclitic; REL=relative; SG=singular; TR=transitive; wh.X=wh-agreement. Note: Ojibwe verbal *theme-sign* suffixes are glossed as “subject person>object person” (e.g. “1>2” for 1<sup>st</sup> person subject and 2<sup>nd</sup> person object) in the independent order, and as object agreement in the conjunct order as per their descriptive function in the respective orders (Bloomfield 1957; Valentine 2001; see also Halle and Marantz 1993; McGinnis 1995; Lochbihler 2012). Following Valentine (2001), the long vowel *ee* is represented as *e* since it does not alternate in Ojibwe.

<sup>4</sup> LDA is also referred to as *cross-clausal agreement* or *raising-to-object* in the Algonquian literature.

2009). Thus LDA is canonical in Ojibwe (as per Polinsky 2003), and all that is needed is c-command. The necessary left-edge position of the participant that undergoes LDA is reminiscent of what happens in Tsez (Polinsky and Potsdam 2001), and parallel to LDA in Innu-aimûn (Branigan and MacKenzie 2002).

A result of our analysis of C is the systematic distinction between the independent and conjunct orders in Ojibwe. We state that independent (i.e. declarative matrix) clauses have a C that introduces only  $\phi$ -features, but conjunct (e.g. interrogative and embedded) C only introduces  $\delta$ -features. Conjunct clauses occur in either the *plain* or *changed conjunct* – the latter is of central focus in this paper and occurs with interrogatives and other operator constructions, which we claim involves wh-/focus features on C. *Plain conjunct* clauses can alternatively bear topic or anaphoric discourse features, and similarly do not contain  $\phi$ -features on C like the independent.

The paper is organized as follows. Section 2 introduces the Ojibwe data and argues for the correlation between *Initial Change* and wh-agreement. Section 3 argues that wh-agreement in Ojibwe surfaces on conjunct T rather than on C, and is in complementary distribution with the person proclitic of the independent. Section 4 presents our analysis of this wh-agreement as a result of feature inheritance. Section 5 discusses long-distance agreement and shows how our proposal for C can account for such a phenomenon in Ojibwe. Section 6 concludes the paper.

## 2. Wh-agreement in Ojibwe

This section introduces the phenomenon of *Initial Change* (IC) that alters the vowel quality of the leftmost element in a verbal complex and that we argue it is wh-agreement in Ojibwe. Section 2.1 outlines the morphosyntactic form of verbs in interrogatives, which differ from declarative clauses in their agreement morphology as well as in the appearance of Initial Change. We show that Initial Change correlates with wh-agreement. Then, Section 2.2 looks at wh-agreement in operator constructions beyond interrogatives, namely relative clauses and certain focus constructions. Finally, Section 2.3 briefly discusses the phonological realization of wh-agreement as the vowel quality shift identified as Initial Change.

### 2.1. Initial Change as wh-agreement

This subsection introduces the morphological phenomenon of Initial Change/IC of the changed conjunct order that targets the left edge of a verbal stem (usually tense prefixes or *preverbs*),<sup>5</sup> in contrast to other verbal paradigms or orders. We show that IC co-occurs with wh-movement in or through a clause, and that it constitutes wh-agreement.

Consider first declarative matrix clauses in the independent order and the form of the tense prefixes: *gii-* for the past (2a); *wii-* for the volitional future (2b); *ga-* for the (simple) future (2c); and no marking  $\emptyset$ - for the present tense (2d). The examples in (2) exhibit independent order morphology, particularly the person ( $\phi$ ) agreement with the arguments realized in the leftmost prefix, here *n-* ‘1<sup>st</sup> person’ (a proclitic, Halle and Marantz 1993, Déchaine 1999, among others, for Algonquian more generally).<sup>6</sup>

<sup>5</sup> In the absence of prefixes/preverbs, the root verb is targeted by IC, as will be shown below.

<sup>6</sup> The choice of proclitic in the independent is based on the highest ranking person feature in the clause according to the Participant Hierarchy:  $2 > 1 > 3 > 3' > 0$  (see Valentine 2001:268). Full discussion for Ojibwe in Lochbihler (2012) and other views for Algonquian languages in Bruening (2001, 2005), Bianchi (2006), Béjar and Rezac (2009), Oxford (2014), for example.

- |        |   |    |  |
|--------|---|----|--|
| (2) a. | ngii-giiwe<br>ni-gii-giiwe<br>1-PAST-go.home(IND)<br>'I went home.' | b. | nwii-giiwe<br>ni-wii-giiwe<br>1-FUT-go.home(IND)<br>'I am going to go home.' |
| c.     | nga-giiwe<br>ni-ga-giiwe<br>1-FUT-go.home(IND)<br>'I will go home.' | d. | ngiiwe<br>ni-Ø-giiwe<br>1-PRES-go.home(IND)<br>'I go home.'                  |

Now consider the conjunct order, characterized by a lack of  $\phi$ -prefixes and the exclusive use of the conjunct set of suffixes for  $\phi$ -agreement on the verb. As shown by the examples in (3), the argument  $\phi$ -features are realized by a suffix not found in the independent, e.g. *-yaanh* '1<sup>st</sup> person conjunct'.

- |        |   |    |  |
|--------|---|----|--|
| (3) a. | gii-giiweyaanh<br>gii-giiwe-yaanh<br>PAST-go.home-1(CONJ)<br>'...that I went home.' | b. | wii-giiweyaanh<br>wii-giiwe-yaanh<br>FUT-go.home-1(CONJ)<br>'...that I am going to go home.' |
| c.     | ga-giiweyaanh<br>ga-giiwe-yaanh<br>FUT-go.home-1(CONJ)<br>'...that I will go home.' | d. | giiweyaanh<br>Ø-giiwe-yaanh<br>PRES-go.home-1(CONJ)<br>'...that I go home.'                  |

Although the independent and conjunct orders are generally described as the verbal inflection for matrix and embedded clauses respectively, they do not directly map onto these clause distinctions: while independent verbs are always in matrix clauses, conjunct verbs can be in either matrix or embedded clauses (further discussed in Section 5). Of central concern are Ojibwe interrogative clauses that systematically exhibit the conjunct order (with exclusively suffixal  $\phi$ -agreement, e.g. (4b)) in both matrix and embedded wh-questions (discussed for (4)-(7)). Further, interrogatives are distinguished from other conjunct clauses by the appearance of Initial Change/IC, which alters the vowel quality of the leftmost vowel of a verb stem (e.g. the tense prefix, or modifiers/preverbs at the leftmost edge of the verb stem, shown below), and resulting in the inflectional paradigm identified as the *changed conjunct order*<sup>7</sup> (Bloomfield 1957). In the literature the distribution of IC has been described and discussed (Truitner and Dunnigan 1972; Pagotto 1980), but a syntactic analysis of both the conditions and morphological realization of IC has not been fully spelled-out for Ojibwe. We are proposing that IC is agreement with an operator at the left edge of the clause.

Consider the data in (4) and (5) illustrating the tense prefix alternations between unchanged *gii-* 'past' and *wii-* 'volitional future' and their changed counterparts *gaa-* and *waa-* respectively. (4a) (repeated from (1)) is a matrix declarative construction in the independent order and uses the past prefix *gii-*. When this construction is transformed into a matrix wh-question in (4b), *gii-* undergoes IC and the alternant *gaa-* appears.<sup>8,9</sup>

<sup>7</sup> In contrast with the *simple conjunct order* illustrated in (3).

<sup>8</sup> Ojibwe is a wh-fronting language (not wh-in-situ) (Pagotto 1980:77; Lochbihler and Mathieu 2013):

(i) a.	wenesh wenesh	gaa-waabmaat? gaa-waabam-aa-t
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- (4) a. **ngii**-bkobiise  
 ni-gii-bakobii-ise  
 1-PAST-in.water-fall(IND)  
 ‘I fell in the water.’  
 b. wenesh **gaa**-bkobiised?  
 wenesh gaa-bakobii-ise-d  
 who wh.PAST-in.water-fall-3(CONJ)  
 ‘Who fell in the water?’ (Valentine 2001:980)

Similarly, (5a) is a declarative future construction using *wii*- ‘volitional future’, which becomes the changed *waa*- in (5b) when the object is questioned. We claim that the alternation from the plain to the changed conjunct apparent from the form of the tense prefixes is a case of wh-agreement.<sup>10</sup>

- (5) a. **giwii**-biidawin bakwezhigan  
 gi-wii-biidaw-in bakwezhigan  
 2-FUT-bring-1>2(IND) bread  
 ‘I will bring you bread.’  
 b. wegnes **waa**-biidwiyā?  
 wegnes waa-biidaw-i-yan  
 what wh.FUT-bring-2>1-1(CONJ)  
 ‘What will you bring me?’

By wh-agreement we mean agreement of the relevant left-edge verbal element (e.g. tense prefix) with the wh-features (rather than Q features) of the interrogative phrase, and not with  $\phi$ -features of that wh-phrase. We concur with one reviewer who claims covariance in terms of  $\phi$ -features is not necessarily to be expected in the cases under consideration. In fact, typically, wh-agreement does not involve  $\phi$ -features (as explicitly pointed out by Reinges, LeSourd and Chung 2006) – and other famous instances (e.g. Irish, as described by McCloskey 1979) are  $\phi$ -invariant, with the exception of Palauan (Chamorro exhibits co-variance in terms of Case rather than  $\phi$ -features). Hence, we consider wh-agreement to be a type of discourse agreement rather than person-number-gender agreement (see Section 4).

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- who wh.PAST-see-3'OBJ-3(CONJ)  
 ‘Who did you see?’  
 b. \*gaa-waabmaat wenesh

<sup>9</sup> There is, apparently, a shift in the use of IC in the Ottawa dialect. Costa (1996:42) reports that although older speakers productively produce IC, younger speakers have replaced the process with the prefixation of *e*- in the present tense to the unchanged conjunct form. Thus, *miinaad* ‘he gives him’ becomes *maanaad* ‘what he gives him’ for older speakers, but *e-miinaad* for younger speakers. Our analysis would consider the *e*- prefix to be another productive and systematic realization of the wh-agreement varying with the more traditional IC. Note that although the “wh-complementizer” *kaa*- appears in the changed conjunct in Rainy River Ojibwe (Johns 1982) and Roseau River Ojibwe (Parenteau and Strader 2014), the speakers we consulted do not typically use this form in their dialects (with one exception in Barriere Lake). See Section 3 for discussion.

<sup>10</sup> Pagotto (1980) notes the correlation between “+wh-conjunct prefixes” and the ability of a wh-element to move, but considers this licensing of wh-movement by a complementizer and not wh-agreement.

