# Phi-feature competition in morphology and syntax[*]

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## 1. Dependent agreement

A long-standing problem in morphosyntax concerns the analysis of what I will call *dependent agreement*. Dependent agreement arises when a single position can show agreement with either of two arguments, depending on their relative properties.[1] Such cases can be divided into two classes. In *position-based dependent agreement*, the choice of which argument triggers agreement depends primarily on the relative syntactic positions of the arguments. This type of agreement is illustrated in the Yucatec Mayan perfect (1).[2] A suffix on the main verb preferentially indexes the internal argument, while the external argument triggers agreement on an aspectual auxiliary (1a). However, if there is no internal argument, the verb suffix instead indexes the external argument (1b-c), which in turn triggers no agreement on the auxiliary.

(1)    a.    t-**a**          w-il-ah-<u>en</u>.

           PERF.TR-2sg   PART-see-CPL-1sg

           'You (sg) saw <u>me</u>.'

     b.    h          meyahn-ah-<u>en</u>.

           PERF.INTR   work-CPL-1sg

           '<u>I</u> worked.'

     c.    h          meyahn-ah-<u>etʃ</u>.

           PERF.INTR   work-CPL-2sg

           '<u>You</u> worked.'                     (Wunderlich and Krämer, 1999)

In *feature-based dependent agreement*, by contrast, the choice of which argument

triggers agreement depends primarily on the arguments' relative specifications for phi-features, such as animacy, person, or number. This type of agreement is seen in Algonquian personal prefixes, as illustrated in (2), from Ojibwa (Rhodes, 1976). Here, the prefix on the verb preferentially indexes a second person (or inclusive) argument (*g-*) (2a-b). If there is no such argument, the prefix can index a first person argument (*n-*), if one is present (2c). Otherwise, the prefix can index a proximate third person argument (*w-*) (2d).

(2)    a.    g-biin-i[3]    'You bring me.'    g-biin-ini    'I bring you.'

        b.    g-biin-aa    'You (sg) bring him.'    g-biin-igw    'He brings you (sg).'

        c.    n-biin-aa    'I bring him.'    n-biin-igw    'He brings me.'

        d.    w-biin-aa    'He brings him-obv.'    w-biin-igw    'He-obv. brings him.'
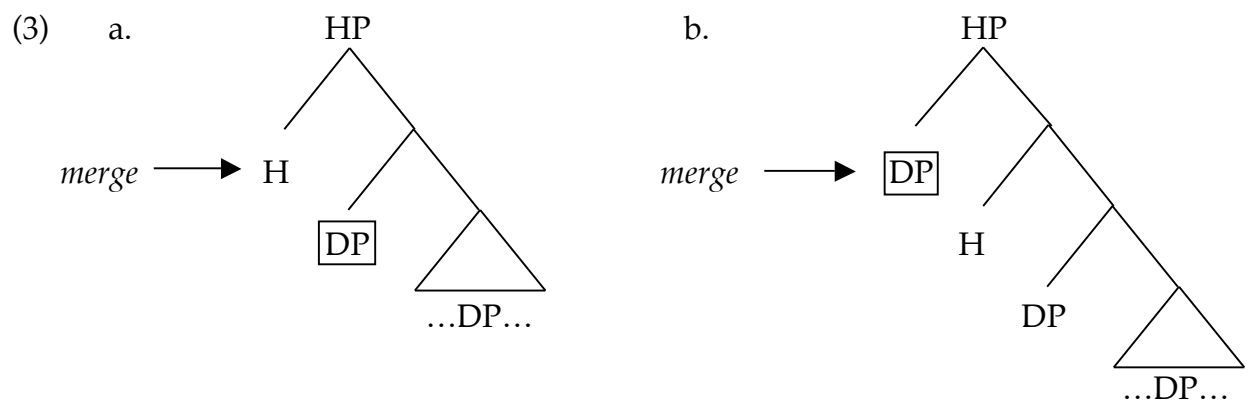
The two types of dependent agreement have commonly been analyzed in the same way. Recent proposals give essentially the same analysis to feature-based dependent agreement in Algonquian person prefixes and position-based dependent agreement in Georgian person prefixes (Anderson, 1992; Béjar, 2003; Halle and Marantz, 1993). However, I will argue that the two cases should be separated: position-based dependent agreement arises from competition for agreement in the syntax, while feature-based dependent agreement arises from morphological competition. Under this proposal, phi-feature competition can give rise to dependent agreement both in syntax and in morphology, but in crucially different ways.

The paper is organized as follows. Section 2 introduces the theoretical accounts of syntactic and morphological phi-feature competition. Section 3 argues that Béjar's (2003) syntactic analysis of position-based dependent agreement in Georgian captures the correct generalizations, by contrast with a morphological analysis. Section 4 reviews

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Halle and Marantz's (1993) morphological analysis of feature-based dependent agreement in Algonquian prefixes, and argues that it is more successful than a syntactic analysis of these facts.

## 2. Syntactic and morphological phi-feature competition

Recent work within the Minimalist framework relates two distinctive characteristics of natural language, agreement and displacement, by attributing both to the presence of uninterpretable features on syntactic heads (Chomsky, 1995). A head with uninterpretable features must enter a local relation with an appropriate phrase in order for the derivation to receive a complete interpretation. For example, a head with uninterpretable phi-features targets a DP with interpretable phi-features; a head with an uninterpretable EPP features targets an XP that can move to its specifier. This approach incorporates a Shortest Move version of locality, by which a head targets the closest constituent with an appropriate set of features. Assuming that the derivation is constructed from the bottom up, the closest constituent to a head just merged into the structure will be the highest constituent c-commanded by the head (3a). There is also some evidence that once an element has merged as the specifier of a head, the head can probe this element (3b) as well (Rezac, 2003).

(3)    a.          HP                      b.          HP

    merge ⟶ H                        merge ⟶ DP

                DP                                    H

                 …DP…                                    DP

                                                          …DP…

Chomsky (2001) proposes that the uninterpretable phi-features generated on a syntactic head are generalized categories, such as person or number. When a head targets a DP, this Agree operation *values* (specifies) the phi-features of the head to match those of the DP — for example, a generalized number category may be valued as plural, or a generalized person category may be valued as first person. Béjar (2003) makes the intriguing proposal that syntactic heads can also be *generated* with fully or partly specified uninterpretable features. She argues that such pre-specified features give rise to dependent agreement.

For example, suppose that a head H is generated with an uninterpretable feature F. If F is a generalized feature, it probes the closest constituent with interpretable F. For example, English verb agreement works like this: only the highest DP, which becomes the subject, can trigger person agreement on the tense morpheme.

(4)     a.      He like-s her/them.

        b.      They like(*-s) him.

This is expected if the highest argument below T both triggers agreement (5), and moves to the subject position.

(5)
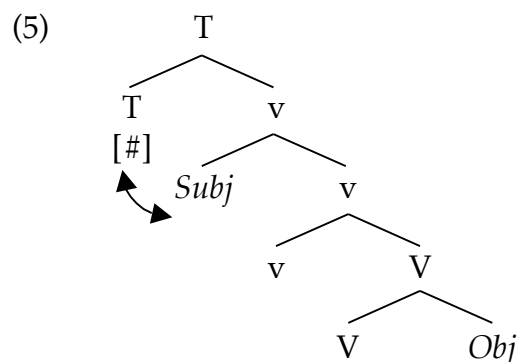


Specified agreement has a broader scope: if the closest argument does not match the uninterpretable feature specifications of a head, the head can probe a second time.

Georgian plural agreement works like this (6). T begins by probing the closest

argument, just as in (5). If this argument is plural, T agrees with it (6a). If not, however,

T can probe a second time. If the object is plural, T can agree with it (6b).[4] Otherwise,

singular agreement is used (6c). Suffixal agreement with both arguments is impossible,

so 'They saw you (pl)' is *g-nax-es*, not *\*g-nax-es-t*.

(6)     a.      g-nax-<u>es</u>

                2.DAT-see-AOR.3pl[5]

                '<u>They</u> saw you (sg/pl).'

        b.      g-nax-a-<u>t</u>

                2.DAT-see-AOR-pl

                '(S)he saw <u>you (pl)</u>.'

        c.      g-nax-a

                2.DAT-see-AOR

                '(S)he saw you (sg).'

