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Gestural focus marking in Italo-Romance

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Abstract

Gesture has been a topic of recent interest in formal linguistics, especially with respect to its pragmatic and semantic properties (Lascarides & Stone 2009a,b; Ebert & Ebert 2014; Schlenker 2018; Esipova 2019a). There is emerging consensus within this literature that the meaning of certain gestures is integrated into the semantic content of the utterances they co-occur with (as *co-speech* gestures). This would follow straightforwardly if such gestures were in fact morphemes, meaning they have syntactic status as well (Jouitteau 2004, 2007; Sailor & Colasanti 2020). This paper provides additional support for this hypothesis, involving the conventionalised co-speech gesture RING-FOCUS (Kendon 1995:268–274) in Lancianese, a southern Italo-Romance language. On the basis of original experimental fieldwork, I argue that RING-FOCUS is a gestural morpheme associated with information-structural focus: it arises in focus contexts, temporally aligned with the focalised constituent. I argue that the RING-FOCUS morpheme is simply a focus marker (of the sort found in Gungbe, Malay, etc.), albeit one whose PF realisation happens to be gestural rather than spoken.

Keywords: Super Linguistics; Italo-Romance; gesture; focus markers; syntax; visual-gestural modality

1. Introduction

The semantic contribution of gestures has been a topic of much recent interest in formal linguistics (Lascarides & Stone 2009a,b; Ebert & Ebert 2014; Schlenker 2018; Esipova 2019a; *i.a.*). A common idea within this literature is that the semantic contribution of certain gestures can be integrated into the meaning of the utterances they co-occur with (i.e., as co-speech gestures). This has led some scholars to treat these gestures as morphemes, meaning they have syntactic status (Jouitteau 2004, 2007; Sailor & Colasanti 2020), and thus have normal LF representations as well, just as non-gestural morphemes do.

On this view, such gestures are just normal feature bundles projected in the syntax that happen to get externalised at PF within the visual-gestural modality, just as spoken lexical items are realised in the auditory-spoken modality.[1] This hypothesis is also consistent with the observation that such gestures are expressed with the same articulators as the signs of sign languages (e.g. hands and eyebrows, but not feet, etc.). I refer to this hypothesis as the *Grammatical Integration Hypothesis* of particular gestures (see Section 2.5), and here I will concentrate on its relevance for gestures that behave like functional items. According to this hypothesis, the set of functional items in a given (otherwise-spoken) language can be heterogeneous in its modality: that is, it can comprise a mixture of functional items realised in the auditory-spoken modality alongside those realised in the visual-gestural modality (but otherwise alike in their grammatical status).

In this paper, I present new evidence in support of this hypothesis. This evidence comes from the conventionalised co-speech gesture RING-FOCUS (i.e. ) found in Italo-Romance, as exemplified below in Lancianese (Abruzzo region; Colasanti & Cuonzo 2022a,b). (Throughout, **bold** indicates semantic focus, and underline indicates the temporal alignment of the gesture.)

(1) Lancianese
Context: Ginə knows that Rocchə bought a new car. When he meets his father at the market, he asks him:

Ginə: Rocchə s'a accattatə n'Audi?
'Did Rocchə buy an Audi?'

Rocchə's father:

a. No, **na BMW** s' a accattatə Rocchə.
no a BMW REFL has bought Rocchə

[1] This can be implemented straightforwardly within Late Insertion-based approaches to morphology. For example, in Distributed Morphology (Halle & Marantz 1993, *i.a.*), the spoken vs gestural distinction would be entirely confined to the Vocabulary (i.e. List 2) as idiosyncratic PF features of individual Vocabulary Items. As such, the spoken vs gestural distinction would not manifest until after syntax. See Esipova (2019b) and Sailor & Colasanti (2020) on gesture as evidence that syntax is modality-blind along such lines.

b. 
*No, **na BMW** s' a accattatə Rocchə.
no a BMW REFL has bought Rocchə
'No, A BMW Rocchə bought.'

Here, the articulation of RING-FOCUS is temporally aligned with the edges of an XP under corrective focus (1a); it cannot, for example, be realised across the entire sentence containing such an XP (1b).

Based on such evidence, I argue that RING-FOCUS is a F(ocus)-marker[2] of just the sort found in spoken languages such as Gungbe, Kîîtharaka, Gúrúntúm, etc., albeit one which is realised gesturally rather than verbally. The evidence supporting this claim comes from a novel experiment designed to investigate the status of RING-FOCUS in Lancianese, following other recent work successfully probing the linguistic status of gesture using experimental methods (Tieu et al. 2017, 2018; Schlenker & Chemla 2018; Esipova 2019a). The experiment focused on the investigation of a single Italo-Romance language, given the significant linguistic variation found across Italo-Romance (which also ensures that the present experiment is replicable).

This paper is organised as follows. Section 2 provides some necessary background on a number of issues, including the types of gestures that this paper is (and is not) concerned with, alongside some remarks on the choice of language and methodology that make up the experiment. Specifically, I start with some remarks about the Italo-Romance subfamily (§2.1) and the gestures therein (§2.2). I also provide some background on RING-FOCUS (§2.3), the investigation of focus in Italo-Romance more generally (§2.4), and finally the *Grammatical Integration Hypothesis* (§2.5). This is necessary to set up the experiment described in Section 3, followed in Section 4 by presentation of the results from that experiment. In Section 5, I argue that these results demonstrate RING-FOCUS's close parallels with other F-markers in spoken (§5.1) and sign (§5.2) languages, before arguing that the distribution of RING-FOCUS is consistent with that of an F-marker, with its articulation temporally aligned with that of its associate, i.e. the focused XP. Section 6 concludes, highlighting some of the limitations of this study along with matters left for future research.

2. Background

When studying gesture in the languages of Italy, at least two significant methodological issues arise: the challenge of working with gestural data on the one hand, and the challenge of working with Italo-Romance (and all of its complex microvariation) on the other. I am to clarify some of these issues below.[3]

[2]Within the enormous literature on focus, the term 'focus particles' (or 'focusing adjuncts', 'focus adverbs', 'focusing modifiers' or 'focalizers') has been used to refer to a number of elements, such as quantificational adverbs, negation, and modal verbs (Cruschina 2022). However, the same term is also used to refer to special morphemes in languages that mark focus morphologically (Hartmann & Zimmermann 2009). In this paper, I use the term 'focus markers' (F-markers) for the latter.

[3]The discussion in Sections 2.1 and 2.2 is mostly based on Colasanti (2021b; 2021c; 2021d; 2021e; 2023).

2.1 *The linguistic landscape of Italy*

Generally speaking, the majority of Italians have at least partial command of three (or more) grammars: Standard Italian; one of the numerous local languages spoken at the town/community level (i.e. *i dialetti*); and *Italiano Regionale* 'regional Italian'. These grammars are distinct from one another, and none can be described as simply 'Italian' (see also Colasanti 2022). I briefly describe each of these in turn, as they are relevant to the coming discussion.

Standard Italian emerged from the standardisation of literary medieval Florentine, and originated as a constructed language. Following the unification of Italy in 1861, Standard Italian was aggressively imposed across the whole country, mostly through the educational system and the media (Lepschy & Lepschy 1979:ch. 2; Maiden 1995:3–10; among many others). This variety is considered the most prestigious of the Italo-Romance languages: it is what is taught at school, and is used primarily in formal written contexts. As Berruto (2003) argues at length, Standard Italian has basically no native speakers: since most Italians are first exposed to it at school, it is to be considered a learned language rather than an acquired one (see also Berruto 1987 [2021]:26).

By contrast, local Italo-Romance languages (e.g., Barese, Ariellese, Verbicarese, Cosentino, etc.) – commonly referred to as *dialetti*, and mistakenly translated in English as 'Italian dialects' or 'dialects of Italian' – are related languages to Standard Italian and are mostly spoken at the level of the home, the town and (sometimes) in wider local communities. These languages constitute the Italo-Romance linguistic subfamily, of which Standard Italian is just another member. In short, they are 'Italian' languages exclusively in the sense that they are native to the Italian peninsula (and islands) but these are not dialects of '(Standard) Italian' (and indeed the two are often mutually unintelligible); see Maiden (1995:3). There are estimated to be between approximately 7000 and 9000 distinct local languages within Italy, one for each town in the country (Vignuzzi 2005; see also Furlan 2014). With some notable exception in the form of certain urban varieties, these languages are mostly endangered (Tamburelli 2012): specifically, they are no longer being acquired by children, and are regularly spoken only by the oldest members of the population.[4] That is, these languages have no prestige and, because of the influence and prestige of Standard Italian, many local varieties suffer stigmatisation; i.e. they are perceived as 'bad talking' (Lepschy & Lepschy 1979:18; Loporcaro 2009:4).

With this in mind, we are now faced with an obvious question: if there are no native speakers of Standard Italian and the local languages are seriously endangered, what do Italians speak?

The answer is that the majority of Italians speak *Italiano Regionale* 'regional Italian', an umbrella term used to refer to an unknown number of contact varieties that have developed from the mixing of Standard Italian with the local languages (Pellegrini 1970; Sobrero 1988). The adjective *regionale* 'regional' does not align with the borders of the different administrative regions of Italy. In fact, a particular variety of regional Italian might be spoken across one or more administrative regions. The adjective in fact refers to 'regions' that are partly defined by the major isoglosses that distinguish groups of Italo-Romance languages (Pellegrini 1970; Sobrero 1988). Across Italy, regional Italian is what

[4] According to the most recent census (Istat 2014), only 9% of Italians identify as speakers of their local languages (mostly in the South and North-East parts of Italy).

