Clitic metathesis in the Friulian dialect of Forni

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1. Introduction

When dealing with clitic placement, it is worth distinguishing two independent, though related, concepts: clause-placement, i.e. the position of clitics in the structure of the clause, vs fine-placement, i.e. the position of clitics w.r.t. other clitic elements, including negation. Clause-placement is beyond the scope of this article, which entertains the hypothesis that fine-placement might be affected by non-syntactic operations. Our claim is that 'cliticization' is not a primitive of UG, but it encompasses two different kinds of procedures: *syntactic movement*—an instance of language-specific internal merge, determining the position of the clitic in the structure of the clause, and *morphological merge(r)* (Marantz 1988, from now on, m-merge), bracketing a functional head with a nearby host in order to form a structure legible at the PF interface.

The first part of the article (sections 2-4) accounts for the position of subject and object clitics. In Northern Italian dialects, as in French, object clitics (OCl) are pied-piped by the inflected verb when the latter moves to C, as in interrogative and exclamative clauses, crossing the position of subject clitics (SCl):

(1)　a.　**Ai**　　　la　　　mange　　　　　　　　　　　(Forni di Sotto)
　　　　　SCl.3MPL　OCl.3FSG　eat.3PL
　　　　　'They eat it'

　　　b.　La　　　mangi　**ai**?
　　　　　OCl.3FSG　eat.3PL　SCl.3MPL
　　　　　'Do they eat it'

Our explanation for (1) involves an interleaving of syntactic movement and m-merge and the assumption that subject and object clitics are m-merged at distinct stages: 1. Object clitics are moved from their thematic position in the VP area to their landing site in the TP area—we are not concerned with this movement in this paper. 2. The object clitic is m-merged with the inflected verb forming a constituent with it. 3. The inflected verb is moved to C bringing with it the object clitic since they belong to the same constituent. 4. Only at this point is the subject clitic m-merged, thus generating the order in (1)b. We therefore argue for a division of labour between syntax and morphology in the spirit of Halle & Marantz's (1993) Distributed Morphology model, although we depart from their model in rejecting a single post-syntactic Morphological Component, and instead assume that syntactic derivation and morphological operations are cyclically *interleaved*.

The second part of the article (sections 5-6) deals with systematic though unexpected permutations affecting the order of clitic elements, including negation. We focus on the Friulian dialect of Forni di Sotto (Manzini & Savoia 2005, 2009) and, in particular, on the morphosyntax of 3p subject clitics. In Forni, subject clitics (e.g. *al* 'he') are split by negation as the formative *l* appears after the negative marker (*no*), as in (2b). Furthermore, with 1/2p object clitics (and the

3p reflexive *se*), the formative *-l* may either precede or follow the object clitic, as illustrated in (3a) and (3b), or, alternatively, occur in both positions, as in (3c).

(2) a. a**l**   duar
         SCl   sleep
         'he sleeps'

    b. a   no   **l**   duar
         SCl neg SCl sleep
         'he does not sleep'

(3) a. a**l** mi dà chist
         he$_{SCl}$ me$_{OCl}$ give this

    b. a mi **l** dà chist
         he$_{SCl}$ me$_{OCl}$ give this

    c. a**l** mi **l** dà chist
         he$_{SCl}$ me$_{OCl}$ give this
         'He gives this to me'

Things become more complicated when negation and an object clitic co-occur as shown in the following examples, illustrating the attested combinations:

(4) a. a   no-**l** mi   dà chist
    b. a   no   mi-**l** dà chist
    c. $^?$a-**l**   no   mi-**l** dà chist
    d. *a-**l** no-**l** mi-**l** dà chist
    e. a   no-**l** mi-**l** dà chist
          he$_{SCl}$ neg   me$_{OCl}$ give this
          'He gives this to me'

We account for the split of 3p clitics in terms of fission (Noyer 1997; Calabrese 2002; Arregi & Nevins 2012) and argue, following Harris & Halle 2005, that the permutations in (3) and (4) are due to a rule of *metatheses* triggered by edge constraints operating after m-merge. We therefore claim that the above pattern is evidence for syntactically void operations taking place at the Syntax/PF interface.

2. On *cliticization*

      Syntactically, clitics are 'free' functional items like their strong XPs counterparts. Given their head status, however, clitics are bound to a *host* by means of an operation of *m-merge* (Marantz 1988), which brackets a functional head with another constituent under linear adjacency to build a structure legible at the PF interface.

(5) $[\alpha \dots [\dots [\beta \dots]]] \quad \rightarrow \quad [\alpha\ \beta]$ m-merge

      Before addressing m-merge, some basic assumptions concerning clitic placement are in order. For the sake of clarity, we will keep our syntactic representations to a minimum, but we do not exclude alternative models like the one in Tortora 2002; 2013.

      First, we assume a *big-DP* analysis of clitics (Torrego 1992, Uriagereka 1995, Cecchetto 2000, Belletti 2005, Franks and Rudin 2005, van Craenenbroeck and van Koppen 2008, Arregi and Nevins 2012). According to this hypothesis, clitics are pronominal elements generated in the head position of certain functional layers which dominate a null argument. In Uriagereka's 1995 analysis, certain languages allow the clitic to co-occur with a doubled DP, which is generated in the specifier of the big DP; we adopt the same model to account for the co-occurrence of DP subjects and subject clitics in northern Italian dialects:

(6)
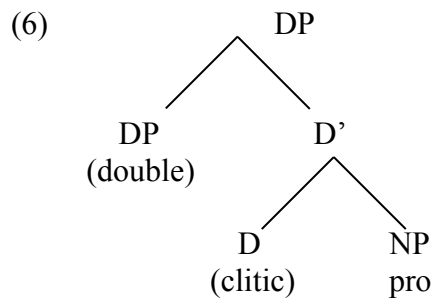
After extraction from the big DP (which, as argued below, is not a necessary step in the derivation of subject clitics), clitic elements have three potential landing sites in the structure of the clause, which Benincà & Tortora term the V-domain (in the low IP layer), the I-domain (in the T region) and the C-domain (above TP), see Benincà 2006; Tortora 2002; Benincà and Tortora 2009, 2010. In what follows we will focus on the I-domain (and, partly on the C-domain), which is the landing site of proclitic elements in finite clauses. For the sake of simplicity, we assume that, in the I-domain, both object clitics and negation adjoin to finite T° (for the analysis of negation as a clitic, see Belletti 1992 a.o.):

(7)
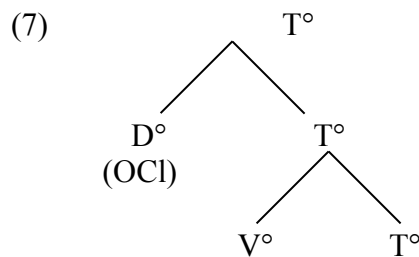
As mentioned above, this movement (from the big-DP to T^0) is followed by a morphological operation which m-merges the clitic to its host, as shown in (8). By contrast, enclisis with finite verbs results if the verb is moved further *before* m-merge[1], as shown in (9):

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[1] The possibility of having the verb moving demonstrates the necessity of distinguishing between movement to T^0, which accounts for the positioning of the clitic in the clause, and m-merger, which accounts for why the clitic forms a constituent with the preceding verb.

(8)   Cl … [$_{T°}$ V]   →   [Cl V]   (proclitic)

(9)   [$_{C°}$ V] … Cl   →   [V CL]   (enclitic)

      We can now turn to subject clitics. In line with the big DP-hypothesis, we will assume that subject clitics are not realization of dedicated AGRs positions (Rizzi 1986), but instead generated and moved within the big-DP to the subject position, say spec,TP (for the sake of clarity, in the following graph we do not represent the internal structure of the big-DP, which has been given in (6)). The resulting configuration is as follows:

(10)

```
                        TP
                      /    \
                     /      \
              big-DP        T°
            (double+SCL)   /  \
                          /    \
                        D°      T°
                       (OCL)   /  \
                              /    \
                            V°      T°
```

According to this analysis, subject clitics, unlike object ones, end up being adjacent to the inflected verb and, since adjunction to T^0 would be vacuous, we assume that it is not needed. Consequently, only m-merge with T^0 applies in the case of subject clitics. It is worth recalling that m-merge ensures that every clitic has a host, even if they are not structurally adjoined to it. Thus, the subject clitic m-merges with the inflected verb even if the former occupies a dedicated position within the big-DP placed in spec,TP.