Wh-agreement also surfaces in embedded interrogative clauses, as shown in (6) and (7) that use the changed alternants *gaa-* ‘wh-past’ and *waa-* ‘wh-future’, and not *gii-* ‘past’ or *waa-* ‘volitional future’ found in declarative embedded clauses.<sup>11</sup>

- (6) ogikendaan                      **gaa**-inag  
       o-giken-daan                gaa-ini-ag  
       3-know-INTR(IND)        wh.PAST-say-1(CONJ)  
       ‘She knows what I told her.’ (Williams 1991:50)
- (7) ogii-gikendaanaawaa        **waa**-minokaagod                      aw    akwe  
       o-gii-giken-daan-aawaa      waa-minokaago-d                      aw    akwe  
       3-PAST-know-TR.0-3PL(IND) wh.FUT-good.for-3(CONJ)    that   woman  
       ‘They knew what would be good for that woman.’ (Williams 1991:32)

Ojibwe does not always have overt wh-phrases or complementizers and wh-agreement is thus often the only indication of an embedded interrogative (we nevertheless assume along standard lines that there is an null wh-phrase or operator in Spec CP). IC is consistently found in wh-interrogative clauses and constitutes wh-agreement with the fronted wh-element. The realization of wh-agreement via IC is seen across many Ojibwe dialects, including Southwestern Ojibwe, Northern Ojibwe, Nipissing, Odawa, and Algonquin. Wh-agreement is obligatory in Ojibwe wh-questions, indicated in (8): the changed past tense form *gaa-* is required while unchanged *gii-* is impossible when there is wh-movement.

- (8) wenesh      gaa/\*gii-waabmaat                      Johnan?  
       wenesh      gaa/\*gii-waabam-aa-t                      John-an  
       who        wh.PAST/\*PAST-see-3'OBJ-3(CONJ)    John-OBV  
       ‘Who saw John?’

Conversely, when wh-movement does not occur, even when there is a wh-phrase pronounced in situ, no wh-agreement is possible. An informative example of this is given in (9) with the verb ‘ask’ that allows an in situ wh-phrase in this particular context. The in situ interrogative *wenesh* ‘what’ in (9B) does not trigger wh-agreement, seen in the use of the future prefix *wii-* rather than *waa-*, and IC wh-agreement only appears with a fronted operator or wh-element.<sup>12</sup>

- (9) A. giimooj    sii                      go    ngii-wiindmaag                      Linda      baabiitood  
       giimooj    sii                      go    ni-gii-wiindamaa-ig                      Linda      baabiitoo-d  
       secretly    indeed                      PART 1-PAST-tell-3>1(IND)    Linda      wait.for-3(CONJ)  
       wii-ggwejmad...  
       wii-gagwejim-ad...  
       FUT-ask-2(CONJ)  
       ‘Linda told me in secret that she was waiting for you to ask her...’

<sup>11</sup> The embedding verb *giken* ‘know’ is glossed as intransitive with the suffix *-daan* when it takes a clausal complement. The same suffix is used when the matrix object is inanimate (e.g. ‘I know *it*.’) and *-daan* is glossed as ‘TR.0’ (transitive inanimate), but differs from the intransitive in the addition of transitive suffixal agreement.

<sup>12</sup> The question in (9B) is in the conjunct order, indicating that conjunct agreement is not a type of wh-agreement, but is instead related to clause typing (i.e. non-independent/non-declarative/non-main clause, see Section 4).

- B.    **wii-ggwejmag**                      wenesh?  
       wii-gagwejim-ag                wenesh  
       FUT-ask-1(CONJ)            what  
       ‘Ask her what?’ (Valentine 2001:991)

A further property is that IC in Ojibwe marks every clause a wh-element has moved through, illustrated in long distance questions like (10) and (11). (10a) questions the embedded object, raising *aaniish* ‘what’ from the lower clause to Spec CP of the matrix clause and marking wh-agreement on both verbs in the conjunct order (i.e. *gaa-* ‘wh-past’). The answer in (10b) instead uses the unchanged *gii-* ‘past’ in both clauses.

- (10) a.    aaniish        gaa-kidot                      John [Mary        gaa-giishpnadoot]?  
           aaniish        gaa-ikido-t                    John Mary        gaa-giishpanan-oo-t  
           what        wh.PAST-say-3(CONJ)    John Mary        wh.PAST-buy-TR.0-3(CONJ)  
           ‘What did John say Mary bought?’  
       b.    John gii-kidot                      [Mary        gii-giishpnanaan        daabaanan]  
           John gii-ikido-t                    Mary        gii-giishpanan-aa-n        daabaan-an  
           John PAST-say-3(CONJ)        Mary        PAST-buy-3’OBJ-3(CONJ)        car-OBV  
           ‘John said Mary bought a car.’

The question in (11) further illustrates the long distance cyclic movement and corresponding wh-agreement possible: the object of the lowest clause is questioned and raised through three clauses, which are all marked with wh-agreement in the past tense prefixes. The pattern of cyclic wh-agreement is also found in Irish and is well-known in many languages exhibiting wh-agreement, corresponding to successive cyclic wh-movement (Haik 1990).

- (11) aaniish        Bill gaa-nendaang                      [John gaa-kidot  
       aaniish        Bill gaa-inen-daan-g                    John gaa-ikido-t  
       what        Bill wh.PAST-think-TR.0-3(CONJ)        John wh.PAST-say-3(CONJ)  
       [Mary        gaa-giishpnadoot]]?  
       Mary        gaa-giishpanan-oo-t  
       Mary        wh.PAST-buy-TR.0-3(CONJ)  
       ‘What did Bill think John said Mary bought?’

To complete the view of IC as agreement with a moved wh-element, (12)-(14) show that IC as wh-agreement also co-occurs with non-argumental questions: *aaniish* ‘how’, *aapiish* ‘where’ and *wegonesh* ‘why’.

- (12) aaniish        **gaa-bi-zhi-bskaabiiyan?**  
       aaniish        gaa-bi-zhi-biskaabii-yan  
       how        wh.PAST-come-thus-return-2(CONJ)  
       ‘How did you come back?’ (Valentine 2001:983)  
       (13) aapiish        **gaa-ni-zhaad?**  
           aapiish        gaa-ni-zhaa-d  
           where        wh.PAST-away-go-3(CONJ)  
           ‘Where did he/she go from here?’ (Valentine 2001:984)

- (14) wegonesh **gaa**-wnji-bizigwiiyin?  
 wegonesh gaa-onji-bizigwii-yin  
 why wh.PAST-reason-stand-2(CONJ)  
 ‘Why did you stand up?’ (Valentine 2011:989)

To summarize the facts so far, the correlation between Initial Change and cyclic wh-movement indicate that IC is wh-agreement in Ojibwe. Wh-movement within a clause triggers the changed conjunct form for the verbal stem, that is, conjunct morphology (e.g. agreement suffixes, no person proclitics) and Initial Change altering the quality of the leftmost vowel in the verbal stem. Next we look at the slightly more general case of operator movement and the realization of wh-agreement as Initial Change.

## 2.2. *Wh-agreement for operator movement*

Although IC has been discussed extensively for Algonquian languages (Rogers 1978; Lees 1979; Johns 1980; Pagotto 1980; Campana 1996; Brittain 1997; Richards 2004), a direct connection between IC and wh-movement is not always found outside of Ojibwe.<sup>13</sup> Blain (1999), however, discusses the relationship between IC and operator movement in Plains Cree. She proposes that both wh-questions and relative clauses in Algonquian languages involve operator movement, and that IC functions to focus an argument or a “condition” on the clause: “From another perspective, Initial Change subordinates a clause to a constituent or to some condition of its context in the discourse. The link between this focusing process (i.e. Initial Change) and the linguistic notions of operator movement and the use of complementizers is an obvious one. In other words, it is the Initial Change process – whether in its synchronic use or as a historical process on some underlying morpheme – which is the source of the operator movement,” (Blain 1999:2).

Our claim is very similar to that of Blain (1999) (and builds on similar discussion in Pagotto 1980), the difference being that we identify IC in Ojibwe as *wh-agreement* (i.e. operator movement is the source of Initial Change, and not the other way around), and this morphosyntactic process of agreement is similar (if not identical) to wh-agreement found in other more familiar wh-agreement languages (Irish, Hausa, Chamorro, Palauan, see Section 1 for relevant references). The realization of wh-agreement in Ojibwe adds to the list of languages exhibiting wh-agreement, and further shows a unique realization of the agreement as it appears on the category T (argued in Section 3).

The association of IC with operator movement is an important one, since wh-agreement is seen not only in interrogative contexts, but also in other A'-contexts, namely relative clauses<sup>14</sup> and focus constructions. Wh-agreement is expected in these operator constructions, which are analyzed by Chomsky (1977) as also involving wh-movement in English.

For example, (15) and (16) show that in Ojibwe relative clauses are consistently marked by wh-agreement on T (i.e. on the tense prefix). In (15) the embedded verb stem takes the changed

<sup>13</sup> Reinges, LeSourd and Chung (2006) claim that Passamaquoddy exhibits wh-agreement, but they are in fact discussing agreement with the head of certain relative clauses, and not specifically IC (which may also occur in these constructions). There may be parallels for Ojibwe in terms of suffixal  $\phi$ -agreement with the operator/head of a relative clause, but this agreement is specific to relative clauses and does not correspond to wh-movement in general.

<sup>14</sup> Relative clauses in Ojibwe take what is known as the *participle* verb form in traditional Algonquianist literature. These constructions are not “participles” in a more familiar sense, namely they are not kinds of non-finite verb forms modifying nouns, but are reduced/free/headed relative clauses. The participle marker *-i* is glossed ‘REL’ or ‘relative’ in our examples.



past tense prefix is *gaa-* (rather than *gii-*), and in (16) the embedded verb uses the changed future form *waa-* (and not *wii-*). The appearance of IC is predicted by our account of wh-agreement in these relative clauses, which involve operator movement of a (covert) relative pronoun to Spec CP (see more complete discussion of Ojibwe relative clause structure in Lochbihler and Mathieu 2013).

- (15) mii wa nini [dakweman **gaa**-bkinaagen'jin mbingoo]  
 mii wa nini [daikwe-im-an gaa-bakinaagen-d-i-an mbingoo]  
 and that man wife-POSS-OBV wh.PAST-win-3-REL-OBV(CONJ) bingo  
 'That's the man whose wife won at bingo.' (Valentine 2001:585)
- (16) mii dash gii-zhitoowaad iw mshkikwaaboo [**waa**-abjitoowaad]  
 mii dash gii-zhitoo-waa-d iw mashkiki-waaboo[waa-abjitoo-waa-d]  
 and then PAST-make-3PL-3(CONJ) that medicine-liquid wh.FUT-use-3PL-3(CONJ)  
 'They made the liquid medicine which they were going to use.' (Valentine 2001:582)

Focus constructions can similarly exhibit wh-agreement in the language. Rogers (1978) provides many examples with focused elements that trigger wh-agreement, and a few are given in (17)-(19). We assume along standard lines that a null operator is present in Spec CP (note that these constructions are similar to relative clauses except that they do not surface with participial markers, suggesting focus constructions are not simple cases of relativization).

