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**Author:** Torcolacci, Giuseppe  
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Chapter 3

RF and the overt marking of φ features

1. Introduction

As discussed in chapter 2, the triggering of RF by present perfect auxiliaries in USIDs poses a serious challenge to the canonical theories of RF, which assume that this phenomenon derives from purely phonological requirements. Indeed, we have abandoned the idea that the triggering of RF by present perfect BE-HAVE auxiliaries in USIDs exclusively results from the phonological process of the regressive consonant assimilation (or RCA) rule active at word boundaries that is said to have taken place in the diachronic evolution from Latin to Southern Italo-Romance (cf. Schuchardt, 1874; Hall, 1964; Loporcaro, 1997b; a.o.). Furthermore, the idea adopted by Repetti (1991), in which she argues that the reorganization of segmental material at word-final position of a word feeds RF, has turned out to be insufficient, since it cannot justify the ‘free’ distribution of RF triggered by present perfect auxiliaries in the dialects examined in the previous chapter. In fact, the empirical evidence provided in the previous chapter has shown that only a subset of present perfect auxiliaries can license RF. It is usually 1 and 2sg present perfect BE that trigger RF in a group of CSIDs, as well as in some dialects spoken in the transitional area between NSIDs and CID (cf. (1)). Moreover, RF is obligatorily triggered only by 3sg present perfect HAVE in the central and southern CSID region (cf. (2)), and is not found elsewhere in the paradigm. These dialects, as explored in chapter 2, are spoken in the geolinguistic area in which the selection of present perfect auxiliaries is often sensitive to the person feature specification of the sentential subject (cf. Cocchi, 1995; Ledgeway, 2000; Manzini & Savoia, 2005; D’Alessandro & Roberts, 2010; Legendre, 2010; Loporcaro, 2010; a.o.).
Given the different distribution of RF observed in the paradigms in (1) and (2), two questions will be raised in what follows:

i. Why is RF triggered only by 1 and 2sg BE, and not by other formatives, in the dialect in (1)?

ii. Why is RF triggered by 3sg HAVE in the dialect in (2)?

In this chapter, it will be proposed that 1 and 2sg BE, as well as 3sg HAVE, license the projection of an empty mora at PF, the content of which is purely morphosyntactic. More specifically, we will argue that the mora projected by 1-2sg BE and 3sg HAVE at PF corresponds to a morpheme in morphology that expresses a specific morphosyntactic φ feature.

This chapter is structured as follows: in §2, we will consider the morphosyntactic nature of φ features encoded on pronouns and southern Italian perfective auxiliaries. §3 will shed light on the core properties of Distributed Morphology (cf. Halle & Marantz, 1993, 1994; a.o.), which is the framework we will refer to both in this and the following chapters. In later sections, we will consider the technical mechanism leading to the licensing
RF and the overt marking of φ features

of RF by 1-2sg BE (cf. §4) and 3sg HAVE (cf. §5). §6 summarizes and concludes the chapter.

2. The morphosyntactic nature of φ

In this section, the morphosyntactic nature of φ features expressed on pronouns and southern Italian perfective auxiliaries will be analyzed. It will first be shown (cf. §2.1) that morphosyntactic features expressed on pronouns can be organized within a geometry (cf. Harley & Ritter (2002)). Secondly (cf. §2.2), we will argue that morphosyntactic features expressed on perfective auxiliaries in USIDs can be also structured within a geometric representation, as they can with pronouns.

2.1 The nature and geometry of φ on pronouns

In a well-known article, Harley & Ritter (2002) build up a geometry in which morphosyntactic features such as Person, Number and Gender, i.e. φ features, are structurally organized. Within this geometry, the mother node dominating the relevant features corresponds to the terminal node called Referring Expression. In their view, Referring Expression is the equivalent of the morpho-phonological expression of a pronominal DP. Referring Expression branches into the [Participant] and [Individuation] nodes. The former is further specified as [Speaker] or [Addressee], expressing 1 or 2 person information, respectively. The latter, conversely, represents the feature that encodes number properties. [Individuation], in turn, can be further split into three nodes: [Group], [Minimal] and [Class]. [Group] refers to the plural value of a pronoun whereas [Minimal] refers to the singular one. We will leave aside the discussion related to [Class], which will be tackled in chapter 5. The geometry described here is illustrated by means of a hierarchical structure in (3).
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Referring Expression (=Pronoun)

Participant  Individuation
  Speaker  Addrsee  Minimal  Group  Class

Augmented

Animate
  Inanimate/Neuter

Feminine  Masculine

[Harley & Ritter (2002): 8]

The difference between [Speaker] and [Adressee], both further specifications of [Participant], and between [Minimal] and [Group], specifications of [Individuation], consists in the different type of markedness they inherit (cf. Harley & Ritter (2002)). [Speaker] and [Minimal] are the nodes that express a default value, whereas [Addrsee] and [Group], on the other hand, express a marked one. In the geometry in (3), the defaults are curly underlined. It is worth noting that the geometry in (3) does not include 3 person within the set of [Participant]. This is to say that according to the geometry in (3) a 3 person DP-pronoun must be considered as not being endowed with the feature [Participant]. This means, in practice, that a 3 person pronoun does not have a person specification. This idea has been proposed by several linguists in the last few decades. In fact, as Benveniste (1966), (1971) observes, there is a fundamental difference between 1 and 2 person, on the one hand, and 3 person on the other. As far as 1 and 2 person are concerned, Benveniste (1971: 217) observes that “Person’ belongs only to I/you, and is lacking in he”. In contrast, with reference to 3 person, Forchheimer (1953: 5-6) claims that “Whoever does not act a rôle in the

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1 The technical reasoning leading to the assumption that [Speaker], and not [Addrsee], and [Minimal], and not [Group], are treated as defaults will be explored in chapter 4.