Italians actually speak today; and this is what linguists and lay people mean when they refer to 'Italian'. Broadly speaking, regional Italian is perceived as more prestigious than the local languages, but less prestigious than Standard Italian. There are differences in prestige within regional Italian, with northern varieties perceived as higher-status than southern varieties.

With this background in mind, I hope to have clarified not only the scope and the nature of the present research, but also the general need for precision concerning the object of study within Italo-Romance linguistics. With this knowledge in place, we can now turn to some relevant background concerning the gestures of Italy.

2.2 *The gestural landscape of Italy*

Italians are well-known for their use of gestures, but not all Italo-Romance varieties are identical in their gestural inventory. For instance, the grammar of Standard Italian, which is (mostly) used in written contexts, lacks gestures of any kind.[5]

In fact, due to stigmatisation, Italians tend to avoid using gestures while speaking in formal contexts; i.e. the few occasions when Standard Italian is used. With this in mind, we are now faced with another obvious question: when do Italians use gestures?

The answer to this question is that gestures in Italy are exclusively found in *non-standard* Italo-Romance (i.e. in local languages and different varieties of regional Italian). This is also the reason why gestures, like other structural phenomena (e.g. differential object marking in southern regional Italian) carry a negative stigma. This is why gestures such as those discussed in this paper must be investigated in a local language (e.g. Lancianese) or in a specific variety of regional Italian, and not simply in 'Italian'.

Non-standard Italo-Romance languages constitute a rich ground for investigating the grammatical properties of gestures, given the significant (micro)variation found across these varieties. Since gestures such as *Mano a Borsa* (MAB) 'pursed hand' and RING-FOCUS (De Jorio 1832; see below) are conventionalised (grammaticalised) functional items (see Colasanti 2021c, 2023), we also expect them to be subject to cross-linguistic variation within Italo-Romance (e.g. in hand shape, movement, etc.), just as similar elements in the spoken modality are, with regard to their meaning and their syntactic distribution (see Diadori 2013 for a similar point). A point in case is the lexical variation in (2), where the size gesture 'small' is articulated differently in Romano (2a) with respect to Verbicarese (Calabria) and Cepranese (Southern Lazio), as shown in (2b).

(2) 'Small' gesture

a.  *Romano*

[5]Here I refer only to conventionalised gestures and not to *gesticulation* or *pantomime*: see McNeill (2000b:3) on this distinction. See also Section 2.5.

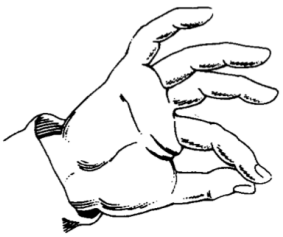
b.  *Verbicarese (Calabria), Cepranese (Southern Lazio)*

For all these reasons, the repertoire of gestures (and their distribution) should not be assumed to be the same *a priori* across Italo-Romance.

2.3 *The Ring-gesture family*

The group of conventionalised manual gestures called 'R(ing)-gestures' (Kendon 1995:268–274, Kendon 2004:238–247) all share the use of the hand shape referred to as 'ring' (Morris et al. 1979). In this particular hand shape, while the tip of the index finger touches the tip of the thumb, forming a circular or oval shape, the other fingers are semi-extended and spread apart (3), see Kendon (1995:268–274).

(3) Ring hand shape (De Jorio 1832)



While all share the same hand shape, Kendon (2004:238) highlights the enormous variation found within this gesture family. In particular, each of the gestures belonging to this family differs from the other in terms of movement (of the digits or the arm as a whole), place of articulation (torso/body mid-line), and hand orientation. This is the reason why the R-gestures are reported to have different meanings and to be used in different contexts (Kendon 2004:238–239). De Jorio (1832) reports the existence of seven different R-gestures in Italo-Romance. These are used to express different concepts: love and affection (similar to the 'Chef's kiss' emoji; (4)), obscene insult, smelling something, asking a question, justice, perfection, correctness or exactness. For instance, De Jorio highlights that while "in questioning the fingers must always be turned upwards" towards the speaker ((5); De Jorio 1832:85),[6] in expressing perfection and correctness in general "the hand is turned downwards" ((6); De Jorio 1832:250). All R-gestures described by De Jorio are completely different gestures that have different meanings, and are used in different contexts.

(4) 'Chef's kiss' emoji

[6]Note that this is unlike the 'OK' gesture, i.e. '👌', in which the palm faces away from the speaker. Also unlike OK, the articulators are not static with Ring hand shape; rather, the hand and forearm are moved up and down. See also Diadori (2013:37) for this distinction.

(5) Ring upward hand shape (De Jorio 1832, Table 20)

(6) Ring downward hand shape (see also De Jorio 1832, Table 19)

Kendon (1995:268–274) reports that R-gestures can be used in Campanian varieties as "discourse unit marking gestures" and as question markers (with upward orientation; (5)). Specifically, Kendon claims that what he calls the 'RING' gesture "occurs in association with a segment of speech that provides precise information, makes a specific reference to something, makes something specific in contrast to other possibilities or in contrast to something more general, or which gives a specific example of something." (Kendon 1995:268). As Kendon (1995:247, 271) highlights, in (7) the use of RING ensures "that the specific information be given prominence" as it indicates the "focality" of a constituent. In particular, it seems that the information provided in (7) is "being opposed" (i.e. it is contrastive) with other information in the context. In other words, in (7) the articulation of RING aligns with the domain of prosodic focus, i.e. *ventitré ventiquattro sedici* 'twenty-three twenty-four sixteen', which is contrastively focalised in context. The articulation of RING also involves a sharp downward movement of the hand and forearm aligned to each accented syllable.[7] (Below, CAPS indicate accented syllables.)

(7) Campanian (adapted from Kendon 1995:269)
Context: the speaker and the addressee are looking at a poster. The speaker thinks that the telephone number reported on the poster is the wrong one because somebody else gave him a different telephone number (which he considers to be the correct one). He says to the addressee:

A me mi ha dato **ventiTRÉ ventiQUAttro SEdici**.
to me of.it he.has given twenty-three twenty-four sixteen
'To me he gave TWENTY-THREE TWENTY-FOUR SIXTEEN.'

[7] As highlighted by an anonymous reviewer, the fact that the 'stroke' of the RING gesture (the sharp downward movement of the hand and forearm) is repeated at every accented syllable within the domain of prosodic focus seems to set RING apart from other co-speech gestures. This is because, although many co-speech gestures can also be repeated within their domain of spreading, the repetition of their movement is not as obviously keyed to accent placement in the way RING is. I leave this interesting question aside.

This paper is concerned with this particular RING gesture, which I call RING-FOCUS. RING-FOCUS is a manual gesture articulated with the tip of the index finger touching the tip of the thumb, forming a circular or oval shape. The other fingers are semi-extended and spread apart (Kendon 1995:268). The place of articulation is the torso/body mid-line and the orientation of the palm of the hand is facing downwards (see (6)). The articulators are not static with RING-FOCUS; rather, the hand and forearm are moved up and down, with the frequency of this movement keyed to the prosodic factors described above (not depicted in the examples below).[8]

RING-FOCUS is obligatorily co-speech, in the sense that it necessarily associates with a constituent in the spoken modality; it has no solely pro-speech use in the Italo-Romance languages under discussion here.

In summary, previous studies by Kendon on RING-FOCUS seem to suggest that this gesture can align with focalised constituents as it is used in contexts in which some contrast is involved. However, Kendon's work fails to specify precisely which language(s) from Campania are being described, making it difficult to replicate his claims. A primary goal of this paper is to clarify the empirical status of RING-FOCUS in one particular southern Italo-Romance language, namely Lancianese (spoken in the town of Lanciano, Abruzzo, Italy). In order to test whether RING-FOCUS can be paired with different focus types in Lancianese, in the next section I lay out some relevant concepts and the terminology used in previous research on focus in the (Italo-)Romance languages.

2.4 *Focus in Italo-Romance*

Different focus structures (i.e., broad and narrow foci) and subtypes of focus (i.e., informational, contrastive, etc.) can be marked with syntactic (and prosodic)[9] strategies in Italo-Romance languages (Cruschina 2016, 2022).[10] Assuming that focus introduces a set of alternatives in the context of the utterance (Cruschina 2022:4; see also Krifka 2007:18), unmarked SVO orders (with transitive verbs) and VS orders (with intransitive verbs) can be predominantly interpreted as broad focus or predicate focus in Italo-Romance. In particular, these structures differ only in the interpretation of the subject: in a predicate focus structure the subject is a topic (8) and in a broad focus structure it is part of the focus (9), as shown for Standard Italian.

(8) Standard Italian
A: What did Giovanni do?
B: Giovanni **ruppe il vaso**.
Giovanni broke the vase
'Giovanni BROKE THE VASE.'

[8] Although the prosody of RING-FOCUS deserves further study (see previous footnote), it is not the main focus of this article; thus, for clarity of presentation, the accented syllables are not indicated in the remaining examples in this paper. This should not be taken to indicate that the stroke of RING-FOCUS is not repeated in these examples, however.

[9] Prosodically, the focus constituent must be the most prominent: it bears the nuclear stress and it is associated with the nuclear pitch accent (Truckenbrodt 1995). In this section and throughout the paper, I concentrate only on the syntactic strategies rather than the prosodic strategies to mark focus used in Italo-Romance languages.

[10] The discussion of focus in Italo-Romance here is not intended to be comprehensive but covers only the points that are relevant to the present paper.