      The hypothesis of the division of labour between movement and m-merge can shed light on the placement of subject and object clitics in sentences with verb-subject inversion. Inversion is normally viewed as evidence for V-to-C movement, i.e. the inflected verb with the object clitics moves to the CP area crossing the subject clitic, as shown in (11)b:

(11) a. **Ai**   la   mange   (Forni di Sotto)
          SCl.3MPL   OCl.3FSG   eat.3PL
          'They eat it'

    b. La   mangi   **ai**?
          OCl.3FSG   eat.3PL   SCl.3MPL
          'Do they eat it'

      Kayne 1994, within a strictly antisymmetric framework, argues that, in presence of an object clitic, V-to-C movement does not takes place. However, under this analysis, the enclitic placement of the subject clitic remains unaccounted. Alternatively, we argue that the verb and the object clitic is m-merged with the verb *before* the latter moves to C, while the subject clitic is m-merged later (see below). The derivation is as follows: (12)a is the canonical structure of declarative clauses where the object clitic has been already m-merged with the verb; in (12)b, the

verb moves to C^0 crossing the subject clitic; then, *the subject clitic* is m-merged with the raised-to-C verb. We assume that m-merge takes place before Vocabulary Insertion, in (12)d. More on this in the next section.

(12) a.   [$_{C^\circ}$ …   [$_{TP}$ [$_{bigDP}$ SCl$_{3rdPl}$] [$_{T^\circ}$*la mange*]

    b.   [$_{C^\circ}$[$_{T^\circ}$*la mange*]   [$_{TP}$ [$_{big\ DP}$ SCl$_{3rdPl}$]t$_{T^\circ}$ movement

    c.   [$_{C^\circ}$[$_{T^\circ}$*la mange*   SCl$_{3rdPl}$] t$_{T^\circ}$ M-merger of SCl

    d.   [$_{C^\circ}$[$_{T^\circ}$*la mange*   *ai*   ]t$_{T^\circ}$ Vocabulary insertion

A similar explanation has been proposed by Radkevic 2008 to account for *extraordinary left-branch extraction* (Boškovic 2005) in Slavic. Slavic languages allow left-branch extraction out of NPs (a property of NP-languages according to Boškovic 2008):

(13) a.   Ivan kupil [$_{NP}$ novyj dom].   Russian
            Ivan bought new house
    b.   Dom Ivan kupil [$_{NP}$ novyj t].
            house Ivan bought new
    c.   Novyj Ivan kupil [$_{NP}$ t dom]
            new Ivan bought house

Another property of article-less Slavic languages is that they allow extraction out of PPs of what appear to be non-constituents, e.g. P+A or P+N:

(14) a.   Ivan sidel [$_{PP}$ v bol'šoj komnate].
            Ivan sat in big room
    b.   V bol'šoj Ivan sidel [$_{PP}$ t komnate].
            In big Ivan sat room
    c.   V komnate Ivan sidel [$_{PP}$ bol'šoj t].
            In room Ivan sat big
    d.   *Komnate Ivan sidel [$_{PP}$ v bol'šoj t].
            Room Ivan sat in big

Radkevic shows that this is possible only with simple clitic prepositions. By contrast, the movement of P and adjective is not fully acceptable/degraded with complex prepositions—prepositions which have two parts, e.g. *iz-pod* 'from-under' and *iz-za* 'from behind'—and non-clitic preposition such as c*erez* 'over, through', which can form a prosodic word on its own.

(15) a.   Ivan vylez iz- pod novoj mašyny.
            Ivan got.out from-under new car
            'Ivan got out from under a new car.'
    b.   ?? Iz- pod novoj Ivan vylez [$_{PP}$ t mašyny].
            From-under new Ivan got.out car
    c.   ???Iz- pod mašyny Ivan vylez [$_{PP}$ novoj t].

From-under car Ivan got.out new

(16) a.   Ivan perelez [$_{PP}$ cerez vyskokij zabor].
        Ivan climbed.over over tall fence
   b. $^{??}$Cerez vysokij Ivan perelez [$_{PP}$ t zabor].
        Over tall Ivan climbed.over fence
   c. $^{???}$Cerez zabor Ivan perelez [$_{PP}$ vysokij t].
        Over fence Ivan climbed.over tall

According to Radkevic (2008), a clitic preposition forms a unit with the element that follows it and thus can undergo ordinary left-branch extraction out of NP with it (The cases where P+N undergo movement leaving an adjective behind are analyzed by proposing that Russian adjectives can be either pre-nominal or post-nominal). In our terms, the operation creating this unit is m-merger. Note that m-merger must have applied before left-branch exctraction takes place.

(17) a.   …   [$_{PP}$ P [A [NP]]]

   b.   …   [$_{PP}$ [$_A$P A] N]   m-merge

   c. [$_A$ P A]… [$_{PP}$ t N]   extraction

To summarize, in this section we have argued that cliticization involves head movement and m-merge, bracketing a functional head – called clitic – with a host (which may in turn include another clitic). Our claim is that morphological operations and syntactic computations are interleaved. Specifically, in our case, clitics may be morphologically merged onto their host before syntactic movement. If so, the clitic is pied-piped to a higher position by its host. The general idea behind this assumption is the following: Universal Narrow Syntax generates hierarchical syntactic structures (universal "conceptual structures") through external merge, while Morphology (including m-merger, Vocabulary Insertion, and other morphological operations, see below) and language specific syntactic operations (internal merge, object clitic movement and V-to-C movement in our analysis) then apply cyclically from bottom up (see Bobalijk (2003, 2012) for bottom up cyclic Vocabulary Insertion). It follows that, as mentioned above, morphological operations and syntactic ones are interleaved.

3. Subject clitics: evidence from vocabulary Insertion

Let us reconsider the pattern of V-S inversion in northern Italo-Romance. As observed in the previous section, object clitics are pied-piped above the subject clitic (we repeat the relevant minimal pair below):

(18) a.   **Ai**   la   mange   (Forni di Sotto)
        SCl.3MPL   OCl.3FSG   eat.3PL
        'They eat it'

    b.   La   mangi   **ai**?
        OCl.3FSG   eat.3PL   SCl.3MPL
        'Do they eat it'

We argued that this follows from the operation of m-merge, which binds the object clitic with the verb before V-to-C movement, while subject pronouns are m-merged later. This claim is supported by morphological evidence. We know that subject clitics are expressed by different exponents, depending on the position of the inflected verb, specifically on whether the subject clitic is proclitic or enclitic. There is no way to derive the different allomorphs of the 1sg and pl subject clitics in (19) by means of phonological processes (*pace* Cardinaletti and Repetti 2008). In this case, we are dealing with a true case of suppletion that can be accounted for only by means of different Vocabulary Items (see Bobaljik 2012, Embick 2010). If the morphology of the subject clitic is sensitive to the position of the inflected verb, it means – under current assumptions on the status of allomorphic alternations – that subject clitics are inserted *after* the verb has reached its target position and the subject clitic underwent m-merge.