2 As the geometry in (3) illustrates, [Inanimate/Neuter] also corresponds to the unmarked/default node within [Class]. The notion of default in the case of [Class] will be explored in chapter 5.
conversation either as speaker or as addressee remains in the great pool of impersonal, referred to as ‘third person’

This is to say that the dichotomy between 1 and 2 person on the one hand, and 3 person on the other consists in the fact that only 1 and 2 person are considered as speech act participants, whereas 3 person, crucially, is not (cf. Wundt, 1911; Schmidt, 1919; Jespersen, 1924; Bloomfield, 1933; Buehler, 1934; Forchheimer, 1953; Jakobson, 1971; a.o.). Furthermore, Forchheimer (1953) identifies a series of morphological distinctions between 1 and 2 person, as opposed to 3 person. Firstly, he observes that 3 person is often unmarked, relative to 1 and 2 person. He further notes that many languages do not have a 3 person pronoun, at least in the nominative form, whereas 1 and 2 person pronouns are always attested. As far as 1 and 2 pl pronouns are concerned, Benveniste (1966: 233-235) claims that “the uniqueness and subjectivity of ‘I’ contradict the possibility of pluralization: ‘we’ is not a multiplication of identical objects, but a fusion (junction) between ‘I’ and ‘not-I’”. From this observation, we might claim that the featural composition of a 1 pl pronoun would be that of [Speaker] and [Group]3, whereas the featural composition of a 2 pl pronoun would be that of [Addressee] and [Group]. The table in (4) illustrates the featural composition of a 1, 2 and 3 person pronoun, both in the singular and in the plural paradigm.

(4)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1sg</td>
<td>[Speaker]</td>
</tr>
<tr>
<td>2sg</td>
<td>[Addressee]</td>
</tr>
<tr>
<td>3sg</td>
<td>[Minimal]</td>
</tr>
<tr>
<td>1pl</td>
<td>[Speaker], [Group]</td>
</tr>
<tr>
<td>2pl</td>
<td>[Addressee], [Group]</td>
</tr>
<tr>
<td>3pl</td>
<td>[Group]</td>
</tr>
</tbody>
</table>

3 1 person clusivity is attested in a wide range of languages, and corresponds to a grammatical distinction between the inclusion or exclusion of [Addressee] in a 1 pl pronoun. Inclusive ‘we’, for instance, is treated as the conjunction of [Addressee], [Speaker] and [Group], whereas exclusive ‘we’ excludes the [Addressee]. 1 person clusivity is found in many Dravidian, Australian and Austronesian languages, and no European language outside the Caucasus makes this distinction grammatically. For this reason, we will treat a 1 pl pronoun in our account as the combination of [Speaker] and [Group] only, with no reference to [Addressee].
The table in (4) shows that only 1 and 2pl pronouns are composed of the union of two morphosyntactic features, while others are endowed only with one morphosyntactic feature. This assumption differs from that put forward by Harley & Ritter (2002), whereby 1 and 2sg pronouns are treated as a combination of [Speaker]/[Addressee] and [Minimal], respectively\(^4\). In fact, as suggested in the table in (4), we assume that the only feature encoded on a 1sg pronoun corresponds to [Speaker], whereas that expressed on a 2sg pronoun is [Addressee]. This proposal relies on the observation put forward by Forchheimer (1953), according to which 1 and 2sg pronouns are taken to be syntactic objects that cannot be pluralized, thus implying that they are inherently singular.

\(\text{2.2 Perfective auxiliaries in USIDs: } \varphi \text{ feature geometry and syntactic nature}\)

We have observed that the feature geometry in (3) has the advantage of structuring morphosyntactic \(\varphi\) features expressed on DPs within a geometry. At this point, the question that arises is whether syntactic auxiliaries in USIDs, after entering an Agree relation with the sentential subject, are also endowed with the same type of morphosyntactic features presented in (3)\(^5\).

In order to proceed with this investigation, we first need to introduce the operation \textit{Agree}. Following Chomsky (2001: 5), \textit{Agree} is understood as a syntactic operation taking place between \(\alpha\) (the probe) and \(\beta\) (the goal), where \(\alpha\)'s feature matrix contains \([F:__]\) and \(\beta\)'s contains \([F:val]\). \(F\) is the

\(^4\) In their article, Harley & Ritter (2002) claim that Daga, a language spoken in Papua New Guinea, is a representative language with a minimum number of distinctive person and number features. They propose that in this language, 1sg pronouns are the combination of the default node branching below [Participant], namely [Speaker], and the default node branching below [Individuation], namely [Minimal]. They also claim that the featural make-up of 2sg pronouns corresponds to [Addressee] and [Minimal].

\(^5\) “Several major research questions now arise: the nature of the relationship between the geometry and the syntactic component, in particular with respect to agreement phenomena; [...] the representation of verbal morphological features such as aspect, tense and mood and their interaction with the nominal feature system; the spell-out of the geometry.” [Harley & Ritter (2002): 516].
feature whereas val$_j$ expresses its value. In order for Agree to take place, the interpretable value on β, namely val$_j$, must be copied into α’s feature matrix. This mechanism is outlined in (5).

![Diagram](5)

Agree, as sketched in (5), also obtains when α, being the probe, hosts an auxiliary. In Romance, auxiliaries are thought to be merged in T°. Following Chomsky (1995), (2000) and (2001), T° is endowed with uninterpretable Person and Number features, which need to get valued against their corresponding interpretable features expressed on the goal$^6$. In the case of a periphrastic construction composed of an auxiliary followed by a past participle, the auxiliary in T° enters an Agree relation with the DP-subject. Suppose that the subject is 1pl. In this case, the interpretable values encoded on the pronoun, as (6) shows, are [Speaker] and [Group]. After Agree takes place, these values are also fully specified on the auxiliary in T° (cf. (6)).