(9) Standard Italian
A: What happened?
B: **Giovanni ruppe il vaso**.
Giovanni broke the vase
'GIOVANNI BROKE THE VASE.'

The distinction between the two focus structures above in Romance is a controversial issue (Cruschina 2022). However, the difference between the two can be identified by the alternatives created by the questions within the utterance contexts, which remains the most frequently used diagnostic for distinguishing between them (Cruschina 2022).

Syntactic strategies are the most common way of marking narrow focus in Italo-Romance (Cruschina 2022). As we can see in (10), in unmarked SVO and marked OVS word orders the direct object *la macchina* 'the car' is interpreted as a focalised constituent in (10) and (11).

(10) Standard Italian
A: What did Giovanni break?
B: Giovanni ha rotto **la macchina**.
Giovanni has broken the car
'Giovanni broke THE CAR.'

(11) Standard Italian
A: Did Giovanni break the van?
B: **La macchina** ha rotto Giovanni.
the car has broken Giovanni
'Giovanni broke THE CAR.' (Lit. 'THE CAR Giovanni broke.')

Thus, two positions are said to be associated with focus in narrow focus structures in Italo-Romance (Cruschina 2022:10). Adopting a cartographic approach, the position in (11) is to be found within the high left periphery (*HLP*; Rizzi 1997; (12)) and the other position in (10) within the low left periphery (*LLP*; Belletti 2004; (13)). I call *high foci* the constituents dislocated to the HLP and *low foci* those dislocated to the LLP.[11]

(12) Fine-grained cartographic structure of the HLP (adapted from Rizzi & Bocci 2017:7)
[Force [Top* [Int [Top* [**Foc** [Top* [Mod [Top* [Q_{emb} [Fin [IP ... [LLP ...]]]]]]]]]]]

(13) Fine-grained cartographic structure of the LLP (adapted from Belletti 2004)
[HLP [IP ... [**Foc** [Top* [*v*P ... [VP ...]]]]]]

Needless to say, there is enormous variation in the focus interpretations that can arise from the focus positions within the HLP and the LLP in Italo-Romance (and in Romance more generally; see Cruschina 2012:§3.3). For instance, in (14), *a Turiddu* 'to Turiddu'

[11]Note that these two positions are distinct from focus in situ, which is only marked prosodically (Cruschina 2022:4).

is a high informational focus (IFoc) in Sicilian:[12] the dislocated constituent is part of an answer to a wh-question and constitutes missing information, i.e., it is part of the set of contextually-determined alternatives but not previously mentioned in the discourse. However, the dislocation of this PP yields a marked word order not found in Standard Italian, for instance, where IFoci are generally postverbal (i.e. *Gianni* in (15)) and dislocated to the LLP:

(14) Sicilian (Cruschina 2012:39)
A: Who did Alfiu kill?
B: Alfiu **a** **Turiddu** ammazzà.
Alfiu to.ACC Turiddu killed
'Alfio has killed TURIDDU.'

(15) Standard Italian (Belletti 2004:21)
A: Who spoke?
B: Ha parlato **Gianni**.
has spoken Gianni
'GIANNI has spoken.' (Lit. 'Has spoken GIANNI.')

That is, Standard Italian IFoci are felicitous only postverbally within the LLP (Belletti 2004). However, high foci can only be contrastive foci (CFoc; Rizzi 1997; cf. Benincà & Poletto 2004), i.e. their interpretation implies the existence of alternatives, which "are given in the context and an explicit contrast is established between the focus constituent and the alternative antecedent" (Cruschina 2022:4). This is shown in (11), where the constituent *la macchina* 'the car' is contrasted with the alternative antecedent in the question *the van*.

The Standard Italian and Sicilian data above only exemplify the scale of the variation in high and low focus interpretations across Italo-Romance. The extent of this variation across Italo-Romance still requires proper investigation (Colasanti 2021a:8). For instance, while focus positions in Standard Italian seem to be specialised (i.e., CFoc in the HLP vs IFoc in the LLP: Belletti 2004), in other Italo-Romance languages like Sardinian, Sicilian, and Turinese, the focus positions in both the HLP and the LLP are not specialised for a particular type of focus (Cruschina 2012:103–104). This can be seen in Carinolese (a Campanian language) in (16), where the DP object *le pummarole* 'the tomatoes' is a low IFoc in (16a) and a low CFoc in (16b), and in both cases it follows a DP subject but precedes the verb.[13] These pragmatically-marked SOV word orders are possible because southern Italo-Romance is characterised by low verb movement: the dislocated DP in (16) undergoes short movement to a position just outside of *v*P, within Cinque's (1999) low adverb space (Ledgeway & Lombardi 2005, 2014; Schifano 2018:ch.2).

(16) Carinolese (Colasanti 2021a:8)
Context: Paskale and Peppinu will go to the market to buy some food for Maria,

[12]For definitions of informational and contrastive focus (IFoc and CFoc) based on Roothian alternative semantics, see Cruschina (2012:11, 82; 2022:4).

[13]For an initial account on the distribution of low foci in southern Italo-Romance and the relevant diagnostics used to precisely locate these low foci see Colasanti (2021a).

who has no idea what Paskale is going to buy since she does not know him. Maria asks Peppinu:

a. "What do you think that Paskale will buy?" Peppinu replies:
Creru ca Paskale **le** **pummarole** accatta.
I.believe that Paskale the tomatoes he.buys
'I believe that Paskale THE TOMATOES buys.' (IFoc)

b. "Do you think that Paskale will buy the oranges?" Peppinu replies:
Creru ca Paskale **le** **pummarole** accatta, no le pertualle.
I.believe that Paskale the tomatoes he.buys not the oranges
'I believe that Paskale THE TOMATOES buys, not the oranges.' (CFoc)

There is very little work in Italo-Romance on focus-sensitive particles and the phenomenon called 'association with focus' (Jackendoff 1972; Rooth 1985). For instance, in Standard Italian the scope ambiguity of the focus-sensitive particle *persino* 'even' over a focus is said to be disambiguated by prosody (Avesani 1995; Frascarelli 2004). There are cross-linguistic differences to be observed across Italo-Romance: for instance, while *even* in Standard Italian does not need to be adjacent to its associated focalised constituent, by contrast in Sicilian *even* must be adjacent to its focus (Cruschina 2012:66). There is also variation within Italo-Romance concerning the relative order of the focus-sensitive particle and its focus: when adjacent, the focus-sensitive particle can precede or follow its associated focus (Cruschina 2012:65–66; Munaro 2013).

To the best of my knowledge, within Italo-Romance there are no languages that mark broad and narrow foci with a special focus morpheme, i.e. 'focus marker' ($\neq$ quantificational adverbs, negation, modal verbs, etc. that interact with focus; see fn. 2); see Büring (2009) for a typology of focus realisation. These are found, for instance, in Muskogean languages (Chickasaw; Munro & Willmond 1994), Chadic languages (Gúrúntúm; Hartmann & Zimmermann 2009), Grassfields Bantu (Bamileke Medumba, Cameroon; Keupdjio 2020).

Before describing the experimental design, I discuss the *Grammatical Integration Hypothesis*, briefly clarifying first the types of gestures this paper is (and is not) concerned with.

2.5 *The* Grammatical Integration Hypothesis

There are many other types and/or uses of gesture that this paper has nothing to say about whatsoever. For instance, gestures that are referred to in the literature as *gesticulation* or *pantomime* (see Kendon 1988; McNeill 1992, 2000a; Müller 2018) are entirely excluded from this discussion, as are matters relating to iconicity. Moreover, there are non-at-issue uses of gestures that might be thought of as 'integrated', but perhaps not in the same way as at-issue ones; I leave such uses aside here. This paper only deals with conventionalised gestures (also called 'emblems'; see Efron 1941; Kendon 1988; McNeill 1992, 2000a), which are gestures that are established (lexicalised) within a particular speech community. This type of gesture exhibits a fixed form-meaning relation and can make at-issue contributions. Lastly, although in this paper I discuss the conventionalised functional gestural morpheme RING-FOCUS, I am not equating 'grammatical integration' with 'functional'. The main reason is empirical: there exists conventionalised gestures

that express purely lexical (i.e. non-functional) content, e.g. gestures expressing nominal or adjectival meaning.

With this in mind, according to the *Grammatical Integration Hypothesis*, functional morphemes involved in syntactic representations can be externalised at PF in both auditory-spoken and visual-gestural modalities. This was first pursued by Jouitteau (2007) for Atlantic French, which exhibits gestural Q-morphemes. In (17b) and (17c) the presence of the RAISED HEAD or RAISED EYEBROWS gesture causes the sentences to be interpreted as yes-no questions. The Q-morpheme *esk* (17a) is the spoken counterpart of the gestures in (17b)–(17c). By contrast, in (17d), the absence of one of the above-mentioned gestures or *esk* results in an ungrammatical sentence.

(17) Atlantic French (adapted from Jouitteau 2007)

a. Esk peux finir mon thé?
Q can finish my tea

b. RAISED HEAD peux finir mon thé?
Q can finish my tea

c. RAISED EYEBROWS peux finir mon thé?
Q can finish my tea

d. *peux finir mon thé?
can finish my tea
'Can I finish my tea?'