- (17) niizhwaak dso-bboon **gaa**-ko-zhiwebak maanda  
 niizh-waak daso-biboon gaa-ako-zhiweb-ak maanda  
 two-hundred many-years wh.PAST-since-happen-3(CONJ) this  
 'It was two hundred years ago that this happened.' (Rogers 1978:170)
- (18) mii dash **gaa**-nji-wiij'eyaawaad  
 mii dash gaa-onji-wiid-eyaawaa-d  
 and then wh.PAST-reason-with-be-3(CONJ)  
 'And that's the reason he stayed with her.' (Rogers 1978:171)
- (19) mii dash maa **gaa**-nji-googiid gii-nakzhiwed widi yaanid  
 mii dash maa gaa-onji-googii-d gii-nakwazhiwe-d widi yaani-d  
 and then there wh.PAST-direction-dive-3(CONJ) PAST-swim-3(CONJ) there be-3(CONJ)  
 'It is from there that he dived and swam over to where they were.' (Valentine 2001:945)

IC in Ojibwe is wh-agreement that appears in A'-environments, namely constructions involving operator movement, and IC mirrors the cyclic movement of these operators by appearing in each clause through which an operator has moved.

### 2.3 The phonological form of Initial Change

To complete the discussion of the distribution of IC in Ojibwe, we now show that IC is a proclitic, that is, a phonological form attached to the left edge of the verb stem. The status of IC as a proclitic has important consequences for our analysis of the conjunct versus the independent order, which vary in the appearance of person proclitics, discussed in Sections 3 and 4.

Recall that although past and future tenses are marked morphologically in Ojibwe, there is no morphologically realized present tense prefix. In the present tense IC is nevertheless realized (in interrogatives, relative clauses, focus constructions) on the leftmost vowel of the verbal complex. For example, (20a) is in the present tense and it is the verb stem itself that is leftmost and gets IC on its initial vowel (i.e. from *ii* to *aa*). In (20b), an adverb (non-tense preverb) is adjoined to the left edge of the verb stem and is then affected by IC, and in (20c) another adverbial element is attached and receives IC for the verbal complex.

- (20) a. aaniish jaabaakwet? jiibaakwet = ‘cooking’  
 aaniish jaabaakwe-t  
 why wh.cook-3(CONJ)  
 ‘Why is he cooking?’  
 b. aaniish gechi-jiibaakwet? gichi = ‘great’  
 aaniish gechi-jiibaakwe-t  
 why wh.great-cook-3(CONJ)  
 ‘Why is he cooking a lot?’  
 c. aaniish eni-gchi-jiibaakwet? ani = ‘still’  
 aaniish eni-gchi-jiibaakwe-t  
 why wh.still-great-cook-3(CONJ)  
 ‘Why is he always cooking a lot?’ (Adapted from Howell 2008)

We posit that IC is cliticized to the left edge of the verb complex, but its form is a phonological feature inducing the change of vowel quality, call it [change], that is not lexically associated with a phonological segment (akin to a floating tone). This [change] feature spells-out in the C-T domain (see discussion in Section 3 and 4) and associates with the closest segment on its right – typically a tense prefix, but sometimes the edge of a verb stem or other modifying preverb in the absence of a tense marker, as in (20).

The IC proclitic (spelled-out as [change]) associates only with the verb stem and not to any other material to the left of the verbal complex. For example, in (21b) wh-agreement cannot appear on the subject *Mani* ‘Mary’ left of the verb, but wh-agreement targets the left edge of the verb complex, changing *gii-* into *gaa-* under past tense T as in (21a).

- (21) a. wegenesh<sub>i</sub> Mani **gaa**-waabmaad [John **gaa**-giinonad *t<sub>i</sub>*?]  
 wegenesh<sub>i</sub> Mani gaa-waabam-aa-d [John gaa-giinon-aa-d]  
 who Mary wh.PAST-see-3'OBJ-3(CONJ) John wh.PAST-talk-3'OBJ-3(CONJ)  
 ‘Who did Mary see John talking to?’  
 b. \*wegenesh<sub>i</sub> Meni gii-waabmaad [John gaa-giinonad *t<sub>i</sub>*?]  
 wegenesh<sub>i</sub> Meni gii-waabam-aa-d [John gaa-giinon-aa-d]  
 who wh.Mary PAST-see-3'OBJ-3(CONJ) John wh.PAST-talk-3'OBJ-3(CONJ)

Similarly, in (22) wh-agreement must spell-out on the verbal complex – the tense prefix *gaa-* ‘wh-past’ in (22a) – and cannot appear on the particle *naa* in (22b), or on the adverb *gichi-wewiib* ‘very quickly’ intervening between *wegonesh* ‘why’ and the verb in (22c). Wh-agreement as IC can only affect an adverbial element that is part of the verbal complex in the absence of an overt tense prefix, as in (20b-c).

- (22) a.   wegonesh   naa   gichi-wewiib   **gaa**-anionji-maajaa-waad?  
           wegonesh   naa   gichi-wewiib   gaa-ani-onji-maajaa-waa-d  
           why        EMPH great-quickly   wh.PAST-away-reason-leave-3PL-3(CONJ)  
           ‘Why have they all left in such a great hurry?’ (Williams 1991:78)
- b. \*wegonesh   **nyaa**       gichi-wewiib   gii-ani-onji-maajaa-waa-d?  
           why        wh.EMPH   great-quickly   PAST-away-reason-leave-3PL-3(CONJ)
- c. \*wegonesh   naa       gechi-wewiib   gii-ani-onji-maajaa-waa-d?  
           why        EMPH       wh.great-quickly PAST-away-from-leave-3PL-3(CONJ)

To summarize Section 2, we have argued that Initial Change is actually wh-agreement with a moved wh-element or operator in Ojibwe. Every clause through which an operator has moved is marked by this vowel quality change at the left edge of the verbal complex, on the tense prefix if overt or on the leftmost element of the verb complex otherwise. Wh-agreement occurs in interrogatives as well as relative clauses and focus constructions, which all involve operator movement.

The question that now arises is where the syntactic locus of wh-agreement is in Ojibwe. The following section argues that, like other languages exhibiting wh-agreement, wh-features originate in C but that, unlike other languages, wh-agreement is realized on T.

### 3 The position of Wh-agreement on T

We have so far presented the morphological realization of IC as wh-agreement with a moved operator in Ojibwe. In this section we consider where the locus of wh-agreement is in the narrow syntax, claiming that Initial Change is realized in the domain of T and not exclusively on C (unlike other wh-agreement languages, e.g. Irish).<sup>15</sup> The syntactic position of wh-agreement bears on the structure of the independent and conjunct orders, which differ in their realization of person prefixes and availability of IC. One prevalent idea in the Algonquian literature is that although the independent verb remains lower in the structure (i.e. in T), the conjunct verb head moves all the way to C, blocking the person proclitic (e.g. Campana 1996; Brittain 1997, 2001).<sup>16</sup> However, we argue that this view is incorrect for Ojibwe (as well as unconvincing for some of the Algonquian languages discussed) and claim instead that both IC and the person prefixes are proclitics in complementary distribution and that the independent and conjunct are differentiated by the content of C rather than by verbal movement.<sup>17,18</sup>

The morphological template for independent verbal complexes is given in (23), and the person prefixes in Ojibwe (and other Algonquian languages) are considered proclitics because a range of material can appear between the person prefix and the verb stem (adverbial, tense and

<sup>15</sup> As discussed in Section 4, we take the standard view that wh-features originate on C, however these features are inherited down to T in the syntax and are always spelled-out in the context of T and not C.

<sup>16</sup> Campana (1996) focuses on Passamaquoddy-Maliseet; Brittain (1997) on Sheshatshit Montagnais; Brittain (2001) on Western Naskapi.

<sup>17</sup> See also Halle and Marantz (1993), where it is argued that Initial Change and the proclitics both appear in C, in complementary distribution.

<sup>18</sup> The plain conjunct, which has neither a person proclitic nor IC, will be grouped with the changed conjunct and is discussed in Section 5.

aspect preverbs).<sup>19</sup> The conjunct verb, however, is not traditionally considered to have the proclitic position since it lacks the person prefixes.

(23) Proclitic | Preverbs | Stem | Inflection

On the premise that proclitics in Ojibwe are in C in the independent order (Halle and Marantz 1993; McGinnis 1995a, b, 1999, and many others), the idea in the previous literature is that the verb stem and proclitics compete for the C position. If the verb raises to C, as in the conjunct, proclitics cannot be spelled out in that position. This notion that the conjunct verb moves to C is supported by the fact that the conjunct order appears in environments associated with verb movement in other languages. For example, in both the French interrogative in (24)<sup>20</sup> and the English interrogative with subject-auxiliary inversion in (25) the verb raises to C.

- (24) Que manges-tu?  
what eat.2SG-you  
'What are you eating?'

- (25) a. What have you done?  
b. What did you do?

Brittain (1997, 2001) also cites negation, which occurs in the conjunct in Western Naskapi, to support verb movement to C since negation can trigger inversion in some languages (as in *At no time will John panic* in English or *Ainsi viendra-t-il* 'Thus, he will come' in French).

The problem with this view is not only the lack of language internal evidence for V-to-C movement, but also that many contexts where the conjunct is found in Ojibwe and certain Algonquian languages involve no movement of the verb at all in other better-studied languages. As pointed out by Richards (2004), verb movement to C is blocked in relative clauses as well as in embedded interrogative clauses in languages such as English, as shown in (26) and (27). These are contexts that require the conjunct order in Ojibwe (see relative clauses in (15)-(16) and embedded questions in (6)-(7)).

- (26) a. the book I have bought  
b. \*the book have I bought
- (27) a. I wonder what Mary has bought.  
b. \*I wonder what has bought Mary.

In addition, as acknowledged by Brittain (2001) herself, the relation between the conjunct order and negation is specific to Western Naskapi and is far from common in other Algonquian languages. This means we cannot conclude much from the parallelism between the position of

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<sup>19</sup> While there may be at most one proclitic (person or IC), there is apparently no structural limit to the number of preverbs that may surface between pronominal clitics and stems (Valentine 2001:93). Preverbs occur in a particular order: subordinator > tense/mode > directional > relational > aspectual > manner/quality/number (Valentine 2001:168).