![Diagram](6)

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$^6$ According to Chomsky (1999: 6), Agree is instantiated between a Pr(obe) and a G(oal) only if: a. Pr c-commands G; b. Pr and G are active, namely are endowed with Case feature; c. Pr matches G for feature F; d. G is interpretable for F.
Chapter 3

On the other hand, if the auxiliary in $T^o$ enters an Agree relation with a DP-subject being 1sg, then the Number feature on the auxiliary remains underspecified. This is due to the fact that a 1sg pronoun only expresses [Speaker] and no Number feature is encoded on this element (cf. (7)). The underspecified value for Number feature expressed on the auxiliary in $T^o$ will be then interpreted as default at LF and PF.

\[
\text{(7)}
\]

The syntactic representations in (6) and (7) show that after Agree between an auxiliary and a pronoun is obtained, the morphosyntactic $\phi$ features expressed on a pronoun are also fully interpretable on auxiliaries. Given these facts, we propose that the morphosyntactic $\phi$ features encoded on auxiliaries are also structured within a geometric representation, as they are with pronouns. We claim that this geometry is identical to that represented in (3).

The question of the syntactic nature of auxiliaries in USIDs still needs to be considered. In our model, we propose that auxiliaries in these dialects correspond to syntactic objects that are not merged in $T^o$, but in Infl$^o$, and are composed of a bundle of $\phi$ features and the feature Tense$^7$.

The following sections will show that the morpho-phonological make-up of present perfect auxiliaries in USIDs is dependent on the type of $\phi$ feature they encode$^8$.

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$^7$ In chapter 4, it will be considered why auxiliaries in USIDs are not merged in $T^o$, but rather in Infl$^o$ (cf. Ritter & Wiltschko, 2010).

$^8$ This section will not consider whether the type of Tense feature expressed on present perfect auxiliaries in USIDs is able to condition their morpho-phonological shape. This survey will be carried out in chapter 4.
3. The morphosyntactic nature of RF

According to the framework of Distributed Morphology (henceforth DM), syntactic, or morphological, terminal nodes correspond to morphemes, which, in turn, are composed of a bundle of morphosyntactic features. Morphemes are purely abstract, thus devoid of any phonological content. The insertion of phonological pieces, or exponents, on morphemes operates in the phonological component, namely at PF, by means of a process called Spell-Out (cf. Halle & Marantz, 1993, 1994; Calabrese, 1994; Harley, 1994; Harris, 1994; Embick, 1995; Noyer, 1997; Harley & Noyer, 1999; a.o.).

The DM model postulates the existence of a morphological component located between syntax and phonology. There, morphology-specific operations such as Fusion, Fission, Impoverishment, Lowering and Local Dislocation, among others, are thought to apply. These operations manipulate the content and order of morphemes, thus determining the type and sequence of exponent(s) to be selected at PF. The organization of the grammar according to DM is illustrated in (8).

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9 For a general overview of these post-syntactic operations, see Harley & Noyer (1999) and the references therein.
In the light of these facts, we propose that the triggering of RF by 1-2sg present perfect BE and 3sg present perfect HAVE (cf. (1) and (2)) derives from the overt marking of a morpheme encoded on these auxiliaries, whose content corresponds to a specific morphosyntactic φ feature. At PF, the overt marking of this morpheme is obtained by means of an empty mora realized in word-final position of the auxiliary, which inevitably triggers RF. In §4, we will focus on the triggering of RF by 1 and 2sg BE. There, it will be argued that 1 and 2sg BE encode a morpheme whose morphosyntactic content corresponds to [Participant]. The presence of this morpheme allows the projection of another Participant morpheme in the morphological component. At PF, this morpheme requires overt marking by means of a mora, which, in being devoid of melodic content, provokes RF.

§5 focuses on the triggering of RF by 3sg HAVE. It will be proposed that 3sg HAVE encodes a morpheme expressing the feature [Minimal]. At PF, this morpheme requires overt realization by means of an empty mora, which inevitably triggers RF.
4. The triggering of RF by 1 and 2sg BE

4.1 The data

Before considering the morphosyntactic nature of RF triggered by 1sg and 2sg BE, let us return to an analysis of the paradigmatic distribution of RF triggered by present perfect BE auxiliaries in USIDs.

In most USIDs, BE licenses the triggering of RF. The triggering of RF by BE is limited to those cases in which BE is in the singular and not when it expresses plural information. 1 and 2pl BE, indeed, never possess the requirement of licensing RF. The sample dialects in (9)-(11) illustrate the paradigmatic distribution of RF triggered by 1 and 2sg BE auxiliaries.

(9) Amandola (Southern Marchigiano)

<table>
<thead>
<tr>
<th>1sg</th>
<th>2sg</th>
<th>3sg</th>
</tr>
</thead>
<tbody>
<tr>
<td>so</td>
<td>cca'mato/par'lato</td>
<td>B.pr.1sg called/spoken</td>
</tr>
<tr>
<td>si</td>
<td>cca'mato/par'lato</td>
<td>B.pr.2sg called/spoken</td>
</tr>
<tr>
<td>a</td>
<td>ca'mato/par'lato</td>
<td>H.pr.3 called/spoken</td>
</tr>
<tr>
<td>simo</td>
<td>ca'mato/par'lato</td>
<td>B.pr.1pl called/spoken</td>
</tr>
<tr>
<td>sete</td>
<td>ca'mato/par'lato</td>
<td>B.pr.2pl called/spoken</td>
</tr>
</tbody>
</table>