The possible recovery of co-speech gestures under ellipsis constitutes additional evidence in support of the grammatical integration of gestures. For instance, English gestures contributing to the core meaning of a sentence (i.e. at-issue content) are obligatorily recovered as part of the interpretation of ellipsis (Sailor & Colasanti 2020). In (18), Speaker B's utterance involves ellipsis of a predicate (indicated with "[–]") whose interpretation is provided by an antecedent within Speaker A's utterance. In particular, Speaker B's ellipsis is interpreted not only as the predicate [bring our cooler], but also necessarily includes the interpretation of the size depicted by Speaker A's gesture (i.e. LARGE).

(18) English (Sailor & Colasanti 2020:7)
Context: we are packing for a trip. We own two coolers, one small and one large, and we both know this fact.

Speaker A: I just had an idea: let's [bring our cooler  LARGE].
Speaker B: If we do [–], we could pack all our booze! (It won't all fit in the small one).

Examples such as (18) demonstrate that (at-issue) co-speech gestures cannot be ignored by the ellipsis recovery procedure, just as spoken linguistic content cannot be.

In what follows, before presenting novel data from Lancianese (see also Colasanti & Cuonzo 2022a,b), I first lay out the experimental design (Colasanti 2021b,e, 2023) and the rationale behind it in more details.

3. RING-FOCUS: an experimental study in Lancianese

The precise linguistic properties of RING-FOCUS remain mostly uninvestigated. While Kendon (1995) reports that RING-FOCUS is found in contexts where prominence is to be given to certain information, the precise contexts in which RING-FOCUS is found (e.g. focus types and focus structures) are undetermined. Moreover, since RING-FOCUS is obligatorily co-speech, the precise parameters of the temporal alignments of RING-FOCUS with focalised constituents in the spoken modality remains unclear. In fact, these questions have never previously been investigated. To investigate the focus-marking properties of RING-FOCUS an experimental approach was required. Specifically, because of the nature of our research questions we needed to collect reliable data, and to have consistent stimuli judged by native speakers (e.g. consistent alignment or gesture movement) in fixed contexts in which the targeted utterance and RING-FOCUS would arise.

Considering the complex linguistic situation of Italy (see §2.1), we needed to focus on one particular Italo-Romance local language (i.e. Lancianese) so to avoid confounding data with data from the multiple languages found in Italy. By ensuring that our data come from participants who are native speakers of the specific local language, we ensure that our experiment is replicable. Lancianese was also chosen because it is closely related to the Campanian varieties studied by Kendon (1995).

3.1 *Experimental design*

The two experiments used to investigate RING-FOCUS were designed according to experimental fieldwork methodologies previously used to collect theoretically-grounded gestural data from the languages spoken in Italy (Colasanti 2021e, 2023). We collected data from 20 native speakers of Lancianese (with ages ranging from 20 to 80 years old), recruited from different neighbourhoods in Lanciano through the friend-of-a-friend approach (Milroy 1987) by a fieldworker. The experiment comprises a binary forced-choice tasks (Experiment 1) and acceptability judgement rating tasks (Experiment 2), two methodologies consistently used in generative studies of both spoken and signed languages.[14] The experiment consists of two parts: Experiment 1 was created to understand in which contexts RING-FOCUS is found and Experiment 2 tested how RING-FOCUS aligns with the spoken utterance. I will explain Experiment 1 and Experiment 2 in more detail below.

3.1.1 *Experiment 1: materials*

Experiment 1 was designed to test the co-occurrence of RING-FOCUS with different kinds of focalised constituents (e.g. broad and narrow foci, etc.) and focus types (e.g. informational foci, contrastive foci, etc.).[15] In particular, the acceptability of RING-FOCUS was tested using binary forced-choice tasks. Each of the 11 trials involved an utterance context (19a) and a pre-recorded audio with the question triggering the target utterance with or without RING-FOCUS (19b). There were two different pre-recorded videos for each context: both contained the same utterance (spoken by a native Lancianese speaker), but

[14]The reliability of these methods have been experimentally corroborated for both spoken languages (Schütze & Sprouse 2014; Sprouse et al. 2018; Sprouse 2018) and signed languages (Kimmelman 2021).

[15]See §2.4 for the terminology and definitions around focus and focus structures adopted in this paper.

one was uttered with accompanying RING-FOCUS, and one without (19c). For each trial of the experiment, the evaluation was binary, i.e., which video was the most natural in the given utterance context (19c). Additionally, there was the possibility to add a brief rationale on the binary evaluation (19e). The design of the trials for Experiment 1 is shown in (19):

(19) Trials design for binary forced-choice tasks

a. **Utterance context:** Tonino knows that Rocchə bought a new car. When he bumps into Rocchə's dad at the market he asks him:

b. **Question (audio)**: Did Rocchə buy an Audi?

c. **Target sentence with or without RING-FOCUS (videos)**:

No, Rocchə bought **a BMW**.

No, Rocchə bought **a BMW**.

d. **Evaluation (binary)**: Which of the two utterances sounds more natural to you?

e. **Evaluation (comment)**: Please tell us the rationale behind your choice.

The intonational contour was kept constant for each of the minimal pairs tested but predictably varied across different focus types and focalised constituents. The speed of the movement during the articulation of RING-FOCUS was also kept constant as the frequency of the up and down movement is linked to the prosodic factors described in §2.3: specifically, the downward movement of the hand and forearm seems to be aligned to each accented syllable (see also fn. 7).

3.1.2 *Experiment 2: materials*

Experiment 2 tested the temporal alignment of RING-FOCUS. Following previous work by Colasanti (2021e, 2023) on Italo-Romance gestures, the trial design was based on the hypothesis that the onset and duration of certain co-speech gestures can reflect their c-command/scope domain, and hence they have syntactic significance. Colasanti's (2021e; 2023) original hypothesis is inspired by previous literature on Non-Manual Markers (NMMs) within sign language linguistics (Liddell 2003; Aarons 1994; Wilbur & Patschke 1999; Neidle et al. 2000; Branchini et al. 2013; Bross 2020; *i.a*; see Wilbur 2021 for an overview). In particular, NMMs are produced with articulators other than the hands, such as hand position, body position, brow raising, eye gaze, lip movement, etc., which can be articulated simultaneously with hand signs.[16] Moreover, the idea that gestures are able to

[16]This will be explained in more detail in §5 below.

mark focus domains has been already pursued for German under a purely formal semantic approach by Ebert et al. (2011). Through a corpus-based study to the Bielefeld Speech-And-Gesture-Alignment (SAGA) corpus, the authors clearly demonstrate that the onset of several co-speech gestures (e.g. beats, pointing gestures, iconic gestures, etc.) marks the left edge of the focus phrase.

With this in mind, the temporal alignment of RING-FOCUS in different focus-triggering contexts was tested using acceptability judgements. Each of the 11 trials,[17] comprised an utterance context (20a) and a pre-recorded audio with the question triggering the target answers with different RING-FOCUS alignments (20b). For each context, the trial included from three to five pre-recorded videos (depending on the trial): all the videos contained the same utterance (spoken by a native Lancianese speaker; (20c)). Participants were then shown from three to five pre-recorded videos for each context: all the videos contained the same utterance. In two of the videos, RING-FOCUS is articulated throughout the focalised constituent and through the entire utterance respectively; in the others, other alignments were tested (e.g. articulation of RING-FOCUS over just a VP or a subpart of it, articulation of RING-FOCUS at the beginning or the end of the utterance, etc.). For each trial the evaluation was based on a Likert scale rating the degree of naturalness of each audio-video pairing (i.e., 0 = unnatural, 10 = natural; (20d)). Each trial included the possibility to provide a brief rationale on the rating choices for each context (20e).

The design of the trials for Experiment 2 is shown in (20):

(20) Trials design for acceptability judgement rating tasks

a. **Utterance context:** Tonino knows that Rocchə bought a new car. When he bumps into Rocchə's dad at the market he asks him:

b. **Question (audio)**: Did Rocchə buy an Audi?

c. **Target sentence with different RING-FOCUS alignments (videos)**:


No, Rocchə bought **a BMW**.

No, Rocchə bought **a BMW**  .

No, Rocchə bought  **a BMW**.


No, Rocchə bought **a BMW**.

[17] In Experiment 1 and in Experiment 2 the same utterances were used as test items.

d. **Evaluation (Likert Scale)**: Indicate the degree of naturalness of each (0=unnatural, 10=natural)

e. **Evaluation (comment)**: Please tell us the rationale behind your choice.

The intonational contour was also kept constant for Experiment 2 trials. The speed of the movement during the articulation of RING-FOCUS was also kept constant as the frequency of the up and down movement is linked to the prosodic factors, as described in §2.3 (see also fn. 7).

3.2 *Procedure*

Our small-scale experiments had both an in-person and an online component. In particular, both experiments were administered in person to each participant by a fieldworker using an online component hosted by Gorilla (https://gorilla.sc/). After signing the consent form, all participants were given instructions before starting with the the first trial of Experiment 1. For each trial of Experiment 1 (see §3.1.1), participants were presented with an utterance context by the fieldworker and after that an audio was played with the question triggering the targeted utterances with or without RING-FOCUS. Participants were then shown two different pre-recorded videos for each context: both contained the same utterance (spoken by a native Lancianese speaker), but one was performed with accompanying RING-FOCUS, and one without. The order of the videos was randomised in each of the trials. Participants were then asked to make a choice between the two utterances in the videos, which correspond to the minimal pairs, and finally participants were asked for a brief rationale for their choice in each context . Both the participants' choices and the comments were annotated by the fieldworker on Gorilla.