In short, if uninterpretable features on heads play a role in syntactic movement and

agreement, this raises the possibility of syntactic phi-feature competition. Under the

approach outlined above, arguments compete to agree with a single phi-feature

specification, with the most local argument winning the competition only in some cases.
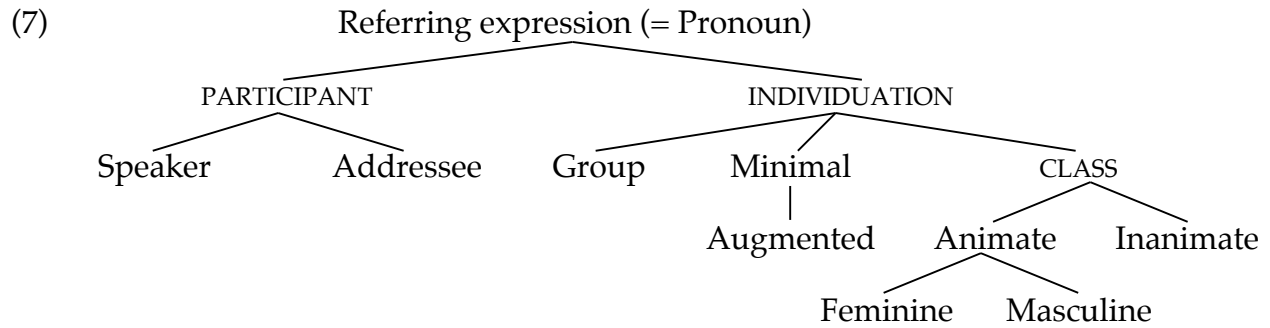
A more familiar notion of phi-feature competition can be found in late insertion

theories of morphology, including Distributed Morphology (Halle and Marantz, 1993).

In this model, the terminal nodes of a syntactic structure are generated with fully

specified syntactic/semantic features. When a syntactic derivation is transferred to the

phonological component, underspecified Vocabulary items compete for insertion into

syntactic terminal nodes. Each Vocabulary item consists of an array of morphosyntactic

features associated with a phonological exponent. Items are ranked by the richness of their morphosyntactic feature specifications — where possible, according to the Subset Principle. The competition for insertion is won by the most highly ranked Vocabulary item whose features are a subset of the features of the terminal node. In this context, then, phi-feature competition involves Vocabulary items competing to discharge phi-features phonologically.

Halle and Marantz (1993) account for dependent agreement in Georgian and Algonquian by means of such morphological competition. Crucially, certain morphological operations can precede Vocabulary insertion. For example, Halle and Marantz argue that subject and object pronouns undergo a Fusion operation, which fuses them into a single node, into which only one Vocabulary item can be inserted. The choice of which argument triggers overt morphology then depends purely on the competition among Vocabulary items.

I will argue below that both approaches to dependent agreement are empirically supported, but in different cases. Syntactic competition for agreement gives rise to position-based dependent agreement, while competition among Vocabulary items gives rise to feature-based dependent agreement.

For the sake of concreteness in the following discussion, let me briefly outline a set of theoretical assumptions regarding the representation of phi-features. I assume that phi-features are represented according to a universal geometry like the one below (Harley and Ritter, 2002):

(7) Referring expression (= Pronoun)

PARTICIPANT                    INDIVIDUATION

Speaker     Addressee     Group     Minimal            CLASS

Augmented     Animate     Inanimate

Feminine     Masculine

I assume that agreement nodes can consist of partial geometries, such as Person ($\pi$) with

a dependent [Participant] feature, or Number (#) with dependent [Group] and/or

[Minimal] features. A person system with an inclusive "you and I" category is shown

below: a dually specified inclusive category, a first person (exclusive) category, a second

person category, and a third-person category.[6]

| (8) | Person node | Semantic denotatation | Example: Ojibwa pl. pronouns |
|---|---|---|---|
| a. | $\pi$ \| Part / \ Spkr     Addr | All sets containing a speaker and an addressee | *kiinawint* 'we (incl)' |
| b. | $\pi$ \| Part \| Spkr | All other sets containing a speaker | *niinawint* 'we (excl)' |
| c. | $\pi$ \| Part \| Addr | All other sets containing an addressee | *kiinawaa* 'you (pl)' |
| d. | $\pi$ | All other sets | *wiinawaa* 'they' |

Phi-features are specifed contrastively: if a morphosyntactic contrast is missing from a

language, the corresponding feature is absent. I will assume that in a three-person

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system, the [Addressee] feature is absent, so that first person is most specified and third person least (McGinnis, 2005). However, nothing in the discussion below hinges crucially on this assumption.

| (9) | Person node | Semantic denotatation | Example English pl. pronouns |
|---|---|---|---|
| a. | π<br>\|<br>Part<br>\|<br>Spkr | All sets containing a speaker | *we* |
| b. | π<br>\|<br>Part | All other sets containing an addressee | *you* |
| c. | π | All other sets | *they* |

## 3. Position-based dependent agreement

Béjar's (2003) syntactic theory of phi-feature competition is uniquely well-designed to account for position-based dependent agreement. For example, person-marking on Georgian verbs preferentially indexes an internal argument:

(10)　a.　　m-xedav　　　　　'You see <u>me</u>.'

　　　 b.　　m-xedav-s　　　　'S/he sees <u>me</u>.'

　　　 c.　　g-xedav　　　　　'I see <u>you</u>.'

　　　 d.　　g-xedav-s　　　　'S/he sees <u>you</u>.'

If no internal argument is available, person-marking can index the external argument instead:

(11)    a.    v-mušaob          'I̲ work.'

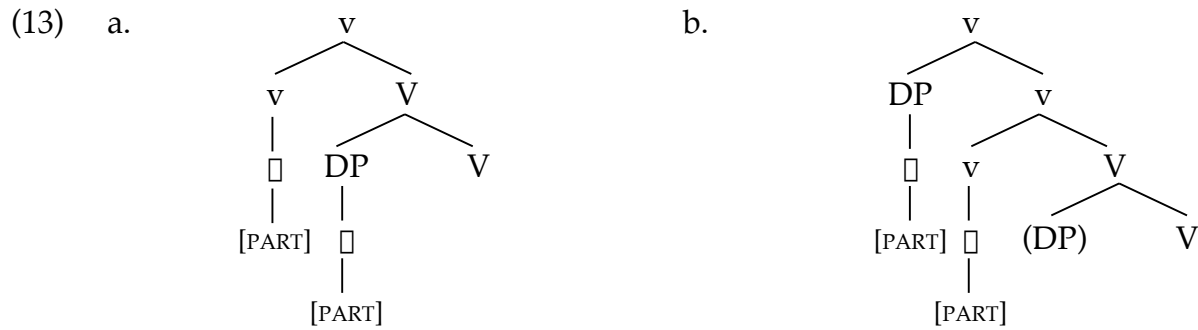        b.    Ø-mušaob          'Y̲o̲u̲ work.'

It is impossible for both arguments to trigger an agreement prefix, so 'I see you' is

*g-xedav*, not **g-v-xedav*. Like the cases of number agreement discussed above, this

pattern of person agreement is clearly sensitive to syntactic locality. Here, however, it is

the internal argument, not the external argument, that is preferentially targeted by

Agree. Béjar argues that in such cases, the locus of agreement is *v*, rather than T.

The person-marking prefix in Georgian is sensitive not only to locality, but also

to featural properties of the arguments involved. The prefix registers agreement only

with first or second person arguments — those with a [Participant] feature.[7] If the

internal argument is third person, the prefix shows agreement with the external

argument.[8]

(12)    a.    v-xedav-s          'I̲ see him/her.'

        b.    Ø-xedav-s          'Y̲o̲u̲ see him/her.'

Béjar proposes that the person-marking prefix reflects agreement with an

uninterpretable person category specified for the feature [Participant].

The *v* head begins by probing downward for a Participant argument. If there is a

local Participant, it triggers agreement on *v* (13a). Otherwise, *v* can probe again, on the

next step of the derivation — in this case, the merging of the external argument. If the

external argument is a Participant, then it triggers person agreement (13b). Otherwise,

null default agreement is inserted.

