

Superiority in Fronting.

A syntax-semantics interface approach to optionality*

Mara Frascarelli¹, Giorgio Carella¹, Marco Casentini²

(¹Roma Tre University, ²Ca' Foscari University of Venice)

Abstract: This article deals with the phenomenon of Focus Fronting and addresses the vexed question of its optional realization. A novel path for explanation is thus proposed, based on intervention effects and, in particular, on Superiority at the External Merge of arguments in the vP shell. To this purpose, an original experimental test has been designed for a systematic comparison between Subject and Object Focus in corrective replies, from which evidence is provided for a significant difference between transitive, unaccusative and unergative verbs. Furthermore, a gradient approach is advocated for intervention effects, based on the combination of different features. The incidence of alternative Focus constructions is also taken into consideration (i.e., postverbal Subject, cleft sentences and passives) and relevant asymmetries are treated in a comprehensive account.

Keywords

Argument structure; Correction; External Merge; Focus Fronting; Intervention effects; Superiority

1. Focus and Superiority: an overview

1.1 Focus and Correction

Focus is a discourse category, traditionally described as the part of an utterance conveying new (inactive) information (cf. Halliday 1967, Jackendoff 1972, Lambrecht 1994), which has been given great attention by scholars in recent works (cf., among others, Poletto and Benincà 2004, Belletti 2008, Bianchi et al. 2015, Frascarelli 2010, Kiss 1998, Neeleman 2007, Rooth 1992).

* The authors have worked jointly on the study conception and the design of this work, constantly confronting and discussing the results of the empirical investigation. For the concerns of the Italian academy, Mara Frascarelli is responsible for Sections 1 and 5, Giorgio Carella is responsible for Sections 2 and 4, and Marco Casentini is responsible for Section 3.

Different types of Foci have been identified in the literature (for an overview, cf. Krifka 2007) and, among them, Information Focus (henceforth, IF) is generally identified as the canonical Focus type, from which all other types are distinguished. Following Puglielli and Frascarelli (2011), we can define IF as the constituent having the main function of identifying the variable in the presupposition introduced by a (possibly implicit) wh-question.¹

For the purposes of the present study, however, we will concentrate on Corrective Focus (henceforth, CF), a subtype of Contrastive Focus which, following Bianchi and Bocci (2012), adds “an incompatibility presupposition” to mere Contrast. In this view, CF can be defined as a complex conversational move, involving both the denial of a previously asserted proposition and the assertion of a new proposition, intended to correct and substitute the previous one.

To distinguish CF from Contrastive Focus, Bianchi and Bocci’s (2012) investigation starts from the definition of Contrastive Focus proposed in Neeleman et al. (2007: 3), according to which “constituents that are contrastive are understood to belong to a contextually given set out of which they are selected to the exclusion of at least some other members of the set.” In this respect, consider the example provided in (1) below (adapted from Bianchi and Bocci 2012: (2), (4)):

- (1) A: *Maria era molto elegante l’altra sera a teatro.*
 Maria be.PST.3SG very elegant the other evening at theatre
 ‘Maria was really elegant yesterday night at (the) theatre.’
- B: *Si era messa [un Armani]_F, non [uno stracetto di H&M]_F*
 RIFL be.PST.3SG put.PRT an Armani not a rag of H&M
 ‘She wore an Armani (dress), not a cheap dress from H&M.’

In this example, B’s answer “constitutes an elaboration of speaker A’s assertion”, simply contrasting the focused element with another alternative in the negative tag.

Conversely, the information structure of a sentence containing a CF carries an incompatibility presupposition, between the sentence itself and a specific alternative, which has

¹ This is reminiscent of Roberts’ (2004) Question Under Discussion (QUD). According to Robert’s model, the main goal of discourse is to discover “the way things are” through a strategy of “communal inquiry”. To this purpose, a “set of QUDs” is proposed, which is composed with the (possibly implicit) questions that an assertion must answer (at least partially) in order to be coherent (cf. Roberts 2004 for further details).

been explicitly mentioned in the previous discourse (i.e., the antecedent). Consider the following example (adapted from Bianchi and Bocci 2012: (1A-B)):

- (2) A: *So che Gianni ha invitato Lucia.*
know.PRES.1SG that John have.PRES.3SG invite.PRT Lucy
'(I) know that John invited Lucy.'
- B: *No, ha invitato [Marina]_F.*
no have.PRES.3SG invite.PRT Marina
'No, (he) invited Marina.'

In (2), B's answer corrects A's assertion by contrasting the focused element 'Marina' with its alternative 'Lucia' proposed by A. Then, the corrective context conveys the presupposition that the contextually given alternative (i.e., A's assertion) is incompatible with B's corrective claim.

As for the syntactic realization, experimental results led the authors to claim that, unlike IF and mere Contrastive Focus, the fronting of the focused constituent is a viable option for CF, despite a strong preference for the *in situ* position. This is the issue we will deal with in the present work.

1.2 *Fronting optionality: a vexed question*

In general terms, fronting is a syntactic operation that is assumed to be a device to enhance cohesion in written texts and provide emphasis when used in conversation.

Different kinds of fronting can be found and have been extensively studied in the literature, such as *wh*-fronting in interrogative sentences (3a), VP Preposing (3b), Negative Constituent Preposing (3c), Topicalisation (3d), Locative inversion (3e), Preposing around *be* (3f) and V2 phenomena (4) (cf., among others, Hooper and Thompson 1973, Chomsky 1977, Roberts 1997, Gärtner 2002, Heycock 2006). These operations can be found in many of the world's languages, and play a key role in the theories on so-called 'Long-distance dependencies' (cf., among others, Fodor 1978, Bresnan 1982, Clifton and Ferreira 1987).