For each of the trials of Experiment 2 (see §3.1.2), participants were presented with an utterance context by the fieldworker and then an audio was played with the question triggering the targeted answer utterances with different alignments of RING-FOCUS. The order of the videos was randomised in each of the trials. Participants were then asked to rate the degree of naturalness of each audio-video pairing (i.e., 0 = unnatural, 10 = natural, and to comment on their choices. Both the participants' choices and their comments were annotated by the fieldworker on Gorilla.

4. Results

In what follows, I present the results from these two experiments.[18] First, I show which kind of focus-triggering contexts are accepted by our participants (Experiment 1), as well as which focalised constituents and focus types RING-FOCUS is acceptable with. Then, I present data from the acceptability judgement tasks involving the temporal alignment of RING-FOCUS (Experiment 2).

[18]Preliminary results of this experiment were first presented in Colasanti & Cuonzo (2022a,b).

4.1 *Experiment 1: in which focus contexts is* RING-FOCUS *found?*

The results for Experiment 1 show that RING-FOCUS cannot be paired with low IFoci and CFoci in embedded clauses and in predicate IFoci (in VS orders).[19] Specifically, the majority of speakers preferred the focus types and focus structures above without RING-FOCUS (as in the (b) examples) rather than with it (as in the (a) examples). I present a selection of these examples from our study below. Consider the Low IFoc (embedded-OV) in (21) and the high IFoc (predicate focus-VS) in (22) first:

(21) Low Informational Focus (embedded-VO)
Context: Ginə and Marijə invited Toninə over for dinner. Marijə asks Ginə:

Marijə: Chə pinsə ca Toninə accattə?
'What do you think Toninə is going to buy?'

Ginə:

a. *Pensə ca Toninə accattə **lu vinə**. 30%
I.think that Toninə buys the wine

b. Pensə ca Toninə accattə **lu vinə**. 70%
I.think that Toninə buys the wine
'I think Toninə is going to buy WINE.'

In the context in (21), one of the interlocutors, Marijə, asks the other (Ginə) what he thinks their guest, Toninə, is going to bring to their dinner. Ginə's answer is the target-utterance which contains the DP *lu vinə* 'the wine'. This focalised DP has not been previously mentioned in the discourse and is part of the set of contextually-determined alternatives. Thus, *lu vinə* is an example of an embedded low informational focus: it constitutes missing information within the discourse and its dislocation happens within the LLP (Belletti 2004; see §2.4 above). In this case, our informants prefer the test item without RING-FOCUS (21b) rather than the one with it (21a).

Similarly, in (22) one of the interlocutors (Ginə) asks the other (Toninə) what happened to his car. The target-utterance is Toninə's answer, which contains a predicate focus structure (in a VS configuration) *s'a rottə* 'it has broken'. This type of dislocated predicate is informational as it constitutes information not previously mentioned within the discourse. In this case, our informants prefer the utterance without RING-FOCUS (22b) with respect to the one with RING-FOCUS (22a):

(22) High Informational Focus (predicate focus-VS)
Context: Toninə always goes to the bar in his car, but today Ginə sees him arriving on foot and asks him:

[19] Our conclusions are reached via relative frequency percentages for Experiment 1 forced-choice task results and raw averages for Experiment 2 acceptability judgement rating task results. In Low Informational Focus (embedded-VO; (21)), High Informational Focus (predicate focus-VS; (22)), Low Informational Focus (embedded-OV; Table 1), and Low Contrastive Focus (embedded-OV; Table 1), I take the low ($< 30\%$) frequency percentages found in the dataset for utterances articulated with RING-FOCUS in Experiment 1 to mean that these utterances are unacceptable; thus marked with '*'.

Ginə: Ch'a successə a la machənə?
'What happened to your car?'

Toninə:

a. * **S' a rottə**, la machənə. 20%
REFL it.has broken the car

b. **S' a rottə**, la machənə. 80%
REFL it.has broken the car
'My car BROKE.' (Lit. '(IT) HAS BROKEN, my car.')

The majority of speakers preferred low IFoci (preverbal and postverbal), low CFoci (predicate focus-SVO and postverbal), high IFoci/CFoci, and IFoci in broad focus structures. In particular, our informants preferred all the focus types and the focus structures above with RING-FOCUS (as in the (a) examples) than without it (as in the (b) examples). I present a selection of such examples from our study below. First, consider the informational broad focus structure in (23):[20]

(23) Informational Focus (broad focus)
Context: Ginə is waiting for Toninə in front of the bar and when he sees him arriving on foot and with a worried expression on his face, he asks him:

Ginə: Ch'a successə?
'What happened?'

Toninə:

a. **Mə s' a rottə la machənə**. 65%
to.me REFL it.has broken the car

b. **Mə s' a rottə la machənə**. 35%
to.me REFL it.has broken the car
'MY CAR BROKE.'

In the context in (23), in response to the interlocutor's question 'What happened?', the other interlocutor (Toninə) uses a broad focus structure (i.e. the whole target-utterance is part of the focus). This type of focus is informative as the whole utterance constitutes new information not previously mentioned in the discourse. In this case, our speakers prefer the utterance with RING-FOCUS (23a) rather than the one without (23b).

[20]In Informational Focus (broad focus; (23)), High Informational Focus (24), High Contrastive Focus (25), Low Informational Focus (postverbal, preverbal; Table 1), Low Contrastive Focus (predicate focus-SVO; Table 1), Low Contrastive Focus (postverbal; Table 1), the low ($< 30\%$) frequency percentages found in the examples in the dataset without RING-FOCUS are taken to mean that these are less natural than the respective examples with RING-FOCUS. The majority of our participants specified that although RING-FOCUS is not obligatory, the examples with RING-FOCUS are the preferred choice in natural informal conversation. I take this to mean that in the contexts above the examples without RING-FOCUS cannot be marked as being ungrammatical.

The overwhelming majority of speakers preferred high IFoc (24) and high CFoc (25) paired with RING-FOCUS, as in the (a) examples below:

(24) High Informational Focus
Context: Ginə knows that Marijə bought a new car. When he meets her father at the market, he asks him:

Ginə: Chə machənə s'a accattatə Marijə?
'What kind of car did Marijə buy?'

Marijə's father:

a. **Na Ferrari** s' a accattatə Marijə. 85%
a Ferrari REFL has bought Marijə

b. **Na Ferrari** s' a accattatə Marijə. 15%
a Ferrari REFL has bought Marijə
'A FERRARI, Mary bought.'

In the context in (24), the target-utterance is triggered by Ginə's question to Marijə's father, which contains the dislocated constituent *na Ferrari* 'a Ferrari'. This DP is a high IFoc as *na Ferrari* has moved to to a focus position in the HLP (Rizzi 1997) and represents information not previously mentioned in the discourse. Our participants strongly preferred the target-utterance with RING-FOCUS (24a) rather than the one without (24b).

Similarly, in (25) the DP *na BMW* 'a BMW' is dislocated to a focus position within the HLP:

(25) High Contrastive Focus
Context: Ginə knows that Rocchə bought a new car. When he meets his father at the market, he asks him:

Ginə: Rocchə s'a accattatə n'Audi?
'Did Rocchə buy an Audi?'

Rocchə's father:

a. No, **na BMW** s' a accattatə Rocchə. 90%
no a BMW REFL has bought Rocchə

b. No, **na BMW** s' a accattatə Rocchə. 10%
no a BMW REFL has bought Rocchə
'No, A BMW Rocchə bought.'

This dislocated constituent is a CFoc because within the utterance context in (25) Rocchə's father's reply to Ginə (the target utterance) contains an alternative antecedent (*n'Audi* 'an Audi') which contrasts with the focalised dislocated constituent *na BMW*. Both these constituents are part of the set of contextually-determined alternatives; i.e. car types/brands. Here too, our speakers strongly preferred the utterance with RING-FOCUS (25a) rather than the one without (25b).

To sum up, RING-FOCUS is strongly preferred in non-embedded high IFoci and CFoci, Low CFoci in predicate focus structures (in SVO configurations) and IFoc in broad focus structures. At the same time, RING-FOCUS is strongly dispreferred in embedded low IFoci and CFoci and in high IFoci in predicate focus structures (in VS configurations). Experiment 1 of our questionnaire provides some experimental support for previous intuitions about RING-FOCUS being found in focus-triggering contexts where prominence is given to specific information within the utterance. However, Experiment 1 also provides some insights into which kind of focus types RING-FOCUS can be paired. Again, the previous intuition by Kendon related to RING-FOCUS being found in "association with a segment of speech that provides specific information, makes something specific in contract to other possibilities or in contrast to something more general, or which gives a specific example of something" (Kendon 1995:268) seems to be supported by our data. Specifically, RING-FOCUS is strongly accepted by native speakers in high and low IFoci and CFoci provided that these are not embedded. The results of Experiment 1 are summarised in Table 1:

Focus type	**Without R-F**	**With R-F**
High Informational Focus (predicate focus-VS)	80	20
Low Informational Focus (embedded-OV)	70	30
Low Informational Focus (embedded-VO)	70	30
Low Contrastive Focus (embedded-OV)	70	30
Low Informational Focus (VO)	45	55
Low Informational Focus (OV)	35	65
Informational Focus (broad focus)	35	65
Low Contrastive Focus (predicate focus-SVO)	20	80
Low Contrastive Focus (VO)	20	80
High Informational Focus	15	85
High Contrastive Focus	10	90

Table 1: Choice rate for utterances with RING-FOCUS vs without RING-FOCUS (%)

We can now turn to Experiment 2, in which we have tested speakers' judgements concerning the temporal alignment of RING-FOCUS relative to the utterances it is paired with.