(13)  a.

```
              v
          ┌───┴───┐
          v        V
          │     ┌──┴──┐
          π    DP     V
          │     │
       [PART]   π
                │
              [PART]
```

b.

```
              v
          ┌───┴───┐
         DP        v
          │     ┌──┴──┐
          π     v      V
          │     │    ┌──┴──┐
       [PART]   π  (DP)    V
                │
              [PART]
```

According to this analysis, only one argument can trigger a Participant prefix because there is only one person feature on *v*. Its specifications will be determined by those of the highest internal argument, if it is a Participant, and otherwise by those of the external argument. The choice of which argument will trigger agreement is determined syntactically, by locality. Of course, the pronunciation of this agreement depends on other factors as well. For example, the prefixes *m-* '1sg', *gv-* '1pl' and *g-* '2' are associated with dative arguments, while *v-* '1' and *Ø-* '2' are associated with nominative arguments. I assume that these choices depend on the competition among Vocabulary items.[9]

By contrast, Halle and Marantz (1993) argue that Vocabulary competition determines not only how agreement is pronounced, but also which argument is indexed by agreement. They propose that Participant arguments fuse morphologically into a single syntactic node that comprises features of both arguments.[10] The Vocabulary items in (14) then compete for insertion. The dative items happen to be more specified than their nominative counterparts, so agreement preferentially reflects the features of the dative argument, if one is present:

(14)  a.  [+1], DAT, [+pl]  ↔  / gv-/

      b.  [+1], DAT  ↔  / m-/

      c.  [+2], DAT  ↔  / g-/

| | | | |
|---|---|---|---|
| d. | [+1] | ↔ | /v-/ |
| e. | [+2] | ↔ | /Ø-/ |

While this analysis correctly captures the facts, it fails to capture the generalization that the first three items correspond to the Participant argument that is structurally closest to $v$ when two Participant arguments are in principle eligible for agreement. There is nothing to rule out an alternative such as the one in (15), by which a dative argument would trigger the prefix only (i) if it were first person plural, or (ii) if there were no nominative Participant argument in the clause; otherwise, a nominative argument would trigger the prefix.

| | | | | |
|---|---|---|---|---|
| (15) | a. | [+1], DAT, [+pl] | ↔ | /gv-/ |
| | b. | [+1], NOM | ↔ | /v-/ |
| | c. | [+2], NOM | ↔ | /Ø-/ |
| | d. | [+1] | ↔ | /m-/ |
| | e. | [+2] | ↔ | /g-/ |

According to Béjar's analysis, syntactic locality determines which argument is indexed by agreement. Thus it is no coincidence that the closest Participant argument preferentially triggers person agreement on $v$. Under this approach, a Vocabulary list like the one in (15) would yield exactly the same results as the one in (14); as long as the dative clitics block each other, and the nominative clitics block each other, the order of dative clitics relative to nominative clitics is not crucial.[11]

## 3.1 Evidence for the syntactic competition analysis

A methodological advantage of the syntactic approach is that it makes structural predictions that can be tested against a broader range of evidence than is possible for the Vocabulary competition approach. If these predictions are correct, they provide

further support for the syntactic analysis.

For example, if we take seriously the view that *v* preferentially agrees with the closest Participant argument, this makes predictions concerning the structure of Georgian clauses with a dative subject. These clauses fall into two main classes: clauses with an Experiencer subject, and clauses in the perfect or pluperfect tense/aspect series. In both cases, person agreement preferentially targets the dative argument. Consider first the Experiencer -subject case. In this case, if there are two Participant arguments, the subject triggers agreement, rather than the object (16). This is also the case if there is only a lone Experiencer argument.

(16)   a.     m-i-qvar-xar

           1.DAT-APPL.PART-love-2

           'I̱ love you.'

      b.     m-i-qvar-s

           1.DAT-APPL.PART-love-3

           'I̱ love him/her/them.'

      c.     g-i-qvar-var

           2.DAT-APPL.PART-love-1

           'Y̱ou love me.'

      d.     g-i-qvar-s

           2.DAT-APPL.PART-love-3

           'Y̱ou love him/her/them.'

On the other hand, if the Experiencer is a third-person argument, a Participant object can trigger prefixal agreement:

(17)   a.     v-u-qvar-var

         1.NOM-APPL-love-1

         'S/he loves <u>me</u>./They love <u>me</u>.'

     b.     Ø-u-qvar-xar

         2.NOM-APPL-love-2

         'S/he loves <u>you</u>./They love <u>you</u>.'

If case alone determined which argument triggered agreement, the only conclusion that could be drawn is that Experiencer subjects have dative case, which is manifestly correct. However, if locality determines which argument triggers agreement, the facts above predict that an Experiencer subject is generated lower than an agentive subject. Specifically, if agentive subjects are generated in spec-*v*, Experiencer subjects must be generated below *v*.

According to the Uniformity of Thematic Alignment Hypothesis (Baker, 1988), arguments with the same thematic role are always generated in the same syntactic positions. This hypothesis implies that arguments with different thematic roles are generated in different syntactic positions. A similar hypothesis is that thematic roles are determined configurationally, by the position an argument occupies relative to other syntactic categories (Hale and Keyser, 1993; 2002). However, the notion of "position" is somewhat flexible: both of these hypotheses leave open the possibility, for example, that different types of *v* can license different types of external argument specifiers. Indeed, Arad (1999) argues that stative *v* licenses an Experiencer, while eventive *v* licenses an Agent. However, if the line of argument pursued above is correct, Georgian prefix agreement predicts that Experiencer subjects are generated below *v*.

As it turns out, this prediction is supported by both cross-linguistic and

language-internal evidence. One type of cross-linguistic evidence  is the familiar observation that an Experiencer can act as a subject (*X likes/hates/fears Y*) or as an object (*Z pleases/disgusts/frightens X*). Pesetsky (1995) argues that this possibility arises because the other argument (Y or Z) has distinct thematic roles in the two cases: a Target or Subject Matter role in subject-Experiencer clauses, and a Causer role in object-Experiencer clauses. If the Causer role is assigned to spec-*v*, then the Experiencer role must be assigned below spec-*v*, assuming that there is only one *v* per (simple) clause.

Further cross-linguistic evidence that a dative Experiencer is not an external argument comes from Kannada reflexive morphology. In a transitive clause with a nominative subject, a binding relation between the external and internal arguments is obligatorily indicated by reflexive morphology (*-koLL/-koND*[12]) on the verb, and optionally by the appearance of an independent anaphoric argument (18a). The morpheme *-koLL* has a non-reflexive use that arises in some unaccusative clauses, but in its reflexive use *-koLL* is always associated with an external argument. A binding relation between two internal arguments can be indicated only by an anaphoric argument (18b), and reflexive *-koLL* cannot appear in an unaccusative clause, which lacks an external argument (see Lidz, 1996 and references therein). Interestingly, *-koLL* also cannot be used in a clause with a dative subject: as in (18b), the binding relation must be indicated by an anaphoric argument. This suggests that the dative subject is not an external argument, and that, like the dative object in (18b), it is projected below *v*.

(18)   a.      avan-u   (tann-annu)   *hoDe-da/hoDe-du-<u>koND</u>-a.

he-NOM   self-ACC      beat-PST.3sg.m/beat-PPL-REFL.PST-3sg.m

'He beat himself.' (Amritavalli, 2000:53)

b.    naan-u   siite-ge        avaL-ann-ee      tooriside.

       I-NOM    Sita-DAT      she-ACC-EMPH     show.PST.1sg

       'I showed Sita to herself.' (Amritavalli, 2000:56)

c.    rashmi-ge   taan-u   ishta-aad-a/*ishta-aad-du-<u>koLL</u>-utt-aaLe.[13]

       R-DAT      self-NOM like-INCH-NPST.3sg.m/like-INCH-PPL-REFL.NPST-3sg.f

       'Rashmi likes herself.' (Lidz, 2001:335)

Georgian verbal morphology provides independent language-internal evidence that Experiencer subjects are generated below *v*. Experiencer subjects are associated with an applicative morpheme *i-/u-*, seen in (16) and (17) above. This morpheme is also associated with indirect objects, as shown below.[14]

(19)   a.    da-malav-s

          PREV-hide-3

          'S/he is hiding it.'

      b.    da-<u>u</u>-malav-s

          PREV-APPL-hide-3

          'S/he is hiding it from him/her.'

      c.    da-m-<u>i</u>-malav-s

          PREV-1.DAT-APPL.PART-hide-3

          'S/he is hiding it from me.'

The indirect object is clearly generated below the external argument: the external argument can bind a reflexive indirect object (20a). This binding relation cannot be reversed (20b).

(20)   a.   nino          tavis tav-s     simartle-s   u-giar-s.

Nino.NOM   self self-DAT   truth-ACC   APPL-reveal-3

'Nino revealed the truth to herself.'

b.   *nino-s        tavis tav-i     simartle-s   u-giar-s.

Nino-DAT   self self-NOM   truth-ACC   APPL-reveal-3

('Herself revealed the truth to Nino.')

The fact that Experiencer subjects and indirect objects are associated with the same applicative morpheme suggests that they are generated in the same position: in the specifier of an applicative head (Marantz, 1989). If so, then the Experiencer, like an indirect object, is generated lower in the structure than an Agent in spec-$v$. This evidence again supports the claim that the person-marking prefix in Georgian preferentially targets the highest argument below $v$ — in this case, the Experiencer subject.

