Prosodic restructuring and morphological opacity. The evolution of Italo-Romance clitic clusters

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1 Introduction

This paper focuses on the evolution of Romance clitic sequences with the intent of providing a principled account of various 'regular irregularities', which, I will argue, result from a parametric change reversing the order of clitic elements. In Old Florentine¹, for instance, this change can be illustrated by a minimal pair like (1), which documents a change in progress: (1a) is the archaic accusative > dative order of the earliest records, while (1b) represents the innovative order, attested since the end of the 13th century².

(1) a. che [...] voi la mi concediate that [...] you.pl it.f to.me grant.subj 'that you grant it to me'

b. se Egli me la concede if He to.me it.f grants 'if He grants it to me'

(Boccaccio, Filocolo 212)

(Boccaccio, Filocolo 72)

Following Melander 1929, I will show that the evolution in (1) is part – arguably the final part – of a general change targeting a specific class of clitic combinations in almost all Romance languages. As a consequence of this change, the order of clitic elements ends up mirroring the one of their nominal counterparts.

Building on Kayne 1994:19-21 and Cardinaletti 2008, I will argue that the change leading to the mirror order in (1b) is due to the movement and the consequent left-adjunction of the dative clitic to the accusative one, as illustrated in (2).

According to Kayne's terminology, the resulting configuration in (2b) is a *true* cluster, while (2a) is a *split* one, where clitics occupy different, though adjacent, positions. On the basis of this hypothesis, we can therefore predict that the clusters with the mirror order (hence, true clusters) differ from the others under a series of syntactic and morpho-phonologic aspects, which I will address in the second part of the paper (sections 3-6).

The structure of the paper is as follows: in section 2 I describe the data of medieval Florentine and also provide a brief comparison with other Italo-Romance varieties like Ligurian and Sardinian. In the following sections I introduce some possible side-effects of this change, namely several regular irregularities which might follow from the peculiar syntactic status of true clusters as illustrated in (2b): in section 3 I show that true clusters are inseparable, while in section 4 I focus on a peculiar pattern of vowel alternation which (in Italian) targets only true clusters. In section 5, after

¹ Following Renzi & Salvi 2011, I consider 13th-14th century Florentine as the ancestor of modern Italian. Hence, in the reminder of the work, I will refer to this language as either 'Old Florentine' or 'Old Italian'.

² Besides the order, (1b) differs from (1a) with respect to the vowel of the dative clitic (*me* vs *mi*). This alternation will be addressed later on, in section 4.

a brief analysis of the internal structure of clitic elements along the lines of Harris 1994, Kayne 2002, Cardinaletti & Repetti 2008, I take into consideration cases of morphological opacity which often targets true clusters. Lastly, in section 6 I claim that the mirror order may be in fact due to a process of *root incorporation*. The latter claim is supported by evidence from parasitic plural phenomena (Halle & Harris 2005) and exceptional patterns of clitic doubling in Italian, a language which does not normally allow doubling (Benincà 1988:137).

2 The emergence of the mirror order

When clitic elements co-occur, they are generally clustered together in a rigid order, which varies on a language-specific basis. In large part, this synchronic variation results from a diachronic change, which, in some languages but not in others, made clitic combinations evolve from the archaic order accusative > dative to the mirror one. As previously said, this change is documented in early Italian in combinations of 3acc and 1/2dat clitics (I repeat below the relevant examples). The earliest records exhibit the archaic order, in (3a), while, in the first half of the 14th century, both orders were allowed, in apparent free variation³. Later on, however, the archaic order was progressively replaced by the innovative mirror order, in (3b), which is now the only possible order in present-day Italian.

- (3) a. che [...] voi **la mi** concediate (Boccaccio, Filocolo 212) that [...] you.pl it.f to.me grant.subj 'that you grant it to me'
 - b. se Egli **me la** concede (Boccaccio, Filocolo 72) if He to.me it.f grants 'if He grants it to me'

The same evolution can be observed with the 3p reflexive clitic si.

- (4) a. lo 'mperadore **lo si** trasse di sotto (Novellino 21, p.180) the emperor it himself took.out from under 'the emperor took it out from below himself'
 - b. **se lo** levò in su il petto (Boccaccio, ChioseTes 8.80, p.523) himself him lifted in on the chest 'He (Heracles) lifted him (Antaeus) up to his chest'

However, while in the case of 1/2dat the archaic order fell completely out of use, the archaic sequence *lo si* is still in use in modern Italian, although it has a different interpretation. As shown in (4), when *si* follows the 3acc clitic, it is interpreted as an impersonal clitic:

(5) a. **se lo** mangia $si_{refl.} > 3acc$ himself/herself it eats 'he/she eats it'

b. **lo si** mangia $3acc > si_{impersonal}$ it one eats 'one eats it'

³ see Aski & Russi 2010 for a quantitative survey and a tentative pragmatic-based account of this alternation.

Probably, the orders *se lo* and *lo si*, which, in origin, were synonymous, started to be given different interpretations when the mirror order became the only possible one and the impersonal reading, which was not allowed in Old Italian, progressively emerged (Cennamo 1993a, 1993b, 1997; Salvi 2008).