<sup>20</sup> There is, of course, much variation in the way French interrogatives surface and it should be noted that the movement of the verb is, in no way, obligatory.

the verb in the conjunct order and potential movement in interrogatives and negatives based on other languages.

The reverse proposal – that the independent verb moves to C and the conjunct verb remains low – is equally problematic. On the basis of the position of negation with respect to the verb, Halle and Marantz (1993) propose that the Potawatomi verb raises to C past negation in the independent, but stays low in the structure in the conjunct. In (28), negation appears to the right of the independent verb while in (29), it appears to the left of the conjunct verb.

- (28) k-wabm-a-s'i-m-wapunin-uk *Independent order*  
 2-see-3-NEG-2PL-PRET-3PL(IND)  
 'you (pl) didn't see them.' (Potawatomi; Halle and Marantz 1993:140)

- (29) pwa-min-kwa-pun *Conjunct order*  
 NEG-give-2PL/3PL-PRET(CONJ)  
 'you (pl) didn't give them (something).' (Potawatomi; Halle and Marantz 1993:139)

This characterization is misleading, however, because Algonquian languages can have adverbial negation that is realized as a preverb or independent word, as well as functional negation encoded in a suffix. For example, (30a) shows functional negation in Ojibwe marked by the suffix *-zi(i)*, and (30b) shows an adverbial negative preverb *bwaa-*. Hence, negative elements can be found on either side of the verb stem in the conjunct alone, and negation does not indicate verb movement in contrast with the independent order in Ojibwe.

- (30) a. waabndanznig  
 waabam-daan-**zi**-nig  
 see-INTR-NEG-3(CONJ)  
 'He/she does not see it.'  
 b. wii-**bwaa**-mwaanid  
 wii-**bwaa**-mawaa-nid  
 FUT-NEG-eat-3(CONJ)  
 'He will not eat it.' (Valentine 2001:314,163)

If we now turn to interrogatives, moving the verb to C is hierarchically problematic since material can appear between the wh-phrase at the left periphery and the verb complex. In Passamaquoddy, Bruening (2001:48-49) shows that negation and unmarked (i.e. non-left-dislocated) NPs can appear between wh-phrases and the verb, predicted to be impossible by Campana (1996) and Brittain (1997) if the wh-phrase is in Spec CP and the verb in C. Ojibwe shows the same possibility: (31) (repeated from (21a)) allows the unmarked *Mani* 'Mary' between *wegenesh* 'who' in Spec CP and the verbal complex.<sup>21</sup>

<sup>21</sup> Although word order is relatively free, Ojibwe is a configurational language (see also Bruening 2001 for Passamaquoddy) where not all word orders are grammatical (e.g. wh-movement is obligatory), and different orders can affect aspects such as definiteness and quantifier restriction (see Grafstein 1984; Tomlin and Rhodes 1992; Kathol and Rhodes 1999; Tourigny 2008).

- (31) *wegenesh*<sub>i</sub> *Mani* **gaa**-waabmaad [John **gaa**-giinonad *t<sub>i</sub>*]?  
*wegenesh*<sub>i</sub> *Mani* gaa-waabam-aa-d [John gaa-giinon-aa-d]  
 who Mary wh.PAST-see-3'OBJ-3(CONJ) John wh.PAST-talk-3'OBJ-3(CONJ)  
 'Who did Mary see John talking to?'

A reviewer suggests that *Mani* in (31) is an adjunct (as per Jelinek 1984; Baker 1988) that is clause-external, and therefore does not show distance between C and the verb. However, such a suggestion assumes adjunction between Spec CP containing *wegenesh* 'who' and C, but we follow Bruening (2001) and assume that Ojibwe DP adjuncts are adjoined to TP. Hence, the subject DP lies between C and T (note that the subject is not focused or topicalized; it is not a left dislocated NP in the C domain).

In a similar vein, in (32) (repeated from (22a)) the adverb *gichi-wewiib* 'very quickly' can intervene between the wh-word and the verbal complex.

- (32) *wegonesh naa gichi-wewiib gaa*-anionji-maajaawaad?  
*wegonesh naa gichi-wewiib gaa*-ani-onji-maajaa-waa-d  
 why EMPH great-quickly wh.PAST-away-reason-leave-3PL-3(CONJ)  
 'Why have they all left in such a great hurry?' (Williams 1991:78)

The data in (31) and (32) also confirm that wh-agreement, as IC, is realized in the domain of T rather than C. The phonological vowel change of IC always targets an overt tense prefix, or the first element to the right of the tense slot if it is covert (like in the present). IC does not appear on elements in the C domain, like particles or elements in Spec CP (e.g. *naa* in (32)), and does not associate leftward to segments above the projection of T.

Overall, the data indicate that the verb does not raise to C in conjunct clauses in Ojibwe (potentially true for some other Algonquian languages, like Passamaquoddy). The motivation for V-to-C movement in Ojibwe is to account for the absence of the person proclitic in the conjunct order, however, we claim that the conjunct order can exhibit a proclitic, namely IC. The independent person proclitics are spelled-out as segments, but changed conjunct IC is a phonological feature [change] that must associate with a vowel segment (discussed in Section 2.3), masking its role as a proclitic, schematized in (33) for the template in (23).

- |         |                                    |    |  |
|---------|------------------------------------|----|--|
| (33) a. | <i>ngii</i> -waabmaa               | b. | <i>wenesh</i> gaa-waabmaad?                      |
|         | <i>ni</i> - <i>gii</i> - waabam-aa |    | <i>wenesh</i> [change] <i>gii</i> - waabam- aa-d |
|         | 1- PAST-see- 1>3(IND)              |    | who wh- PAST-see- 3>3'-3(CONJ)                   |
|         | PROC PREV STEM  INFL               |    | PROC  PREV STEM  INFL                            |
|         | 'I saw him.'                       |    | 'Who saw him?'                                   |

The view that IC as wh-agreement is a proclitic is supported by data from Rainy River Ojibwe that exhibits a prefix *kaa-*, described as a wh-complementizer, appearing in the proclitic position of relatives and interrogative clauses.<sup>22</sup> In Rainy River Ojibwe, *kaa-* is systematically used in the present tense to the exclusion of IC, seen in (34a), and co-occurs with tense prefixes, like the plain past *gii-* in (34b). In this dialect, wh-agreement has a segmental form and occupies the

<sup>22</sup> *Kaa-* is not present in the Ojibwe dialects discussed in previous sections (it should not be confused with past tense *gaa-* 'wh-past').

proclitic position to the left of the tense prefix, as is the case for non-segmental IC in the other dialects under discussion.

- (34) a. inini kaa-nagamut kinoozi (Rainy River Ojibwe)  
 inini kaa-nagamu-t kinoo-zi  
 man wh-sing-3(CONJ) tall-be  
 ‘The man who is singing is tall.’  
 b. n-gikenimaa inini kaa-gii-nagamut  
 ni-giken-im-aa inini kaa-gii-nagamu-t  
 I-know-TR-1>3(IND) man wh-PAST-sing-3(CONJ)  
 ‘I know the man who sang.’ (Johns 1982:161)

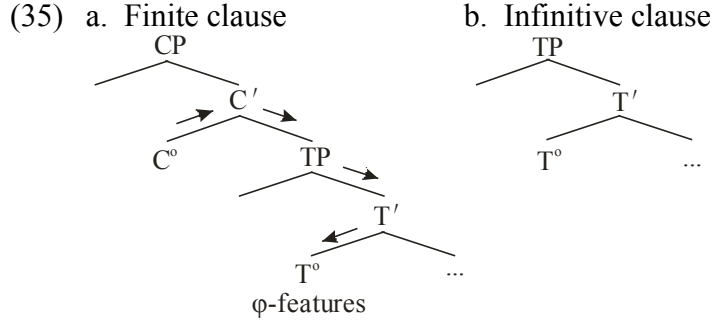
We distinguish between the independent and conjunct orders not by verbal movement, but by the featural content of C (Section 4), morphologically realized by the different types of proclitics found in each type of clause.

At this point we have argued that wh-agreement in Ojibwe, realized by IC, is a proclitic on the verb stem, and also that it occurs in the domain of T rather than higher in C. As is further discussed in the following section, we reach the conclusion that proclitics occupy Spec TP. The question that arises is how wh-features can surface in T if it is C that introduces these features.

#### 4 Feature Inheritance

Feature inheritance has become an important concept in recent minimalist theories (Richards 2007; Chomsky 2008). In this section we present our analysis of wh-agreement in Ojibwe surfacing on T due to C transferring wh-, or focus, features to T. First we introduce the concept of feature inheritance, originally proposed for  $\phi$ -features introduced by C but realized in the domain of T for languages exhibiting subject agreement (e.g. English). We then extend feature inheritance to include discourse ( $\delta$ -)features that we claim can also be introduced on C and transferred to T, particularly in Ojibwe conjunct clauses. In interrogatives, a wh-element agrees with discourse features on T and triggers the spell-out of IC within the projection of T, realizing wh-agreement on T in Ojibwe. We further discuss parameters determining the featural content of C in different languages and clause types, particularly as introducing  $\phi$ - or  $\delta$ -features, or both.

According to Chomsky (2008), T does not have its own Agree ( $[u\phi]$ ) features and cannot act as a probe for the subject on its own. T, instead, inherits its  $[u\phi]$  features from C, as in (35a), so that it is C that ultimately initiates the Agree relation that values the subject’s interpretable  $\phi$ -features. The features inherited to T can trigger subject A-movement to Spec TP, rather than Spec CP, since C’s Agree/ $\phi$ -features have been passed on to T ( $\phi$ -agreement with the subject can also spell-out via T, e.g. ‘He walks.’). Feature inheritance provides an elegant account of infinitives as TPs that are not dominated by a CP, as shown in (35b). Because there is no C level, non-finite T does not inherit any Agree features and agreement with a subject, or Case assignment, is impossible.