(19) declarative: interrogative:

i duarmi	duarm-jo?	'sleep.1SG'	(Forni di Sotto)
i tu duars	duar[mi]s-tu?	'sleep.2SG'	
a l/a duar	duarm-al/e?	'sleep.3SGM/F'	
i durmiN	durmin-os?	'sleep.1PL'	
i durmis	durmis?	'sleep.1PL'	
ai/a s duar	duarm-ai/es?	'sleep.1PLM/F'	

This amounts to say that the subject clitic is inserted only once the object clitic has been already been M-merged and moved with the verb, as proposed in the preceding section. Below we display two derivations including cyclic vocabulary insertion: (20), unlike (21), has subject-verb inversion (the resulting sentences are *la mange-jo?* 'Will I ate it?' vs. *i la mange* 'I will eat it')

(20) a.   ...   [TP [bigDP SCL]   [T [*la mange*]]   m-merge of OCl and V.I.

       b. [*la mange*] [TP [bigDP SCL]   [T tv]   verb movement

       c. [*la mange*   SCL] [T tv]   m-merge of SCl

       d. [*la mange*   *jo*] [T tv]   V.I. for SCl

(21) a.   ...   [TP [bigDP SCL]   [T [*la mange*]]   m-merge of OCl and V.I.

       b. ...   [SCL   *la mange*]   m-merge of SCl

       c. …   [*i*   *la mange*]   V.I. for SCl

To summarize, our theory of linearization is based on two assumptions: i. clitic material undergo m-merge with its host under linear adjacency (where linear adjacency can be obtained by clitic movement (cf. object clitics); ii. syntactic computation is interleaved with cycles of

morphological operations like m-merger and vocabulary insertion.

4. Negation

Given the above analysis, let us turn to negative sentences. In many dialects, preverbal negation behaves like an object clitic element: it is a clitic (NegCl) left-adjoined to T° and pied-piped to C°, crossing the position of subject clitics:

(22) a. **A   no**   ven   (Forni di Sotto)
          SCl   NegCl   come.3SG
          'She will not come'

      b. **No**   vegn   **a**?
          NegCl   come3SG   SCl?
          'Will not she come?'

As in the case of object clitics, the explanation resides in the order of m-merging and movement: when negation is m-merged, the subject clitic is not yet m-merged, as illustrated below.

(23) a. [$_{C°}$ …   [$_{TP}$ SCl   [$_{T°}$ [NegCl V]

      b. [$_{C°}$ [NegCl V]   [$_{TP}$ SCl   [$_{T°}$ t

As proposed in the preceding sections, the subject clitic is m-merged later, generating the orders in (24), depending of whether or not the verb moves to a higher position:

(24) a. [SCl [NegCl OCL V]]   declarative clauses, without inversion

      b. [[NegCl OCl V] SCl]   interrogative clauses, with inversion

The analysis is straightforward for languages like French, Ligurian and Tuscan dialects, where the order in declarative clauses corresponds to (24)a, i.e. SCl > NegCl. However, the above explanation is far from straightforward in the case of Venetan and Friulian dialects, which display the opposite order, i.e. NegCl > SCl (leave the SCl *i* in (26b) aside for a moment):

(25) a. **No**   **te**   dormi   (Vicenza, Veneto)
          NegCl   SCl   sleep.2SG
          'You do not sleep'

      b. **No**   dormi   **-to**   (mia)?
          NegCl   sleep SCl   (neg)
          'Don't you sleep?'

(26) a. i   **no**   **tu**   du'ars   (Forni di Sotto, Friuli)
          SCl   NegCl   SCl   sleep.2SG

'You do not sleep'

b. **no**   duarmis   **-tu**?
Negcl   sleep   SCl
'Don't you sleep?'

Given the order NegCl > SCl in declaratives, how can NegCl m-merge with the verb if the SCl intervenes between NegCl and T°? Our solution to the puzzle is to hypothesize that Venetan and Friulian dialects have the same syntactic structure of the others and that the order NegCl > SCl is due to an operation of *metathesis*, which, in certain dialects, reverses the order of subject clitics and negation after the subject clitics has been m-merged. We are therefore proposing the following extrinsic ordering of morphological operations:

(27)   a.   m-merge of T^0 clitics, i.e. OCl and NegCl
       b.   m-merge of SCl
       c.   metathesis of SCl and NegCl (subject to linguistic variation)

We hypothesize that metathesis occurs due to a constraint holding in some dialects, requiring to have the pronominal clitics linearly adjacent to the verb or to other pronominal clitics.

The following section aims at clarifying the process of metathesis introduced above, while the analysis of the ordering of subject, object and negative clitics will be resumed in section 5.

4. An aside on Morphological Metathesis

In Distributed Morphology, morphological operations can modify the structure and composition of the exponence required by the syntactic structures without affecting the meaning derived from these structures and their feature composition. This accounts for the mismatches between syntactic and morphological structures like the one illustrated in the following examples: Latin, for instance, exhibits two coordinators: *et* and *que*, the latter is enclitic to the leftmost word of second conjunct:

(28)   a.   [boni pueri] et [pulchrae puellae]
           good boys and beautiful girls

      b.   [boni pueri] [pulchrae =que puellae]
            good boys   beautiful   =and girls

As noticed by Marantz 1989; Embick and Noyer 2001, the order in (28) does not result from any syntactic analysis of coordination. Furthermore, the distribution of *que* is sensitive to the morpho-phonological status of the following constituent. In fact, *=que* cannot attach onto monosyllabic prepositions (which, arguably, are clitic), while enclisis is allowed after the prepositions that constitute a prosodic word, e.g. *circum* 'around' (this resembles the behaviour of Slavic prepositions w.r.t. left-branch extraction, see section 2):

(29)   a.   in   (*=que)   rēbus   =que

in (=and) things =and
'and in things'

b. circum =que ea loca
around =and those places
'and around those places'

The data in (28) and (29) can be captured by a morphological operation of metathesis, which reverses the order of two clitic exponents:

(30) Syntax: Morphology:
    & [X Y Z →   [X=& Y Z

    Halle & Harris 2005 notice that there is a tight correlation between permutation like (30) and *reduplication*, i.e. given the expected order AB, if a language exhibits the unexpected order BA it is likely that the same language or a related dialect will display the pattern ABA(B). To account for this correlation, they argue for a unified framework based on a reduplication algoritm (Raimy 2000, Halle 2008, Frampton 2009). In the proposed formalism, reduplication entails a bracketing procedure, which selects the elements to be reduplicated: for instance, the double square brackets [[ ]] in (31) delimit the linear sequence to be doubled.

(31)   Full Reduplication
    ABCDE →
    A[[BCD]] →
    A–BCD–BCD–E

Partial reduplication is obtained by inserting diacritic: an angled bracket, as shown below, which triggers the deletion of part of the reduplicated material.

(32) [[A‹B]]→ ABA‹B → ABA

Metatheses are obtained via the insertion of a doubled angle bracket, triggering the deletion of both the final and the initial part of the resulting chunk:

(33) [[A›‹B]]→ A›BA‹A → BA

    Arregi & Nevins 2013 adopt this mechanism to account for the morphology of Basque clitics. They notice that plural absolutive clitics are split, i.e. the Person exponent precedes T°, while the Number exponent follows it:

(34) Nik seuek ikus-i **s-** *-aitu-* *-e-* *-t*
    I.ERG you.PL.ABS see.PRF **2.ABS** PRS.2.PL **PL.ABS** 1.SG.ERG
    'I have seen you(pl)'

They capture the above displacement via a metathesis operation like the following:

(35) a. *Cl$_{Abs}$* Cl$_{Pl}$ T   expected order

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b. Cl_{Abs} [[Cl_{Pl} ›‹ T]]   bracketing
c. Cl_{Abs} Cl_{Pl} ›T Cl_{Pl} ‹T   reduplication
d. Cl_{Abs} ~~Cl_{Pl}~~ ›T Cl_{Pl} ‹~~T~~   deletion
e. Cl_{Abs} T Cl_{Pl} output

Furthermore, in several Biscayan dialects, the plural clitic surfaces further to the right than expected (what A&N term 'Long-Distance Plural Metathesis'), as illustrated below with data from the dialect spoken in Ibarrangelu:

(36) **s-**   *-aitu-*   *-t-*   **-e**   (Ibarrangelu)
      2.ABS   PRS.2.PL   1.SG.ERG   **PL.ABS**

The order in (36) differs from that in (34) in exhibiting a further metathesis operation, which is schematized in (37):

(37) Cl_{Abs}T Cl_{Pl} Cl_{Erg}CAgr
      Cl_{Abs}T [[Cl_{Pl}›‹ Cl_{Erg}CAgr]]
      Cl_{Abs}T ~~Cl_{Pl}~~Cl_{Erg}CAgr Cl_{Pl}~~Cl_{Erg}CAgr~~
      Cl_{Abs} T Cl_{Erg}CAgr Cl_{Pl}

      The reduplication analysis in (37) is consistent with the data from another dialect, Kortezubi, in which the plural exponent *-e-* is doubled: one instance occurs immediataly after T°, as in standard Basque, and the other is in cluster-final position, as in Ibarrangelu:

(38) **s-**   *-aitu-*   **-e-**   *-t-*   **-e**   (Kortezubi)
      2.ABS   PRS.2.PL   **PL.ABS**   1.SG.ERG   **PL.ABS**

(39) Cl X Cl_{Pl} Y CAgr→
      Cl X [[ClPl ‹Y CAgr]]→
      Cl X – ClPl Y CAgr – ClPl ~~YCAgr~~→
      Cl X ClPl Y CAgr ClPl

      As observed by Halle & Harris 2005, metatheses and (partial) reduplication are two faces of the same coin.
      In this paper, we will adopt a simplified version of the just-discussed algorithm which involves simply copying a given element α, positioning the copy after/before an adjacent Y and deleting the original α.

(40) X α Y W
      a.   Generate a copy of α: X αα$_1$Y W
      b.   Move the copy of α after Y: Xα Yα$_1$ W
      c.   Delete original α: X Y α$_1$ W

In this way, morphological material is permutated as follows. Cases of copying involve non-application of the deletion operation in (41)c:

(41) a. Morpheme₁   Morpheme₂   (expected order)
     b. Morpheme₁   Morpheme₂   Morpheme₁   (copying)
     c. Morpheme₂   Morpheme₁   (metathesis)

The permutations can be conceived as repair operations triggered by constraints on the linear positioning of certain given morphological elements. For example, as discussed below, one can hypothesize that some languages require subject agreement markers to appear at the end of the verbal complex. When there is an enclitic, this requirement would be violated and the permutation between a subject agreement ending and an enclitic pronoun would fix the problem. In other cases, permutations may be required to achieve adjacency between certain morphological elements; for example, pronominal clitics may want to be clustered together in some languages.

As a first example for the permutation procedures consider the pattern of mesoclisis displayed by several varieties of South-American Spanish. Harris & Halle (2005) report that, while standard Spanish displays the usual enclitic pattern in (42)a, these dialects allow the clitic to be placed between the verbal root and the suffix *-n*, as in (42)b:

(42) a. Vendan=**lo**!   (Standard Spanish)
         sell.3pl-OCL
         '(you pl.) Sell it!'

     b. Venda=**lo**=n!   (Spanish dialects)
         sell-OCL-3pl
         '(you pl.) Sell it!'

Furthermore, in some cases, the suffix *-n* is reduplicated as it can occur twice, before and after the enclitic pronoun:

(43)   Venda-**n-lo-n**!   (Spanish dialects)
         sell.3pl-*n*-OCl-*n*
         '(you pl.) Sell it!'

In the simplified model just outlined, the permutations between the enclitic and the ending /-n/ we see in (42) and (43) can be accounted for by the following rule:

(44)   Given the following linear sequence: [$_V$ V [$_{phi}$ –part, +plur] CL];
     a.   Copy [$_{phi}$ –part, +plur].
     b.   Move the copy after CL.
     c.   Delete the base (Optional).

Following (44), we have the permutation in (45):

(45)   [V [$_{phi}$–part, +plur] CL]
     a.   [V [$_{phi}$–part, +plur] [$_{phi}$–part, +plur] CL]
     b.   [V [$_{phi}$–part, +plur] CL [$_{phi}$–part, +plur]]
     c.   [V CL [$_{phi}$–part, +plur]]

As deletion in (46c) is optional, the resulting sequences are either *venda-lo-n* or or *venda-n-lo-n*.

A similar analysis can be proposed for the Grison dialect of Soazza (Salvioni 1902; Loporcaro & Vigolo 2003; Manzini & Savoia 2004). In this dialect, there is a special exponent for the feminine plural Phi-marker (/-n/, [ŋ]in the examplesdue to an independent phonological rule, vs. masculine plural /-i/) as shown in the following nouns.

(46) el mɛ fradel   /   i mɛ frade-i
      the my brother   the my brothers

(47)   l-a ʃkabɛl-a   /   l-a ʃkabɛl-əŋ
       the-f chair-f.   the-f chair-fpl

The feminine plural exponent always appear in phrase-final position, according to what Haiman & Benincà (1992) term the *Ladin lazy agreement rule*.

In two Raetho-Romance dialects (Soazza and Soglio), the same exponent unexpectedly appears also in verbal morphology. Consider the sentence in (48) with a 3rd person masculine plural subject clitic.

(48)   i beːf
           they.m drink
           'They drink'

Given the morpho-syntactic pattern observed in this sentence, we should expect that its feminine counterpart have the shape in (49) with the Phi-ending adjacent to the clitic. However, this is incorrect. It, instead, has the shape in (50):

(49)   *la-ŋ beːf
          she drink-fpl
          'They drink'

(50)   la bev -əŋ
          she drink-fpl
          'They drink'

In (50), the ending is moved after the verb. Evidence for this movement is also provided by the example in (51)b where the feminine plural ending of the object clitic is moved after the verb[2]:

(51)   a.   i tʃam-i
            them.m call-1sg
            'I call them'

       b.   la tʃam-i -əŋ

---

[2] In etymological terms (Salvioni 1902), the explanation might be the opposite: -n originates as a verbal ending (< Lat. -NT) and, subsequently, is extended as a plural morpheme in the nominal domain.

her call -1sg-fpl
'I call them'

Another clear case displaying this movement is given in (52) where the gender-number can either be moved from the subject clitic or/and the object, thus causing ambiguity:[3]

(52)　　　　la la tʃam -əŋ
she her call -fpl
'She calls them/ They call her/They call them'

The rule in (53) can account for the movement of this morpheme:

(53)　Given the following linear sequence: [$_X$ [$_{phi}$ +fem, +plur] X] (X=N/V);
a.　Copy [$_{phi}$ +fem, +plur].
b.　Move the copy to the right margin of the constituent].
c.　Delete the original [$_{phi}$ +fem, +plur].

Another final example of metathesis involves negation in Ligurian dialects. The preverbal negative marker *n* in these varieties is often reduplicated after certain object clitics (Parry 1997, Manzini & Savoia 2005, III: 295):

(54)　　I　n　te　**(n)**　dan　nent　u　libr
SCl　neg　OCl　**(neg)** give　neg　the　book
'They do not give you the book'

In these varieties, the negation marker is the postverbal one (*nent*), while preverbal *n* must be considered a clitic expressing negative spreading/concord (Zanuttini 1997). The rule in (55) can account for these cases. Note that in this rule the original negative clitic is not deleted and therefore systematic doubling of the morpheme occurs.

(55)　Given the following linear sequence:
[$_V$ Neg CL V];
a.　Copy Neg.
b.　Move the copy after CL.