The subject is also preferentially targeted in the perfect and pluperfect tense/aspect series, as illustrated in the perfect forms below:

(21)   a.   m-i-ki-xar

1.DAT-APPL.PART-praise-2

'I have praised you.'

b.   m-i-ki-a

1.DAT-APPL.PART-praise-3

'I have praised him/her/them.'

c.   g-i-ki-var

2.DAT-APPL.PART-praise-1

'You have praised me.'

    d.      g-i-ki-a

             2.DAT-APPL.PART-praise-3

             'You have praised him/her/them.'

If the dative subject is third person, a Participant object can trigger prefixal agreement:

(22)   a.      v-u-ki-var

             1.NOM-APPL-praise-1

             'S/he has praised <u>me</u>./They have praised <u>me</u>.'

     b.      Ø-u-ki-xar

             2.NOM-APPL-praise-2

             'S/he has praised <u>you</u>./They have praised <u>you</u>.'

It is interesting to note that the dative subject of a perfect or pluperfect in Georgian is also associated with the applicative morpheme *i-/u-*. Under the analysis sketched above, this predicts that such a subject is generated below *v*, just like an Experiencer subject or an indirect object. At first glance, the prediction seems unlikely to be correct: the thematic role of the subject is generally assumed to be identical, regardless of the tense/aspect properties of the clause.  If the thematic roles of the arguments are the same in all tense/aspect series, surely their syntactic positions are identical: an argument generated in spec-*v* in the present tense must also be generated in spec-*v* in the perfect.

    In fact, this conclusion does not necessarily follow. There is considerable evidence that the same thematic role can be assigned in different configurations. For example, a *by*-phrase in a passive clause has the same thematic role as the external argument of the corresponding active, yet binding evidence shows that the *by*-phrase, unlike the external argument, is c-commanded by VP-internal PPs (Pesetsky, 1995).

According to Marantz (1997), derived nominalizations constitute a similar case. The external argument of a verb (23a) can receive the same interpretation as the possessor of the corresponding derived nominalization (23b). In the first case, the argument is generated in a specifier of the verbal functional head *v*. In the second case, Marantz argues, there is no *v*: *destruction* is a noun, not a verb.[15]

(23)    a.    <u>The army </u>destroyed the city.

        b.    <u>the army's</u> destruction of the city

According to Marantz, *destroy* and *destruction* share a category-neutral root √*destr-*, merged in the syntax (see also Pesetsky, 1995). *Destroy* is a verb because the root combines with *v*, while *destruction* is a noun because the root combines with D (or *n*). The agentive interpretation of *the army* in (23b) is licensed not by an agentive *v*, but by the root itself, which implies an external cause or agent. By contrast, an agentive interpretation for the external argument of a root denoting an internally caused change of state, such as *grow,* can be licensed only by means of an agentive *v*; the root itself does not license an agentive interpretation for a possessor (Chomsky, 1970):[16]

(24)    a.    <u>John</u> grew tomatoes.

        b.    *<u>John's</u> growth of tomatoes

If this proposal is correct, then it is logically possible that the interpretation of the dative external argument in the Georgian perfect is also licensed by the verb root itself, rather than by an agentive *v*. The issue, then, is whether there is any independent evidence to support this view.
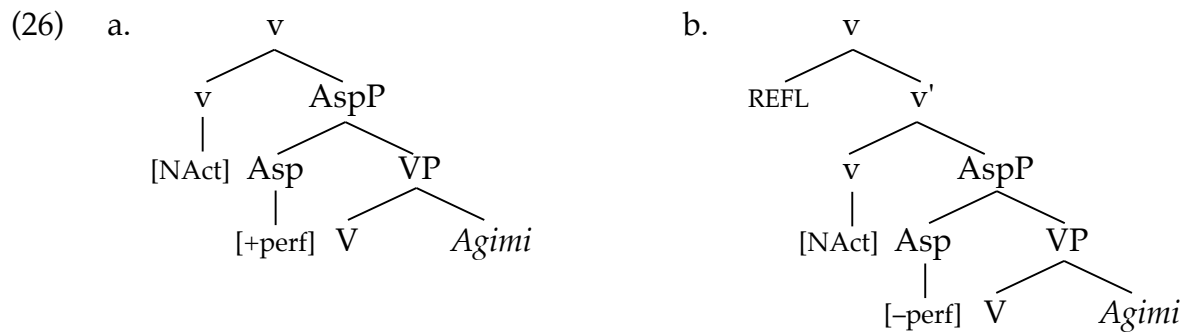
Massey (1991) provides evidence from Albanian that agentive subjects of perfect and non-perfect clauses are generated in different positions. This argument relies in part on the observation that Albanian, like English, uses the same participle for perfect

and passive clauses. In the active perfect, the participle combines with the auxiliary *kam* 'have' (25a). In the passive, this participle combines with the auxiliary *jam* 'be' (25b). In addition to the analytic passive, Albanian also has a synthetic passive (25c). This NonActive form also allows a reflexive interpretation. The analytic passive, however, never allows a reflexive interpretation.[17]
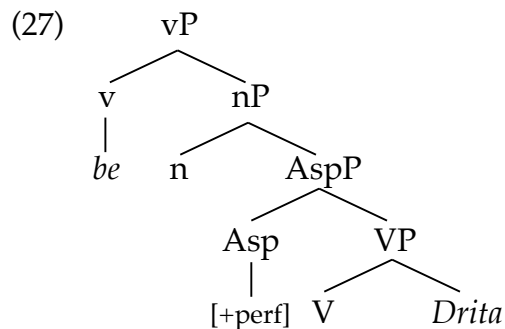
(25)  a.    Drita        ka               goditur  Agimin.

           Drita.NOM  have.3sg.PRES  hit.PPL    Agim.ACC

           'Drita has hit Agim.'

      b.    Drita        është       goditur.

           Drita.NOM  be.3sg.PRES  hit.PPL

           'Drita was/has been hit.'

      c.    Agimi       lahet.

           Agim.NOM   wash.3sg.PRES.NAcT

           'Agim is/has been washed.' / 'Agim washes/is washing himself.'

Massey observes that the availability of the reflexive and passive interpretations is crucially related to aspectual properties of the clause: a passive interpretation is always perfect, and a perfect interpretation is never reflexive. Thus, the reflexive interpretation is ruled out, not only by the analytic form, which is inherently perfect, but also by the synthetic form, when it receives a perfect interpretation. Massey suggests that this incompatibility arises because a perfect stem itself cannot project an external argument in the syntax, except as a *by*-phrase (*prej*-phrase, in Albanian): if the *by*-phrase is omitted, the external argument is implicit, not syntactically projected (see also Embick, 1997). However, the reflexive interpretation crucially requires a verb phrase that projects an external argument; clitic/affixal reflexives are incompatible with

unaccusatives and passives, even those with two internal arguments that could form a referential dependency (McGinnis, 2004; Pesetsky, 1995; Rizzi, 1986).[18] It follows that a perfect stem, with no external argument, will disallow the reflexive interpretation, which requires an external argument.[19] The analytic passive contains an inherently perfect stem, so it never permits the reflexive interpretation. On the other hand, the synthetic NonActive is structurally ambiguous: one structure has a perfect stem, and disallows the reflexive interpretation (26a), while the other has a non-perfect stem, and requires this interpretation (26b).[20]

(26)  a.

```
              v
         ┌────┴────┐
         v        AspP
         |      ┌──┴───┐
      [NAct] Asp      VP
              |     ┌──┴────┐
           [+perf] V      Agimi
```

b.

```
              v
         ┌────┴────┐
       REFL        v'
              ┌────┴────┐
              v        AspP
              |      ┌──┴───┐
           [NAct] Asp      VP
                   |     ┌──┴────┐
                [–perf] V      Agimi
```

What prevents the perfect from projecting an external argument? For the participial forms, one possibility is that perfect participles do not contain *v*. This view is supported by Iatridou et al.'s (2001) arguments that perfect participles are dominated by a nominal projection, which is in turn dominated by a projection of the auxiliary verb *be*. A simplified version of Iatridou et al.'s representation is given in (27).

(27)

```
         vP
      ┌───┴───┐
      v       nP
      |    ┌───┴────┐
     be    n       AspP
               ┌────┴───┐
              Asp       VP
               |     ┌───┴────┐
            [+perf]  V      Drita
```

If the nominal head incorporates into *be*, it forms the auxiliary *have* (Kayne, 1993).