Traces of a similar evolution can be found in clusters formed by a locative clitic and a 3acc one. In modern Italian the locative clitic must occupy the leftmost position of the cluster, but, in $13^{th}/14^{th}$ century Italian, there are a couple of attestations of the opposite order, with the locative clitic vi:

(6) S' alcun **lo vi** volesse aprossimare: (Dante?, Fiore, p.60)
If anybody it there would get-close
'If anybody would get close to there'

Things are possibly even more complex when both clitics are 3p because in such a case the morphology of the cluster is not transparent: when in a cluster, the accusative clitic shows no gender and number agreement and, as a consequence, the internal order of the combination cannot be established. In general, the cluster ends with an invariable -e, e.g. lile, glile, gliele, etc. even if the direct object clitic references a singular and/or feminine argument:

(7) che **gli le** demo p(er) una inpossta (LibrAmm) that to.him them gave.1pl for a tax 'that we gave them to him for a tax'

Possibly, this opacity can be considered as a clue of an ongoing change from the order 3acc > 3dat (undocumented) to the mirror one $(3dat > 3acc)^4$. Traces of the archaic (namely, non-mirror) order are found also in modern dialects of north-western Italy and Corsica, which show a French-like pattern (Parry 2005:268 fn.38, Borgogno 1972, Manzini & Savoia 2004, which contains the following examples from the western Ligurian dialect spoken in Olivetta S.Michele).

(8) a. el **u** i duna he it/him to.him gives 'he gives it/him to him'

(Olivetta San Michele)

b. el **u m** duna he him/it to.me gives 'he gives him/it to me'

A single case of the archaic order is found also in an old Genovese text, in (8), while northern vernaculars normally display the mirror pattern since their earliest attestations:

(9) E la Magdalena laor **lo gue** mostrà (PassGen, p.36) And the Magdalena then him to.her showed 'And then Magdalena showed him to her'

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⁴ In 14^{th} century Florentine, however, the distribution of the grapheme $\langle gl \rangle$, which is supposed to stand for a palatal lateral deriving from L in front of -I, can be symptomatic of the position of the 3dat clitic ($\langle ILLI \rangle$). Crucially, $\langle gl \rangle$ is (almost) always in the initial position of the cluster. We can therefore advance the hypothesis that the order of 14^{th} century Italian was 3dat > 3acc.

A further difference between old and modern Italian concerns the position of the clitic ne, which in modern Italian must always follow the dative clitic. In Old Italian, on the contrary, it can follow the dative clitic when the latter is 3p. In Boccaccio's works, in particular, the order ne > 3dat alternates freely with the opposite one:

- (10) a. e assai **ne gli** piacquero (Boccaccio, Dec. II, 5, p. 98) and many of them to him like.3pl 'and he liked many of them'
 - b. ché **gli ne** potrebbe troppo di mal seguire (Boccaccio, because to.him of.it could too.much of bad(luck) follow Dec. III, 3, p. 197) 'because it could cause him too much misfortune'

On the basis of these data, we can therefore conclude that the present-day order 3dat > ne results from the same diachronic change described above for dative > accusative sequences. Other vernacular, in fact, differ from Italian as they still exhibit the supposed 'archaic' pattern. For instance, the order ne > 3dat can be found in other medieval vernaculars, as attested in the *Dialogo de Sam Gregorio*, a 14^{th} century text written in a vernacular of the Ligurian/Piedmontese border.

(11) **ne li** avea daito a lor. (DialSGreg 3.37:211) of.it (=oil) to.them has given to them 'he has given them some oil'

In modern Romance, this pattern is found in Sardinian dialects, as shown in (12)

(12) **nde li** dana (Sardinian, Manzini & Savoia of.them to him/her gives 2005, vol. II: 317.321) 'He/she gives some of them to him/her'

The status of the combinations formed by *ne* and a 3acc clitic is a bit more puzzling. For the sake of clarity, it is worth distinguishing between at least two *ne*'s: the ablative one and the genitive/partitive one. In modern Italian, the former is found with verbs of motion, even though it is quite marginal, and, in a very archaic register, it can co-occur with a 3acc clitic (Wanner 1977):

- (13) a. **ne** sono uscito.
 Out.of.there am exited
 'I got out of there'
 - b. % **ne lo** prendo il libro dalla libreria ne it take the book from the shelf 'I take it from there'

By contrast, the latter combination of (12b) is fine in Old Italian and the order is always ablative > accusative:

(14) Egli **ne lo** fa uscire fuori (Tesoro volg. 160) He of.there it make exit out 'He makes it get out of there'

The partitive/genitive *ne*, on the contrary, pronominalizes only a deep object and, as a consequence, it cannot co-occur with a direct object. Moreover, even if *ne* stands for a lexically-selected PP, as in

the case of verbs of saying like parlar=ne '(to) speak about', such a PP is always the higher internal argument and never co-occurs with a direct object. In conclusion, unlike the ablative ne, the partitive/genitive ne cannot occur with a 3acc clitic.

The observed changes are finally recapitulated in (15):

- (15) illustrates a general trend towards the establishing of a rigid order in which the clitic elements mirror the order of arguments and adjuncts. Crucially, the evolution is one-way: the mirror order replaces the archaic one in many Romance languages, while, at the best of my knowledge, the opposite change is not attested⁵.

Moreover, following Melander 1929:186, we can speculate that the patterns in (15) are instances of the same general principle. If we adopt the idea that the genitive/partitive *ne* has to do with the pronominalization of the higher internal argument (see above), this principle can be ultimately regarded as a process of incorporation like the one illustrated in (16):

(16)
$$Cl_{higher internal argument}$$
 $Cl_{other arguments/adjuncts}$

As previously said, this change affected the clusters which contain a clitic *dedicated* to the higher internal argument, i.e. the partitive/genitive *ne* or a 3acc clitic. On the contrary, combinations formed by case-syncretic clitics, which can express either the direct or the indirect object, tend to maintain the same order and behave as split configuration. Probably because of the split nature of the combination, the interpretation of clusters like (17) and (18) is ambiguous (namely, 1/2 clitics can express either the direct or the indirect object):

- (17) a. **mi ti** ha presentato Carlo me to.you has introduced Carlo 'Carlo has introduced me to you'
 - b. **mi ti** ha presentato Carlo to.me you has introduced Carlo 'Carlo has introduced you to me'
- (18) a. **mi si** presenta Carlo to.me one introduces Carlo 'one introduces Carlo to me'
 - b. **mi si** presenta a Carlo me one introduces to Carlo 'One introduces me to Carlo'

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⁵ Moreover, it is worth noting that our knowledge might be incomplete as the phenomenon can be more articulated than it is normally considered on the basis of the attested patterns. In particular, the same change could have affected other types of combinations or other languages (e.g. Ibero-Romance) in a previous, undocumented stage.