Before ending this section, observe that above we have assumed that the metathesis rules apply before Vocabulary Insertion. In fact, in many cases, metathesis is allowed only with certain clitics and more rarely with others. Another possibility, however, is to apply the rules after vocabulary insertion. In this case the metathesis rules may be sensitive to the phonological shape of the targeted exponents. This may account for an apparent property of some of these rules: on the surface, the metathesized morpheme　behaves as a syllabic coda in the mopho-phonological sequence (=it s a low sonority segment (a sonorant, a sibilant or a glide) and appears at the right-edge of a morpho-phonological constituent (either the clitic cluster or the V-complex). Some of these morphological permutations could then be motivated by surface PF

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[3] If /-n/ is moved from the subject and the object, we should get something like la la tʃam-əŋ-əŋ. We assume that one of the morpheme /-n/ is deleted by haplology so that we get surface (53).

'edge-effect', i.e. the need for certain "coda"-exponents to occur on the right-edge of a morpho-phonological constituent despite their original syntactic position. Further research will indicate whether or not this is a correct observation.

5. Diachronic analysis

This section resumes the analysis of the order of negation and subject clitics with the intent of providing diachronic evidence supporting the hypothesis of a syntactically-inert metathesis. First, we show that the order negation > SCl is an innovation displayed by a subset of north-eastern dialects. Second, we address dialects showing a mixed pattern with some clitics preceding and other following negation and explain why metathesis does not target certain clitic elements and why these elements may display peculiar syntactic behaviours.

In section 3, we observed that both the orders SCl > NegCl and NegCl > SCl are attested. To account for the order of subject clitic and negation, Poletto 2000; Benincà and Tortora 2009, 2010 a.o. propose that subject clitics have multiple placement domains: at least, one above negation, in the CP layer, and the other below negation, in the high IP area. The placement ultimately depends on the type of clitic (e.g. its φ-features) and is subject to cross-linguistic variation.

In rare cases, subject clitics can move from one layer to another. In the dialect of Loreo, for instance, the subject clitic *i* 'they.m' usually follows negation. However, in subordinate clauses, it can optionally precede negation and cluster with C, as shown in (57)b:

(56) a. N'I vien mina   (Loreo, from Poletto 2000)
          Neg SCl come not
          'They are not coming'

      b. *I ne vien mina
          Scl neg come not
          'They are not coming'

(57) a. I m'ha dito **che n'i** vien mina
          Scl to.me have told that not SCl come not
          'They told me that they are not coming'

      b. I m'ha dito **ch'i ne** vien mina
          Scl to.me have told that SCl not come not
          'They told me that they are not coming'

Poletto 2000 argues for an analysis in which subject clitics are base-generated either above or below negation. Cases like (57)b are therefore analysed as cases in which the subject clitic moves to the C layer from a position below negation. Poletto 2000 argues that in (57)b "the presence of a C° head realized by the complementizer permits raising of the SCl to a prenegative position"

Given the analysis we proposed in section 4, we argue that there is no raising of the SCl, but metathesis of the subject clitic and negation. When the metathesis rule applies, the sequence of clitic elements in (58)a is therefore turned into (58)b.

(58)   a.   C SCl NegCl V   →   b.   C ~~SCl~~ NegCl SCl V

According to this analysis, in (57)b metathesis is exceptionally blocked in subordinate clauses, where the clitic can m-merge with an overt complementizer (more on this below).

We prefer our analysis—subject clitic are generated inside the regular subject position and then m-merged from there to a position after negation—to Poletto's one, which generates the subject clitics below negation, because the former is consistent with the historical evolution of these varieties.

Subject clitics derive from strong nominative pronouns, which, in declarative clauses, occupy the canonical subject position above negation. We can therefore argue that subject clitics were originally hosted by the same position and, later and in some dialects, they have been displaced elsewhere. In fact, the order negation > subject clitic is an innovation displayed by certain north-eastern dialects of Italy (i.e. Veneto and Friulian dialects) since the 16th century (Vanelli 19??/1998). By contrast, other northern dialects (like Ligurian and Tuscan vernaculars[4]) still exhibit the original order. Given this evolution, it is hard to image that the base-generation site of subject clitics is below negation and from that position clitics are raised upwards. Rather, it seems to us that the diachronic facts support the hypothesis of a syntactically void operation which, in certain dialects, reversed the order of the subject pronoun and the negation marker once both had become clitic, i.e. X^0s.

Things, however, are more complicated in modern Friulian, which exhibits a mixed pattern, with some subject pronouns preceding and other following negation. The 2sg subject *tu/te*, for instance, occurred in front of negation until the 16th century, as shown in (59), while in modern varieties the only possible order is negation >*tu/te*:

(59)   **Tu no** havarès la bielle fie   (Orl. Fur. 237, 23, from Vanelli 1998:74)

(60) a.   No **tu** compre mai meil   (Barcis)
      b.   No **to** compra mei mei   (Cimolais)
      c.   No **te** crompa mai mei   (Claut)
      d.   No **te** compris mai pons   (Cordenons)
      e.   No **to** crompe mei pons   (Erto)
      f.   No **tu** cumpris mai melus   (Moimacco)
      g.   No **te** compris mai pons   (Montereale Valcellina)
      h.   No **tu** compris mai melucs   (Nimis)
      i.   No **tu** compris mai melos   (Qualso)
      j.   No **tu** ciolis mai miluz   (Remanzacco)
            Neg you buy never apples
            'You never buy apples'

---

[4]In the dialects of Lombardy, Piedmont and Aemilia the order cannot be established as these dialects do not have any preverbal negative marker.

By contrast, the syncretic clitic expressing 1sg/1pl/2pl always precedes negation[5]:

(61)   **I no** sai sa ch'al fedi Giani   (S. Michele al Tagliamento)
               SCl neg know.I what that SCl does Giani
               'I do not know what Gianni does'

At this point, it is important to note that the clitics that across the relevant dialects precede negation tend to be the 1^{st}sg. and pl, and the 2nd pl. These clitic do not form a natural class identifiable by a common set of features and it is quite problematic to assume that there is syntactic position characterizable in terms of these person-number features. However, at the same time, it is important to note that these clitics are also targeted by syncretic processes or are simply missing from the clitic inventories (Calabrese (2012), Manzini & Savoia (2004), Renzi and Vanelli (1998). Calabrese (2012) proposes that the syncretism and deletion (what he calls obliteration following Arregi and Nevins (2012)) affecting these clitics are markedness-triggered morphological repairs removing idiosyncratic exponence in the case of marked morphological configurations (see Calabrese (2012) for discussion). He proposes the following markedness hierarchy for subject clitics (see Calabrese (2012) for motivations and further discussion) (The diagram [[$_V$ ___ V] indicates that this ranking holds for subject proclitics.)'

(62)   In the context [[$_V$ ___ V]
      a.   * [+part., -speak, –plur.]$_{Subj}$ *2nd sg.   Less marked
      b.   * [-part. , –plur.]$_{Subj}$ *3rd sg.
      c.   * [-part. , +plur.]$_{Subj}$ *3rd pl.
      d.*   [+speak , -plur.]$_{Subj}$ *1st sg.
      e. *   [+part, -speak, +plur.]$_{Subj}$ *2nd pl.
      f. *   [+speak., +plur.]$_{Subj}$ *1st pl.   More marked

As discussed in Calabrese (2012) there is variation across dialects with respect to what is considered to be marked and therefore repaired by syncretism or obliteration. Each dialects selects a cut-off points in the hierarchy under which clitics are repaired. In any case, the tendency is to avoid the clitics below c. In (62): the 1st sg. and pl, and the 2nd pl. clitics, which we call here the "marked" clitics.[6]

Now given the hypothesis proposed above that there is no special subject clitic position below negation and that clitics are moved there by a special metathesis operation, the facts that marked clitics precede negation, while unmarked ones don't, means that marked subject clitics are not targeted by metathesis. We propose that this is simply due to an extrinsic ordering of morphological operations: specifically, m-merger of the marked clitics occurs after the m-merger of the other subject clitics, and crucially also after clitic metathesis. We therefore suppose that the ordering of morphological operations is as follows:

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[5] Interestingly, in several dialects it cannot co-occur with negation. It is unclear to us at the moment why it should be so.