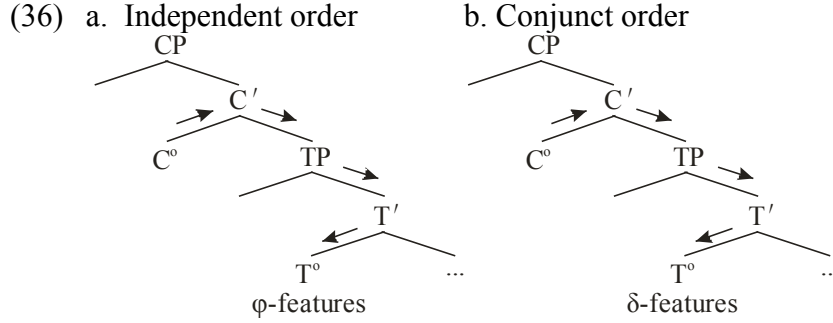
Chomsky mentions that the presence of  $[u\phi]$  features might be what marks the end of phase, a notion formalized by Richards (2007). The Phase Impenetrability Condition (Chomsky, 2001) indicates that a phase head, like C, spells-out its complement making it inaccessible to further syntactic operations, but the head remains visible. Richards (2007) proposes that C must transfer its  $\phi$ -features to T so that these uninterpretable features can be valued and deleted at the same instant, that is, the instant of spell-out of the complement of C. This renders the uninterpretable features originating on C invisible to further derivation.

We propose that  $\phi$ -features are not the only type of feature able to undergo inheritance from C: other kinds of features, i.e. discourse features, or  $\delta$ (delta)-features for short, can mark the phase edge of certain types of clauses.  $\delta$ -features are those pertaining to discourse, such as *wh*-, focus and topic, which are all related to A'-movement.  $\delta$ -features on C play the same role as  $\phi$ -features in marking a phase edge and they must be passed down to T for the same reasons that  $\phi$ -features are passed down to T: The  $\delta$ -features introduced by C must be made invisible to further computation.

Our proposal that discourse features can be transferred from C to T is compatible with Miyagawa (2010), according to whom agreement-based languages and discourse configurational languages can be unified. Depending on the language or construction (since, as pointed out, by Miyagawa, most languages are mixed), either  $\phi$ -features or topic/focus features can be introduced by C and transferred to T.

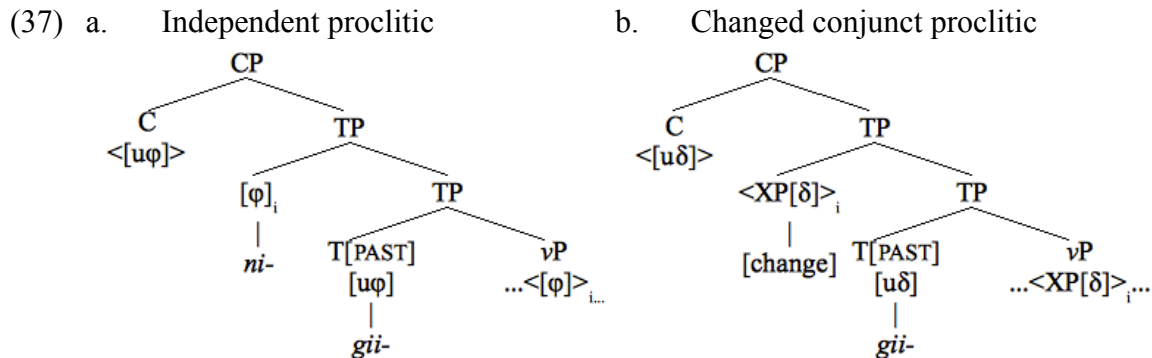
The facts about Ojibwe point to the view that there is a clear distinction between the independent order, on the one hand, and the conjunct order, on the other, and that the choice between the introduction of  $\phi$ -features versus the introduction of  $\delta$ -features depends on the distinction between the two orders. We posit that there are two types of C in Ojibwe: one that introduces  $\phi$ -features, found in the independent order (36a) (main clauses and declarative sentences more generally), and one that introduces  $\delta$ -features, found in the conjunct order (36b) (embedded clauses and *wh*- or focus/topic clauses). Clause typing in Ojibwe is partitioned differently from what is found in English or French, such that each type of C in Ojibwe is dedicated to one type of feature.





Returning to the discussion of *wh*-constructions, interrogatives occur with a conjunct *C* that introduces  $\delta$ -features, specifically *wh*- or focus features. These features are strong (or co-occur with an EPP feature) and trigger movement, for instance [*uFoc\**], and are transferred down to *T* as per feature inheritance. The probe can then search for an element bearing a matching feature, picking out the closest *wh*-element *c*-commanded by *T*. Agree and Move are triggered between the matching features of the *wh*-element and Spec TP, which we assume is an A'-position in Ojibwe (following Carstens 2005 on Bantu; Ojibwe does not utilize Spec TP as an A-position, see Ritter and Rosen 2005; Lochbihler 2012). The *wh*-element proceeds to move to Spec CP, triggered by a strong *Q* feature that remains on *C* (*wh*/focus is realized under *T*, but *Q* is not the same type of feature and remains on *C*, see Miyagawa 2010). We claim that the copy, or trace, of the *wh*-element remaining in Spec TP spells-out as the changed conjunct proclitic, namely Initial Change.

We have claimed that proclitics that attach to the Ojibwe verb are spelled-out in Spec TP. One possibility for the derivation of independent person proclitics is found in McGinnis (1995a) who proposes that person features on arguments can undergo fission (i.e. separate from the bundle of features on the DP) and move to the proclitic position, which we claim is Spec TP. The person features of either a subject or object are attracted to Spec TP by the [*uφ*] probe transferred from independent *C* to *T*, and these spell-out as person proclitics, sketched in (37a).<sup>23</sup> In interrogatives, it is instead the copy of the *wh*-element that is attracted to Spec TP by the [*uδ*] probe inherited from conjunct *C*, and this copy spells-out as an IC proclitic in the changed conjunct, sketched in (37b).<sup>24</sup>



<sup>23</sup> We are abstracting away from the exact syntactic mechanism behind the Participant hierarchy of Algonquian. As is well-known, proclitics need not be Agents. For related proposals, see Bruening (2001), Béjar and Rezac (2009), Lochbihler (2012).

<sup>24</sup> Again, the plain conjunct, which appears with neither person proclitics nor IC, is discussed in Section 5. We will group the plain conjunct with the changed conjunct, claiming it also involves  $\delta$ -features introduced by *C*.



- (40) \*Mii dash **gaa**-zhitoowaad iw mshkikwaaboo [**waa**-abjitoo-waad]  
 Mii dash gaa-zhitoo-waa-d iw mashkiki-waaboo [waa-abjitoo-waa-d]  
 and then wh.PAST-make-3PL-3(CONJ) that medicine-liquid wh.FUT-use-3PL-3(CONJ)  
 ‘They made the liquid medicine which they were going to use.’ (cf. (16))

- (41) \***gaa**-gikendaanaawaad [waa-minokaagod aw akwe]  
 gaa-giken-daan-aawaa-d [waa-minokaao-d aw akwe]  
 wh.PAST-know-TR.0-3PL-3(CONJ) wh.FUT-good.for-3(CONJ) that woman  
 ‘They knew what would be good for that woman.’ (cf. (7))

Focus constructions such as (17), repeated here as (42), can receive a parallel analysis to the one presented above for wh-questions. In the case of focus constructions, the focused element raises first to Spec TP, via operator movement, and then moves to a focus position within the CP domain via A'-movement.

- (42) [<sub>SpecCP</sub> niizhwaak dso-bboon]<sub>i</sub> [<sub>SpecTP</sub> t<sub>i</sub>] **gaa**-ko-zhiweebak maanda  
 niizh-waak daso-biboon gaa-ako-zhiweeb-ak maanda  
 two-hundred many-years wh.PAST-since-happen-3(CONJ) this  
 ‘It was two hundred years ago that this happened.’ (Rogers 1978:170)

In the case of relative clauses, it is a null operator, or relative pronoun, that raises to Spec TP (to then move to Spec CP, shown in (43), repeated from (16).

- (43) mii dash gii-zhitoowaad iw mshkikwaaboo  
 mii dash gii-zhitoo-waa-d iw mashkiki-waaboo  
 and then PAST-make-3PL-3(CONJ) that medicine-liquid  
 [<sub>SpecCP</sub> OP<sub>i</sub>] [<sub>SpecTP</sub> t<sub>i</sub>] **waa**-abjitoowaad  
 waa-abjitoo-waa-d  
 wh.FUT-use-3PL-3(CONJ)  
 ‘They made the liquid medicine which they were going to use.’ (Valentine 2001:582)

At this point we have discussed why person proclitics are absent in the conjunct order, and how wh-movement surfaces on T by feature inheritance from C. One question that now arises is how  $\phi$ -features are checked in the conjunct order since it lacks the person proclitic agreement found in the independent order. As per Lochbihler (2012),  $\phi$ -features on arguments are fully licensed within the  $\nu$ P in both the independent and conjunct orders, and subsequent Agree of  $\phi$ -features introduced by C and transferred to T can occur in the independent, but is not necessary in the conjunct order.<sup>27</sup> As mentioned above, the morphological realization of  $\phi$ -Agree in Ojibwe varies depending on the verbal order in terms of the use of the person proclitic as well as the insertion of different (but overlapping) sets of agreement suffixes. Little  $\nu$  in Ojibwe must be lexically

<sup>27</sup> Thank you to a reviewer for clarifying this question. Note that  $\phi$ -features on arguments are interpretable and able to enter multiple Agree relations (fully discussed in Lochbihler 2012 with respect to  $\phi$ -complete Agree, Chomsky 2000, 2001). The multiple checking of interpretable  $\phi$ -features is shared with Bantu languages; for instance, Diercks (2011) shows that nominals in Lubukusu can trigger noun class agreement in multiple finite clauses (see also Carstens 2005, 2011). This is not Multiple Agree, in the sense of Anagnostopoulou (2005), which instead involves the checking of an uninterpretable feature on a probe by more than one goal (see also Hiraiwa 2001, 2005; Nevins 2007; Boeckx 2008).

marked as either independent or conjunct, thus both conditioning the agreement affixes chosen at spell-out as well as restricting the type of C (introducing either  $\varphi$ - or  $\delta$ -features) that may select the verbal stem constructed in the  $\nu$ P.

To illustrate the different spell-out of  $\varphi$ -features consider the data in (44) and (45). (44) is in the independent order, spelling-out 1<sup>st</sup> person features in the proclitic as well as 3<sup>rd</sup> person features of the in the suffix *-aa* (see *theme-signs* in fn. 3) and 3<sup>rd</sup> person plural in the suffix *-ag*. We will not further discuss the realization of the independent suffixes, suffice it to say that  $\nu$  must license all  $\varphi$ -features of the clausal arguments in order to derive the suffixal agreement spelled-out below T.

- (44) **ngii-waabmaag**                      **amikwag**  
       **ni-gii-waabam-aa-ag**            **amikw-ag**  
       1-PAST-see-1>3-3PL(IND)      beaver-PL  
       ‘I saw beavers.’