If clusters exhibiting the innovative mirror order are due to the left-adjunction of a clitic to other, the resulting combination ends up corresponding to a single complex head (a *true* cluster, in Kayne's 1994 terms), while the other combinations are supposed to be split, i.e. each clitic is expected to occupy a dedicated projection. If so, the former clusters are supposed to differ from the latter in several syntactic properties (see Cardinaletti 2008). In the following sections, I address some of these properties in order to support the hypothesis that the historical evolution depicted in this section has given rise to a class of true cluster in modern Italo-Romance.

3 Separability

In principle, split clitics can be separated by a syntactic constituent: for instance, in restructuring contexts (Rizzi 1982) we can expect one clitic to attach proclitically, while the other occupies an enclitic position, e.g. cl - V - cl. By contrast, the same pattern is supposed to be ungrammatical with true clusters. As shown below, this prediction is borne out: true clusters, in (19) and (20) cannot be divided, while split sequences, in (21) and (22), can be separated.

- (19) a. **Te lo** può portare To.you it can bring
 - b. Può portar=**te**=**lo** can bring=to.you=it
 - c. * ti può portar=lo to.you can bring=it
 - d. *lo può portar=ti
 it can bring=to.you
 'he/she can bring it to you'
- (20) a. **Te ne** può portare To.you of.it/them can bring
 - b. Può portar=**te**=**ne** can bring=to.you= of.it/them
 - c. * ti può portar=ne to.you can bring= of.it/them
 - d. *ne può portar=ti
 of.it/them can bring=to.you
 'he/she can bring of.it/them to you'
- (21) a. **Ti ci** può portare lui, all'aeroporto You there can bring he, to the airport
 - b. può portar=**ti**=**ci** lui, all'aeroporto can bring=you=there he, to.the airport
 - c. [?] **ti** può portar=**ci** lui, all'aeroporto You can bring=there he, to the airport

- d. [?] **ci** può portar=**ti** lui, all'aeroporto There can bring=you he, to the airport 'he can bring you there (to the airport)'
- (22) a. **Ti** si può portare⁶ You one can bring
 - d. **si** può portar=**ti** one can bring=you 'one can bring you'

In conclusion, the contrast between (19) and (20) on the one hand and (21) and (22) on the other is symptomatic of a structural asymmetry, which is compatible with Kayne's divide.

4 Allomorphy due to prosodic restructuring

In Italian, true clusters are characterized by a change of the vowel of the leftmost clitic (either a dative or a locative), which ends with -e instead of the expected -i as shown in $(23)^7$.

- (23) a. [me] lo porti [*mi] to.me it bring.you 'You bring it to me'
 - b. [Λe] ne porti due [*Λi] to.him of.them bring.you two
 'You bring him two of them'

In split sequences, this alternation is not attested and the linking vowel is the expected -i:

- (24) a. [mi] ci porta Mario [*me] me there brings Mario 'M. brings me there'
 - b. [**Λi**] si parla dopo [*Λe] to.you one speak later
 'We'll speak to you later'

An interesting fact concerning the emergence of the phenomenon is pointed out by Melander 1929, who notices that -e can be found since the earliest attestations of the mirror order. In other words, as soon as the dative clitics began to occupy the leftmost position of the cluster, their Thematic Vowel (ThV) suddenly changed into -e with very few exceptions. This means that there is a strong correlation between the syntactic change leading to the mirror order and the phonologic one determining the change -i > -e.

In my opinion, this correlation can be accounted for by analyzing such -e as an exception to a raising process. According to Rohlfs 1966:178, in Old Italian, final unstressed -e optionally became -i, giving rise to a series of alternations like avante > avanti 'before, in front of', diece > dieci 'ten',

 6 For orthogonal reasons, the impersonal si cannot occur enclitically. This is why I have reported only two combinations out of four.

⁷ It is worth noting that the process targets also the 3dat.m.sg clitic *gli* 'to him', in (23b). The nature of the vowel -i of *gli* will be discussed in the next section.

longe > lungi 'far', etc. Such a raising ended up differentiating the morphology of clitic pronouns (e.g. mi, ti 'me, you') from the morphology of their stressed counterparts, which still maintain the etymological -e, e.g. me, te.

Following Peperkamp 1995, 1996, 1997, we can assume that clitic elements – which correspond to extrametrical syllables (Selkirk 1995) – undergo a process of *prosodic restructuring*, which leads to the formation of an autonomous foot, as shown by the following scheme:

(25) [clitic [clitic [lexical word]]]
$$\rightarrow$$
 [(clitic.clitic) [lexical word]]

Due to prosodic restructuring, the leftmost clitic of the cluster becomes the foot's head and, as a consequence, escapes the raising rule (-e > -i), which targets only final, unstressed vowels. Otherwise, when it occupies the rightmost position of the cluster or occurs in isolation, the same item is subject to raising.