[Manzini & Savoia (2005), II: 684]

(10) Poggio Imperiale (Apulo-Daunian Apennines)

<table>
<thead>
<tr>
<th>1sg</th>
<th>2sg</th>
<th>3sg</th>
</tr>
</thead>
<tbody>
<tr>
<td>so</td>
<td>cca'mato/par'lato</td>
<td>B.pr.1sg called/spoken</td>
</tr>
<tr>
<td>si</td>
<td>cca'mato/par'lato</td>
<td>B.pr.2sg called/spoken</td>
</tr>
<tr>
<td>ε</td>
<td>cca'mato/par'lato</td>
<td>B.pr.3sg called/spoken</td>
</tr>
<tr>
<td>b. simo</td>
<td>ca'mato/par'lato</td>
<td>B.pr.1pl called/spoken</td>
</tr>
<tr>
<td>sito</td>
<td>ca'mato/par'lato</td>
<td>B.pr.2pl called/spoken</td>
</tr>
<tr>
<td>sònnə</td>
<td>ca'mato/par'lato</td>
<td>B.pr.3pl called/spoken</td>
</tr>
</tbody>
</table>

(11) Bitonto (Apulo-Barese)

a. so  f'fattə/'m'mu(ə)rta  B.pr.1sg done/died
    si  f'fattə/'m'mu(ə)rta  B.pr.2sg done/died
    je  f'fattə/'m'mu(ə)rta  B.pr.3sg done/died

b. simə  'fattə/'mu(ə)rta  B.pr.1pl done/died
    sitə  'fattə/'mu(ə)rta  B.pr.2pl done/died
    jonə  'fattə/'mu(ə)rta  H.pr.3pl done/died

The map in (12) shows the geographic location of the dialects in (9)-(11).

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10 The isoglosses delimiting the geolinguistic areas in (12) are based on the data presented in chapter 1, as well as on those published in Manzini & Savoia (2005: II). For this reason, the isoglosses in (12) should be taken as approximate.
The map in (12) clearly shows that the triggering of RF by 1 and 2sg BE is not attested in all USIDs, but rather in a subset of dialects including a group of CSIDs and dialects in the northern-western NSID area.

4.2 1-2 person BE and the Participant feature

As discussed in chapter 2, a large number of USIDs opt for a particular strategy of auxiliary selection in the active voice, whereby BE is chosen in correspondence with a sentential subject that is 1 and 2 person (singular and plural) and HAVE, instead, corresponds to the form selected by a 3 person DP-subject. This pattern is illustrated in (13), previously given in (9).

(13) Amandola (Southern Marchigiano)

<p>| | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>so</td>
<td>cca’mato/ppar’lato</td>
<td>B.pr.1sg called/spoken</td>
</tr>
<tr>
<td>si</td>
<td>cca’mato/ppar’lato</td>
<td>B.pr.2sg called/spoken</td>
</tr>
<tr>
<td>a</td>
<td>ca’mato/par’lato</td>
<td>H.pr.3 called/spoken</td>
</tr>
<tr>
<td>simo</td>
<td>ca’mato/par’lato</td>
<td>B.pr.1pl called/spoken</td>
</tr>
<tr>
<td>sete</td>
<td>ca’mato/par’lato</td>
<td>B.pr.2pl called/spoken</td>
</tr>
</tbody>
</table>

[Manzini & Savoia (2005), II: 684]

(13) suggests that BE and HAVE auxiliaries can be treated as exponents that overtly express a well-defined set of φ-features. The selection of BE seems to be restricted to the domain of [Participant], while HAVE is limited to the domain of [Individuation]. More precisely, BE is selected when the auxiliary, after entering an Agree relation with the subject, expresses a [Speaker]/[Addressee] feature and not, for instance, when it expresses [Minimal].

All BE auxiliaries in (13) are composed of a root, namely /s/, followed by an inflectional marker. The inflectional marker expresses both the valued set of φ features, as well as information for Tense. Unlike 1 and 2 person BE, 3 person auxiliaries do not realize /s/ as their root. In fact, in the dialect of Amandola in (13), 3sg HAVE is not preceded by the prefix /s/ (cf. a ca’mato –HAVE.pr.3 called-). However, there is a group of USIDs in which 3 person auxiliaries can be preceded by the prefix /j/, which is generally not attested.
on 1 and 2 person BE auxiliaries in the present perfect. This is attested in the dialect of Bitonto in (11), reproduced here as (14)\textsuperscript{11}.

(14) Bitonto (Apulo-Barese)

<table>
<thead>
<tr>
<th></th>
<th>f'fatt/m'mu(ə)rt</th>
<th>B.pr.1sg done/died</th>
</tr>
</thead>
<tbody>
<tr>
<td>sə</td>
<td>f'fatt/m'mu(ə)rt</td>
<td>B.pr.2sg done/died</td>
</tr>
<tr>
<td>si</td>
<td>f'fatt/m'mu(ə)rt</td>
<td>B.pr.3sg done/died</td>
</tr>
<tr>
<td>je</td>
<td>f'fatt/m'mu(ə)rt</td>
<td>B.pr.1pl done/died</td>
</tr>
<tr>
<td>sɪmə</td>
<td>'fatt/'mu(ə)rt</td>
<td>B.pr.2pl done/died</td>
</tr>
<tr>
<td>sɪtə</td>
<td>'fatt/'mu(ə)rt</td>
<td>H.pr.3pl done/died</td>
</tr>
<tr>
<td>jɔnɔnə</td>
<td>'fatt/'mu(ə)rt</td>
<td>H.pr.3pl done/died</td>
</tr>
</tbody>
</table>

The presence of /j/ is attested in (14) both in correspondence with BE in the 3sg and HAVE in the 3pl plural. This observation leads us to assume that /s/ does indeed correspond to the exponent of \texttt{[Participant]}.