- (3) a. When are you planning to visit the States?
b. Mary promised that she would cook fish tonight, and cook fish she will.
c. Never in my life have I told you lies!
d. That movie you should watch.
e. On the wall hangs a portrait of my ancestors.

f. Standing next to me was the bride's first man.

(4) *Dieses Buch wollte ich gestern lesen.*
this book want.PST.1SG I yesterday read.INF
'Yesterday I wanted to read this book.'

As is shown in the examples above, fronting is an operation that typically pertains a constituent that follows the verb: through movement this phrase is placed at the beginning of the sentence, obtaining formal salience with respect to other elements. This is the reason why it is commonly considered a Focus strategy and several descriptions have been provided for this phenomenon, showing diverse patterns in different languages (cf., among many others, Alboiu 2004, Hartmann and Zimmermann 2007). In this respect, it should be noticed that Subject constituents are not generally involved (and studied) in this type of operation, since the majority of languages in the world is Subject-initial. Hence, the Subject is by definition in a condition of structural 'superiority' in the sentence (on the notion of Superiority, cf. §1.4 below).²

Despite the relevance of cross-linguistic analyses, however, fronting is poorly understood when approached as a Focus strategy, since its application seems to be prominently optional in most languages (with the exception of the so-called "discourse-configurational" languages; cf. Kiss, ed. 1995).

In a language like Italian, for instance, answers (5b) and (5c) are both grammatical and considered acceptable by informants, independent of age and provenience (cf., among others, Bianchi and Bocci 2012, Carella 2019, Frascarelli and Stortini 2019):

(5) a. A: *So che Leo ha incontrato Sara alla festa.*
know.1SG that Leo have.3SG meet.PRT Sara at.the party
'(I) know that Leo met Sara at the party.'
b. B: *No, ha incontrato ELISA.*
no have.3SG.PST meet.PRT Elisa
'No, (he) met ELISA.'

² As a matter of fact, the fronting of Subject constituents is often qualified as a 'vacuous movement' (Chomsky 1986), that is to say, an operation without an effect on the PF output which, as such, can be suspended (cf. Agbayani's 2000 'Vacuous Movement Hypothesis'). For this reason, the analysis of Focus Fronting typically targets focused Objects in the literature.

c. B: *No, ELISA ha incontrato.*
 no Elisa have.3SG.PST meet.PRT
 ‘No, ELISA (he) met.’

As discussed in Bianchi and Bocci (2012), this optionality is problematic for at least two reasons. From the syntactic viewpoint, it calls into question the assumption that movement operations are triggered by requirements internal to the narrow syntactic component (i.e., features merged in dedicated functional projections), since such requirements should not be flexible. As for the semantic viewpoint, optionality is also unexpected, since either the Focus constituent is interpreted in situ (Alternative Semantics approach), or it must be interpreted in a displaced position (Structured Meaning approach). From an empirical viewpoint, an important question is whether fronting can be related to a specific interpretive import.

The connection between (different types of) Focus and fronting has been studied for different languages (cf., among others, Neeleman and Vermeulen 2012, Samek-Lodovici 2018) and several experiments have been designed to clarify this question (cf. Salveste et al. 2015 for Estonian, Skopeteas and Fanselow 2011 for German). Authors like Haida (2008) argue that the fronted position is only associated with Correction because exhaustivity is semantically incompatible with Contrast, whereas authors like Giurgea (2016) have called into questions this connection.

Following their insight as native speakers, Bianchi and Bocci (2012: 2) hypothesize that “only the corrective import may license fronting in Italian, while merely contrastive import cannot”, and the results of their experimental test supported this insight. However, fronting is never the best choice: it is (only) realized by 25% of informants when the target sentence does not include a negative tag (percentage dropping to 13% when the negative tag is present). The authors underline that the difference with respect to Contrast (scoring only 1.9%) is significant in both cases, and this leads to the conclusion that fronting is *preferably associated* with Correction in Italian.³ Based on semantic considerations, the authors thus theorize that the crucial difference lies in the fact that CF has an impact on conversational dynamics, and, as such, it can only be licensed in discourse-active clauses. Indeed, CF involves a contrast *across*

³ Similar conclusions are reached for European Portuguese in Costa and Martins (2011). On the syntax of Focus negation, see also Poletto (2010).

utterances (not *within* utterances); hence, it conveys a conversational move, that is, a specific proposal to update the discourse context (cf. Krifka 2007). From a cartographic perspective, the corrective import is assumed to be licensed in the C-domain of discourse-active (i.e., root or quasi-root) clauses. This explains why only CF, but not merely Contrastive Focus, can target a left-peripheral *ex situ* position.

The surface optionality of such movement was then resolved at the *syntax-prosody* interface. It is proposed that the focus element always enters a dependency with the left-peripheral position, but at the interface, it is possible to spell out either the higher or the lower copy of the dependency. The first option, however, gives rise to a marked prosodic structure, since the fronted focus element, bearing the main prominence at the beginning of the sentence, violates the Rightmostness condition.

An interface solution to fronting optionality is also put forth by authors like Neeleman and van de Koot (2008) and Fanselow and Lenertova (2010). Specifically, it is proposed that certain movement operations may be triggered by interface requirements, which *optimize* the mapping between syntax and the external components.⁴ In particular, in Neeleman and van de Koot (2008) it is argued that no syntactically active focus feature triggers movement, nor is movement necessary to make the Focus structure readable at the interface (contra Cinque and Rizzi 2008). Optional movement is triggered by an interface strategy aimed at *disambiguating the extension of the domain of Focus*. According to the authors, an element freely adjoins to a dominating node and, at the interface, a templatic mapping rule may interpret the adjoined element as the Focus, and the lower part of the adjunction structure as the domain of Focus.