Iatridou et al. argue that this incorporation also prevents the participle from forming a reduced relative clause, on the assumption that reduced relatives must be nominal. Their analysis captures the generalization that perfects formed with *be* can form reduced relatives, while those formed with *have* cannot. For example, in Bulgarian, active perfects are formed with *be*, so they can form reduced relatives:

(28)　　Zapoznah　se　　sûs　　ženata　　　　[napisala　　　　　　knigata].

　　　　met.1sg　　REFL　with　the.woman　　written.ACT.PPL.f.sg　the.book

　　　　'I met the woman (who has) written the book.'

In English, active perfects are formed with *have*, so the English version of (27), *I met the woman written the book*, is impossible. A passive interpretation is possible, as in *I met the woman (who was) written a letter*; here, however, the auxiliary is *be*.
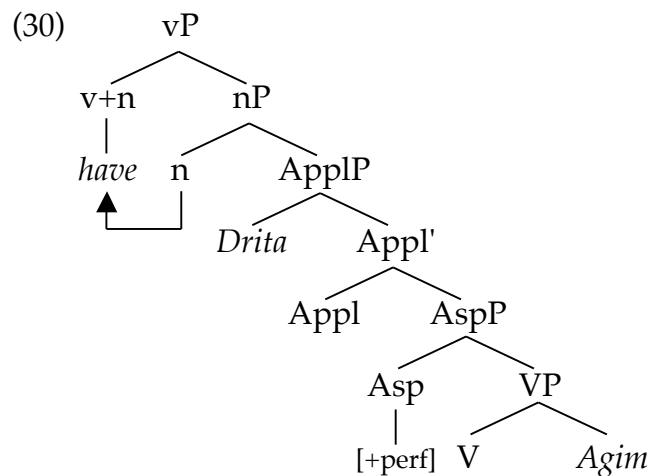
Suppose, then, that a perfect participle is dominated by a nominal projection, rather than by the *v* projection that would thematically license an external argument. Where, then, does the external argument of the active perfect originate? One possibility is that it is generated in the specifier of the auxiliary *v* (Cowper, 1989; Hoekstra, 1984; Roberts, 1986). This approach is most plausible in languages like Dutch and Italian, where one auxiliary ('have') is used for perfects with an external argument, and another ('be') for the perfects without one; however, the approach is more difficult to maintain in languages like English or Spanish, where all active perfects use 'have', or like Bulgarian, where all perfects use 'be'.

Another possibility is that even active perfects never project an external argument. One piece of evidence for this view is that a perfect clause cannot be passivized (29a). According to Iatridou et al. (2001), there are no known counterexamples to this generalization. Given that clauses with a derived subject

generally cannot be passivized, the impossibility of (29a) suggests that an active perfect like *The police have arrested John* has a derived subject, not an external argument. On the other hand, a perfect participle can easily be formed from a verb phrase that lacks an external argument, so there is no problem with basing a perfect on a passive (29b).

(29)   a.      *John was had arrested.

       b.       John has been arrested.

If this line of argument is correct, then what appears to be an external argument in the perfect is actually generated as an internal argument. As noted above, a Georgian perfect has the same applicative prefix *i-/u-* that appears in clauses with an indirect object. This suggests that the subject of an active perfect is projected as the specifier of an applicative head, as in (30). This head relates the dative argument to the state described by the perfect participle; the argument should then be interpreted as the possessor or experiencer of this state. To the extent that the subject of a perfect clause receives the same interpretation as the external argument of its non-perfect counterpart, this can be attributed to the inherent meaning of the lexical root of the perfect participle.

(30)

```
              vP
            /    \
        v+n        nP
         |       /    \
       have    n      ApplP
        ▲__|         /      \
               Drita        Appl'
                           /     \
                        Appl      AspP
                                 /     \
                              Asp       VP
                               |       /    \
                            [+perf]  V      Agim
```

The dative experiencer subject, then, would not be an external argument; instead, it would simply be the argument closest to the syntactic subject position (say, spec-TP).

This conclusion supports the claim that prefixal agreement in Georgian preferentially targets the highest argument below *v*.

The above discussion lays out several types of evidence for the proposed syntactic competition analysis of the Georgian Participant prefix. While many issues remain to be investigated, this analysis clearly makes a number of correct empirical predictions that are not associated with the Vocabulary competition analysis, where all that matters for prefixal agreement is the case of the arguments involved, not their syntactic positions. Given that the syntactic competition analysis is supported by both cross-linguistic and language-internal evidence, it is to be preferred.

**4.      Feature-based dependent agreement in Algonquian**

Dependent agreement is also seen in Algonquian languages, where a verbal prefix can index the person features of either the subject or the object, but not both. Here, however, the prefix shows no positional preference for the subject or the object. The choice as to which argument will trigger prefixal agreement depends primarily on the person features of the two arguments. For example, in Ojibwa, if either the subject or the object is inclusive or second person, the prefix *g-* is used (31a-d) (data from Rhodes, 1976). Otherwise, if either the subject or object is first person, the prefix *n-* is used (31e-f). If the clause has two third person arguments, the prefix *w-* is used (31g-h). Note that two prefixes cannot be combined, so 'I bring you' is *g-biin-i*, not *\*g-n-biin-i*.

(31)    a.    g-biin-i      'You bring me.'        b.    g-biin-ini    'I bring you.'

        c.    g-biin-aa    'You bring him.'      d.    g-biin-igw    'He brings you.'

        e.    n-biin-aa    'I bring him.'            f.    n-biin-igw    'He brings me.'

        g.    w-biin-aa    'He brings him-obv.'    h.    w-biin-igw    'He-obv. brings him.'

Halle and Marantz (1993) propose that this pattern of agreement arises from competition among Vocabulary items inserted into a single syntactic node bearing the features of proximate subject and object pronouns. For Halle and Marantz, proximate arguments include first and second person arguments, as well as third-person proximates — that is, non-obviative third-person arguments with a third-person obviative clausemate argument. Bruening (2001) provides binding evidence from Passamaquoddy that proximate arguments undergo A-movement to a position high in the clause. According to Halle and Marantz, proximate subject and object pronouns raise out of *v*P and fuse morphologically to form a single node. This fused node is subject to insertion of a single Vocabulary item. The choice of which item is inserted depends entirely on the features of the fused node, and the ranking of Vocabulary items according to their featural specifications. For example, the items in (32) yield the desired result: if the clause contains an inclusive or second person argument, the fused node will have the feature [Addressee]. If not, but the clause contains a first person argument, the fused node will have the feature [Participant]. If not, the node will be spelled out with the default proximate item *w-*. Note that the feature for *n-* is given as [Participant] rather than [Speaker] because this allows the items to be ranked without additional stipulation, by Paninian disjunctivity. Since all syntactic representations with an [Addressee] feature have a [Participant] feature, but not vice versa, [Addressee] is more specific than [Participant], and thus more highly ranked.

(32)    Person clitic (Ojibwa)

/g-/    ↔    [Addressee]

/n-/    ↔    [Participant]

/w-/    ↔    elsewhere

McGinnis

Under this approach, it makes no difference whether a proximate pronoun is a subject or an object. Whether it is overtly realized or not depends purely on its person features and those of the other argument.

Number agreement with proximate arguments in Algonquian is also feature-based, rather than position-based. In most Algonquian languages, number agreement preferentially indexes a first-person or inclusive plural argument, regardless of whether it is the subject or the object. If the clause contains no such argument, then number agreement can index a second-person plural argument — but, again, it cannot index both, so 'You (pl) bring us' is *g-biin-i-min*, not **g-biin-i-min-mw*.

(33)  a.   g-biin-i-<u>min</u>            'You (sg/pl) bring <u>us (excl)</u>.'

  b.   g-biin-ini-<u>min</u>          '<u>We (excl)</u> bring you (sg/pl).'

  c.   g-biin-ini-<u>mw</u>          'I bring <u>you (pl)</u>.'

  d.   g-biin-i-<u>mw</u>            '<u>You (pl)</u> bring me.'

  e.   g-biin-i                '<u>You (sg)</u> bring me.'

The pattern can be captured if this number agreement node agrees in person and number with the fused proximate arguments (Halle and Marantz, 1993).[21] Vocabulary items then compete for insertion into this position. The agreement facts in Ojibwa can be captured with the following Vocabulary items, where the first-person items are higher than the second-person items.