According to this analysis, the *i/e* alternation turns out to be a diagnostic for the prosodic status of clitics: those ending with -*e* are foot's heads, while the others are extrametrical syllables. The difference between these two types of clusters, however, cannot be predicted on the basis of independent phonological reasons, but, on the basis of the true/split cluster distinction, we can advance the hypothesis that the condition triggering prosodic restructuring, namely foot formation, is syntactic in nature, rather than phonological. In particular, my claim is that prosodic restructuring is allowed when two clitics form a single syntactic unit, while it is blocked when the cluster corresponds to two syntactic constituents. The following schemes show the parallelism between the syntactic representation of the cluster on the left and, on the right of the arrow, the corresponding phonological output:

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(26) a. true cluster, e.g. me \ lo 'it to me' [me \ lo \ [t_{mi} \ ... \ ]] \rightarrow (me.lo)
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b. split cluster, e.g.
$$mi \ si$$
 'one to me' $[mi \ [si \dots]] \rightarrow mi[si$

This view departs from D'Ovidio's 1886:71 traditional explanation that -e- is a reflex of the etymological initial vowel of the rightmost clitic (lo < i-LLUM, ne < i-NDE), which has been preserved in cluster-internal position. According to this reconstruction, the derivation of the clusters above would be as follows:

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(27) a. ME ĬLLUM > M'ĬLLU > me lo 'it/him to me'

b. ĬLLI ĬNDE > ILL'ĬNDE > gliene 'it/him to him/her'
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Although this proposal accounts straightforwardly for both the etymology of -e- and its synchronic distribution, it has three major drawbacks.

First, as Parodi (1887:189-190) pointed out, the 13th century reflexes of ILLE, INDE, occupy the leftmost position of the cluster, as shown in section 2, and they do not show traces of either gemination or initial *e*- (e.g. **ella mi*). The fact that the archaic order of these clusters is accusative > dative contradicts D'Ovidio's hypothesis that the linking vowel -*e*- is a reflex of preserved ĭ in cluster-internal position.

Second, in Old Florentine, the apocopated allomorph l' (< lo) resyllabifies by means of the prosthetic vowel i-, namely $l' \rightarrow il$ (Vanelli 1992/1998, Renzi 1993, Renzi & Vanelli 1993). If the etymological e- (< i-) had been still underlying, the insertion of a prosthetic segment like i- would have been unnecessary.

Lastly, if -e- was the reflex of ĭ, this would entail that the cluster originally included a disyllabic reflex of ĭLLE, ĭNDE. If so, the resulting cluster would show a geminate sonorant (cf. ĭLLE, ĭNDE > *ello, *enne) as in Florentine etymological geminates are normally maintained. The expected evolution would therefore be as follows:

- (28) a. ME ĬLLUM > M'ĬLLU > *mello 'it/him to me'
 - b. ĬLLI ĬLLUM > ILL'ĬLLUM > *gliello 'it/him to him/her'

It is worth noting that in Italian this gemination is shown by other clitic clusters: for instance, by sequences of preposition + article (the so-called *preposizioni articolate*, lit. 'article-d prepositions')⁸:

- (29) a. DE ĬLLUM > D'ĬLLU > dello 'of the'
 - b. IN ĬLLUM > (I)N'ĬLLUM > nello 'in the'

In (29), the preservation of the disyllabic form of the determiner ('iLLU > ello) provides a straightforward explanation for both the vowel -e- and the following gemination. On the contrary, the case of pronominal sequences calls for a different explanation, as the absence of gemination is not compatible with the same derivation.

The conclusion that the -e- of pronominal clusters and the -e- of P+D sequences have a different nature is highly desirable because it prevents a possible paradox. In fact, Cardinaletti's 2008 claim that true clusters "display the same vowel that is found in the combinations of preposition and determiner" ends up contradicting Cardinaletti's own analysis that sequences of pronominal clitics are true clusters in the sense of Kayne 1994. In fact, P+D sequences cannot be clusters à la Kayne 1994, as the linear order P > D cannot be due to movement of P° past D° . Hence, if we want to maintain the hypothesis that -e- is a clue of true clusters, we have to demonstrate that their -e-'s are different.

Actually, gemination is the proof that P+D sequences differ from pronominal clusters like *me lo, gliela* as the former, but not the latter, derive from the *univerbation* of the preposition and the following disyllabic determiner: e.g. DE ĬLLUM > D'ĬLLU > *dello* 'of the'. The absence of gemination in pronominal clusters indicates on the contrary that the rightmost element was not disyllabic and, consequently, that the linking vowel *-e-* cannot be a reflex of Ĭ- preserved in cluster-internal position.

5 Suppletivism

T ' T. 1

In various Italo-Romance dialects, the etymological form of the 3dat clitic has completely fallen out of use and in modern dialects this pronoun is expressed by a suppletive exponent, which normally coincides with the locative or the 3p reflexive clitic. In many dialects, such a suppletion is absolute (see Calabrese 1994, 2008; Loporcaro 1995, 2002), while in others, it is context-determined: the 3dat clitic is replaced by a suppletive exponent when it is clustered with another clitic element. As Cardinaletti 2008 pointed out, this normally happens in true clusters.

However, before addressing the relevant data, some general remarks on the morphology of the 3dat clitic are in order. In general, Romance clitics are formed by a Person morpheme followed by a

⁸ Formentin 1996 has pointed out that, at least in some cases, e.g. IN 'iLLU > nello 'in the', the gemination must depend on the preservation of the disyllabic form of the determiner (IN 'iLLU > (i)nello). In fact, ll in P+D sequences is attested also in the dialects in which articles are not subject to regular consonantal doubling (the so-called *raddoppiamento* (*fono*)sintattico).