4.2 *Experiment 2: what is the temporal alignment of* RING-FOCUS*?*

The results of Experiment 2 show that participants strongly rejected items in which RING-FOCUS is paired – in any tested alignments – with target-utterances containing embedded focalised constituents (i.e., low IFoci (embedded-OV/VO) and low CFoci (embedded-OV)). Thus, the results of Experiment 2 show how the same items tested in Experiment 1 were also generally dispreferred in Experiment 2, irrespective of RING-FOCUS's alignment with the spoken utterance.[21] To illustrate this point, see the results – based on a

[21]One exception to this claim is the high IFoc in predicate focus structure (in VS configurations). In Experiment 1 our participants strongly dispreferred RING-FOCUS paired with high IFoci in predicate focus constructions over the test items without RING-FOCUS (see example (22)). By contrast, in Experiment 2 they strongly preferred items in which RING-FOCUS is either aligned with the focalised predicate or with the entire utterance in the same context (see Table 2). One potential reason for these inconsistent

Likert scale from 0 (=unnatural) to 10 (=natural) – in example (26):[22]

(26) Low Informational Focus (embedded-VO)
Context: Ginə and Marijə invited Toninə over for dinner. Marijə asks Ginə:

Marijə: Chə pinsə ca Toninə accattə?
'What do you think Toninə is going to buy?'

Ginə:

a. *  Pensə ca Toninə accattə **lu vinə**. 0.6/10
R-F I.think that Toninə buys the wine

b. * Pensə ca Toninə accattə **lu vinə**  . 0.9/10
I.think that Toninə buys the wine R-F

c. *  Pensə ca Toninə accattə **lu vinə**. 4.3/10
I.think that Toninə buys the wine

d. *  Pensə ca Toninə accattə **lu vinə**. 4/10
I.think that Toninə buys the wine

e. *  Pensə ca Toninə accattə **lu vinə**. 3.7/10
I.think that Toninə buys the wine
'I think Toninə is going to buy WINE.'

In (26), Ginə's answer contains the IFoc *lu vinə* 'the wine', which has not previously been mentioned within the discourse. Nevertheless, similar to the results of Experiment 1 (see, in particular, example (21)), informants also showed a very low preference for the item in which RING-FOCUS is aligned with the focalised constituent *lu vinə* (26e). At the same time, they also dispreferred utterances in which RING-FOCUS is produced entirely before (26a) or after (26b) the sentence it is paired with, as well as those in which it is aligned strictly with the TP (26c), or produced across the entire sentence (26d).

On the other hand, participants clearly accepted items where RING-FOCUS is produced with low IFoci (in VO and OV configurations), low CFoci (in predicate focus SVO and VO configurations), high IFoci and CFoci and IFoci in broad focus structures. Once again, this supports the results from Experiment 1. More generally, participants strongly accepted items where RING-FOCUS is aligned with the focalised constituent as opposed to when it is produced entirely before or after the sentence. Moreover, our speakers also rejected items in which RING-FOCUS is aligned with non-focalised constituents (e.g. with a non-focalised TP/VP or DP) or produced across the entire sentence.

results between Experiment 1 and Experiment 2 might be related to participants' bias. Specifically, many participants complained about being tested on identical utterances in both Experiment 1 and Experiment 2. I discuss this in more details in §6.

[22]The high dispreference rate ($< 5/10$) is indicated with '*'.

Some representative examples are given below, showing these general patterns of (un)acceptability across the different types of focus and focus structures tested in this experiment. This is illustrated in example (27) and (28) below:

(27) High Informational Focus
Context: Ginə knows that Marijə bought a new car. When he meets her father at the market, he asks him:

Ginə: Che machənə s'a accattatə Marijiə?
'Which kind of car did Marijə buy?'

Marijə's father:

a. *  **Na Ferrari** s' a accattatə Marijə. 0.3/10
R-F a Ferrari REFL has bought Marijə

b. * **Na Ferrari** s' a accattatə Marijə  . 0.3/10
a Ferrari REFL has bought Marijə R-F

c. *  **Na Ferrari** s' a accattatə Marijə. 4.1/10
a Ferrari REFL has bought Marijə

d. *  **Na Ferrari** s' a accattatə Marijə. 4.9/10
a Ferrari REFL has bought Marijə

e.  **Na Ferrari** s' a accattatə Marijə. 7/10
a Ferrari REFL has bought Marijə
'A FERRARI Marijə bought.'

In (27), the focalised constituent *na Ferrari* 'a Ferrari' in Marijə's father reply is informative. As we can see, in this context RING-FOCUS is not accepted by our informants when it is produced entirely before (27a) or after (27b) the entire utterance or when it is aligned with the TP (27c) or the entire utterance (27d). On the other hand, our participants accept items where RING-FOCUS is only aligned with the focalised DP constituent *na Ferrari* (27e).

Similarly, in (28) RING-FOCUS is strongly accepted when it is aligned with the whole utterance as the target-utterance is a broad informative focus structure triggered by the question 'What happened?'. In this context, our participants rejected utterances in which RING-FOCUS is produced entirely before (28a) or after (28b) the utterance or when it is aligned with a non-focalised DP (28e). However, our informants accepted items where RING-FOCUS is aligned across the entire broad focus structure (28d). Though I omit all our examples here for reasons of space, I note that similar results were also found for high IFoci, low CFoci (in VO configurations), low CFoci in predicate focus structures (in SVO

configuration), and in low IFoci (in OV and VO configurations): participants strongly accepted items where RING-FOCUS was aligned with the focalised constituents.

(28) Informational Focus (broad focus)
Context: Ginə is waiting for Toninə in front of the bar and when he sees him arriving by foot and with a worried expression on his face, he asks him:

Ginə: Ch'a successə?
'What happened?'

Toninə:

a. *  **Mə s' a rottə la machənə**. 0.7/10
R-F to.me REFL it.has broken the car

b. * **Mə s' a rottə la machənə**  . 0.6/10
to.me REFL it.has broken the car R-F

c. *  **Mə s' a rottə la machənə**. 3.3/10
to.me REFL it.has broken the car

d.  **Mə s' a rottə la machənə**. 6.3/10
to.me REFL it.has broken the car
'MY CAR BROKE.'

To sum up, it seems that participants have clear judgements with respect to RING-FOCUS's alignment with the spoken utterance. Our informants gave high ratings to items in which RING-FOCUS is articulated with the relevant focalised constituents, but not when RING-FOCUS is aligned with non-focalised constituents, or when it is articulated entirely before or entirely after the utterance. The results of Experiment 2 – based on a Likert scale from 0 (=unnatural) to 10 (=natural) – are summarised in Table 2:[23]

The Lancianese facts above support the hypothesis that RING-FOCUS could be a gestural focus marker. This is consistent with the fact that RING-FOCUS is generally used in focus-triggering contexts and can align with focalised constituents (with the exception of embedded contexts). In the next section, I argue that the data presented above provide some evidence for the hypothesis that the onset and duration of co-speech RING-FOCUS mark the domain of focus. Before discussing this, I first draw some parallels between the behaviour of RING-FOCUS and other focus markers morphemes found in both signed and spoken languages.

[23] In Table 2, 'pre-R-F' and 'post-R-F' indicate items in which RING-FOCUS is articulated entirely before or after the spoken utterance, respectively. 'Co-R-F/DP', 'co-R-F/TP-V', and 'co-R-F/U' refer to items in which RING-FOCUS is aligned with a DP, a TP/VP, or with the entire utterance.

Focus type	**pre-R-F**	**post-R-F**	**co-R-F/DP**	**co-R-F/TP-VP**	**co-R-F/U**
High Informational Focus (predicate focus-VS)	1	0.7	N/A	6.7	5.3
Low Informational Focus (embedded-OV)	0.5	0.6	4.1	4.3	4.5
Low Informational Focus (embedded-VO)	0.6	0.9	3.7	4.3	4
Low Contrastive Focus (embedded-OV)	0.5	0.6	3.3	3.9	3.8
Low Informational Focus (VO)	0.5	0.3	6.3	4.1	4.8
Low Informational Focus (OV)	0.6	0.8	6.3	3.7	4.7
Informational Focus (broad focus)	0.7	0.6	3.3	N/A	6.3
Low Contrastive Focus (predicate focus-SVO)	0.7	0.5	N/A	6.9	4.8
Low Contrastive Focus (VO)	0.5	0.5	5.2	3.3	4.6
High Informational Focus	0.3	0.3	7	4.1	4.9
High Contrastive Focus	0.3	0.1	6.4	3	3.8

Table 2: Choice averages for utterances with different RING-FOCUS alignments (*x*/10)

5. Discussion

As briefly discussed in Section 2.4, focus can be marked via syntactic and prosodic strategies in Italo-Romance languages. Although not found in the languages spoken in Italy, morphological focus marking by means of special F-markers is indeed found cross-linguistically (e.g., in Chadic languages, Grassfields Bantu, etc.; see Büring 2009; Hartmann & Zimmermann 2009). Before reviewing the evidence in support of our hypothesis that RING-FOCUS is a gestural F-marker, I will begin by showing RING-FOCUS's close parallels with other F-markers realised in the auditory-spoken and in the visual-gestural modality, namely those from spoken and signed languages respectively.