(45) is in the (plain) conjunct with the same arguments as (44). The 1<sup>st</sup> person subject is encoded by *-ag*, and the 3<sup>rd</sup> person plural object *amikwag* ‘beavers’ corresponds to *-waa*, constituting distinct morphological agreement from the independent clause in (44). Despite which features are introduced by C, all  $\varphi$ -features are also licensed by  $\nu$  and  $\varphi$ -features are not required to be introduced by C/T alone.

- (45) **gii-waabmagwaa**                      **amikwag**  
       **gii-waabam-ag-waa**                **amikw-ag**  
       PAST-see-1-3PL(CONJ)            beaver-PL  
       ‘...that I saw beavers.’

Our proposal that  $\delta$ -features are transferred from C to T is consistent with Miyagawa’s (2010) account according to which languages are either agreement prominent or discourse prominent. On his view, if a language is discourse prominent,  $[u\delta]$  is introduced by C but transferred to T (e.g. Japanese), and if it is not,  $[u\delta]$  will remain on C (e.g. English). If a language is agreement prominent,  $[u\varphi]$  will be transferred from C to T (e.g. English), but if it is not agreement prominent  $[u\varphi]$  will be absent or introduced by C and not transferred to T (this is in fact Miyagawa’s 2005 version – in Miyagawa 2010 he assumes  $[u\varphi]$  is always transferred from C to T and never remains on C).

Another type of language appears to be outside Miyagawa’s (2010) parameter (i.e. apart from the Japanese or English type) where both  $[u\delta]$  and  $[u\varphi]$  are introduced by C and transferred to T. Spanish, Italian, Turkish, and Greek, to name a few, are argued to transfer both types of features from C to T (Jiménez-Fernández 2010), giving the full typology in (46).

- (46) a.     $C\varphi, \delta$              $\rightarrow$      $T\delta$             ... discourse prominent  
       b.     $C\emptyset, \delta$             $\rightarrow$      $T\varphi$             ... agreement prominent  
       c.     $C\emptyset, \delta$             $\rightarrow$      $T\varphi, \delta$         ... discourse prominent/agreement prominent

Note that in all three types of languages, the discourse and agreement features bundle together on C. We now argue that what we see in Ojibwe is that discourse and agreement features do not

bundle together, but that the language has two kinds of Cs: One associated with [u $\phi$ ] (the independent), the other associated with [u $\delta$ ] (the conjunct), as shown in (47).

- (47) a. C<sub>1</sub> [u $\phi$ ]  
       b. C<sub>2</sub> [u $\delta$ ]

The cross-linguistic variation of the features introduced by C is not unlike what happens with Verb Second (V2). Some languages are symmetric V2 languages – Diesing (1990), Santorini (1995) for Yiddish and Rögnvaldsson and Thráinsson (1990) for Icelandic – but others are asymmetric V2 languages (German). Depending on the language,  $\phi$ -instantiation is either symmetric or asymmetric: in German, matrix C introduces a feature that triggers inversion but embedded C introduces no such feature; in Yiddish, both matrix C and embedded C introduce a feature that triggers inversion. We posit that the same is true for  $\delta$ -instantiation, summarized in our parameter in (48).

- (48) Feature bundle parameter:  
       C [u $\phi$ ]/[u $\delta$ ] bundle together // C [u $\phi$ ]/[u $\delta$ ] do not bundle together.

The parameter in (48) conforms to minimalist conceptions of parameters that attribute variation to the features of particular items (e.g. the functional heads) in the lexicon (Borer 1984; Chomsky 1995, 2000, 2001). In particular, following Arad (2002), and many others, let us suppose that there are three sources for language variation: the inventory of roots; the features selected out of a universal inventory; *and* the way these features are bundled together. On the view presented here, feature bundles are not uniformly arranged on functional heads across languages, and functional elements are not primitives but feature structures. Hence, languages can have different featural content on *v* heads, different types of C heads, and so on.

The analysis that the independent and conjunct orders differ in the featural content of C can be applied to many Ojibwe dialects, and possibly some other Algonquian languages (e.g. Menominee and Potawatomi), but does not extend to all Algonquian languages. The distinction between the independent and the conjunct becomes less robust and IC occurs less productively in languages further west in Canada and the USA. The extreme case appears to be Blackfoot, in which the distinction between C<sub>1</sub> [u $\phi$ ] and C<sub>2</sub> [u $\delta$ ] in (47) is blurred, and the specifics of IC are quite unlike IC in any other Algonquian language (Proulx 1995; Costa 1996). As pointed out by Costa (1996:56), “This is not surprising, however, given the isolated and divergent nature of Blackfoot within Algonquian.” He argues that IC is no longer a productive process in Blackfoot because: i) only a closed class of verb complexes surface with IC; ii) for most verbs able to undergo IC, it is usually optional; and iii) IC can occur on verbs in the independent order, not just the conjunct. Further, person proclitics surface both in independent and conjunct clauses in Blackfoot and the use of IC is related to realis/irrealis (Cook 2008) and aspect (Louie 2010; Déchaine and Wiltschko 2012).

In Plains Cree (Blain 1997, 1999), there appears to be a more solid distinction between the independent and conjunct than in Blackfoot. However, there are cases where IC, or rather its effects since it is no longer robust in the language, is used with the independent order (Blain 1999:8). Plains Cree uses the prefixes *ê-* and *kâ-* instead of IC in all tenses: present, past, and future, allowing these prefixes to co-occur with tense markers, like Rainy River Ojibwe with the interrogative proclitic *kaa-* and plain tense markers (see (34b)).

The apparent special property of conjunct C as introducing discourse features in Ojibwe is not idiosyncratic but is systematic in that we find its effects in other languages. As mentioned above, some languages appear to be both agreement and discourse prominent (cf. (46), Jiménez-Fernández 2010). In Spanish and Italian, it appears that both  $[u\phi]$  and  $[u\delta]$  are introduced by C but transferred to T. In those languages, depending on the type of features introduced, Spec TP acts as an A-position ( $[u\phi]$  features) or as an A'-position ( $[u\delta]$  features). The typical context for the latter is inversion (Bonet 1990, Solà 1992, and Vallduví 1992 for Catalan; Dobrovie-Sorin 1994 for Romanian; Contreras 1991, Zubizarreta 1998, and Barbosa 2001 for Spanish and European Portuguese; Rizzi 1997 for Italian). Let us illustrate with French, a language that has residues of A'-movement to Spec TP, which allows inversion in  $[+wh]$  contexts (unlike other Romance languages, French has Stylistic Inversion, but not Free Inversion). In examples such as (49), there is evidence that the embedded subject is in situ (Déprez 1990), not in Spec TP, and the *wh*-phrase can/must raise to fill Spec TP before it moves to Spec-CP.

- (49) Je      me            demande    quand      téléphonerà      Marie.  
       I      myself      wonder      when      telephone.FUT    Marie  
       'I wonder when Marie will phone.'

This is where French C most resembles Ojibwe conjunct C because discourse features are passed down to T, in which case Spec TP functions as an A'-position (the connection between inversion in Bantu languages and inversion in Romance languages has been made by Carstens 2005, we simply add Ojibwe to the generalization).

To summarize Section 4, we appeal to the process of feature inheritance by which C transfers its agreement features to T so they can be matched and deleted at the moment of spell-out of the C phase (Richards 2007; Chomsky 2008). We propose that C can transfer discourse/ $\delta$ -features that pertain to *wh*/focus, as well as  $\phi$ -features as is assumed for languages like English. Although independent C in Ojibwe introduces  $\phi$ -features, we claim that conjunct C instead introduces  $\delta$ -features that are transferred to T, causing a *wh*-element in an interrogative to A'-move through Spec TP on its way to Spec CP. The trace of the *wh*-element in Spec TP spells-out as a phonological [change] feature, which realizes IC on the tense prefix. The IC proclitic is in complementary distribution with the independent person proclitics that are also realized in Spec TP, but result from  $\phi$ -features on T from independent C. In Ojibwe  $\phi$ -agreement and discourse features do not bundle together on a single C head, given the parameter in (48). Other Algonquian languages, however, may allow  $\phi$ - and  $\delta$ -features to bundle, exhibiting the opposite parameter setting.

The following section extends our account of clause typing and *wh*-agreement in Ojibwe to the behaviour of topics and long-distance agreement.

## 5 Topics and long distance agreement

We have laid out our analysis of *wh*-agreement in Ojibwe as a result of feature inheritance from C to T, appealing to the featural content available to C as either  $\phi$  or  $\delta$ . In this section, we extend our account of Ojibwe clause typing to topicalization and to the phenomenon of long-distance agreement (LDA, also known as *cross-clausal agreement* in the Algonquian literature).

Branigan and MacKenzie (2002) analyze LDA in Innu-aimûn as targeting a discourse topic that appears at the left edge of a subordinate CP phase. We discuss the realization of LDA in Ojibwe, which is also sensitive to discourse topicalization and relates to conjunct C's introduction of  $\delta$ - rather than  $\phi$ -features. Beyond accounting for LDA in Ojibwe, we connect the

changed conjunct to the plain conjunct that occurs in subordinated clauses not involving operator movement, and hence lacking wh-agreement. We maintain that conjunct C introduces discourse/δ-features, in contrast to independent C introducing φ-features, and that plain conjunct clauses lack focus wh-features, but can bear discourse topic features that allow for a clause to be anaphorically linked to the discourse context.

### 5.1 Long distance agreement in Ojibwe

Consider first the phenomenon of LDA in Ojibwe as the agreement of a matrix verb with a topic embedded argument (data is elicited/checked with speakers of Algonquin, Kitigan Zibi community, Québec, see fn. 2). (50a) is a normal, non-LDA construction with the matrix verb ‘know’ in the intransitive form that takes a clausal complement (see fn. 11). The embedded clause takes the simple conjunct order that uses suffixal agreement only, but also does not exhibit Initial Change (i.e. past tense prefix is *gii-* and not *gaa-*) in the absence of operator movement. (50b) shows LDA of the matrix verb with the embedded subject ‘you’, which triggers 2<sup>nd</sup> person agreement on the matrix verb complex: the person proclitic becomes *gi-* ‘2<sup>nd</sup> person’ and the suffix *-in* indicates a 2<sup>nd</sup> person DP within the complement of the matrix verb in opposition to a 1<sup>st</sup> person matrix subject (glossed as 1>2). The matrix verb becomes morphologically transitive (i.e. agreeing with two visible DP arguments) under LDA. Similarly, (50c) shows the LDA of embedded object ‘him’, which triggers 3<sup>rd</sup> person agreement on the matrix verb encoded in the suffix *-aa*. Note for (50) that the agreement in the embedded, simple conjunct clause remains unchanged regardless of whether LDA occurs in the matrix clause or not.