Thematic Vowel (ThV, see Harris 1994), which, in the case of 3p non-reflexive pronouns (e.g. *lo*, *la* 'it/him, her'), expresses grammatical features like number, gender and case. All other elements (e.g. *me*, *te* 'me, you') exhibit a default ThV without inflectional value. Kayne 2000 and Cardinaletti & Repetti 2008 argue for a more radical analysis by assuming that the default ThV is an epenthetic vowel⁹, i.e. a segment which is not part of the morpho-lexical representation of clitic elements. Under this analysis, uninflected clitics are therefore assumed to be *monomorphemic* (Kayne), as they correspond to a single consonantal root, e.g. *m*- for 'me', while the following vowel is adjoined for phonological (syllabic?) reasons. Third person clitics, on the contrary, are supposed to be *bimorphemic*, as their ThV is in fact an agreement marker.

In what follows I keep the distinction between mono- and bimorphemic elements, which, in my opinion, plays a central role in accounting for several synchronic asymmetries between these classes of clitics. Nevertheless, the epenthetic status of the default ThV remains rather obscure to me, in particular in the case of the Italo-Romance varieties which have never undergone a generalized and systematic loss of final unstressed vowels. In fact, in these varieties, the default ThV normally coincides with the expected evolution of Lat. -E in final, unstressed position and, as a consequence, monomorphemic clitics can be viewed as regular reflexes of the Latin forms ME, TE, SE, INCE, INDE without postulating the intervention of epenthesis processes.

The conservation of the Lat. system of ThVs has been particularly favoured in languages which have preserved final -s, like Ibero-Romance, Sardinian, and Friulian varieties. In these languages, plural pronouns still exhibit conservative ThVs like Spanish nos < NOS 'us', os < VOS 'you.pl', los < ILLOS 'they.m', las < ILLAS 'they.f'. On the contrary, where number and gender features have been fused into a single ThV, plural clitics have undergone processes of reanalysis and hybridization. On the one hand, 1/2p plural clitics have taken the default ThV of 1/2p singular pronouns and adverbial clitics deriving from Latin particles like INCE > (n)ce, INDE > ne, IBI > vi): this has led to forms like ne/ni from NOS and ve/vi from VOS. On the other hand, 3p plural clitics have inherited the ThVs of nominative forms ILL-I 'they.m', ILL-AE 'they.f' > li/le 'them.m/f'.

A similar evolution is shown by 3dat clitics. In principle, 3dat clitics derive from the Latin determiner ILLI (pl. ILLIS), which is not gender-inflected. Languages with sigmatic plural (like Sardinian and Ibero-Romance varieties, but unlike Friulian) still exhibit reflexes of the Latin forms, e.g. Spanish *le* 'to him/her', *les* 'to them'. In other Romance languages, on the other hand, the 3dat clitic has undergone a series of changes leading to the syncretism with locative or reflexive exponents .

Moreover, as previously mentioned, languages displaying a bimorphemic dative are subject to context-determined suppletivism, as the etymological form is frequently replaced by a monomorphemic item when it occurs in true clusters. We can distinguish at least three main patterns of substitution on the basis of the etymology of the replacing item:

i. spurious *se* patterns, attested in Ibero-Romance and Campidanese Sardinian: in true clusters, the etymological 3dat *le/li* is replaced by the 3refl element (with a non-reflexive interpretation).

(22) a. **di** pottu unu libru.

To.him bring.1.SG a book

'I bring him a book'

(Sarroch, Campidanese Sard.)

b. si/*di du pottu. to-him it bring.1.SG 'I bring it to him'

⁹ More precisely, Cardinaletti and Repetti 2008:537 argue for a process of 'morphological epenthesis' and assume that morphemes without grammatical 'meaning' – like ThVs in general – have no morpho-syntactic status.

ii. spurious locative patterns, attested in many Italo-Romance dialects, Logudorese Sardinian and Catalan: in true clusters the etymological 3dat *le/li* is replaced by the locative clitic *ci/bi/hi/y*.

(30) bi/***li** l'appo datu (Log. Sardinian, Jones 1993:220) to.him/her/them it'have.1.sg given 'I gave it to him/her/them'

iii. spurious *ne* patterns (several southern Italian dialects): in true clusters the etymological 3dat *le/li* is replaced by the partitive element deriving from Lat. INDE.

(31) a. **i** da kkuistə (Rocca Imperiale, to.him/her/them gives this Manzini & Savoia 2005: 291) 'He/she gives this to him/her/them'

b. **n**/***i u** da to him/her/them it gives 'He/she gives it to him/her/them'

In the remainder of this section, I will argue there is a tight link between the patterns in i-iii, the internal structure of clitics, and the order of the cluster. In particular, I will show that

- A. the aforementioned patterns of substitutions are found in true clusters, namely in clusters with the mirror order;
- B. all these context-determined phenomena seem to result from the same, general operation: the substitution of a bimorphemic clitic in general, a form that is synchronically analysable as l+ThV with a monomorphemic one.

It is worth noting that the 3dat clitic escapes opacity when it occupies the rightmost position of the cluster. See, for instance, the following pattern exemplified by data from Sardinian dialects (Manzini & Savoia 2005 vol. II:317.321): the etymological form li is allowed in isolation (32a) or when it follows another clitic element (32b), while, when it occupies the leftmost position of the cluster, as in (32c), it must be replaced by the 'spurious' exponent bi.