[6] As observed in Calabrese (2012), in some varieties, the cut-off point can be set lower, and only the 1st and 2 pl—or just one one of them—are considered "marked" and repaired. In some other, also the 3rd person clitics may undergo the same treatment (see Calabrese (2012) for more discussion).

(63)   a.   m-merger of the unmarked clitic
       b.   metathesis
       c.   m-merger of the marked clitic

The hypothesis that marked clitics are m-merged after metathesis is supported by the fact that these clitics may have a different domain of m-merging: in fact, in some dialects marked clitics must m-merge with a complementizer C, see (64), unlike unmarked clitics, which may optionally cluster with C^0:

(64) a   Ara ch(*e) a   vegno   (Loreo, Veneto)
          look that   SCl come
          'Look, I am coming'

     b.   Ara   ch(e) i   vien
          look that SCl   come
          'Look, they are coming'

What is the reason for having two different ordered m-merger operations as in (63)? We propose that this reason must be found in history: the m-merger of marked pronouns occurred historically after that of the unmarked ones. Specifically, we submit that in the early stages of the development of the subject clitic system, there was resistance to m-merge marked pronouns. One of the possible effects of markedness is, in fact, that of blocking processes (see Calabrese (1995, 2005 and also Smolensky and Prince (2004)). In this case, m-merge of a pronominal would be blocked if it would lead to the generation of a marked clitic. In fact, there is evidence that 1st sg. and pl, and the 2nd pl. overt pronouns were avoided in Renaissance varieties (Poletto 1995 on Veneto dialects, Cormany 2011 on Friulian). During the same period the other (unmarked) pronouns had already become clitic, i.e. m-merged with V. We hypothesize that in some dialects, metathesis occurred at this point. We can then assume that later there was analogical pressure to extend m-merge to all persons, so that also the marked pronouns became clitic undergoing the alternative morphological repairs of syncretism, or obliteration. It follows that in some varieties, in particular those that underwent metathesis, the newly formed clitics did not undergo metathesis, and in addition, in some dialect, they ended up clustering with the complementizer, instead of the inflected verb. This historical scenario explains the properties of the clitic systems of Veneto and Friulian varieties from a diachronic point of view. We assume that the ordering of processes in (63) accounts for these properties also synchronically.[7]
        Moreover, observe that the marked clitic of 1st sg/pl and 2nd pl., tend to have a peculiar phonological shape: they are onset-less and coda-less, thus containing a simple vowel. In the Italian literature on subject clitics, they are called the "vocalic" clitics. A possible account for this phonological shape of the "vocalic" clitics is the following. Consider that if these clitics were not obliterated, they underwent syncretism. The most common syncretic pattern involved extension of the 1st sg. exponent, etymologically EGO, to the other clitics (see Calabrese (2012) for an account). By regular phonological changes, this etymological base led to a single vowel in proclitic position, i.e., a vocalic nucleus without an onset and without a coda. One can speculate

_____

[7] A difference in syntactic structuring may be associated with this ordering. However, here we will opt for the most minimal analysis of these facts which simply involves ordering of morphological operations, as motivated by the historical development of these phenomena.

that the syllabic properties of this exponent were grammaticalized as characteristic features of the marked exponents. This lead to the postulation of a "morpheme structure constraint": the exponents of the marked clitics must be onsetless and codaless, i.e., "vocalic"[8]. Given this constraint, the exponents of other marked clitic with other etymological bases were then also modified accordingly.

This reconstruction is confirmed by a survey on the distribution of subject clitics in Friulian texts of the 17th century: while subject clitic forms are commonly attested for 1sg (*o*), 2sg (*tu*) and 3p subjects (*a, al, l,* etc.), no clitic exponent occurs with 1pl and 2pl subjects.

Lastly, Poletto 2000 noticed that in some dialects "vocalic" clitics appear to differ from the other clitics in syntactic terms. First, vocalic clitics seem not undergo V-S inversion: they either disappear in interrogatives, see (65)b, or, as shown in (66), they may occur in proclisis (see also Cardinaletti & Repetti 2010):

(65) a.   i   tu   duars
            SCl SCl sleep.2SG
            'You sleep'

      b.   (*i) duar[mi]s tu?
            SCl sleep.2SG SCL
            'Do you sleep?'

(66)   A   ze   lo   ndà?   (Loreo?, Poletto 2000)
           SCl is   SCl gone
           Has he gone?

Second, vocalic clitics, unlike the others, may be omitted in coordinated structures as shown in (67):

(67) a.   A canto co ti e (a) balo co lu   (Loreo, Poletto 2000)
            SCL sing with you and dance with him
            'I sing with you and dance with him'

The latter example is not problematic as the behaviour in coordination might be an orthogonal issue, depending on the nature of coordinated structures. For instance, one can argue that the coordination in (67) involves subject ellipsis, which is expected to target the subject clitic when it does not m-merge with the verb in T^0 (recall that vocalic clitics can m-merge leftwards).

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[8] Cardinaletti & Repetti (2008) propose that these clitics are "vocalic" because they are inserted by a special phonological repair operation that fills in functional heads not already filled by other lexical exponents. This phonological operation inserts a simple vowel and they call it "morphological" epenthesis. This proposal has various problems. First of all, it is unclear why this operation should insert a vowel, and not an unmarked CV syllable, or a consonant, a complex syllable or even a string of syllables. Whereas regular phonological epenthesis inserts a minimal syllabic component (a syllabic nucleus) that allows the resyllabification of a disallowed consonantal cluster, any type of morpheme/exponent could be used to fill in an empty functional head (in Distributed Morphology this would be called an elsewhere item, exponents that can potentially have all types of phonological shapes). Restricting this exponent to a vowel is fundamentally arbitrary. Secondly, this theory assume only two levels of representations: a syntactic one and a surface phonological one. There is simply no morphology. This paper clearly shows that a morphological level of representation is needed.

The data on inversion in (65)-(66), by contrast, are more puzzling and, ultimately, we agree with Poletto 2000 in hypothesizing that in some dialects, certain vocalic/marked clitics are in fact higher. Evidence supporting this hypothesis comes from the diachronic evolution, showing that in a few dialects vocalic/marked clitics have been reanalysed as particles of the CP layer, which, in synchrony, are not directly related to the encoding of subject features (Benincà 2014 = this volume). For instance, such a development, as argued by Benincà (1983), led to the particle *a* of Paduan,, which expresses the pragmatic reading that the content of the sentence is all new information:

(68) a piove.   (Paduan, Benincà 1983)
      SCl rains
      'look, it is raing.'

According to Tagliavini 1952:349; Rohlfs 1968:140-141; Benincà 1983/1994; Vanelli 19??/1998:97, Paduan *a* is a reflex of EGO, which was then reanalysed as being associated with a functional category higher the clausal subject and independent of it. The same explanation holds for other particles, which, with different interpretations, are found elsewhere in Northern Italy, see Ascoli 1876:404; Salvioni 1884:123; Floricic 2012. We can therefore argue that, historically, in some dialects, the clitics that escaped metathesis may have been reanalysed as being directly generated in higher positions with grammatical functions different from that of the subject, giving rise to different types of vocalic clitics, only some of which are probably located in the left periphery (Benincà 1983/1994, Poletto 2000, Cardinaletti 2004, Cardinaletti & Repetti 2010).

6. Clitic metathesis in the dialect of Forni di Sotto

The hypothesis that morphological metathesis may affect the order of clitic elements is strengthened by the data from the Friulian dialect of Forni di Sotto (Manzini & Savoia 2005). This dialect differs from the other Friulian vernaculars in having a richer morphological system in which many subject clitics are expressed by a compound form, including a vocalic clitic followed by another clitic element as in the 2sg *i tu*, the 3sgm *a l*, the 3plm *a i*, and the 3plf *a s*.