In (15), we propose the composition of φ features encoded on 1 and 2 person BE in the dialects of Amandola and Bitonto in (13) and (14), respectively. (15a-a\textsuperscript{'}) illustrate to the composition of φ expressed on 1 and 2sg BE, whereas (15b-b\textsuperscript{'}), on the other hand, illustrate the composition of φ on 1 and 2pl BE.

\textsuperscript{11} The occurrence of a palatal glide, or any other consonant, preceding a 3 person auxiliary is generally not found when the 3 person auxiliary is HAVE and corresponds to the root /a/. Nevertheless, in the dialect of Tufillo [Eastern Abruzzese], the consonant /ɣ/ is selected as the prefix of 3 person HAVE: ɣa – HAVE.pr.3-. In this dialect, as in other USIDs, the root /s/ is selected only in the case of 1 and 2 person BE: sə/ si/ sɛmə/ sɛtə -BE.pr.1sg/ BE.pr.2sg/ BE.pr.1pl/ BE.pr.2pl- (Manzini & Savoia (2005), II: 690).
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(15)
a. 1sg BE = /so/~/ʊ\n
1sg present perfect BE

Participant ↔/s/ Individuation

Addressee

/b/~/ʊ/

a’. 2sg BE = /si/

2sg present perfect BE

Participant ↔/s/ Individuation

Addressee

/i/
b. 1pl BE = /simo/~/simə/

1pl present perfect BE

Participant /s/ Individuation

Speaker Group

/imə/~/imo/

b.’ 2pl BE = /sete/ ~/sita/

2pl present perfect BE

Participant /s/ Individuation

Addressee Group

/ite/~/itə/

The advantage of the diagrams in (15) is that they show that 1 and 2p BE auxiliaries overtly express a morpheme that encodes [Participant]. This morpheme, which is the mother node of [Speaker] and [Addressee], corresponds to the root of the auxiliary. This assumption is in line with the proposal put forward by D’Alessandro & Ledgeway (2010) and D’Alessandro (2012), which consider /s/ as the root of 1 and 2 person BE in USIDs\textsuperscript{12}.

\textsuperscript{12} The occurrence of /s/ as the root of 1 and 2 person BE is not restricted to those varieties spoken in the area where person-based auxiliary selection takes place.
4.3 The post-syntactic encoding of Participant

The presence of RF after 1 and 2sg BE in USIDs leads us to think that the morpheme expressing [Participant] is not only encoded on the root of these auxiliaries. In this subsection, we propose indeed that the morpheme expressing [Participant] on 1 and 2sg BE triggers the projection of an extra morpheme whose featural content also corresponds to [Participant]. The projection of an extra morpheme expressing [Participant] applies after syntax, namely in the morphological component, and is limited to those cases in which BE expresses 1 and 2sg, and not when it expresses 1 and 2pl. The encoding of a Participant morpheme does not occur in the case of 3 person auxiliaries. In fact, the [Participant] feature encoded on a 3 person auxiliary remains underspecified. This is to say that the post-syntactic encoding of a Participant morpheme is operative only if the auxiliary is endowed with [Participant] and [Speaker]/[Addressee], and does not express plural. (16) illustrates the post-syntactic encoding of a Participant morpheme on 1 and 2sg BE.

This situation is also attested in a number of NIDs, where /s/ is the prefix of 1 and 2 person BE only, and never occurs in the case of 3 person BE: Rogeno [Western Lombard] sɔ/ se(t)/ sem/ sii –BE.pr.1sg/ BE.pr.2sg/ BE.pr.1pl/ BE.pr.2pl- versus ε/ εn –BE.pr.3sg/ BE.pr.3pl; Isola del Piano [Northern Marchigiano] sɔ/ s(i/ɛ)/ sem/ set –BE.pr.1sg/ BE.pr.2sg/ BE.pr.1pl/ BE.pr.2pl- versus ε/ εn –BE.pr.3sg/ BE.pr.3pl. As a Western Lombard dialect, the dialect of Rogeno displays subject clitics, but for sake of clarity subject clitics preceding the inflected BE forms have been omitted. The dialect of Isola del Piano, however, despite being a NID, does not feature the subject clitics in its grammar (cf. Torcolacci, 2006).

13 Within the framework of DM, post-syntactic doubling operations are operative in the morphological component. An instance of doubling is found in Swedish. In this language, definite nouns overtly express the morpheme –en when they are preceded by an adjective. The morpheme –en morpho-phonologically coincides with the ending of the definite determiner in Swedish, which shapes as d-en: dεn gamla musen –the old mouse.def- 'the old mouse' (cf. Embick & Noyer (2001): 581). Embick & Noyer (2001) asserts that –en appearing at the right-edge of the noun corresponds to the overt realization of a morpheme projected in the morphological component, whose function is to reduplicate the definiteness feature, namely Def, expressed in the determiner.

14 The reason why the morpheme [Participant] is not encoded on a 1 and 2pl auxiliary will be tackled in §4.4.
At PF, the Participant morpheme encoded in the morphological component corresponds to a mora. This mora does not get filled by any independent segment. For this reason, regressive spreading of the next consonant in the linear string applies and RF is triggered (cf. Torcolacci, 2012; Torcolacci, 2014). The encoding of an empty mora expressing [Participant] on 1 and 2sg BE at PF is illustrated in (17).