(32) a. **li** dana kustu to him/her gives this 'He/she gives this to him/her'

(Ittiri SS, Padria SS, Luras OT, Siniscola, NU Galtellì NU, Bosa OR)

- b. **nde li** danaof.them to.him/her gives'He/she gives some of them to him/her'
- c. **bi/*li lu** dana to him/her it gives 'He/she gives it to him/her'

The same correlation between suppletivism and the mirror order is found in medieval Italo-Romance as well, in the rare vernaculars in which etymological reflexes of Lat. ILLI are still attested ¹⁰. Only Ligurian vernaculars show traces of the etymologic dative pronoun *li*, which, as expected, normally occours in clusters with the archaic order. For instance, in the *Dialogo de Sam*

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¹⁰ In general, in northern Italo-Romance the 3dat clitic is usually expressed by the same exponent expressing the locative clitic since the earliest attestations and, in many cases, such syncretic item cannot be derived easily from Lat. ILLI (for a proposal, see Benincà 2007).

Gregorio, which was written in a vernacular of the Ligurian/Piedmontese border, we find the following three allomorphs of the 3dat clitic: *li*, *gl'* and *ge*.

(33) a. Li dise: (DialSGreg 1.4, p.86)
To.him says
'he says to him:'

b. segundo che ello **gl'** aveo inpromoso (DialSGreg 2.25, p.138) according to that he to him has promised 'according to what he's promised to him'

c. elo **ge** fu mostrao (DialSGreg 1.4, p.86) he to.him was shown 'he was shown to him'

Li is the regular reflex of ILLI, gl its prevocalic allomorph (<gl> is always used to express the phoneme resulting from the palatalization of l in front of the glide j, e.g. FILIU > figlo 'son'), while the relation between li and ge is, at first sight, phonologically opaque (but see Benincà 2007). With respect to the l-/g- alternation, the important distinction between the two is that li can be analysed as a bimorphemic element l+i (where i < dat -I), while ge exhibits the same ThV of 1/2p pronouns me, te, etc. and, in my opinion, counts as a monomorphemic element.

Most importantly, however, the alternation li/ge is not free when the dative clitic combines with another clitic element: the bimorphemic item li is used in isolation or in second position, as in (34a), while it is systematically replaced by the monomorphemic ge when the cluster exhibits the mirror order, like in (34b).

(34) a. **ne li** avea daito a lor. (DialSGreg 3.37:211) of.it to.them has given to them 'he has given them some oil'

b. una **ge ne** caite de man (DialSGreg 1.7, p.92) one to.him of.them fell from hand 'one of them fell from his hands'

A similar pattern is found also in a Genovese texts, the *Passione* edited by Parodi 1986, where three allomorphs of the 3p dative clitic occur randomly: *li*, *ge* and *gue*.

(35) a. **li** demandà (PassGen p.29) to.him asked

'he asked to him'

b. **ge** respoxe (PassGen p.31)

to.him answered 'he answered to him'

c. **gue** eram date (PassGen p.38)

to.him were given

'(they) were given to him'

As in the case of the aforementioned *Dialogo*, it is almost impossible to establish the phonologic value of the element <ge>. Nowadays, the locative/dative clitic is *ghe* /ge/, but the pronunciation of

its medieval counterpart is still a puzzle: in medieval texts, the grapheme <h> was not used to indicate a velar pronunciation [g] in front of a palatal vowels and, furthermore, <g> was also used to indicate the palatalized reflex of LJ, e.g. FILIUM > figiu. Moreover, we still lack a plausible etymological solution for <gue>. These difficulties aside, it is however worth noting that the etymological 3dat clitic li never combines with other clitic pronouns. In clusters we found only ge/gue, which normally precedes the co-occurring clitic in accordance with the mirror order, save for a single case, in which the dative clitic gue follows the 3acc lo, in (36)

(36) la Magdalena laor **lo gue** mostrà (PassGen p.36) the Magdalena then him to.her showed 'then Magdalena showed him to her

Under the analysis suggested here, it is not at all surprising that traces of the archaic order, with the dative clitic occupying the second position of the clusters, are found precisely in the sole northern vernaculars to exhibit instances of the etymologic bimorphemic dative clitic li(gl' / V).

5.1 Italian

In Old Italian, both the 3dat clitic li 'to him/them' and the homophonous masculine plural 3acc li 'them' underwent a context-driven process of palatalization before vowels, where li#V \rightarrow lj#V. This gave rise to an alternation between li and $gli = [\lambda i]$, which, crucially, affected both the accusative plural and the dative clitic. Later on, however, these allomorph beceme specialized as the original contextual/phonetically-driven alternation was reinterpreted as a syntactic-based distinction: the palatalized form gli became the masculine dative clitic, while the etymological form li specialized as the accusative masculine plural pronoun. This means that, even when they were homophonous, these items had never collapsed into a single syncretic item, but they were kept distinct.

Furthermore, Italian exhibits a non-etymological 3dat feminine form $(le \text{ 'to her'})^{11}$ in opposition to the masculine li/gli 'to him'. Possibly, the emergence of a 3p feminine dative clitic is due to the analogy with 3acc plural clitics, as schematised below (the asterisk marks the analogical output):

(37)
$$li_{acc}$$
 (< ILLI): le_{acc} (< ILLAE) = li_{dat} (< ILLI): * le_{dat}

(37)

The question concerning Italian *gli/le* is whether they can be analysed as bimorphemic or monomorphemic elements, i.e. if their ThV is a default one or an agreement marker. Several pieces of evidence seem to confirm that *gli* counts as a monomorphemic clitic, while the latter (le) is still synchronically analysed as a bimorphemic one (see also Cardinaletti 2008)¹².