A crucial role is also assigned to the prosodic interface by authors like Ladd (2008), Gussenhoven (2008) and Yiya (2006), who notice that Correction implies the emergence of specific phonological phenomena in some languages, such as *lengthening* and *prominence shift*, while this is not the case with Contrast. In this respect, Vander Klok et al. (2017) interestingly show that in languages like French Focus is prosodically marked if the antecedent is a proposition that the current assertion aims to correct. This seems to show that fronting may be connected with a Focus type that implies propositions (in line with what is proposed for CF in Bianchi and Bocci 2012).

A Stochastic OT approach to Minimalist restriction is instead the proposal put forth in

⁴ Interface requirements will be taken into consideration in this paper as well, though from a different level of analysis (cf. the Working Hypothesis in §2.1 below).

Gabriel (2010). According to the author, all structures are constructed following Chomsky's (2008) target-probe approach, and Stochastic OT accounts for the existence of a "certain degree of variability restricted to well-defined linguistic areas" (Gabriel 2010: 205).⁵

To conclude this overview, it can be said that different solutions have been proposed and several factors seem to *co-occur* and *contribute* to the emergence of Focus Fronting (henceforth, FF). Nevertheless, the emergence of optionality still remains an open issue.

Based on this premises, we reckon that an 'exclusive' trigger for FF is plausibly to be excluded, in favour of a 'combination' of triggering features. Since exhaustivity and prosody do not seem to be decisive *per se* in this respect, and a purely pragmatic approach excludes the possibility of a comprehensive formal explanation for this phenomenon, we will pursue a 'novel way' for a formal solution, exploring the possibility that the optionality of FF depends on intervention effects. In this respect, a *gradient* approach to intervention will be assumed, in line with recent proposals, to be illustrated in the following section.

1.3 Intervention Effects

Intervention effects have been originally explored in formal syntax in connection with weak-island phenomena (cf. Szabolcsi 2006 for an overview). For the purposes of the present analysis, we follow Rizzi's (2018) account and assume a Relativized Minimality (RM) version of the intervention principle, according to which a local relation between an element X and its trace Y is broken if there is another element Z that structurally intervenes between X and Y, and Z exhibits morphosyntactic properties akin to X and Y. This can be formalized as in (8) below (from Rizzi 2004: 225):

- (8) In the configuration [... X ... Z ... Y ...] a local relation connecting X and Y is disrupted when there is a Z such that:

⁵ The central idea behind Gabriel's stochastically model is a so-called "Continuous Ranking Scale" (CRS), on which each constraint occupies a specific ranking value, located at different distances from one another. The model implies different evaluations at different times, since repeated evaluations may yield slightly different selection points for a given constraint, whose position on the CRS consequently varies. As a result, a constraint is associated with a range of values rather than fixed point, with the ranges of neighboring constraints overlapping to a greater or lesser extent. The more the value ranges of two adjacent constraints overlap, the higher the probability that the relevant selection points intersect at the time of evaluation and that the actual tableau exhibits the reverse constraint ranking.

- A) Z is of the same structural type as X, and
- B) Z intervenes between X and Y

A proper comprehension of this model thus requires a definition of what counts as an ‘intervener’. For the sake of space, we can briefly state that this notion implies that (a) the intervening element must intervene *hierarchically*, not just linearly; and (b) the class of interveners is *featurally selective*. Characterization (a) explains why from a baseline sentence like (9a) extraction of the temporal adjunct *when* is ill formed (cf. (9b)), whereas from a baseline like (10a) movement of *when* is possible, as in (10b):

- (9) a. Leo asked who will arrive at five
- b. *When [did Leo ask [who [will arrive ____]]]

- (10) a. The doubt about who passed the exam ended at five
- b. When [did [the doubt [about [who passed the exam]]] end ____]?

On the other hand, characterization (b) explains why quantificational adverbials like *beaucoup* (‘a lot’) in French intervene in *combien* extraction (cf. (11)), whereas manner adverbials like *attentivement* (‘carefully’, in (12)) do not (cf. Laenzlinger 1998):

- (11) **Combien a-t-il beaucoup consulté [____ de livres] ?*
 how much have.3SG-‘T’-he much consult.PRT of books
 ‘How many has he a lot consulted of books?’

- (12) *Combien a-t-il attentivement consulté [____ de livres] ?*
 how much have.3SG-‘T’-he carefully consult.PRT of books
 ‘How many has he carefully consult of books?’

Nevertheless, intra- and cross-linguistic analysis has shown that intervention can obtain weaker or stronger effects according to the phenomenon under examination. In other words, it seems that a clear-cut characterization cannot be maintained, and a ‘modular’ approach should be instead assumed.

In in this line of analysis, Villata et al. (2016) propose a gradient approach to intervention effects according to which four types of relations should be distinguished:

- a) bare identity, if a feature of the intervening Z element is identical to one of X;
- b) inverse inclusion, if a feature of X is included in those of Z;
- c) inclusion, if a feature of Z is included in those of X;
- d) complex identity, in which the identity of the featural specification between X and Z involves more than one feature (unlike Bare Identity, in which the identity of features involves a single feature)".⁶

Based on experimental results, it is then claimed that the relations leading to a higher degree of intervention are those of Bare Identity and Inverse Inclusion; in the case of Inclusion and, above all, Complex Identity, the intervention is weakened and the sentences are more acceptable overall. Importantly, it turned out that context does not actually play a relevant role in intervention. This proposal opens new perspectives, since it allows for a formal, feature-based explanation of apparently ‘fuzzy’ phenomena, avoiding a ‘drift’ towards a purely pragmatic approach.