- (50) a.    ngikendaan                      gii-bashkizwaadj  
           ni-giken-daan                gii-bashkizaw-aa-d  
           1-know-INTR(IND)        PAST-shoot-3OBJ-2(CONJ)  
           ‘I know that you shot him.’  
       b.    ggikenimin                    gii-bashkizwaadj  
           gi-giken-im-in              gii-bashkizaw-aa-d  
           2-know-TR-1>2(IND)    PAST-shoot-3OBJ-2(CONJ)  
           ‘I know that **you** shot him.’  
       c.    ngikenimaa                   gii-bashkizwaadj  
           ni-giken-im-aa               gii-bashkizaw-aa-d  
           1-know-TR-1>3(IND)    PAST-shoot-3OBJ-2(CONJ)  
           ‘I know that you shot **him**.’

Another example of LDA in (51) (from the Ottawa dialect) exhibits matrix agreement with the plural (as well as person) feature of the embedded subject, also triggering the transitive form of *gikenim* ‘know’.

- (51) ngikenimaag                      ninwag    gii-baashkzwaawaad                      Maagiiyan  
       ni-giken-im-aa-g                aniniw-ag gii-baashkizaw-aa-waa-d                Maagii-an  
       1-know-TR-1>3-3PL(IND)    man-PL    PAST-shoot-3'OBJ-3PL-3(CONJ)        Marge-OBV  
       ‘I know that **the men** shot Marge.’ (Rhodes 1994:439)

LDA in the matrix clause is generally optional, in that LDA only occurs when an embedded argument is a discourse topic (also claimed for other Algonquian languages, see Bruening 2001; Branigan and MacKenzie 2002; Ritter and Rosen 2005). For example, (52a) contains no LDA,

but (52b) with LDA of the embedded subject ‘he’ is possible on the condition that the speaker emphasizes the Agent of ‘shot’ as a discourse topic.<sup>28</sup>

- (52) a. ngikendaan                      gii-baashkzok  
           ni-giken-daan                gii-baashkizaw-i(n)-k  
           1-know-INTR(IND)        PAST-shoot-2OBJ-3(CONJ)  
           ‘I know that he shot you.’  
       b. ngikenimaa                    gii-baashkzok  
           ni-giken-im-aa               gii-baashkizaw-i(n)-k  
           1-know-TR-1>3(IND)    PAST-shoot-2OBJ-3(CONJ)  
           ‘I know that **he** shot you.’ (Rhodes 1994:438)

Rhodes (1994) presents data from Ottawa, which he claims is a more restrictive dialect with respect to LDA. In Ottawa the availability of LDA is sensitive to other notions of “topicality”, for instance, an embedded obviative (i.e. relatively backgrounded) argument, like *Magiiyan* ‘Marge(OBV)’ in (53a) or *ninwan* ‘men(OBV)’ in (53b), cannot be identified as a discourse topic by LDA over a clausemate proximate (i.e. topic/foregrounded) argument, namely *ninwag* ‘men’ and *Maagii* ‘Marge’ respectively. Topicality for LDA coincides with topicality indicated by obviation in this dialect.<sup>29</sup>

- (53) a. \*ngikenmaa                      Maagiiyan gii-baashkzwaawaad                      ninwag  
           ni-giken-im-aa                Maagii-yan gii-baashkizaw-aa-waa-d                      aniniw-ag  
           1-know-TR-1>3(IND)        Marge-OBV PAST-shoot-3'OBJ-3PL-3(CONJ) man-pl  
           ‘I know **her/Marge(obv)** that the men shot.’)  
       b. \*ngikenmaag                    ninwan        gii-baashkzogod                      Maagii  
           ni-giken-im-aa-g               aniniw-an    gii-baashkizaw-igo-d                      Maagii  
           1-know-TR-1>3-3PL(IND)    man-OBV    PAST-shoot-3'SUBJ-3(CONJ)        Marge  
           ‘I know that the men shot Marge.’ (‘I know **them/the men(obv)** that shot Marge.’)  
           (Rhodes 1994:438-9)

Now that we have introduced the LDA data, let us discuss the theoretical implications for minimalist grammars. LDA, although found in other languages, is not very widespread and raises questions about the behaviour of agreement, which is generally local and occurs within a phase (i.e. CP, Chomsky 2000, 2001). Richards (2009) notes that there are two main strategies in the literature to deal with LDA: i) the Phase Impenetrability Condition (PIC) is relaxed, allowing Agree across the phase boundary; or ii) LDA is actually a case of restructuring where two clauses constitute a single domain. LDA in other languages often involves TP complements rather than finite CPs so that phase conditions are not relevant. Hindi-Urdu (Boeckx 2004; Bhatt 2005) and Itelmen (Chukoto-Kamchatkan family) (Bobaljik and Wurmbrand 2005) are good examples of this scenario. Richards (2009) nevertheless argues that i) is undesirable and that ii) does not work for every language.

<sup>28</sup> See Fry and Mathieu (2014) for the idea that the relevant notion for LDA in Algonquian is evidentiality (or rather a strategy of evidentiality).

<sup>29</sup> Obviation is marked on DPs by the suffix *-(a)n* and can neutralize plural agreement like *-ag* on the DP and the verb. Proximate is morphologically unmarked.



Following Richards (2009), we consider the PIC to hold since Agree is strictly local in the majority of cases. We argue that option ii) is also impossible for Ojibwe since the verbs involved in LDA are not restructuring verbs and the embedded clauses in LDA are clearly CPs.<sup>30</sup> First, Ojibwe has restructuring verbs that take a complement that lacks any material associated with the C domain, and actually incorporate the embedded verb into the restructuring predicate. As in (54), the restructuring verb *ggweji* ‘try’ incorporates its verbal complement *daawe* ‘see’, which has no functional material of its own above the *vP* level. The verbs exhibiting LDA are not restructuring and do not incorporate their complement clauses, as can be seen in examples (50)–(52) where the complement clauses are separate (see also discussion on restructuring in Bobaljik and Wurmbrand 2003).

- (54) Mii wi pii niwi gaa-ggweji-daawe-d  
 EMPH that time he wh.PAST-try-see-3(CONJ)  
 ‘That’s when he tried to see him.’ (Rhodes 1990:408)

Second, the complement clauses in LDA constructions are full CPs and not smaller constituents, like a TP or *vP*. Embedded clauses clearly contain material above *vP*, as they are always tensed and can have aspectual markers. Some embedded clauses also exhibit overt material above TP, such as complementizers, like *iw* ‘that’ in (55) and *giishpin* ‘if’ in (56).<sup>31</sup>

- (55) nwaabndaan go gmaapiich [iw mmaazkaag iw biiwaabkoon]s]  
 ni-waabam-daan go gomaapiich [iw mamaazkaa-g iw biiwaabikoon]s]  
 1-see-INTR(IND) PART after.while that move-0(CONJ) that wire  
 ‘In time I see that the wire is moving.’ (Valentine 2001:947)

- (56) ngii-nkwetwaa dash ji-zhaayaambaa [ giishpin  
 ni-gii-nakwetaw-aa dash ji-zhaa-yaan-baan [ giishpin  
 1-PAST-answer-1>3(IND) then will-go-1-PRET(CONJ) if  
 bgidniwaad ngitziimag]  
 bagidin-i-waa-d ni-gitiziim-ag]  
 permit-1OBJ-3PL-3(CONJ) 1-parents-PL  
 ‘I answered him that I would go if my parents permitted me to go.’ (Valentine 2011:947)

<sup>30</sup> The prothetic object account of LDA is also problematic. According to Dahlstrom (1995) and others, long-distance agreement is only an illusion and agreement is with a prothetic object that surfaces in the main clause. Under this approach an LDA sentence is equivalent to the English sentence *I know of him that he shot you*. The prothetic object *him* is interpreted as coreferential with the subject *he* of the complement clause. Branigan and MacKenzie (2002) reject the possibility that LDA involves a *prothetic* object in Innu-aimûn. For example, they argue that prothetic objects can freely refer to DPs within complex or conjoined DPs (ia), LDA cannot (ib).

(i) a. I said of Tanya<sub>i</sub> that [she<sub>i</sub> and you] would work well together.  
 b. \* N-uî-tshissenim-âu tân ishpih [Pân mâk tshîn] tshi-nitshipêtûtâu (Innu-aimûn)  
 1-want-know-3 when Paul and you 2-stopped

Intended: ‘I want to know when **Paul** and you stopped.’ (Branigan and MacKenzie 2002:392-3)

<sup>31</sup> A reviewer argues against the idea that *iw* in (55) is a complementizer because *iw* agrees with the noun *biiwaabkoon* ‘wire’ in animacy and number. However, complementizers can agree with nouns in other languages – dialects of Dutch (Zwart 1993, 1997), West Flemish (Haegeman 1990), so this is not a conclusive argument against *iw* as a complementizer. We follow Valentine’s (2001) descriptive grammar in naming *iw* a complementizer, but if *iw* turns out to simply be a demonstrative in these examples, then the data in (56) (and (57)) with the unambiguous complementizer *giishpin* ‘if’ still support the claim that LDA is possible out of CP embedded clauses.

(57) ggikenimaa                      giishpin                      **gaa**-dagoshing?  
gi-giken-im-aa                      giishpin                      gaa-dagoshin-g  
2-know-TR-2>3(IND)    if                      wh.PAST-arrive-3(CONJ)  
'Do you know if he arrived?'

- Further, LDA in Ojibwe (also Innu-aimûn, Branigan and MacKenzie 2002) cannot be considered an ECM construction. ECM occurs with non-finite TP complements, is obligatory, and targets only the embedded subject for agreement (Case assignment) with the matrix verb. LDA, however, occurs with finite CP complements, is optional, and targets discourse topics whether they are subjects or objects (e.g. (50), see also discussion in Ritter and Rosen 2005).

(59) [CP [DP[1]] ggikenimin [CP C[~~u~~δ\*] [DP[2, δ:TOP]]i [vP ti gii-bashkizwaadj [DP[3]]]]]  
gi-giken-im-in gii-bashkizaw-aa-ad  
I 2-know-TR-1>2(IND) you PAST-shoot-3OBJ-2(CONJ) him  
‘I know that **you** shot him.’

<sup>33</sup> Another possibility follows Richards (2009), who proposes that two types of phases should be identified, namely defective and non-defective phases. Defective phases act as ‘strong’ phases for the purposes of triggering successive-cyclic movement, but as ‘weak’ phases in not counting for the purposes of the Phase Impenetrability Condition (Chomsky 2000, 2001). Given that conjunct C in Ojibwe does not introduce  $\varphi$ -features it is  $\varphi$ -defective and would not be a phase for  $\varphi$ -Agree, although it is  $\delta$ -complete. This approach, however, would also require movement of the Branigan and MacKenzie (2002) type when there are multiple DPs in the clause that can trigger LDA (see discussion for (61)).