First, the ThV of *gli* coincides with the default one of monomorphemic clitics like *mi*, *ti*, *ci*, etc. Second, *gli* undergoes the same pattern of allomorphy of monomorphemic clitics when it occupies the leftmost position in true clusters (see section 4). Third, given the aforementioned tendency to prevent bimorphemic elements from occupying the leftmost position of certain clusters, it is worth noting that *gli*, like monomorphemic clitics, is free to combine with other clitics, while *le*

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¹¹ As far as I can see, the emergence of a dedicated dative feminine exponent is a peculiarity of Florentine, as in the rest of Romance, the 3p dative clitic does not normally display gender alternations.

One can speculate whether the reanalysis of gli as a monomorphemic exponent might be a consequence of palatalization, which made the paradigmatic relation between gli and the l+V series synchronically opaque and therefore prevented the reanalysis of such a form as a bimorphemic item.

cannot occur in true clusters (see also Cardinaletti 2008). In this case, le is always replaced by *gli* although the 3dat pronoun references a feminine individual:

- (38) a. (*le)/glie=lo regalo a Maria (*to.her)/to.him=it give to Maria 'I have given it to her (Maria)'
 - b. (*le)/glie=ne regalo due a Maria (*to.her)/to.him=of.them give two to Maria 'I have given two of them to her (Maria)'

On the basis of the pattern of substitution in (38), we can therefore conclude that gli, unlike le, counts as a monomorphemic clitic.

6 Root incorporation?

In this section I argue that the operation responsible for the mirror order of clitics is a process of root incorporation. In particular, I will assume that bimorphemic clitics are formed by a root expressing Person features (say, $\sqrt{\{P\}}$) followed by an agreement marker expressing Number and Gender:

(39)
$$[_{D^{\circ}} \sqrt{\{P\}} [_{Agr} \{G,N\}]]$$

On the basis of these features, vocabulary items are inserted after syntactic operations have taken place (Halle & Marantz 1993):

When a bimorphemic clitic like *le* is clustered with an element referencing the higher internal argument, only the root of the dative clitic undergoes incorporation, while its inflectional material is stranded. In this case, gender and number remain unpronounced ('silent', in Kayne's 2000 terms), although in some languages we can observe it overtly (see the following subsection):

$$(41) \hspace{1cm} D^{\circ} \hspace{1cm} ... \hspace{1cm} [_{D^{\circ}} \hspace{1cm} \sqrt{\{P\}} \hspace{1cm} [_{Agr} \hspace{1cm} \{G,\!N\}$$

As a consequence of this process, the moved (sub-)constituent \sqrt{P} can no longer trigger the insertion of the item l-, which must be followed by a proper inflectional ending.

Since the agreement material of the dative clitic is stranded in a discontinuous position, a monomorphemic element must fill the head hosting $\sqrt{\{P\}}$. 1/2 clitics cannot be inserted instead of l, as they cannot match the $\{P\}$ specification of the root. As a last resort, a dummy clitic – subject to cross-linguistic variation (see Pescarini 2010) – is inserted, as schematized below:

$$[\sqrt{P} + D^{\circ} ... [D^{\circ} t_{\sqrt{P}} [Agr \{G,N\}]]$$

gli	lo	Modern Italian
bi	lu	Logudorese Sardinian
si	lu	Campidanese Sardinian
n	и	Rocca Imperiale, etc.

6.1 Parasitic plural

The above analysis is supported by the phenomenon of *parasitic plural* (Halle & Harris 2005, Kayne 2010, Manzini & Savoia 2009), which is attested in those languages¹³ in which Number is expressed by the plural suffix -s. In these languages, 3p plural clitics exhibit a trimorphemic exponent, as schematised below:

The same analysis holds for the 3p dative clitic *les/lis* 'to them'. Interestingly, when the plural dative occurs in true clusters (for instance, before the 3^A clitic *lo* 'it/him'), it is replaced as usual by a dummy exponent (e.g. *bi*), but, crucially, its plural feature is expressed by the morpheme -s, which attaches to the right of the whole cluster as shown in (44).

Following the above analysis, the position of the plural suffix -s can be accounted for as an instance of stranding of the agreement features of the dative pronoun, whose root has incorporated into the accusative clitic *lo*:

(46)
$$[\sqrt{P} + D^{\circ} ... | [D^{\circ} t_{\sqrt{P}} [Agr \{G\} [Agr \{N\}] | bi | lo]$$

Jones 1993, focusing on Logodurese Sardinian, reports also cases of parasitic gender, i.e. cases in which the rightmost ThV expresses the gender of the dative clitic, rather than that of the accusative one:

Again, the hypothesis of root incorporation provides a straightforward account of the pattern in (47), which is illustrated below:

$$(48) \qquad [\sqrt{\{P\}} + D^{\circ} \dots]_{D^{\circ}} t_{\sqrt{\{P\}}} [Agr \{G\} [Agr \{N\}] |$$

¹³ The phenomenon is mainly attested in South American and Sardinian varieties. Parasitic plural is pervasive in the Catalan dialect spoken in Barcelona (Bonet 1991). Traces of parasitic plural are found also in Old French (Giampaolo Salvi's p.c. reported in Benincà & Poletto 2005: fn. 14)

bi l -a- -s

6.2 Doubling

Further evidence in favour of the hypothesis that true clusters involve a process of root incorporation comes from the analysis of certain peculiar cases of clitic doubling in Italian.