(34)   Person/Number items (Ojibwa)[22]

  /min-/   ↔   [Group, Speaker]
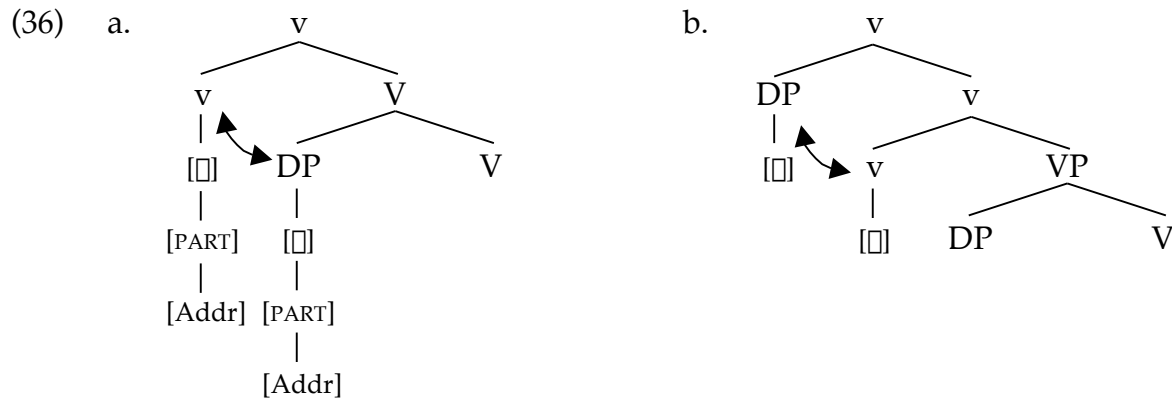
  /mw-/   ↔   [Group]

  Ø      ↔   elsewhere

Not all Algonquian languages show a preference for first-person plurals. In

Swampy Cree, the number agreement suffix preferentially indexes a second-person plural argument (35a-b) (Déchaine, 1999; Ellis, 1983). First person plural agreement can appear only in the absence of second person plural (35c-d). In such a language, the highest-ranked plural suffix would be specified with [Addressee], not with [Speaker].

(35)   a.      ki-waapam-iti-<u>naawaaw</u>    'I/we see <u>you (pl)</u>.'

         b.      ki-waapam-i-<u>naawaaw</u>    '<u>You (pl)</u> see me/us (excl).'

         c.      ki-waapam-i-<u>naan</u>    'You (sg) see <u>us (excl)</u>.'

         d.      ki-waapam-iti-<u>naan</u>    '<u>We (excl)</u> see you (sg).'

By this account, there is no competition between the subject and object for syntactic agreement: the features of both proximate arguments are present in the fused clitic node, and both arguments trigger syntactic person and number agreement on the verbal suffix. The choice of which argument is indexed by the Vocabulary items is determined purely morphologically.

This account can be contrasted with the view that the choice of person and number agreement morphemes in Algonquian is determined by competition for agreement in the syntax, as argued above for person-marking in Georgian. Béjar (2003) argues that Ojibwa person prefixes reflects agreement with a $v$ node specified with the uninterpretable feature complex [π![PART![Addr]]]. If the highest argument below $v$ is an Addressee, the Agree operation will succeed (36a). Otherwise, the [PART![Addr]] specifications will delete, and $v$ will Agree with the external argument when it merges into the structure (36b).

(36)  a.

```
              v
           /     \
         v         V
         |        /  \
        [π]  ↰ DP      V
         |      |
      [PART]  [π]
         |      |
      [Addr] [PART]
                |
             [Addr]
```

b.

```
              v
           /     \
        DP          v
         |        /   \
       [π]  ↰ v        VP
         |    |       /   \
       [π]   DP        V
```

This analysis predicts that if the object is second person, the personal prefix will reflect its features (37a-b); otherwise, it will reflect the features of the external argument (37c-e).

(37)  a.    g-biin-ini        'I bring you.'

      b.    g-biin-igw        'He brings you.'

      c.    g-biin-i          'You bring me.'

      d.    g-biin-aa         'You bring him.'

      e.    n-biin-aa         'I bring him.'

An apparent counterexample to this prediction is seen in (35a), where the object is not an Addressee, yet the personal prefix reflects its features. Béjar proposes that third person arguments have no π feature at all. As a result, the uninterpretable [π] feature on *v* can target only the first-person internal argument in (38a). In (38b-c), no arguments can trigger Agree, so default person agreement appears.

(38)  a.    n-biin-igw        'He brings me.'

      b.    w-biin-igw        'He (obv) brings him.'

      c.    w-biin-aa         'He brings him (obv).'

One curious property of the Algonquian facts, on this analysis, is that the cyclicity effect is completely reversible. Suppose, for the sake of argument, we run the

Agree procedure backwards: if external argument is second person, it will trigger Agree on $v$ (39a); otherwise, $v$ will agree with an internal argument, if any (39b).

(39)   a.

```
            v
      /          \
    DP            v
     |        /       \
    [π]      v         V
     |       |      /     \
  [PART]    [π]   DP       V
     |       |
  [Addr]  [PART]
             |
          [Addr]
```

b.

```
         v
    /        \
   DP         v
        /         \
       v           VP
       |        /      \
      [π]      DP        V
                |
               [π]
```
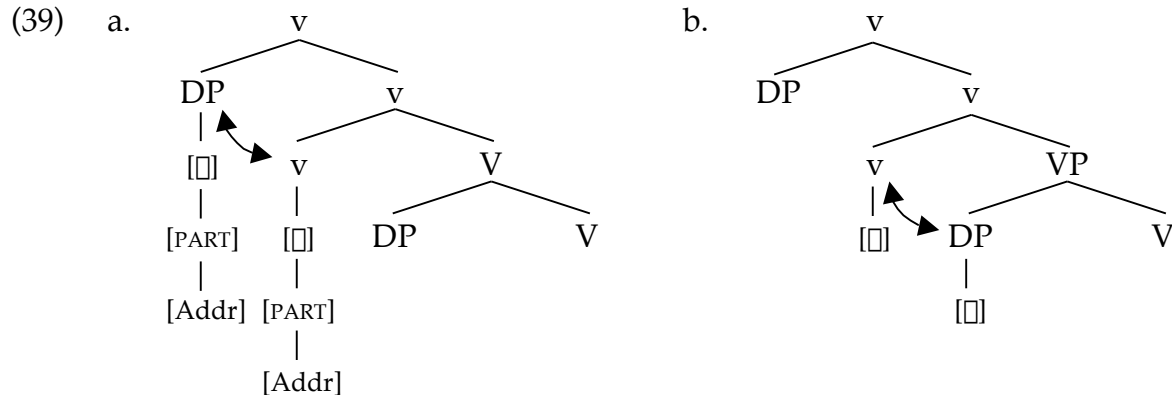
This analysis predicts that if the subject is second person, the personal prefix will reflect its features (40a-b); otherwise, it can reflect the features of the internal argument (40c-e). Again, (40f) would be permitted under the assumption that third-person arguments cannot trigger Agree on $v$.

(40)   a.    g-biin-i          'You bring me.'

   b.    g-biin-aa        'You bring him.'

   c.    g-biin-ini       'I bring you.'

   d.    g-biin-igw     'He brings you.'

   e.    n-biin-igw     'He brings me.'

   f.    n-biin-aa       'I bring him.'

In short, the analysis by which cyclicity proceeds from internal to external arguments makes exactly the same predictions as the analysis by which cyclicity proceeds from external to internal arguments. Clearly, then, there is no empirical reason to treat dependent person agreement in Algonquian as position-based; if it were, then the status of an argument as internal or external should play a crucial role in determining whether it has its features spelled out morphologically. Instead, the choice of which argument's

features are spelled out morphologically is determined entirely by the person features of the arguments. No locality generalization is missed if the choice is determined by Vocabulary competition.

Moreover, Halle and Marantz's Vocabulary competition analysis captures certain generalizations that are not captured by the syntactic competition analysis. One concerns inclusive ('you and me') arguments. As we have seen in (37a,c) and (40a,c), the Addressee prefix, *g-*, is generally preferred over the first-person prefix, *n-*, when the prefix items compete for insertion into the fused features of a first-person Speaker argument and a second-person Addressee argument, regardless of which argument is internal and which is external. The Addressee prefix is generally also preferred over the first-person prefix to spell out the features of a single inclusive argument, whose feature geometry includes both a Speaker feature and an Addressee feature:[23]

(41)   a.     g-biin-igw-(i)naani          'He brings <u>us (incl)</u>.'

       b.     g-biin-aa-naani              '<u>We (incl)</u> bring him.'

The syntactic competition analysis correctly predicts that the inclusive argument will trigger agreement in (41), since it has an [Addressee] feature, but this analysis makes no predictions about the morphological form of the agreement (*g-* or *n-*). Nevertheless, the generalization is a robust one: I am aware of no Algonquian language where the inclusive is spelled out as first person *n-*, or where the prefix preferentially indexes a first person (exclusive) argument rather than a second person one in transitive clauses. The generalization follows if both facts are derived by ranking the Addressee Vocabulary item *g-* over a more general Participant item *n-*.