5.1 *Focus markers in spoken languages*

F-markers are attested in several spoken languages (e.g., Chickasaw (Muskogean): Munro & Willmond 1994; Gúrúntúm, Miya, Tangale, Hausa (Chadic): Hartmann & Zimmermann 2007a,b, 2009; Bamileke Medumba (Grassfields Bantu, Cameroon): Keupdjio 2020); Malay (Malayo-Polynesian): Hopper 1979; Gungbe (Kwa, Benin): Aboh 2004, 2007); Kîîtharaka (Bantu, Kenya): Abels & Muriungi 2008. For instance, in Gúrúntúm the focus marker *á* generally occurs before the focalised constituent (*kwá* 'who' in (29a) and *fúrmáyò* 'the fulani' in (29b)):

(29) Gúrúntúm (Büring 2009:201)

a. **Á** **kwá** bá wúm kwálíngálá-í?
FOC who PROG chew colanut-the
'Who is chewing the colanut?'

b. **Á** **fúrmáyò** bá wúm kwálíngálá.
FOC fulani PROG chew colanut
'THE FULANI is chewing colanut.'

Notice that Gúrúntúm is an SVO language and the focalised subject *fúrmáyò* 'the fulani' (29b) represents a dislocated constituent moved to the HLP. Thus, it seems that in Gúrúntúm focalised constituents can be marked both syntactically (by movement) and morphologically (by an F-marker).

Similarly to Gúrúntúm, in Lancianese focalised constituents can be marked via syntactic movement (to the HLP or to the LLP) and morphologically by RING-FOCUS. In (30), the focalised constituent *na Ferrari* 'a Ferrari' is fronted to the HLP and is accompanied by RING-FOCUS, which is temporally aligned across the whole focalised DP.

(30) Lancianese

Ginə: Che machənə s'a accattatə Marijiə?
'Which kind of car did Marijə buy?'

Marijə's father:

Na Ferrari s' a accattatə Marijə.
a Ferrari REFL has bought Marijə
'A FERRARI Marijə bought.'

As with RING-FOCUS in Lancianese, F-markers are optional in many languages. For instance, in Hausa (31) the focus marker *nee* optionally follows the focalised constituent (*teelà* 'the tailor' in (31b)). Similarly, in Lancianese (32), focus marking via RING-FOCUS is optional: in (32) the fronted DP *na Ferrari* 'a Ferrari' is still interpreted as a high IFoc, even in the absence of RING-FOCUS.

(31) Hausa (Hartmann & Zimmermann 2007a:214)

a. Bintà zaa tà biyaa teelà.
Bintà FUT 3SG.F pay tailor
'Bintà will pay the tailor.'

b. **Teelà** (**nee**) Bintà zaa tà biyaa.
tailor FOC Bintà FUT 3SG.F pay
'Bintà will pay the TAILOR.'

(32) Lancianese

Ginə: Che machənə s'a accattatə Marijiə?
'Which kind of car did Marijə buy?'

Marijə's father:

Na Ferrari s' a accattatə Marijə.
a Ferrari REFL has bought Marijə
'A FERRARI Marijə bought.'

Some of the languages that present an F-marker have been analysed by adopting a fine-grained approach to the HLP (Rizzi 1997) and the LLP (Belletti 2004). For instance, Aboh (2004, 2007) argues that Kwa languages exhibit a special F-marker (*wɛ́*) which is claimed to occupy the head of the FocP projection within the HLP (see also Schwarz 2007 for Kikuyu (Bantu, Kenya)). Under this representation, the focalised constituents move to the specifier of FocP in order to get their interpretation. This claim stems, for instance, from examples like (33), where both the focalised constituents *mótò* 'car' (33a) and *mótò*

lɔ́ 'that car' (33b) must move to the left of the F-marker *wɛ́* in order to be interpreted as focalised elements:

(33) Kwa (Aboh 2007:84)

a. **Mótò wɛ́** Dòsú kù wá.
car FOC Dosu drive come
'Dosu came by CAR.'

b. **Mótò lɔ́ wɛ́** Dòsú kù wá
car the FOC Dosu drive come
'Dosu came with THAT CAR.'

On the basis of this cross-linguistic evidence, I argue that RING-FOCUS is an F-marker of exactly the sort that we see above in Gúrúntúm, Hausa, and Kwa, albeit realised in the visual-gestural modality. In support of this claim, I also show that RING-FOCUS has close parallels with other F-markers in signed languages.

5.2 *Focus markers in signed languages*

Several sign languages are reported to have NMMs arising in focus contexts,[24] including American Sign Language (Wilbur 1991, 1996; Wilbur & Patschke 1999; Lillo-Martin & de Quadros 2005), Sign Language of the Netherlands (Crasborn & van der Kooij 2013; Kimmelman 2019), German Sign Language (Herrmann 2015), Brazilian Sign Language (Lillo-Martin & de Quadros 2005, 2008), Italian Sign Language (Branchini & Mantovan 2020), and Russian Sign Language (Kimmelman 2019).[25] These NMMs usually exhibit spreading throughout the focalised constituent, i.e. they turn on and off with the constituent they pair with. To explain this behaviour, for some sign languages it has been claimed (with different analyses) that these kinds of NMMs are a morphological realisation of syntactic features in functional heads; i.e. these features associate with the relevant focalised constituent in their specifier under Spec-head agreement (Wilbur & Patschke 1999; Neidle et al. 2000; Bross 2020; Kimmelman & Pfau 2021). For instance, in ASL a dislocated CFoc constituent can occur with the NMM BROW RISE 'br' (34).[26] Note that the spreading domain of BROW RISE coincides with the contrastively focalised constituent *Mary* (and does not spread throughout the rest of the clause). Wilbur & Patschke (1999; Wilbur 2011) claim that the focalised constituent moves to SpecCP, where it 'receives 'br' spreading from a "NMM feature in the operator-associated phrase head" and spreads "over the operator restriction in the specifier by Spec-Head agreement" (Wilbur 2011:151).[27]

[24]More generally, focus in sign languages can be marked both syntactically and prosodically (Wilbur 1991; Kimmelman & Pfau 2021). However, this paper cannot do justice to the debate around focus marking in sign language linguistics. This is beyond the scope of this study.

[25]The discussion here on NMMs in focus contexts in sign languages is not meant to be exhaustive and only covers points relevant to this paper.

[26]In ASL BROW RISE can be also used to mark topics; see Wilbur (1991); Wilbur & Patschke (1999).

[27]Wilbur (1999; see also Wilbur & Patschke 1999) call CFoci 'topicalization for contrastive focus purposes'.

(34) American Sign Language (adapted from Wilbur & Patschke 1999:24)
br
MARY, JIM LOVE TEASE *t*
'It's MARY who Jim loves to tease (not Jane).'

Specifically, NMMs such as 'br' do not spread over their c-command/scope domain like NMMs such as the negative HEAD SHAKING 'neg' in ASL, which spreads only over the c-command/scope domain of the negative sign ('NOT'), rather than on the whole sentence; see Wilbur (2021) for more details on this.

As reported by Branchini & Mantovan (2020:§4.1), *Lingua Italiana dei Segni* (LIS) 'Italian Sign Language' also presents focus marking by means of manual and NMMs, such as head nod, eye blink, wide eye, and raised eyebrows. This is shown in the broad focus structure below (35), which is reported to be marked by head nod throughout the sentence and eye blink at the end:

(35) Lingua Italiana dei Segni (Branchini & Mantovan 2020:§4.1)

a. wh
HAPPEN $Q_{ARTICHOKE}$
'What happened?'

b. foc
GIANNI ACCIDENT DONE
'GIANNI HAD AN ACCIDENT.'

In the next section, I will pursue the following hypothesis: RING-FOCUS is a gestural F-marker of the sort found in ASL (i.e, the NMM 'br') and realises a Foc head. I argue that, like the focus-marking NMM 'br' in ASL, RING-FOCUS's temporal alignment marks the semantically-focused XP which seems to coincide with the syntactically-focused XP. More generally, what unites focus-marking NMMs and RING-FOCUS is that they are all F-markers, comparable to various F-markers in spoken languages (see Section 5.1).

5.3 RING-FOCUS *is a gestural F-marker*

In order to pursue the hypothesis that RING-FOCUS is a gestural F-marker, we need to briefly clarify first the rationale behind looking at co-speech gestures through the lens of sign language linguistics.

There are close parallels to be drawn between the temporal alignment of co-speech gestures and the property of simultaneity that characterises sign languages (see Loehr 2004; Schlenker 2014, *et seq.*; Esipova 2019b; Bross 2020). Specifically, particular co-speech gestures can be compared to NMMs in the sense that these are linguistic objects realised using articulators that are otherwise not the primary expressive modality in these languages (i.e. gestures are articulated manually in otherwise-spoken languages, and NMMs are articulated non-manually in otherwise-signed languages).[28] A case in point is the grammatical contribution made by the temporal alignment of both co-speech gestures and NMMs with respect to the linguistic material they are co-articulated with. For example, the alignment of some NMMs in signed languages is frequently said to reflect

[28]I am aware that sign languages are reported to also have co-sign gestures (Abner et al. 2015; Goldin-Meadow & Brentari 2017). See Kendon (2008) for a different perspective.

the c-command/scope of the categories they realise (Liddell 1977, 1978, 1980; Padden 1983; Aarons 1994; Wilbur & Patschke 1999; Neidle et al. 2000; see also Cecchetto et al. 2009; Aboh & Pfau 2010; Branchini et al. 2013; Herrmann 2014; see Wilbur 2021 for an overview and references therein).[29] In spoken languages, certain intonational contours are said to behave similarly (Swerts & Krahmer 2008), for instance in aligning with the scope of negation in some circumstances (Prieto & Espinal 2020). Both examples share the the property of simultaneity: NMMs and co-speech gestures (and intonational contours) are articulated contemporaneously with other linguistic material (whether signed or spoken).