Italian – unlike Spanish and other Romance languages – does not allow dative DPs/pronouns to be doubled by a coreferent clitic (needless to say, I am not dealing here with resumptive clitic and dislocated DPs):

- (49) a. (***Gli**) ho regalato il libro a Mario (to.him) have.1.sg given the book to Mario 'I have given the book to him (Mario)'
 - b. (*Gli) ho regalato due libri a Mario (to.him) have.1.sg given two books to Mario 'I have given two books to Mario'

However, Benincà 1988:137 noticed that if the 3dat clitic is part of a true cluster, doubling is allowed:

- (50) a. **Glie=l'** ho regalato a Mario to.him=it have.1.sg given to Mario 'I have given it to him (Mario)'
 - b. **Glie=ne** ho regalati due a Mario to.him=of.them/it have.1.sg given two to Mario 'I have given two of them to him (Mario)'

On the contrary, doubling is ungrammatical with split sequences¹⁴:

- (51) a. (***Gli**) **si** regala il libro a Mario (to.him) one give.3.sg the book to Mario 'One gives the book to him (Mario)'
 - b. (*gli) si presenta a Mario (*to.him) himself/herself introduce.3.sg to Mario 'He/she introduces himself/herself to Mario'

Intuitively, these data mean that the dative clitic embedded in a true cluster is not a genuine doubler (see also Benincà & Poletto 2005:232). In the light of a root incorporation analysis, we can argue that when it is inside a true cluster, the dative clitic is a root without agreement, which cannot compete with a co-occurring DP goal for checking against the same probe. On the contrary, when the same clitic gli occours in isolation (namely as a single clitic) or when it is in a split configuration with another clitic, like in (51), it counts as a fully-fledged pronouns with a complete set of phi specifications.

Lastly, it is worth noting that doubling becomes again grammatical if a 3acc or partitive clitic is inserted between the dative and the impersonal. In this case we can suppose that the leftmost

 $^{^{14}}$ The combination of the locative clitic ci with the 3dat clitic cannot be checked as they never cooccur

clitic forms a true cluster with the following one via root incorporation, while *si* occupies a dedicated, split position:

- (52) a. **Glie=lo si** regala a Mario to.him it one give.3.sg to Mario 'One gives it to him (Mario)'
 - b. **Glie=ne si** regala due a Mario to.him=of.them one give.3.sg two to Mario 'One gives two of them to Mario'

8. Conclusions

In this paper I have addressed two problems:

- i. the evolution of the internal order of Romance clitic clusters;
- ii. the existence of two classes of clusters in modern Italian and Italo-Romance.

This led me to account for several collateral issues, including:

- i. the separability of clitic cluster in restructuring contexts;
- ii. a pattern of allomorphy found in Italian;
- iii. a generalized pattern of suppletivism attested in many Romance varieties when a 3p dative is part of a true cluster;
- iv. parasitic plural;
- v. cases of exceptional doubling.

In the first part of the paper I have argued that many Romance languages have been targeted by a single macro-parameter reversing the order of clitic elements when one of them unambiguously references the higher internal argument. This holds for 3acc clitics (e.g. It. lo, la 'him, her') and partitive ne. On the other hand, the order of clusters formed by 1/2 and 3refl clitics, which are case-syncretic, has not undergone a similar change. Clear examples of this change are shown in $13/14^{th}$ century Florentine sequences of a 1/2dat and a 3acc clitic:

(53) a. che [...] voi **la mi** concediate (Boccaccio, Filocolo 212) that [...] you.pl it.f to.me grant.subj 'that you grant it to me'

b. se Egli **me la** concede (Boccaccio, Filocolo 72) if He to.me it.f grants 'if He grants it to me'

From a syntactic point of view, such a change can be due to the movement of the dative clitic, which left-adjoins to the accusative one forming a syntactic complex head. If so, clusters formed via incorporation are true clusters (Kayne 1994:19-21), while the others correspond to a split configuration: in the latter case clitics occupy different syntactic positions, as shown in (53a), while in the former case one left-adjoins to the other, see (53b).

(54) a $[\alpha [\beta]]$ (split)

b. $[\beta \alpha [t_{\beta}]]$ (cluster)

According to this hypothesis and on the basis of their historical evolution, Italian clitics can be therefore divided into two major classes¹⁵.

(55)	true:		split:	
1.sg (<i>mi</i>)	me lo	me ne	mi si	mi ci
2.sg(ti)	te lo	te ne	ti si	ti ci
3.sg.dat (<i>gli</i>)	glielo	gliene	gli si	gli ci

In the second part of the paper I have taken into consideration a series of facts related to the hypothesis above, reaching the following conclusions:

- i. I have shown that true clusters, unlike split sequences, cannot be separated in restructuring environment:
- ii. I have argued that the *e/i* alternation might result from the underlying syntactic configuration. I have made the hypothesis that only true clusters are subject to a prosodic process of foot formation and that *-e-* suggests that the leftmost clitic is in foot's head position.
- iii. I have observed that true clusters are almost always subject to suppletivism when the dative clitic is 3p. In general, the bimorphemic exponent expressing the 3dat clitic is replaced by a dummy monomorphemic item. The hypothesis goes that this morphological pattern is a side-effect of the incorporation determining the mirror order: only the root of the dative clitic incorporates, while its agreement features remain stranded in their original position.
- iv. under the previous hypothesis I have reconsidered patterns of 'parasitic' inflection as cases of stranding. As the formation of true clusters results from root incorporation, the remaining inflectional material can be expressed, in languages with agglutinative endings by means of a parasitic suffix, which ends up attaching to the right of the whole cluster.
- v. lastly, the hypothesis of root incorporation can account for the acceptability of doubling in Italian when the 3dat clitic is part of a true cluster, although Italian is a language in which clitic doubling is not allowed.

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¹⁵ Cardinaletti 2008 argues for a slightly different classification as she considers the combinations with the clitic ci as true clusters

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