Adopting this line of analysis, the present investigation is intended to evaluate the explicative power of a gradient intervention approach for the optionality of FF, exploring the

⁶ An example for each type of intervention is provided below (from Villata et al. 2016: 81, (9)):

A. Bare Identity

*Qu' est-ce que_j tu te demandes [qui_k ____k a résolu ____j]?
 what be.3SG-DIM that you OBJ.CL.2SG ask.PRES.2SG who have.3SG solve.PRT
 ‘What do you wonder who solved?’ [+Q] [+Q]*

B. Inverse Inclusion

*Qu' est-ce que_j tu te demandes [quel étudiant_k ____k a résolu ____j]?
 what be.3SG-DIM that you OBJ.CL.2SG ask.PRES.2SG which student
 have.3SG solve.PRT
 ‘What do you wonder which student solved?’ [+Q] [+Q, +N]*

C. Inclusion

*Quel problème_j te demandes-tu [qui_k ____k a résolu ____j]?
 which problem OBJ.CL.2SG ask.PRES.2SG-you who have.3SG solve.PRT
 ‘Which problem do you wonder who solved?’ [+Q, +N] [+Q]*

D. Complex Identity

*Quel problème_j te demandes-tu [quel étudiant_k ____k a résolu ____j]?
 which problem OBJ.CL.2SG ask.PRES.2SG-you which student have.3SG solve.PRT
 ‘Which problem do you wonder which student solved?’ [+Q, +N] [+Q, +N]*

possibility that relevant gradience relies on the movement of the Focus constituent from its External Merge position in the vP shell. If this is the case, optionality of FF can be treated as a particular case of Subject Superiority effect.

1.4 Subject Superiority Effects

The phenomenon of Superiority has been explored since Chomsky (1973). The empirical (original) generalization is that in a language like English, where only one wh-phrase is fronted in a multiple question, it is the ‘superior’ wh-phrase (i.e., the one that *asymmetrically c-commands* other wh-phrases) that is fronted. This is shown in (13a) below, where the lower wh-phrase *what* has moved over the c-commanding wh-phrase *who*, with (13b), where *what* remains in situ:

- (13) a. *What_k did who break t_k?
b. Who broke what?

In this respect, Chomsky (1973) postulates the Superiority Condition, given in (14), basically tracking the generalization above:

- (14) No rule can involve X, Y in the structure ..X...[...Z...WYV...] where the rule applies ambiguously to Z and Y, and Z is superior to Y. The category A is superior to the category B if every major category dominating A dominates B as well but not conversely.

To capture Superiority effects in the Minimalist system, where the split C-head attracts phrases to check different discourse-related features, an economy condition, namely, ‘Attract Closest F’ (or ‘Minimal Link Condition’, MLC) has been proposed in Chomsky (1995: 311), in which ‘Closeness’ is intended in terms of asymmetric c-command:

- (15) K attracts α only if there is no β , β closer to K than α , such that K attracts β .

MLC correctly rules out (13a), insofar as the object wh-phrase *what* which is not the closest to C° cannot be attracted by it.

However, even though Superiority violations have been extensively ascribed to some grammatical constraint (cf., among others, Chomsky 1981, Pesetsky 2000), this view has been

given up in Chomsky (2008) and the reliability of an account purely based on movement constraints has been seriously questioned in recent works.

As a matter of fact, Superiority effects show substantial cross-linguistic variation. Just to mention some cases and relevant contributions, they seem very robust in English, but can be reduced or almost cancelled by means of d-linking (Pesetsky 1987) or context (Bolinger 1978). In contrast, works by Haider (1993) and Fanselow (2001) have shown that Superiority is not an issue in German, due to the overall grammatical organization of this language, which is claimed to nullify the relevant effects. In his comparative work, Bošković (2002) shows that Serbo-Croatian features Superiority effects in some contexts, Bulgarian exhibits them in any context, and Russian seems not to be affected by them. Finally, based on different experimental tests, in Sprouse et al. (2016) it is shown for Italian that sentences in which island effects should be expected, are instead either accepted or marginal in some cases. In particular, relevant results suggest that Subject islands are present for wh-dependencies, but not for relative clauses.

Given the apparent failure of a narrow syntactic account, a number of proposals have been advanced in the literature, trying to derive Superiority effects from assumptions concerning the processing of multiple questions.

In this spirit, based on the modulating, crosslinguistic effect of d-linking, Arnon et al. (2006) propose that Superiority effects are *gradient*, since they arise from the language processing system (see also Hofmeister 2007). Hence, with its impoverished morphological system, English has the strongest Superiority effect, whereas an intermediate effect is found in German, in which Case is available, though often ambiguous. Finally, in languages like Russian, in which Case is available but less often ambiguous, no ordering preference can be attested in multiple wh-questions. A parsing account of Superiority is thus offered, in which cue strength is determined by the availability, reliability, and cost of using some cue.⁷ This kind of solution clearly refutes a syntactic approach to Superiority and reduces the expressive power of grammar, shifting the explanation of many generalizations to ‘third-kind factors’ of (language-independent) processing.

To conclude, the nature and properties of Superiority effects are far from uncontroversial. Nevertheless, they present cross-linguistic properties that *exclude a purely parsing approach*. This is the reason why this paper intends to maintain the explanation of such

⁷ Very briefly, cue *availability* is defined in terms of relative frequency (i.e., the proportion of times a particular cue is present), whereas cue *reliability* is defined as the proportion of times a cue unambiguously indicates the correct interpretation. Costs are determined by perceptual salience and memory load.

asymmetries within the domain of syntax and try a gradient approach, as a particular case of intervention occurring in the movement from the vP to the CP phase. In particular, we hypothesize that the Subject, which asymmetrically c-commands (hence, it is ‘superior’ to) all other arguments in the sentence, might determine Superiority effects on their movement to the C-domain, triggered by attraction of the [+focus] feature in Foc^o.⁸

2. The Present Research: Objective and Methodology

2.1 *The Working Hypothesis*

Given the ‘inherent’ structural superiority of Subjects (cf. §1.2 and note 2 above), previous analyses on FF have mainly concentrated on Objects (either direct or indirect) and the experimental designs elaborated for the investigation would typically feature null Subject sentences (cf. among others, Bianchi and Bocci 2012, Bianchi et al. 2016), possibly to avoid minimality effects and/or the (random) realization of postverbal Subjects, whose irregular presence might bias the analysis.