(17)
a. so/si cca’mato

b. \[
\begin{array}{c}
s \quad o/i \\
\sigma \quad \text{Participant} \\
\mu \quad \mu \\
\text{RF} \quad c \quad a
\end{array}
\]
To conclude, we have established that the triggering of RF by 1 and 2sg BE in a subset of USIDs results from the projection of a mora, the content of which is purely morphosyntactic. This mora corresponds to a morpheme projected in the morphological component, which expresses [Participant]. This morpheme reduplicates the featural content expressed on the root\(^{16}\).

As for why RF triggered by 1 and 2sg BE has been historically reanalyzed as a way of overtly expressing [Participant], we will not try to account for this here, but will leave it aside for future research.

### 4.3.1 Phonological restrictions on the overt marking of Participant

In one group of CSIDs, the triggering of RF by 1 and 2sg BE seems to be determined by the position of stress on the participle. If stress falls on the first syllable of the past participle, then RF obligatorily obtains. Conversely, if stress does not fall on the first syllable of the past participle, RF is absent or optional. This situation, previously discussed in chapter 2, is illustrated in (18) and (19).

\(^{16}\) As observed in chapter 2, Eastern Abruzzese, as well as many southern Marchigiano and southern Laziale dialects, display a lack of RF with 1 and 2sg BE. Focusing on the Eastern Abruzzese dialect of Arielli, Biberauer & D’Alessandro (2006) claim that the non-triggering of RF by active 1 and 2sg BE is determined by the application of the Phase Impenetrability Condition (PIC) operating at phase head level (cf. Chomsky 1995, 2000, 2001, 2004, 2005), which says that an (already) computed syntactic phase is no longer accessible for further computation. According to Biberauer & D’Alessandro (2006), the past participle and the active auxiliary BE in Eastern Abruzzese belong to two different syntactic phases. The former is merged in \(V^0\) and the latter in \(T^0\). For this reason, they are spelled-out separately since they belong to two different spell-out domains. In contrast to Eastern Abruzzese, where past participles are thought to be merged in \(V^0\), past participles and active BE auxiliaries in most CSIDs and northern NSIDs seem to be merged within the same syntactic phase. In these varieties, in fact, aspectual adverbs, which are merged higher than the phase head \(v\), are linearly precede by past participles: Bitonto [Apulo-Barese] \(\supseteq \text{fatt }{\text{semb}} \text{-BE.pr.1sg done always}\). The fact that the past participle is merged higher than the aspectual adverb indicates that it is merged in the same syntactic phase as the auxiliary. For this reason, the past participle and the auxiliary are spelled-out together since they belong to the same spell-out domain. In this situation, RF can freely apply.
Russo & Barry (2008), using phonetic rhythm measurements for some Campanian dialects (those of Ischia, Capri and Pozzuoli), claim that a large number of SIDs, similarly to languages like English and German, and unlike Standard Italian, display a stress-timed pattern. In stress-timed languages (cf. Lloyd, 1940; Pike, 1945), primary stress is thought to occur at roughly equal intervals, being insensitive to the number of unstressed syllables occurring in between. Given this property, stress-timed languages are often subject to vowel reduction (cf. Dauer (1983)).

With this in mind, we can establish that the lack of RF in the case of a past participle like /ca’maitə/ in (18) and its optionality in the case of /man’dʒe:t/ in (19) hinges on the position of primary stress. In both cases, primary stress is not adjacent to BE. For this reason, unstressed vowels, as well as double consonants not adjacent to it, tend to be reduced in these languages. The non-obligatory occurrence of RF in the case of 1 and 2sg BE in (18) and (19) can thus be claimed to be dependent on purely phonological conditions.

Having presented the morphosyntactic nature of RF triggered by 1 and 2sg BE in USIDs, let us consider now why RF is not triggered by 1 and 2pl BE. This investigation will be carried out in the next subsection.

As extensively discussed in chapter 2, preposition a in CSIDs, as well as in all other USIDs, consistently triggers RF. In most CSIDs, preposition a triggers RF only when followed by a noun stressed on its first syllable. Otherwise, if a is followed by a noun that is not stressed on the first syllable, then a either optionally triggers RF, or never triggers it. This might due to the fact that double consonants realized at word-boundaries undergo reduction if not adjacent to primary stress: Conversano [Apulo-Barese] a k’ɛːs –to home- versus a (v)ve’nettsja -to Venice-.
4.4 The non-triggering of RF by 1 and 2pl BE

As illustrated in the previous subsections, RF is never triggered by 1 and 2pl BE in any USID. For sake of clarity, (20) and (21) provide two paradigms that demonstrate that RF is triggered only by 1 and 2sg BE, and not by 1 and 2pl BE.

(20) Amandola (Southern Marchigiano)

a. so cca'mato/par'lato B.pr.1sg called/spoken
   si cca'mato/par'lato B.pr.2sg called/spoken

b. simo ca'mato/par'lato B.pr.1pl called/spoken
   sete ca'mato/par'lato B.pr.2pl called/spoken

[Manzini & Savoia (2005), II: 684]

(21) Bitonto (Apulo-Barese)

a. so fatt/m'mu(ə)rt B.pr.1sg done/died
   si fatt/m'mu(ə)rt B.pr.2sg done/died

b. simɔ 'fatt/mu(ə)rt B.pr.1pl done/died
   sitə 'fatt/mu(ə)rt B.pr.2pl done/died

In chapter 2, we observed that the dialect of Bitonto displays RF after some bisyllabic words; these include demonstratives preceding mass nouns. The contrast between the non-triggering properties of RF by bisyllabic 1 and 2pl BE versus the presence of RF in the case of a bisyllabic neuter determiner in the dialect of Bitonto is given in (22).