Béjar proposes that the inclusive argument lacks a [Speaker] feature, which accounts for its realization via the Addressee prefix *g-*. However, this proposal cannot

be correct in all cases, since in many languages the inclusive triggers plural Speaker agreement. Note the similarity in Ojibwa between the inclusive forms in (41) and the first-person exclusive plural forms in (42a-b). A different agreement suffix is associated with second-person (42c) and third-person (42d) plurals.

(42)  a.  n-biin-igw-(i)<u>naani</u>  'He brings <u>us (excl)</u>.'

b.  n-biin-aa-<u>naani</u>  '<u>We (excl)</u> bring him.'

c.  g-biin-aa-<u>waa</u>  '<u>You (pl)</u> bring him.'

d.  w-biin-aa-<u>waa</u>-an  '<u>They</u> bring him (obv).'

Thus, it appears that inclusive arguments have both a [Speaker] feature and an [Addressee] feature. The choice of the Addressee item *g-* over *n-* is determined purely by the ranking of Vocabulary items.

Plural marking also figures in a second generalization that the Vocabulary competition analyis captures more successfully than the syntactic competition analysis. In general, the class of arguments that is eligible for indexing by the prefix is identical to the class of arguments that is eligible for indexing by a certain number-marking suffix. In many Algonquian languages, both positions can register agreement with first person, second person, and inclusive arguments, as well as with third-person proximates (in clauses with an obviative argument). However, there are exceptions that strikingly illustrate the prefix/suffix correspondence. The examples below show Menominee nominal inflection (data from Bloomfield, 1962). When the possessed noun is proximate, its number alternations are indicated by a final suffix, which registers obviation as well (43a-c). On the other hand, a third-person proximate possessor is indexed by the personal prefix (43d-e), and its number alternations are indicated on a separate node, preceding the obviative suffix.

(43)  a.  ne-pɛ:sekokasyam          'my horse (prox)'

  b.  ne-pɛ:sekokasyam-<u>ak</u>       'my horse<u>s</u> (prox)'

  c.  ne-pɛ:sekokasyam-<u>an</u>       'my horse(s) (<u>obv</u>)'

  d.  <u>o</u>-pɛ:sekokasyam-<u>an</u>       '<u>his (prox)</u> horse(s) (obv)'

  e.  <u>o</u>-pɛ:sekokasyam-<u>owaw</u>-an    '<u>their (prox)</u> horse(s) (obv)'

The same affixes are used for verbal inflection. In the independent order, third-person arguments are not indexed by the person prefix, and their number alternations are indicated by the final suffix (44a-b). However, third-person arguments are indexed by the person prefix in the negative order, where their number alternations are indicated by the medial suffix (44c-d). Note that this position also registers Participant number alternations — even using exactly the same suffix, in the case of second-person plurals (44e-f).[24]

(44)  a.  na:nɛ:w              'He (prox) fetches him/them (obv).'

  b.  na:nɛ:w-<u>ak</u>           '<u>They (prox)</u> fetch him/them (obv).'

  c.  kan <u>o</u>-nɛ:wa:n-an        '<u>He (prox)</u> does not see him/them (obv).'

  d.  kan <u>o</u>-nɛ:wa:n-<u>owaw</u>-an    '<u>They (prox)</u> do not see him/them (obv).'

  e.  kan <u>ke</u>-nɛ:wa:n-an       '<u>You (sg)</u> do not see him.'

  f.  kan <u>ke</u>-nɛ:wa:n-<u>owaw</u>-an   '<u>You (pl)</u> do not see him/them.'

For Halle and Marantz, the correspondence between the prefix and medial suffix positions arises because there is an agreement relation between the fused pronominal clitic and a node that agrees with the person and number features of both arguments. A syntactic competition analysis predicts no such correspondence: person and number agreement have different feature specifications, so there is no reason why they should track the same arguments.

There are also straightforward empirical difficulties with the syntactic competition analysis of number agreement. Béjar proposes that number agreement in Algonquian reflects an Agree relation with an uninterpretable number feature on $v$, specified as [#![GRP]]. This approach predicts that if object is plural, the number suffix will reflect its features (45a); otherwise, it will reflect those of the external argument (45b).

(45)   a.



b.
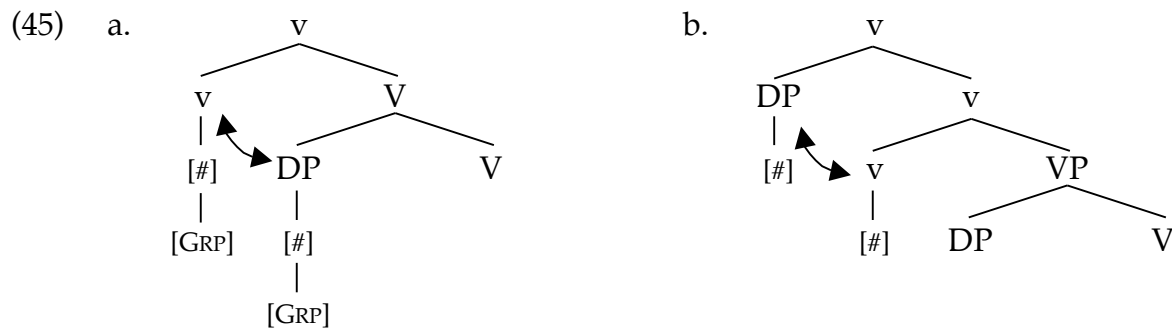
The results below illustrate the predictions. If the object is plural, $v$ agrees with it (46a). If not, $v$ agrees with the external argument (46b). (46c) is consistent with the claim that $v$ agrees with the external argument — though it is also consistent with the claim that $v$ agrees with the internal argument, or that it fails to agree.

(46)   a.     g-biin-ini-<u>mw</u>     'I bring <u>you (pl)</u>.'

b.     g-biin-i-<u>mw</u>     '<u>You (pl)</u> bring me.'

c.     g-biin-i     '<u>You (sg)</u> bring me.'

However, the predictions of the syntactic competition analysis are not borne out if both arguments are plural. Under this analysis, the number suffix is predicted to agree with object. This prediction is correct in in (47a), but not in (47b), which can only mean 'I bring you (pl).'

(47)   a.     g-biin-i-<u>min</u>     'You (sg/pl) bring <u>us (excl)</u>.'

b.     g-biin-ini-<u>mw</u>     *'We (excl) bring <u>you (pl)</u>.'

Bejar focuses on Nishnaabemwin dialect of Ojibwa, which systematically lacks ordinary forms with a first person plural subject and a second person object. Instead, indefinite-subject -*igw* forms are used (48a-b).[25] As with other indefinite-subject forms (48c-d), these show number agreement with logical object:

(48)   a.      g-biin-igw-i              'We bring you (sg) / You (sg) are brought.'

         b.      g-biin-igw-i-<u>mw</u>      'We bring <u>you (pl)</u> / <u>You (pl)</u> are brought.'

         c.      g-biin-igw-i-<u>min</u>     '<u>We (incl)</u> are brought.'

         d.      n-biin-igw-i-<u>min</u>     '<u>We (excl)</u> are brought.'

Thus, this dialect does not provide strong evidence against the syntactic competition analysis.

However, most Algonquian languages have ordinary forms with a first person plural subject and a second person object. In the eastern dialects of Ojibwa, the plural suffix prefers to agree with a first-person plural argument, regardless of whether it is an object (49a) or a subject (49b). The facts do not correspond to the predictions of the syntactic competition account, by which a plural object should always trigger agreement.

(49)   a.      g-biin-i-<u>min</u>     'You (sg/pl) bring <u>us (excl)</u>.'

         b.      g-biin-ini-<u>min</u>   '<u>We (excl)</u> bring you (sg/pl).'

         c.      g-biin-ini-<u>mw</u>   *'We (excl) bring <u>you (pl)</u>.'

The same is true in Passamaquoddy, Plains Cree, and Potawatomi. A different pattern of number agreement arises in Swampy Cree, as seen in (35) above. However, this pattern is also incompatible with the predictions of syntactic competition. The number agreement suffix again shows no preference for an internal argument: instead, it preferentially reflects the features of a second-person plural argument, whether it is an

object (50a) or a subject (50b).

(50)   a.      ki-waapam-iti-<u>naawaaw</u>     'I/we see <u>you (pl)</u>.'

       b.      ki-waapam-i-<u>naawaaw</u>     '<u>You (pl)</u> see me/us (excl).'