However, in recent works it has been extensively argued that silent elements can also determine intervention effects and that PF is much more ‘syntactic’ than usually assumed. Indeed, according to Sigurðsson and Maling (2010: 81), it is a “highly sophisticated system that is able to ‘see’ syntax” (see also Sigurðsson 2006). It can be thus hypothesized that the apparent optionality (and consequent low frequency) of FF might be due to an *intervention effect* of the *silent Subject* on Object movement.

Furthermore, previous analyses of FF have mostly concentrated on *transitive* verbs (see references cited above), possibly because the experimental target was the fronting of direct Objects. This means, however, that the relevant Subjects always had an *agentive role* and this semantic quality might have contributed to the optionality of Object fronting. As a matter of fact, a hierarchy exists between thematic roles and it is generally agreed that the Agent is the highest ranking role. Thematic hierarchies are indeed widely used in the literature to explain

⁸ It is plausible to conjecture that intervention effects might be enough to capture relevant asymmetries (dispensing with Superiority), as suggested by a reviewer. However, following Kotek (2017), we reckon that the two notions should be maintained separated. Indeed, Kotek shows that the derivations of Superiority-violating and obeying questions may differ, and that intervention is possible in both types of questions, *regardless of their Superiority status*. Hence, theories of intervention must make reference to the LF representation of an A-bar movement, while this is not the case for Superiority effects, which rely on (spell-out) c-command. Hence, it is crucial to check whether Subject superiority might depend on its Merge position in the vP-phase.

the mapping from semantic representation to syntax and a number of Subject/Object asymmetries.⁹ Larson (1988), for instance, suggests that the thematic hierarchy is a reflection of the order of composition of arguments with the verb. It is therefore feasible to hypothesize that an agentive Subject might affect the realization of Object fronting.

In this line of analysis, the **working hypothesis** of the present research is that fronting is influenced by the argument structure of the verb and, in particular, by the External Merge position of the to-be-focused argument within the vP-phase. Indeed, we conjecture that intervention effects triggered by arguments merged in a higher position hinder the movement of lower-merged arguments in the vP phase. Hence, adopting a gradient approach to intervention effects, we predict that the syntactic function of the focused constituent can affect the possibility of FF, since the different structural asymmetries between Subject and (direct or indirect) Object may (or may not) trigger different types of intervention effects.

2.2 *The experiment: informants and test design*

The present work constitutes a pilot study aimed at verifying the feasibility of the working hypothesis (cf. § 2.1) and probing the existence and import of additional variables which could play a role in (dis)favouring FF. Specifically, in order to achieve this goal, an elicited production task has been designed and submitted to 165 informants aged between 19 and 33 years old ($M=20.4$ $SD=1.8$)¹⁰, all native speakers of the Italian regional variety spoken in Lazio.¹¹

⁹ Fillmore (1968) was the first to formulate a hierarchy of ‘cases’ (i.e., semantic relations) to help determine Subject selection and, after him, several scholars have proposed different mappings between an ordered list of semantic roles and an ordered list of grammatical relations (for an overview on different proposals, cf. Levin and Rappaport 1996).

¹⁰ M stands for ‘mean’, SD indicates the ‘Standard Deviation’.

¹¹ Far from being a limit to the analysis, this selection has been decided for reasons of representativeness, since the Italian regional variety spoken in Rome is considered one of the closest to standard Italian. This is mainly due to three reasons: (i) this variety has been greatly influenced by the one spoken in Tuscany (from which standard Italian was developed) during the renaissance period (cf. Jones and Esch 2002, Trifone 2008, among others); (ii) Rome is a ‘melting pot’ of different dialects, due to the great turnout of people coming from all parts of Italy, for educational or working reasons; this situation has thus contributed to the gradual ‘fading’ of the original Roman dialect, in favour of a more general standard variety (cf. Sabatini 1985); (iii) Rome’s status of capital city endowed its regional variety with a major influence over the national standard. Indeed, thanks to the presence in Rome’s territory of most national administrative and media centres, as well as the main press agencies, this variety has obtained a privileged status among the other regional varieties.

Informants have been tested individually and were presented with a series of images featuring everyday life situations (such as a child eating an apple, a woman running on the beach etc.). For each image a junior researcher would affirm something plainly wrong, and informants have been asked to correct that statement, realizing a full sentence containing the same verb used by the researcher, as shown in (16) below:¹²



Figure 1: picture associated with (16)

- (16) Researcher: *Guarda, la mamma lava IL FIGLIO.*
 Look DET mummy.SUBJ wash.3SG DET son
 ‘Look, the mother is washing HER SON.’
- Informant: *No! La mamma lava IL CANE.*
 No DET mummy.SUBJ wash.3SG DET dog
 No! The mother is washing HER DOG.

First of all, we wanted to rule out any priming effect that could be determined by the syntactic structure of the stimuli. As a matter of fact, in previous studies (cf. §2.1) the sentences provided to elicit the production of FF often presented an SVO order, that is the *unmarked* order in Italian¹³. It is therefore feasible to conjecture that this kind of prompt might have biased the results, favouring the production of SVO sentences in the (corrective/contrastive) replies. In other words, the SVO prompt might have had an effect on optionality. In order to avoid this type of interference, in the present experiment each stimulus has been presented both with an SVO and an OVS order.

¹² In (16) and all following examples, small caps are used to indicate the focused constituent, which the researcher always realized with a CF intonation and informants were expected to correct (with a CF) in their reply.

¹³ It should be noticed that in the present analysis the term O(bject) is used for both direct and indirect objects, and that all stimuli feature an overt Subject.