(69) i   1sg
      i   tu   2sg
      a   l   3sg m
      a   3sg f
      i   1pl
      i   2pl
      a   i   3pl m
      a   s   3pl f

As seen above, when they co-occur with negation, these exponents are split, i.e. the negative marker occurs between the two formatives of the same clitic:

(70)
i	no		duarmi	'I do not sleep'
i	no	tu	duars	'you do not sleep'
a	no	l	duar	'he …'
a	no		duar	'she …'
i	no		durmin	'we …'
i	no		durmi:s	'you (pl) …'
a	no	i	duar	'they (m) …'
a	no	s	duar	'they (f) …'

As the forms *a-l, a-i, a-s* show, in this dialect the subject clitic seems to be split into two components: one realizing participant features and the other gender-number features. We assume that the same split occurs in the case of /i tu/ and in the case of the other persons between a component /i/ (for the 1st sg./pl. 2 pl.) or /a/ (3sg.f) and a component Ø, and propose that this split is implemented by an operation of morphological fission (Noyer (1997), Calabrese (2002), Arregi and Nevins (2012) (also Calabrese (1988, 1995, 2005) for fission in phonology) applying to the feature bundle of all clitics.[9]

As formalized in Arregi and Nevins (2012) morphological fission targets terminal features (see Calabrese (2005) for discussion of the same assumption in phonology). Morphological fission in Forni di Sotto seems to target terminal nodes instead. We therefore modify their formalization of Fission as follows thus including also nodes in the structural description:
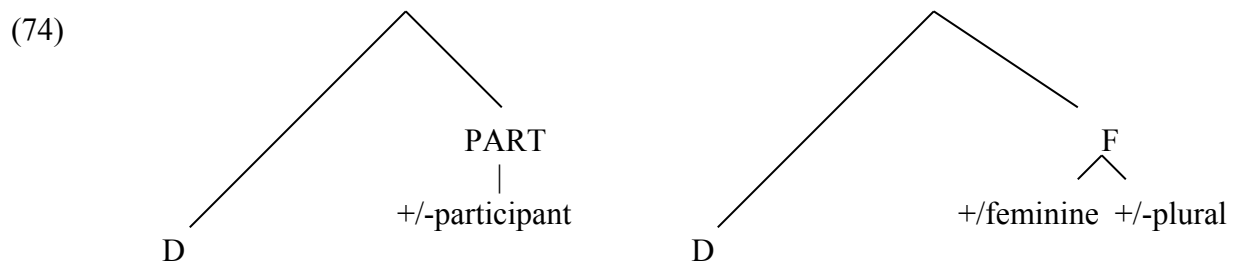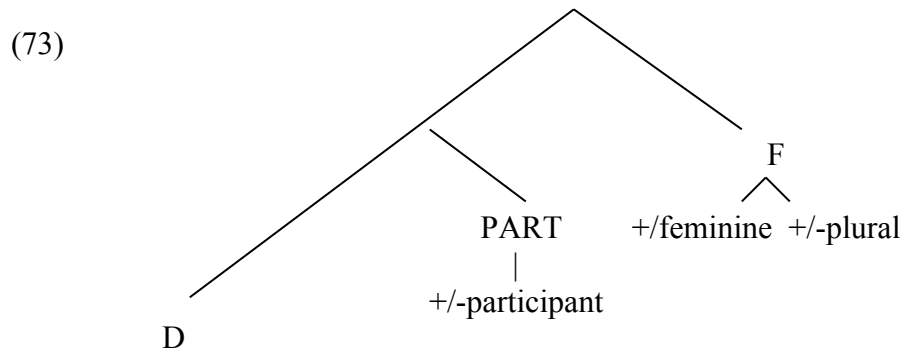
(71) Morphological Fission
   a.   The structural description of a morphological fission rule has three terms: a category C, a feature/node α and a feature/node β.
   b.   The structural change splits a morpheme of category C containing α and β as follows

$$
\begin{bmatrix} \alpha \\ \beta \\ \gamma \\ . \\ . \\ \mu \end{bmatrix} \rightarrow \begin{bmatrix} \alpha \\ \gamma \\ . \\ . \\ \mu \end{bmatrix} \begin{bmatrix} \beta \\ \gamma \\ . \\ . \\ \mu \end{bmatrix}
$$

The structural description of morphological fission in Forni di Sotto is that in (72). Fission as in (71)b) then splits the subject clitic feature bundle in (73) into the two in (74):

(72)   Category: Subject clitic, Nodes: [Participant]-node and [Phi]-node.

---

[9] A syntactic analysis of the compound forms of Forni di Sotto is also possible, but it leads to complex assumptions and stipulations. We prefer a simpler morphological analysis with fission, Adopting either analyses does not affect our analysis of the metathesis pattern in this dialect, which is our main concern here.

(73)

```
                          ╱╲
                         ╱  ╲
                        ╱    ╲
                       ╱      F
                      ╱      ╱╲
                   PART   +/feminine +/-plural
                     |
                +/-participant
            D
```

(74)

```
          ╱╲                              ╱╲
         ╱  ╲                            ╱  ╲
        ╱    ╲                          ╱    ╲
     PART    |                       D      F
       |                                   ╱╲
  +/-participant                  +/feminine +/-plural
  D
```

The exponents of the participant component are given in (77). The Phi-component has an overt exponent in the case of the 2nd sg., and the 3rd sg. and pl.. Fission in Forni di Sotto is probably due to an instance of "analogical leveling": the generalization of the clitic /i/ to all [+participant], specifically to the 2sg clitic, which resulted into the form /i tu/ containing two components. This may have led to a re-analysis of 3rd person forms: /a l, a i, a s/ as also having two components, and therefore the postulation of the fission operation, as formulated above. By contrast, with 1sg, 1pl, 2pl, the Phi-component has the null exponent Ø. This is shown in (78) (D is fused with the following node, we assume that fusion is expressed by having a VI spanning over multiple heads as proposed by Radkevic (2007).

(75) /a/ ↔ [D, -part]
     /i/ ↔ [D, +part]

(76) /tu/ ↔ [D, -plur]   / [+part, -speak] ____
     /s/ ↔ [D,+fem, +plur]
     /i/ ↔ [D,+plur]
     /l/ ↔ [D,-plur]
     /Ø/ ↔

Application of Fission and the Vocabulary Items in (73)-(74) and (75)-(76) generates the compound clitics in (70). Observe that the output of fission is a linear sequence. In the case of the clitics m-merged to T^0 (the unmarked 3rd person and 2nd sg ones), the rightmost component (the formatives -*l*/-*s*/-*i* and /tu/) will then be adjacent to the negation and therefore can be moved by the rule of metathesis, repeated here as (77)-(78):

(77)   Given a clitic cluster [CL$_{subj}$Neg V]

1. Copy CL_{subj}
2. Insert copy after Neg
3. Delete original CL_{subj.}

(78)   (CL) [tu no V]   →   (CL) [tu tu₁   no V] → (CL) [tu   no tu₁ V] →
       (CL) [t̶u̶   no tu₁ V] →   (i) [no tu V]

Therefore from a basic structure such as that in (81a) we derive (81b)(surface (81c):

(79) a. i   tu   no   du'ars
          SCL SCl   neg   sleep'
          'you do not sleep'

      b. i   t̶u̶   no   tu   du'ars
          SCl   S̶C̶l̶   neg   SCl   sleeps
          'you do not sleep'

      c. i   no   tu   du'ars
          SCl   neg   SCl   sleeps
          'you do not sleep'

The same analysis accounts for the positioning of the 3rd person clitics: (82a) is order generated by Fission; (82b) illustrates metathesis; (82c) is the output sequence:

(80) a. a   **l/i/s**   no   du'ar
          SCl SCl   neg   sleeps
          'he/they.m/they.f do(es) not sleep'

      b. a   l̶/̶i̶/̶s̶   no   **l/i/s**   du'ar
          SCl S̶C̶l̶   neg   sleeps
          'he/they.m/they.f do(es) not sleep'

      c. a   no   **l/i/s**   du'ar
          SCl neg   SCl   sleeps
          'he/they.m/they.f do(es) not sleep'

By contrast, Manzini & Savoia (2005) argue that this variation is possible as subject clitics can lexicalize different syntactic positions, although they assume a less articulated structure than Poletto's. Manzini & Savoia's proposal is summarized as follows:

(81) a. [$_D$a(l)...   [$_{Neg}$no   ...   [$_D$l   (3msg)
      b. [$_D$a(s) ... [$_{Neg}$no   ...   [$_D$s   (3fpl)
      c. [$_D$a(i) ... [$_{Neg}$no   ...   [$_D$i   (3mpl)

However, this account is not satisfactory under several respects. First, it does not account for the optionality of the pattern. Furthermore, it is not clear which category is lexicalised by the

formatives *-l/-s/-i*: in particular, it is not clear why *-l/-s/-i* stand for D° in the lower position, while in the higher position they are a sub-component of the complex D° *al/as/ai*.