(22) Bitonto (Apulo-Barese)

a. sim (*f)fatt B.pr.1pl done
   sit (*f)fatt B.pr.2pl done

b. kuss *(p)pə:n this.neut. bread
   kur *(p)pə:n that.neut. bread

In the dialect of Bitonto, as well as in other USIDs, demonstratives can also be specified for masculine singular. In the dialect of Bitonto, these forms are syncretic with those expressing neuter gender. It is worth noting that RF is
never triggered by a masculine singular demonstrative, whereas it is obligatory when the demonstrative is neuter: kuss *(p) pən –this.neut. bread- versus kuss (g) gatt –this.masc.sg. cat-. With this in mind, we can put forward the hypothesis that the lack of RF after masculine singular /kuss/, versus its presence after neuter /kuss/, might be dependent on the featural composition of the demonstrative. In fact, there is no phonological distinction between the two determiners and a theory positing that the presence or lack of RF in this context relies on the phonological structure of the determiner would be inaccurate. We will return to this particular issue in chapter 5, where the presence versus lack of RF in the paradigm of definite D-elements will be explored.

Given these facts, our hypothesis is that the absence of RF after 1 and 2pl BE is not dependent on the phonological structure of the auxiliary, but rather on a principle of markedness that says that a Participant morpheme cannot be encoded post-syntactically if [Participant] and [Individuation] express a different grade of markedness. More precisely, we claim that if [Individuation] bears the same type of markedness as [Participant], then a Participant morpheme can be encoded in morphology. Conversely, if [Individuation] does not bear the same type of markedness as [Participant], then a Participant morpheme cannot be post-syntactically projected. In (23a), [Participant] and [Individuation] express the same grade of markedness, and for this reason the morpheme [Participant] can be projected in the morphological component. In (23b), on the other hand, the grade of markedness expressed by [Individuation] does not match with that expressed by [Participant]. There, in fact, [Individuation] is valued as [Group]. For this reason, no Participant morpheme can be post-syntactically encoded.
In chapter 4, we will propose that the uniformity of markedness expressed by morphosyntactic features encoded on perfective auxiliaries in USIDs feeds the application of the post-syntactic operation called Default Marking, according to which a given morphosyntactic φ feature gets overtly marked when combined with another feature expressing the same type of markedness.
5. The triggering of RF by 3sg HAVE

In this section, we focus on the triggering of RF by 3sg HAVE. We will first show that 3 person auxiliaries –HAVE in a large number of USIDs- express the feature [Individuation] (cf. §5.1). In §5.2, it will be shown that RF triggered by 3sg HAVE corresponds to a way of overtly marking [Minimal].

5.1 HAVE and the Individuation feature

This session focuses on the morphosyntax of auxiliary HAVE in USIDs. We reproduce in (24) the present perfect paradigm of the variety of Amandola previously given in (1), (9) and (13).

(24) Amandola (Southern Marchigiano)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>so</td>
<td>cca’mato/ppar’lato</td>
<td>B.pr.1sg called/spoken</td>
</tr>
<tr>
<td>si</td>
<td>cca’mato/ppar’lato</td>
<td>B.pr.2sg called/spoken</td>
</tr>
<tr>
<td>a</td>
<td>ca’mato/par’lato</td>
<td>H.pr.3 called/spoken</td>
</tr>
<tr>
<td>simo</td>
<td>ca’mato/par’lato</td>
<td>B.pr.1pl called/spoken</td>
</tr>
<tr>
<td>sete</td>
<td>ca’mato/par’lato</td>
<td>B.pr.2pl called/spoken</td>
</tr>
</tbody>
</table>

[Manzini & Savoia (2005), II: 684]

In the dialect of Amandola, the 3 person auxiliary is HAVE, while the 1 and 2 person auxiliaries are BE. The dialect obeys Generalization IV (tentative version) proposed in the previous chapter, according to which a 1 and 2 person subject is responsible for the selection of BE, whereas a 3 person subject is responsible for the selection of HAVE. Since /a/ in (24) is selected only by a 3 person auxiliary, we can advance the hypothesis that this exponent corresponds to the root of a present perfect auxiliary expressing the feature [Individuation].
(25)
3p HAVE = /a/

3p present perfect HAVE

\[
\text{Individuation} \leftrightarrow /a/
\]

In the dialect of Amandola, no overt distinction is made between 3sg and 3pl HAVE. This is to say that the 3 person auxiliary /a/ of the dialect in (24) does not overtly express the contrast between [Minimal] and [Group].

5.2 The post-syntactic encoding of Minimal

In contrast with what we have just observed for the dialect of Amandola, a large group of USIDs shows that 3 person HAVE auxiliaries differ in their morpho-phonological make-up. While 3pl HAVE generally selects /n/ as the exponent for 3pl, 3sg HAVE only selects /a/, which licenses RF. As shown in chapter 2, the dialects that exhibit the triggering of RF by 3sg HAVE are a large group of CSIDs. In these varieties, HAVE is not only selected as the 3sg auxiliary, but is also found elsewhere in the paradigm. These facts are illustrated below in (26)-(29).

(26) Conversano (Apulo-Barese)

<table>
<thead>
<tr>
<th></th>
<th>H.pr.1sg done</th>
<th>H.pr.2sg done</th>
<th>H.pr.3sg done</th>
<th>H.pr.1pl done</th>
<th>H.pr.2pl done</th>
<th>H.pr.3pl done</th>
</tr>
</thead>
<tbody>
<tr>
<td>so</td>
<td>'fatt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td></td>
<td>'fatt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td></td>
<td></td>
<td>'fatt</td>
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<td>am</td>
<td></td>
<td></td>
<td></td>
<td>'fatt</td>
<td></td>
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<td>avet</td>
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<td></td>
<td></td>
<td></td>
<td>'fatt</td>
<td></td>
</tr>
<tr>
<td>an</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>'fatt</td>
</tr>
</tbody>
</table>
Similarly to RF triggered by 1 and 2sg BE, we propose that RF triggered by 3sg HAVE in the dialects in (26)-(29) derives from the application of a markedness convention applying in the morphological component, according to which [Minimal] must be overtly encoded.
RF and the overt marking of ϕ features

(30) 3sg present perfect HAVE
     \[φ
     \]
     \[
     \text{Participant} \quad \text{Individuation} \quad /a/
     \]
     \[
     \text{Minimal} \quad /μ/
     \]

At PF, the morpheme expressing [Minimal] corresponds to a mora. This mora, empty of melodic content, requires the regressive spreading of the next consonant in the linear string, and therefore RF is attested (cf. Torcolacci, 2014).