Moreover, each image is associated with two target sentences: in one version the (to be corrected) Focus is on the Subject and in the other it is on the Object, in order to assess the validity of our prediction that the (Subject/Object) function of the focused constituent can trigger the use of different constructions.

In this respect, it is important to notice that the syntactic and discourse-related status of the constituents varies based both on the syntactic order of the stimulus and on the syntactic function of the focused constituent. Starting with Subject Focus, when the stimulus presents the SVO order, we assume vacuous movement of the Subject (cf. note 2): hence, it is realized as a fronted CF, while the Object is a Topic, dislocated in the lowest position assumed for Topics in the C-domain, right below the Focus (cf. Rizzi 1997, Frascarelli and Hinterhölzl 2007), with the verb in *Foc*^o. On the other hand, in the case of the OVS order, the Object is realized as a left-dislocated Topic in the highest TopP position in the left periphery, and the Subject is focused *in situ* (as is shown by the position of the verb; for details on syntactic derivation, see §4.2 below). As for items featuring Object Focus, when the stimulus presents the SVO order, the Subject is realized as a left-dislocated Topic, while the focused Object remains *in situ*. Conversely, in the case of the OVS order, the Object is realized as a fronted CF, while the Subject as a right-dislocated Topic (in the low C-domain).

Finally, in order to investigate the impact of the External Merge of arguments on FF, the experiment features three different types of verbs, namely (i) transitives, (ii) unergatives and (iii) unaccusatives, divided into six subgroups. Specifically:

- (i) transitive verbs are all dynamic verbs, selecting an Agent Subject and a Patient Direct Object (DO); within transitives two subgroups have been selected, based on DO animacy; namely, transitives with an inanimate Object (InO) and transitives with an animate Object (AnO);¹⁴
- (ii) unergative verbs constitute a single group, selecting an Agent Subject and a Locative Indirect Object (IO);

¹⁴ Even though this variable does not affect the Subject-Object asymmetry at the syntax-semantic level, in many studies it has been argued that DO animacy can have an impact on the realization of fronting (cf., among others, Tomlin's 1986 'Animated-first' principle, van Bergen 2011, Branigan et al. 2008, Dahl and Fraurud 1996, Verhoeven 2014). Therefore, we decided to include this distinction in the test design, so as to assess the possible influence of this aspect in the present research.

(iii) finally, the test features three types of unaccusative verbs, namely, motion and stative verbs, selecting a Theme Subject and a Locative IO, and psych-verbs of the ‘*piacere* class’ (cf. Belletti and Rizzi, 1988) selecting a Theme Subject and an Experiencer IO.

The final experimental design was a 6x2x2, with six (sub)types of verbs, presented either with a focused Subject or a focused Object, either with an SVO or an OVS word order, for a total of 24 experimental conditions. Then, four verbs have been selected for each of the six subtypes,¹⁵ so that each condition could be tested against four different items, thus obtaining a total amount of 96 target stimuli.

Furthermore, the 96 experimental items have been divided into four lists¹⁶ with a Latin square design, so that each informant was presented a single item for each experimental condition and would never see the same image twice, yielding 165 corrective sentences for each of the 24 conditions, for a total of 3960 outcome sentences.

2.3 *Types of verbs and the Subject-Object asymmetry*

According to Minimalist tenets, constituents are subject to External Merge in the vP, where they establish substantive ‘base structure’, yielding argument structure. Indeed, though in the GB framework theta-roles were assumed to be assigned by the verbal head, starting from Williams (1981) and later with Larson’s (1988) theory of the ‘VP-shell’, argument structure has been argued to go beyond the lexical-category VP and involve functional categories like ‘light’ verbs. Hence, several subsequent proposals (cf. Kratzer 1994, Chomsky 1995, von Stechow 1995, among others) have provided arguments supporting the idea that the external argument is assigned theta-role by the head of the functional projection VoiceP, relabelled ‘vP’ – a projection immediately dominating the VP.

¹⁵ Specifically, (i) for transitive verbs with animate DO: *baciare* (‘to kiss’), *lavare* (‘to wash’), *accarezzare* (‘to pet’) and *arrestare* (‘to arrest’); (ii) for transitive verbs with inanimate DO: *mangiare* (‘to eat’), *suonare* (‘to play’), *chiudere* (‘to close’) and *disegnare* (‘to draw’); (iii) for unergative verbs: *dormire* (‘to sleep’), *lavorare* (‘to work’), *sorridere* (‘to smile’) and *correre* (‘to run’); (iv) for unaccusative motion verbs: *partire* (‘to leave for’), *scendere* (‘to get off’), *entrare* (‘to enter’) and *uscire* (‘to exit’); (v) for unaccusative stative verbs: *vivere* (‘to live’), *appartenere* (‘to belong’), *fidarsi* (‘to trust’) and *trovarsi* (‘to be at’); and (vi) for unaccusative psych-verbs: *mancare* (‘to miss’), *piacere* (‘to appeal to’), *interessare* (‘to interest’) and *socciare* (‘to bother’).

¹⁶ Each list was thus composed of 24 target stimuli, which were alternated with 12 fillers (one every two target stimuli) featuring the Correction of presentative structures.

In line with this analysis, we assume that Spec,vP is the position in which the Agent/Causer is merged, Spec,VP is dedicated to the Patient/Theme, while Compl,VP is the position reserved to obliques (i.e., Goal/Location).