Second, given the structure in (83), one wonders what prevents the 2sg clitic from exhibiting the same phenomenon. Like 3p clitics, the 2sg exponent is a compound (*i tu*) and, like 3p exponents, the consonantal item is expected to occur twice, but the resulting combination is ungrammatical.If the pattern in (83) was a side-effect of the presence of multiple positions hosting subject clitics, it is not clear to us what impedes the 2sg clitic *tu* from occurring in the higher position.

Above all, however, the most serious challenge for syntactic approaches is represented by the following set of data, showing that in Forni – and, to the best of our knowledge, only in Forni – the formatives *-l/-s/-i*are allowed to occur after object clitics:

(82)   a.   a **l** mi dà chist   'he gives me this'
             SCl SCl me gives this

       b.   a mi **l** dà chist
             SCl me SCl gives this

       c.   a **l** mi **l** dà chist
             SCl SCl me SCl gives this

Following Poletto's and Manzini & Savoia's accounts, the data in (84b-c) would lead to postulate even a lower position below object clitics, as illustrated in (85). In actual fact, however, we have no evidence at all supporting the hypothesis that, in the Romance languages, subject clitics can be placed below object clitics.

(83) a(l)   mi   (l)
       SCl   OCl   SCl

For this reason, we argue that, instead of supporting syntactic-based analyses, these data strengthen an account in which unexpected permutations between subject clitics and other clitic material is derived in Morphology via metathesis. Specifically we assume that another rule has developed in Forni on the model of rule (79). This rule applies to all cases in which the subject clitic is followed by a pronominal clitic (excluded 3p non-reflexive clitics[10]). It copies the subject clitic and moves the copy of the subject clitic to the end of the clitic cluster. This rule does not require deletion of the original clitic so that doubling of the clitic may optionally occur. The rule is formalized in (86), the derivation is in (87):

(84)   Given a clitic cluster [CL$_{subj}$CL$_{obj}$ V]
        a.   Copy CL$_{subj}$
        b.   Insert copy at right edge of clitic cluster

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[10] There is another property of Forni clitic clusters that should be mentioned. the formatives *-l/-s/-i* are omitted in combination with a 3p objet clitic, regardless of their position. Omission is optional before a 1/2p clitic, as in (21b) or when the subject is plural. We believe that this property is unrelated to the morphological processes discussed in this paper as it is attested in other dialects like those spoken in the Pesaro area. Space restrictions prevent us from discussing it.

c.   Delete original CL_{subj}(Optional).

(85)   a l mi V $\rightarrow$ a l l_1 mi V $\rightarrow$ a l   mi l_1 V $\rightarrow$
        a (l) mi l_1 V $\rightarrow$ a (l) mi l V

Rule (88) is optional, syntactically void and the resulting variants, in (90), do not differ in meaning.

(86) a.   a**l** mi dà chist
          he$_{SCl}$ me$_{OCl}$ give this
    b.   a mi **l** dà chist
          he$_{SCl}$ me$_{OCl}$ give this
    c.   a**l** mi **l** dà chist
          he$_{SCl}$ me$_{OCl}$ give this

Lastly, the interaction of the two rules of metathesis – one applying before negation, active in all the dialects of Friuli; the other applying before object clitics, attested only in Forni – gives rise to long distance permutations of clitics, resembling those reported by Arregi & Nevins for Basque dialects:

(87)   a. a l no mi V $\rightarrow$ a l l_1 no mi V $\rightarrow$ a (l) no mi l_1V

The rules in (77) and (84) can interact in a derivation:

(88)   a l no mi V $\rightarrow$ (due to (77)$\rightarrow$ a no l mi V$\rightarrow$(by (84)$\rightarrow$ a no (l) mi (l)

Conclusions

      In this article we have explored the hypothesis that cliticization involves a rule of *m-merge*, which brackets a functional head with another constituent under linear adjacency to build a structure legible at the PF interface. In some cases, m-merge may take place before further syntactic movement. As a consequence, the clitic is pied-piped by its host to a higher position, giving rise to a mismatch between the surface position of the clitic and its expected syntactic site.
    In the first part of the article, we focused on cases of V-to-C movement: we observed that object clitic and negation are pied-piped by the verb to C, crossing the position of subject clitics. We argued that subject clitics are m-merged after V-to-C movement: this explain while the complex object clitic + verb moves to C leaving the subject clitic behind. Morphological evidence (i.e. patterns of allomorphy) confirms the hypothesis that subject clitics are m-merged after the complex object clitic + verb has reached its target position in C.
    This account, however, faces some problematic data, which we accounted for by postulating further morphological rules of metathesis and fission. A syntactic analysis of the same phenomena is also possible (see Poletto 2000 and Manzini & Savoia 2005), but it requires a heavier theoretical apparatus and, in the end, the proposed solutions are as stipulative as ours. Furthermore, it seems to us that our analysis is more consistent with the historical evolution of these varieties.

First, in Friulian and Venetan dialects, the subject clitic intervenes between negation and the verb. Given this order, how can negation m-merge onto the verb (and move with the verb to C) leaving the subject clitic in its position? Our hypothesis is that, in these dialects, the order of subject clitics and negation in declarative clauses is reversed after m-merge by a morphological operation of *metathesis* (Halle & Harris 2005). The above reconstruction is compatible with the historical evolution of these dialects, in which the order of negation and subject clitics was reversed in the 16th century. Moreover, the hypothesis of a syntactically-inert operation is supported by the data from the Friulian dialect of Forni di Sotto, in which metathesis is extended also to object clitics, giving rise to sequences in which SCl formatives occur after OCls. As the latter ordering cannot be due to the presence of a dedicated syntactic position for SCls below OCl, the data from Forni call for an extra-syntactic explanation.

Second, we accounted for the fact that not all subject clitics undergo metathesis. The so-called "vocalic" clitics tend in fact to occur above negation or be dropped in combination with negation. Our explanation resides in the ordering of m-merge and metathesis, which in turn reflects the historical evolution of Friulian. We argued that m-merge of the "vocalic" clitics follows metathesis because, in the historical evolution of the Friulian system (Cormany 2011), 1sg, 1pl and 2pl pronouns became clitic (i.e. X^0) after the other clitics had already undergone metathesis.

Lastly, we addressed composite SCls, e.g. *i tu* 'you, *a l* 'he', etc., in which the pronoun is split in a vocalic formative, which usually precede negation, and a lower exponent, expressing number and gender features. We accounted for the split by means of a fission operation, applying to the feature bundle of all clitics. The fission operation in this case develops from analogical processes which, in dialects like Forni, made "vocalic" formatives occur before etymological clitic forms like 2sg *tu*.

As previously said, some of the above phenomena may be accounted for under either syntactic or morphological analyses. Adopting either analyses, in fact, does not challenge our view. In this work, we argued that the account of the micro-placement of clitic material requires a fine-grained theory of the syntax/morphology interface in which syntactic and morphological operations are interleaved, rather than confined in different modules of UG or dissolved one into the other.

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