Evidently, fusion and Vocabulary competition gives a better account of Algonquian person and number agreement than syntactic competition does.


## 5. Conclusion

I have argued for a distinction between *position-based* dependent agreement, as seen in Georgian personal prefixes, and *feature-based* dependent agreement, as seen in Algonquian person and number agreement. Position-based dependent agreement arises from syntactic competition to agree with a single set of uninterpretable features. The Agree operation targets the closest appropriate argument, giving rise to positional preferences. Feature-based dependent agreement arises from morphological competition. This competition ranks Vocabulary items according to their morphosyntactic feature specifications, giving rise to feature-based based preferences. If the features of two arguments occupy the same node, Vocabulary competition alone will determine which argument's features will be realized. It was argued above that, unlike the morphological competition analysis, the syntactic competition analysis captures the generalization that the highest argument below $v$ preferentially triggers agreement on the Georgian personal prefix, and makes intriguing new predictions about the syntactic structure of subject-experiencer and perfect clauses. On the other hand, the morphological competition analysis correctly captures the absence of position-based based preferences in Algonquian person and number agreement, as well as other properties of this agreement, such as the fact that second person and inclusive

trigger the same prefix, while (exclusive) first person and inclusive can trigger the same plural suffix. This analysis also captures the correlation between the classes of arguments that trigger agreement in two separate positions. It appears, then, that dependent agreement is not a unitary phenomenon: like other forms of agreement, it arises from a systematic interaction of syntactic and morphological processes.

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\* Abbreviations are as follows: π: Person; 1: first person; 2: second person; 3: third person; ACT: active; ADDR: addressee; APPL: applicative; AOR: aorist; CPL: completive aspect; DAT: dative; f: feminine; EMPH: emphastic; ERG: ergative; excl: exclusive; GRP: group; INCH: inchoative; incl: inclusive; INTR: intransitive; m: masculine; NACT: nonactive; NOM: nominative; NPST: nonpast; obv: obviative; PART: participant; PERF: perfect; pl: plural; PPL: participle; PRES: present; PREV: preverb; prox: proximate; PST: past; sg: singular; REFL: reflexive; SPKR: speaker; TR: transitive.

[1] The term *dependent agreement* is loosely based on Marantz's (1991) conception of *dependent case*, in which the morphological case of oneargument depends on that of another.

[2] Morphological analysis and glosses have been simplified slightly.

[3] Ojibwa data reflect Rhodes's (1976) morphological analysis.

[4] Matters are somewhat more complex than described here: an object can trigger plural agreement only if it is first or second person.

[5] Accusative and dative marking are morphologically identical in Georgian, so both will be called dative here. The main basis for distinguishing between them is their different alternations in the different tense/aspect series. For example, "accusative" datives become absolutive (i.e., nominative) in the aorist and optative tense/aspect series, while true datives remain dative.

[6] This discussion of person features focuses on plural pronouns because this is where the Algonquian inclusive/exclusive distinction arises. To save space, only Person specifications are shown in (8) and (9), but I assume that plural pronouns in both

Ojibwa and English also have a [Group] specification under the Number node.

[7] A third person indirect object (true dative) can also be associated with the prefixes *u-* or *s-/h-* (Aronson, 1990:173–174), but these prefixes are clearly not in the same position as the Participant prefix, since they can combine with it: note *ga-v-u-gzavni* 'I will send it to him', *mi-v-s-çer* 'I shall write him', *v-h-ķitxav* 'I shall ask him'.

[8] If there are two internal arguments, matters are slightly more complex. An appropriate indirect object can trigger the Participant prefix. However, if the indirect object is third person, a direct object can trigger the Participant prefix only in some cases (Léa Nash, personal communication). If the applicative morpheme is *a-*, the result is fine (i) (pace Harris, 1981), but if it is *u-*, the result is a *\*me-lui* effect (ii) (Bonet, 1991). In this case, a Participant direct object can be expressed using a reflexive form (e.g. *seni tavi* 'yourself'), which is formally third person; the same applies when both internal arguments are Participants.

(i)     vano-m     sen   givi-s     se-g-a-dara.

   Vano-ERG   you   Givi-DAT   PREV-2.DAT-APPL-compare.AOR

   'Vano compared <u>you</u> to Givi.'

(ii)   *vano-m     sen   g-u-ko                direktors.

   Vano-ERG   you   2.DAT-APPL-praise.AOR principal-DAT

   'Vano praised <u>you</u> to the principal.'

[9] Béjar argues that the pronunciation of agreement derives from cyclicity: the 'dative' clitics reflects Agree on the first probe, while the 'nominative' set reflects Agree on the second probe. A challenge for this view is that while an unaccusative clause may have a single dative argument (Aronson, 1990:344), as predicted, it more commonly has a

single nominative argument. I leave the matter for further research.

[10] The fused features must nevertheless remain in separate bundles, given that the [+pl] feature of a nominative argument cannot combine with the [+1] and DAT features of a first-person singular dative argument to allow the insertion of *gv-* (14a). This requirement could follow from the assumption that a Vocabulary item is a single subtree of the feature geometry of the node it spells out (Bonet, 1991). I leave a fuller exploration of this approach for further research.

[11] Note that the ordering of dative items above nominative items cannot be derived from a claim that nominative arguments lack case, since nominative case is morphologically marked on Georgian nouns (*-i*). At first glance, the fact that "nominative" prefixes are also used for ergative subjects in the aorist tense/aspect series suggests that these Vocabulary items have no case specification. However, two points should be noted in this context. First, there is in fact no morphological distinction between nominative and ergative in the Participant forms; indeed, Nash (1995) argues that only third-person arguments are ergative. Secondly, third-person plural agreement with a nominative *or ergative* argument blocks dative plural agreement on verbs (see (6a) above). This suggests that nominative and ergative case share some feature F, which logically could be deployed in the personal prefixes as well.

[12] The *koND-* form is used in the past tense, while *koLL-* is used in non-past contexts.

[13] The glosses have been somewhat simplified.

[14] Aronson (1990) treats the applicative *i-/u-* morpheme purely as dative agreement, but this is somewhat misleading, as it co-occurs with the dative agreement prefix in first and second person. It is also notably absent in some verbs that select lexical datives; for

example, 'S/he will give it to me' is *mo-m-cems*, not *mo-m-i-cems* (Léa Nash, personal communication).

[15] However, see Fu et al. (2001) and Alexiadou (2001) for arguments that derived nominalizations do contain a verbal projection.

[16] A similar approach, noted by a reviewer, is that causative *grow* is derived from inchoative *grow* by affixing a phonologically null suffix, which prevents affixation of the *–th* nominalization morphology.

[17] Similar facts can be observed in Georgian, which also has synthetic and analytic passives, with the synthetic form also used for reflexives (Nash, 1995).

[18] See Arad (1999) for an analysis of an intriguing exception to this generalization — apparently unaccusative verbs like *piacere* 'please/like' in Italian, which can combine with reflexive *si*.

[19] A potential problem for this analysis is that it predicts that clauses with an Experiencer subject cannot be reflexive, since it is argued above that Experiencer subjects are not true external arguments. This prediction is not completely confirmed. For example, in Italian, verbs with a nominative experiencer subject like *temere* 'fear' can be reflexivized (*Gianni si teme* 'John fears himself'). One possibility is that these nominative experiencers, unlike dative experiencers, are generated in spec-*v*. Nominative experiencer subjects in Georgian (e.g. with *naxav* 'see') also behave morphosyntactically like nominative agentive subjects.

[20] I have modified Massey's structures to reflect a more contemporary phrase-structure theory.

[21] As noted by a reviewer, it has been proposed that certain argument combinations can

be blocked when a single head agrees with two arguments, yielding person-hierarchy

effects (Anagnostopoulou, 2003; Nichols, 2001). One such effect is described below for

the Algonquian language Nishnaabemwin (see (48)).

[22] This is only a partial list. The reader is referred to Halle and Marantz (1993) and

McGinnis (1995) for more extensive discussion of Vocabulary competition in

Algonquian languages.

[23] Déchaine (1999) notes that Blackfoot has a special inclusive prefix in the independent

order.

[24] All third-person arguments are indexed by the prefix and medial plural suffix in the

Menominee negative order, so (44f) can also mean 'You (sg) do not see them.' Plural

agreement for third-person possessors is presumably also in the same position as for

Participant possessors, but Bloomfield (1962) does not give the relevant examples.

[25] The use of indefinite forms with a first-person plural meaning is also seen in other

languages, for example in French *on* 'one' for *nous* 'we'.