(31) a. a f f att(σ)

b. σ
   \[
   \text{Minimal} \quad /μ/
   \]
   a
   \[
   \text{RF} \quad f \quad a
   \]

In specific circumstances, the Minimal mora can be filled by an independent segment, namely a consonant. In this case, RF is not attested. This situation occurs when 3sg HAVE is followed by a past participle starting with a vowel: Mola di Bari [Apulo-Barese] a'pi:rt –HAVE.pr.3sg opened- ‘[s]he has opened’. Conversely, the insertion of the consonant /v/ at the right-edge of HAVE is never attested when the auxiliary expresses 2sg: Mola di Bari [Apulo-Barese] a'pi:rt –HAVE.pr.2sg opened- ‘you.sg have opened’. 2 and 3sg HAVE in the dialect of Mola di Bari, as well as in the other varieties documented in (26)-(29), are syncretic. The presence of /v/ in the latter case would be in favor of our hypothesis, which considers /v/ as the overt
marking of [Minimal]. In fact, if we assume that the insertion of /v/ is dependent on the application of a phonotactic rule stating that the encounter of two vowels at word-boundaries is disallowed, then we would not be able to explain why this process is operative only with 3sg HAVE and not with 2sg HAVE.

(32)

a. av a'pi:rt

b. 

```
   σ                                σ
      /\                              /\  
     /  \                            /  \  
    /\    \                         /\    \  
   /   \   \                       /   \   \  
  /\  \μ  \μ  \μ                    /\  \μ  \μ  \μ  
 a   v   a                        a   v   a

To sum up, on this theory the filling of a Minimal mora on 3sg HAVE depends on the type of segment occurring in the initial position of the past participle: if this segment is a consonant, then RF operates. Otherwise, if this segment is a vowel, then /v/ is inserted.

As shown in the previous chapter, a group of Calabrian and Sardinian dialects display the presence of the segment /t/ when a lexical verb is valued for 3sg. In the absence of this segment, RF is obtained: i. kándɔtə na kandzǒn; ii. kándə nna kandzón -(s)he sing.pr.3sg a song- '(s)he sings a song' (cf. Fanciullo, 1997)\(^{18}\). In the latter case, namely when RF is attested, we might think that an empty mora is projected in order to replace a morpheme expressing [Minimal]. In the former case, instead, the projected mora expressing [Minimal] is associated to the segment /t/, and for this reason RF is not triggered.

\(^{18}\) See Lausberg, 1939; Molinu, 1992; Fanciullo, 1997; Loporcaro, 1997b; Silvestri, 2007 for further references.
6. Summary and conclusions

In this chapter, we have claimed that perfective auxiliaries in USIDs correspond to syntactic objects directly merged in Infl°, whose featural composition consists of Tense and a bundle of φ features. Following the feature geometry of pronouns à la Harley & Ritter (2002), we have established that φ features encoded on perfective auxiliaries in USIDs are structurally organized in the same way as pronouns. Furthermore, following a DM approach, we have assumed that the morphophonological shape of present perfect BE and HAVE auxiliaries in USIDs is determined by the type of morphosyntactic feature expressed on these elements. BE is the auxiliary that overtly expresses the feature [Participant] whereas HAVE is the auxiliary that morphophonologically expresses [Individuation].

In addition, we have observed that a subset of present perfect BE and HAVE auxiliaries in USIDs has the ability to trigger RF. More concretely, we have observed that:

i. RF is triggered by BE if this auxiliary is in the 1 and 2sg;
ii. RF is triggered by HAVE if this auxiliary is in the 3sg.

In both cases, we have argued that the presence of a morpheme endowed with a particular type of morphosyntactic feature triggers RF. We have claimed that 1 and 2sg BE in a group of USIDs have to encode a Participant morpheme in the morphological component. This morpheme reduplicates the feature expressed on the root of 1 and 2sg BE, which, according to our analysis, expresses the feature [Participant]. At PF, the Participant morpheme corresponds to an empty mora, which inevitably triggers the regressive spreading of the next consonant in the linear string. For this reason, RF is triggered.

Our analysis has also considered the reason why a Participant morpheme is not overtly encoded on 1 and 2pl BE. These auxiliaries also express the feature [Participant] on the root. We have assumed that the non-triggering of RF by 1 and 2pl BE is the result of the application of a markedness convention operative in the morphological component, according to which a Participant morpheme cannot be encoded if [Individuation] is endowed with a marked value, e.g. [Group]. This is to say that a Participant
morpheme can be overtly marked if [Individuation] is underspecified and expresses the same type of markedness as [Participant]. Lastly, we have examined those cases in which RF is triggered by 3sg HAVE. The triggering of RF by 3sg HAVE has been claimed to derive from the overt marking of a morpheme endowed with the feature [Minimal]. This morpheme corresponds to an empty mora at Spell-Out, which, in the same fashion as 1 and 2sg BE, inevitably requires the regressive spreading of the first consonant of the past participle.