For instance, in American Sign Language, the NMM RAISED EYEBROWS 'q' (36) spreads across the whole polar question, reflecting the high scope position of the interrogative feature within the left edge of the clause (Wilbur 2021; see also Kelepir 2021). In the same example, the negative NMM HEAD SHAKING 'neg' spreads only over the c-command/scope domain of the negative sign ('NOT'), i.e. the VP, excluding the surface subject position (Wilbur 2021).[30]

(36) American Sign Language (Bahan 1996:55)
q
neg
JOHN NOT LIKE MARY
'Doesn't John like Mary?'

The different alignments of these two NMM markers 'q' and 'neg' reflects the different structural height of the features they realise. This is evidence in support of the hypothesis that the temporal alignment of NMMs *can* reflect the c-command/scope domain of the features they spell out, as Wilbur (2021) argues in detail.

It is therefore telling that the behaviour of the NMM BROW FURROW 'wh' in ASL is strikingly similar to a particular conventionalised co-speech gesture in Neapolitan (expressed with a 'pursed hand', which I refer to here as *Mano a Borsa* or MAB for short). Colasanti (2021e, 2023) argues that Neapolitan MAB and BROW FURROW in ASL are both the realisation of a C head endowed with the features [+WH, +Q], as both mark wh-questions. Indeed, they exhibit an identical distribution: the onset of their articulation coincides with that of the left edge of the wh-clause, and both can be spread throughout that clause ((37), (38)).[31]

(37) Neapolitan (Colasanti 2023)

Addò sta Aldə ↓
where stands Aldə
'Where is Aldə?'

[29] The discussion on NMMs here only covers points relevant to the present paper. I refer the reader to Wilbur's (2021) chapter for a more detailed overview.

[30] See Wilbur (2021) for arguments that NegP in ASL hosts a [NEG] feature. In particular, this feature can be realised as either the negative NMM 'neg', the negative sign 'NOT', or both; see also Wilbur & Patschke (1999); Neidle et al. (2000); Wilbur (2017). Note also that the spreading of the negative NMM [neg] is apparently optional in ASL; see, among many others, Neidle et al. (2000); Wilbur (2021) for discussion.

[31] In (37), '↓' indicates a falling sentence-final intonational contour.

(38) American Sign Language (Neidle et al. 2000:110)
wh
WHO LOVE JOHN
'Who loves John?'

With this in mind, we return now to Lancianese. Crucially, the contexts in which RING-FOCUS is found are broadly similar to those in which particular NMMs in signed languages are licensed. For instance, the behaviour of RING-FOCUS (in the repeated example in (22a) below) is similar to the NMM BROW RISE 'br' in ASL (in the repeated example (34) below). Specifically, both BROW RISE and RING-FOCUS occur in focus contexts, the onset and endpoint of their articulation coincide with the edges of the relevant focalised constituent dislocated to the HLP, and neither spreads beyond this constituent (e.g. to the rest of the clause).

(22a) Lancianese

Ginə: Rocchə s'a accattatə n'Audi?
'Did Rocchə buy an Audi?'

Rocchə's father:

No, **na BMW** s' a accattatə Rocchə.
no a BMW REFL has bought Rocchə
'No, A BMW Rocchə bought.'

(34) American Sign Language (adapted from Wilbur & Patschke 1999:24)
br
MARY, JIM LOVE TEASE *t*
'It's MARY who Jim loves to tease (not Jane).'

RING-FOCUS's distribution is consistent with our hypothesis that this co-speech gesture is an F-marker (associated with a [+FOC] feature) and its temporal alignment coincides with the spoken syntactically-focalised XP. Adopting a cartographic approach (see Section 2.4) I assume the existence of both a high focus projection in the HLP (Rizzi 1997) and a low focus projection in the LLP (Belletti 2004; see Section 2.4). Moreover, following Rizzi (1996, 1997, 2017), the heads of these two functional projections are criterial and act as probes, attracting a matching goal bearing [+FOC] within their c-command domain up to [Spec, FocP].

With this in mind, I tentatively propose that RING-FOCUS is an F-marker able to realise [FOC] on either the high or the low focus head. Following attraction of the focalised constituent to [Spec, Foc] (whether high or low), this constituent provides a suitable host at PF for the spreading of RING-FOCUS from the Foc head to its specifier. In short, the spreading of the gestural exponent of Foc (RING-FOCUS) targets its specifier. This proposal would predict that RING-FOCUS's spreading domain should only coincide with the relevant spoken focalised constituent. In fact, we already know that this prediction is met: RING-FOCUS cannot spread throughout the whole sentence (with the exception of broad focus marking). Our tentative proposal is quite similar to those previously advanced by Wilbur & Patschke (1999; see also Wilbur 2011) and Aboh (2004; 2007) for the NMM

BROW RISE in ASL (see Section 5.2) and for the F-marker *wɛ́* in Kwa (see Section 5.1) respectively, which exhibit very similar behaviours to RING-FOCUS.[32]

To sum up, evidence from our results suggests that RING-FOCUS in Lancianese is the gestural exponent of a Foc head within the HLP or the LLP, akin to focus markers expressed in the spoken modality in many languages.[33] First, this would account for the presence of RING-FOCUS in focused contexts. Second, this would account for the temporal alignment with different focalised constituents dislocated to the either the HLP or the LLP: RING-FOCUS's spreading seems grammatically significant as it corresponds to its focus domain.

6. Conclusions, limitations of this study, and future research

The behaviour of RING-FOCUS in Lancianese presented in this paper provides evidence for the *Grammatical Integration Hypothesis*, namely that gestures can make a grammatical contribution, in that they can serve as the exponents of certain functional heads. Our results support the hypothesis that RING-FOCUS is an F-marker, realising a Foc head whose specifier hosts a focused XP (which also serves as the host for the spreading of this gesture at PF). Consequently, this means that functional items can be realised at PF in the visual-gestural modality rather than in the auditory-spoken modality. This may seem surprising at first, but it is not the first time it has been reported for an (otherwise-)spoken language: for example, Jouitteau (2007) reports the existence of gestural Q-morphemes in Atlantic French, and Colasanti (2021e, 2023) reports the existence of a gestural Q-morpheme in Neapolitan. This is consistent with Esipova's (2019b) proposal: syntax is blind to the modality of the morphemes that spell out morphosyntactic features (see discussion in Sailor & Colasanti 2020; Colasanti 2021e, 2023). This is why the syntax (and semantics) of RING-FOCUS is essentially identical to that of its spoken counterparts in other languages, even though its surface realisation differs from the others so noticeably.

Contrary to our study on RING-FOCUS, Ebert et al.'s (2011) investigation of gestures as focus markers in German did not find any evidence of a correspondence between the offsets of the gestures' alignments and focus phrases. They only found evidence to support the hypothesis that the onset of several co-speech gestures marks the left edge of the focus phrase. However, this might just be the result of the different methodologies used in Ebert et al.'s (2011) study vs our study: in contrast with experimental corpus studies of the sort they undertook, our methodology is able to generate negative evidence (see Section 3).

The present study represents only a preliminary first step in uncovering RING-FOCUS's morphosyntactic properties in Lancianese; therefore, I close by briefly mentioning some

[32] An anonymous reviewer asks whether RING-FOCUS's spreading is delimited by phases. Inasmuch as it can spread across an entire sentence such as (23a)/(28d), which presumably comprises at least three phase domains (the subject DP, the vP, and the entire CP), it does not seem that phase boundaries automatically impede spreading. Whether they ever *can* impede spreading of a gesture is another question—one which must be left to future research. As suggested to me by Craig Sailor (p.c.), it may be fruitful to approach this question by comparing the spreading of such gestures and NMMs on the one hand, to the realisation of intonational contours on the other.

[33] Our analysis does not explain, however, why RING-FOCUS is not accepted in embedded contexts. Interestingly, Schwarz (2007) reports similar distributional restrictions for the F-marker *ne* in Kikuyu (Bantu, Kenya). This is left for future research.

of this study's limitations, and items for future investigation. Forthcoming work (see Colasanti & Cuonzo forthcoming) builds on the present study's findings by reporting the results of an experiment involving RING-FOCUS in Lancianese and in other Italo-Romance languages. This experiment tests several predictions and provides more robust evidence on, for instance, the occurrence of RING-FOCUS in non-focused contexts (e.g. with contrastive topics), its behaviour in fragment answers and polar questions. Moreover, adopting a fine structure of the HLP and the LLP, future work ought to investigate the co-occurrence of RING-FOCUS with other left-peripheral elements, such as topicalised constituents and wh-items. Further investigation is also necessary to determine what (if any) differences exist between RING-FOCUS-marked foci in the HLP vs the LLP, given that Lancianese seems to allow both CFoci and IFoci in both peripheries. There are also many questions that remain to be explored concerning the role of prosody in the data discussed here. Clearly, future studies ought to involve a greater number and diversity of test items; this might help address any confounds arising from the repetition of certain identical utterances in Experiment 1 and Experiment 2 (which might explain some partial inconsistency between the Experiment 1 and Experiment 2 results: see fn. 21).

Lastly, I leave for future research the investigation of other gestures belonging to the R-gestures family, and the expected cross-linguistic variation in the use of RING-FOCUS we might find across other varieties spoken in Southern Italy. Indeed, there is no *a priori* reason that the distribution and articulation of grammatically-integrated gestures should be exempt from the extensive structural microvariation found throughout Italo-Romance, but only further inquiry will tell us one way or the other.

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