The mechanics of LDA are further revealed when we consider embedded clauses with other material in the domain of C. For one, (58b) shows that the embedded subject *Mary* can trigger LDA across a wh-word *awegonen* ‘why’ that is presumably in Spec CP. Branigan and MacKenzie (2002) opt for multiple specifiers of CP (Richards 1997), so that the LDA argument can occupy a Spec CP alongside the wh-element ‘why’. The proposal that LDA is triggered by an element in Spec CP and that there can be multiple Spec CPs predicts that: i) a fronted wh-argument can trigger LDA; and ii) a fronted wh-argument and a discourse topic in Spec CP will not intervene with each other for LDA since they are structurally at the same level. For i), wh-elements like ‘who’ and ‘what’ bear wh- and  $\phi$ -features (as DPs) and can trigger LDA, as in (60)<sup>34</sup>: *wegonesh* ‘who’ has 3<sup>rd</sup> person features that trigger LDA on the matrix verb (*nen kwezhegaasan* ‘the cookies’ cannot trigger person agreement because it is inanimate).<sup>35</sup> LDA of a fronted DP wh-word is expected since it resides in Spec CP and is therefore outside the spell-out domain of the embedded C, making it visible to matrix *v*’s  $\phi$ -probe.

- (60) kaa ngikenmaasii (wegonesh)gaa-zheshemgowang nen kwezhegaasan  
kaa ni-giken-im-aa-sii wegonesh gaa-zheshemgow-ang nen kwezhegaas-an  
NEG 1-know-TR-1>3-NEG(IND) who wh.PAST-steal-3(CONJ) those cookie-PL  
‘I don’t know who stole the cookies.’

Concerning ii), it is not only possible for a topic to trigger LDA across an adjunct like ‘why’, but also across a DP wh-element in Spec CP: (61) shows matrix verb agreement with the plural 3<sup>rd</sup> person embedded subject ‘they’ across *awinin* ‘who’. LDA with ‘who’ is also possible in this type of construction (i.e. triggering 3<sup>rd</sup> person, but no plural, agreement). ‘They’ and ‘who’ are at the same structural level – in Spec CP – and are then equally close to the matrix probe and can trigger LDA.

- (61) nigikenomaag awinin menowenaawaagin  
ni-giken-im-aa-ag awinin menowen-aa-waa-gin  
1-know-TR-1>3-3PL(IND) who wh.like-3’OBJ-3PL-3(CONJ)  
‘I know who **they** like.’

We conclude that a DP can bear a discourse topic feature that triggers its A’-movement up to Spec CP (meaning it will not cross paths with a wh-operator in Spec CP, see Richards 1997). Within our analysis, nothing prevents conjunct C from introducing two sets of  $\delta$ -features, in particular both wh- and topic features, seen in (60) and (61), and thus our analysis allows for the co-occurrence of wh-agreement in the embedded clause and LDA of the matrix verb with an embedded topic.<sup>36</sup>

In summary, we have proposed that LDA is entirely natural in a system where conjunct C

<sup>34</sup> Wh-arguments in Ojibwe lack number features, seen in the absence of plural marking either on the DP or agreement triggered on the verb.

<sup>35</sup> LDA with the wh-element in constructions like (60) does not require that the wh-element be marked as a discourse topic. Rather, since the wh-element is already in Spec CP it is local to the  $\phi$ -probe of the matrix verb and automatically triggers Agree in the absence of any intervening DPs (e.g. a matrix object, full discussion in Lochbihler 2012).

<sup>36</sup> In English, LDA of this type is not possible because  $\delta$ -features are not transferred to T. Therefore, nothing moves up through Spec TP for discourse reasons since that position is (exclusively) an A-position.

introduces  $\delta$ -features. In the case of LDA, topic  $\delta$ -features are introduced by C, but not  $\phi$ -features. Agreement in the conjunct clause proceeds as normal (see Section 3), but a topicalized DP can be raised to the edge of the embedded CP triggering agreement with the matrix verb. LDA thus exists because of the nature of conjunct C and the fact that [u $\phi$ ] and [u $\delta$ ] do not bundle together on a single head C in Ojibwe.

### 5.2 The simple conjunct

We have now discussed in detail the realization of wh-agreement in changed conjunct clauses, the introduction of  $\phi$ -features by independent C and topics in embedded conjunct clauses. We finally turn to the content of C in plain conjunct clauses, that is, the conjunct with no operator movement or wh-agreement. Plain conjunct C is also proposed to be  $\phi$ -defective, and instead introduces  $\delta$ -features like the changed conjunct (see (47)), but these clauses do not exhibit Initial Change or involve wh/operator-features. As per the discussion of LDA above, some plain conjunct clauses introduce topic discourse features (in the absence of wh-features, e.g. the embedded clause in (59)), but LDA is an optional process and not all plain conjunct clauses contain a discourse topic, seen in (50a), (52a) and (55). The question is, what is the featural content of plain conjunct C if it is  $\phi$ -defective and in the absence of topic  $\delta$ -features?

In Ojibwe, plain conjunct clauses (and embedded changed conjunct clauses) are dependent: either they are grammatically subordinated by another clause (e.g. (50a)), or they are anaphoric on the previous discourse, illustrated in (62)-(63).<sup>37</sup> (62) is a matrix conjunct clause that is not grammatically subordinated. It is, however dependent on the discourse context given in (63), and the use of the conjunct order signals this dependency. There are many examples of matrix clauses in the simple conjunct in the text collected in Nichols (1988).

- (62) Gii-maajiidaabaan'goyaanh.  
 Gii-maajii-daabaanigo-yaanh  
 PAST-start-drive.sleigh-1(CONJ)  
 'So I took off.' (Chippewa-Ottawa texts, Fox and Soney with Rhodes, in Nichols 1988:44)
- (63) "Aanii-sh iidig ezhwebak?" ndinendam. Mii-sh ge go mkwendmaanh jiibaatgoogiizhgad.  
 "Ndaangshenh nga-oo-mbwaachaa," ndinendam **Gii-maajiidaabaan'goyaanh**.  
 'So I wonder what's going on. But then I remember that it's Friday. So I say to myself, "I'll just go visit my cousin." So I took off.' (Williams 1991:32)

While the conjunct order is usually described as the paradigm used in subordinate clauses (relative or embedded), there are exceptions and these exceptions follow from the fact that the clauses in question are anaphoric on previous discourse (in fact, this is exactly what is proposed in the traditional literature, see Cyr 1991, Valentine 2001:951).

Cook (2008) discusses the distribution of the verbal orders in Plains Cree, claiming that there are two types of clauses: indexical clauses in the independent order that are evaluated with respect to the speech situation; and anaphoric clauses in the conjunct order, which are instead evaluated with respect to a contextually-given situation (see also Cyr 1991).<sup>38</sup> A similar

<sup>37</sup> Independent clauses are, as the name suggests, not dependent on the discourse or an embedding clause. In the terms of Ritter and Wiltschko (2004, 2009), independent clauses are *anchored* to the discourse by the participants of the speech act, reflected in the person proclitic whose features originate on C.

<sup>38</sup> There seems to be a difference between Plains Cree and Ojibwe where only conjunct clauses with the *changed* conjunct can appear as matrix clauses in Plains Cree, but in Ojibwe, no such restriction applies. Matrix sentences can

distinction is suitable for the distribution of the conjunct in Ojibwe where the contextual situation can be provided by the main clause, as in subordination, or it can be provided by the discourse context, like in (63).

We propose that the plain conjunct does fall in line with the changed conjunct in introducing  $\delta$ -features, but instead of *wh*-features the plain conjunct can introduce topic or anaphoric  $\delta$ -features, connecting a clause to its role in the discourse. The conjunct order is consistently directly connected to the discourse environment of an utterance, either with respect to operators, as in the changed conjunct, or in the dependency of a clause on the context for the plain conjunct. We posit that the proclitic slot in the plain conjunct is filled by a null exponent (corresponding to Spec TP), since these clauses have neither  $\phi$ -features to spell-out a person prefix nor the *wh*-features for Initial Change.

To summarize Section 5, we discussed the realization of LDA in Ojibwe, which allows a DP in an embedded clause to trigger agreement on a matrix verb. Following Branigan and MacKenzie (2002), the argument triggering LDA is a topic and moves to the left edge of the embedded clause where it becomes visible to an agreement probe in the matrix clause. We also completed the discussion of the Ojibwe conjunct order and the content of C that differentiates them: C in the independent introduces  $\phi$ -features, and the conjunct introduces  $\delta$ -features – either *wh*/focus for the changed conjunct, or topic/anaphoric for the plain conjunct, indicating the dependency of a conjunct clause on the discourse context.

## 6 Conclusion

In this paper we have argued that the phenomenon labelled Initial Change in Ojibwe is in fact *wh*-agreement on T. *Wh*-agreement surfaces on T rather than on C because the features introduced by C are transferred to T, as per feature inheritance (Richards 2007; Chomsky 2008). We expanded on Miyagawa (2010), claiming that C can bear either  $\phi$ - or  $\delta$ -features, resulting in agreement or discourse agreement around C in a given language or clause type. Ojibwe has  $\phi$ -features on C in independent (declarative matrix) clauses, but has only  $\delta$ -features on C in conjunct (embedded or operator) clauses. Other languages have different combinations of features on C, for example, English, French or Spanish C can carry both  $\phi$ - and  $\delta$ -features.

We further showed how this theory of features introduced by C accounts for long-distance agreement in Ojibwe. C can introduce *wh*/focus or topic features (as is often the case in plain conjunct clauses) that raise the marked argument to the left edge of an embedded clause (Branigan and MacKenzie 2002). The proximity to the matrix verb allows the  $\phi$ -probe in the upper clause to agree with the topic argument, reducing to canonical Agree.

The view of Ojibwe C as varying with respect to the features it introduces allows for a unified view of several different phenomena in the language: the independent versus conjunct order and clause typing; Initial Change in interrogatives, relative clauses and focus constructions; the distribution of proclitics in Ojibwe; and the correlation between  $\phi$  or discourse dependent agreement across languages and the content of C.

The realization of *wh*-agreement in Ojibwe on T and long distance agreement is governed by the nature of conjunct C and has important consequences for the theory of grammar and for our understanding of Algonquian languages in particular. In the future, we hope to investigate other languages where C has the properties further predicted by the parameters set out in this article, as well as to conduct comparative work in Algonquian to understand the similarities, but

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either be in the independent or the conjunct order given the proper discourse environment, whether the latter is changed or plain.

also the differences, between Algonquian languages and dialects.

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