Notice that Minimalist accounts tend to consider structural economy as involving as few heads as possible and, in this spirit, the presence of *v* is tightly linked to the presence of an external argument (cf., among others, Chomsky 1995, Bennis 2004); consequently, unaccusative verbs are often assumed to be “simple VP structures”, with no vP layer. On the other hand, several recent studies have rejected this view (cf., relevant discussion in Alexiadou and Anagnostopoulou 2004), proposing that the VP shell structure is universal and, consequently, *v* is always projected (cf. Harley 1995, Collins 1997, Marantz 1997, Embick 1997, Arad 1998, Alexiadou et al. 2006). A detailed analysis of this debated issue is beyond the purposes of the present work. Nevertheless, based on the cartographic assumption that evidence for a functional head in one language is evidence for its existence in universal grammar (cf., among others, the articles in Brugé et al. 2012), we assume the presence of a vP projection in unaccusatives as well.

As for unergatives, we follow a long-standing tradition, according to which these verbs are considered as ‘hidden transitives’ (cf. Hale and Keiser 1993, Chomsky 1995), thus presenting the same structure of transitive verbs, though lacking the DO, which undergoes “incorporation, into an abstract V” (Hale and Keiser 1993: 54).

Furthermore, we follow Pesetsky (1995) and Landau (2009), in considering psych-verbs of the ‘*piacere* class’¹⁷ as unaccusatives, in which the IO Experiencer is merged in Spec,VP and the Subject Theme is merged in Compl,VP. Indeed, as is argued in Arad (1998), Spec,VP is the position dedicated to those participants who are ‘affected’ by the event. Since the Experiencer is by definition the entity that undergoes an emotion, a state of being, or a perception expressed by the verb, its affected status in the event is uncontroversial. As a matter of fact, in Pesetsky (1995: 59) it is also proposed that the ‘Theme’ in this type of verbs is a ‘Target of emotion’, hence a Goal.

Finally, with respect to adjunct IOs for the unergative and motion verbs used in the present experiment (cf. note 15 above), we follow Manning, Sag and Iida (1999) and Bouma, Malouf and Sag’s (2001) proposals, according to which *adjuncts can be realized as arguments* (evidence supported by scope ambiguity effects, case marking, word order and cliticization). In

¹⁷ Henceforth, simply psych-verbs.

this line of analysis, we thus assume that the IOs (of relevant unergative and motion verbs) are comparable (at least syntactically) to arguments merged in Compl,VP.

Considering all the above, Diagram 1 below shows the vP/VP structure assumed in the present work, while Diagrams 2 to 5 present the four thematic hierarchies tested in the experimental test:

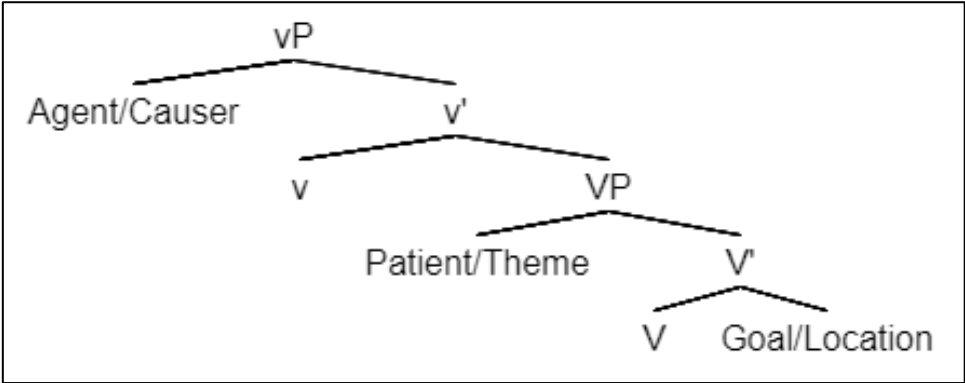


Diagram 1: External Merge of Arguments

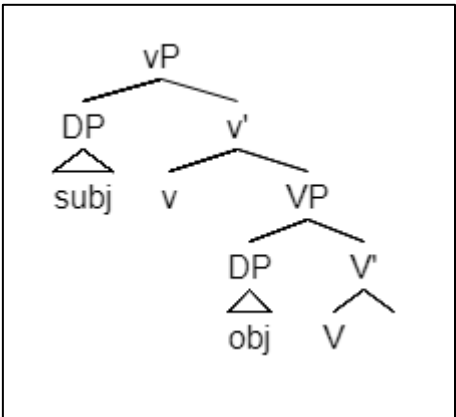


Diagram 2: Transitive verbs

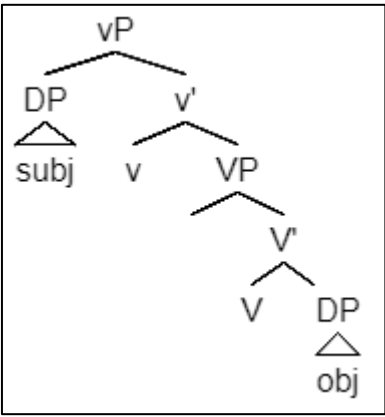


Diagram 3: Unergative verbs

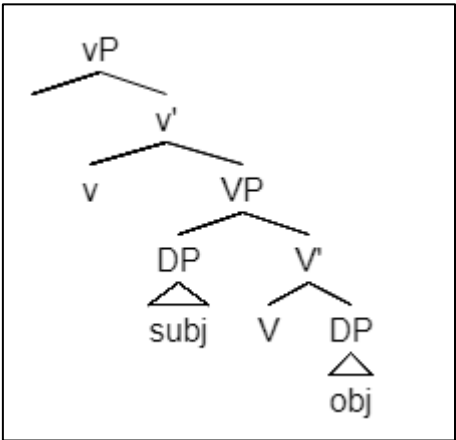


Figure 4: Motion and Stative verbs

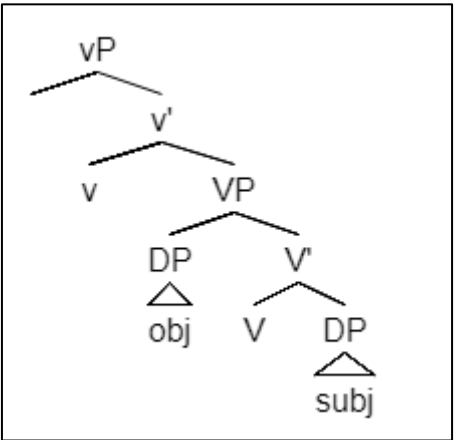


Diagram 5: Psych-verbs

As can be seen, the relevant configurations present different Subject-Object asymmetries at the syntax-semantic interface. Indeed, the Subject is syntactically superior to the Object in all verb types (Diagrams 2 to 4), except psych-verbs (Diagram 5). Specifically, (i) for transitive verbs, Subject Merge is in Spec,vP and the Object sits in Spec,VP, (ii) for unergative verbs, Subject Merge is also in Spec,vP but the Object is in Compl,VP, (iii) for motion and stative verbs Subject Merge is in Spec,VP and the Object is realized in Compl,VP; conversely, (iv) in the case of psych-verbs (Diagram 5), the Object is syntactically superior to the Subject, since the former is merged in Spec,VP and c-commands the Subject in Compl,VP.

To sum up, in order to assess the possible influence of Subject superiority on FF at the syntax-semantics interface, we tested 4 different Subject-Object asymmetries (the position of Subject Merge is illustrated on the left, while the position of Object Merge is one the right):

(17)

- i. Spec,vP > Spec,VP (transitive verbs)
- ii. Spec,vP > Compl,VP (unergative verbs)
- iii. Spec,VP > Compl,VP (stative and motion verbs)
- iv. Compl,VP > Spec,VP (psych-verbs)

In the following sections, the experimental results will be illustrated and discussed in detail, so as to highlight the impact attested for each different factor on FF optionality.

3. Results

The total 3960 corrective sentences produced by informants have been classified based on their syntactic realization and on the function of the focused constituent.

For the 1980 items featuring a focused Object, informants produced a number of different structures (though with different frequencies): (unmarked) SVO sentences (70.45%, cf. 18a); VOS sentences, in which the Subject is topicalized (0.1%, cf. 18b); OVS sentences, featuring Object FF (20.6%, cf. 18c), cleft sentences (4.54%, cf. 18d) and passive structures (0.55%, cf. 18e):

(18a) *La ragazza parte [CF col treno].* (motion verb)

DET girl.SUBJ leave.3SG [CF with-DET train]

‘The girl leaves by train.’

(18b) *Lavora [CF in cucina], il ragazzo* (unergative verb)

- work.3SG [CF in kitchen] DET boy.SUBJ
 ‘The boy works in the kitchen.’ [Lit: ‘(he) works in the kitchen, the boy.’]
- (18c) [CF *al bambino*] *manca la mamma.* (psych-verb)
 [CF to-DET child] be missed.3SG DET mom.SUBJ
 ‘The child misses his mom.’
- (18d) *è [CF al bambino] che appartiene il pupazzo.* (stative verb)
 be.3SG [CF to-DET child] that belong.3SG DET doll.SUBJ
 ‘It is the child to whom the doll belongs.’
- (18e) [CF *la chitarra*] *è suonata dal bambino* (transitive verb)
 [CF DET guitar] be.3SG play.PRT by-DET child.OBL
 ‘The guitar is played by the child.’

In the case of Object Focus, what matters for the analysis is the position of the Object. Therefore, we considered (18a) and (18b) to be unmarked structures, given that the Object remains in postverbal position (the *in situ* position in SVO Italian), while the remaining three structures, in which the Object undergoes (some kind of) movement, have been classified as marked.¹⁸ Since 74 corrective sentences (3.74%) have been excluded from the analysis for various reasons,¹⁹ the numbers and percentages provided in the following sections refer to a total of 1906 items.

Similarly, for the 1980 items in which the Focus is on the Subject, informants’ production included unmarked SVO sentences (34.9%, cf. 19a), clefts (15.66%, cf. 19b) and

¹⁸ As pointed out by an anonymous reviewer, while the dislocation of the focused constituent is obvious in sentences featuring FF, it might be less so for cleft and passive structures. In this respect, we follow Frascarelli’s (2010) analysis, according to which the structure of clefts implies a Small Clause construction having a relative clause in Subject position, while the to-be-focused constituent is the Predicate. In this construction, the A-bar movement is performed by a generic (silent) relative operator within the relative clause, matched via Agree with the focused constituent (moved to Spec,FocP). Hence, we assume that, as far as the purpose of the present experiment is concerned, FF and clefts operator movement are virtually equivalent (for additional details on relevant syntactic derivation cf. §4.3 *infra*). As for passives, several studies have shown that these constructions are often used to foreground the patient and de-topicalize the agent (two functional properties which they share with Object topicalization (cf., among others, Watanabe 2000). Hence, we considered them as marked structures both with Subject and Object Focus. In any case, as it will be discussed in Section 3.2, passive structures are very rarely realized by informants and thus their impact on the results of the experiment is immaterial.

¹⁹ For instance, sentences in which informants used a different verb than the one provided in the stimulus or focused a different constituent than the one intended in the experiment.

passive structures (1.41%, cf. 19c). Interestingly, with Subject Focus, informants often realized sentences featuring a postverbal Subject (VS) with a topicalized Object (44.75%, cf. 19d):

- (19a) [CF *Il bambino*] *entra dalla finestra.* (motion verb)
 [CF DET child.SUBJ] enter.3SG from-DET window
 ‘The child enters from the window.’
- (19b) *È [CF la bambina] che si fida dell’ amica.* (stative verb)
 be.3SG [CF DET child.SUBJ] that trust.3SG of-DET friend
 ‘It is the child who trusts her friend.’
- (19c) [CF *Il leone*] *è accarezzato dall’ uomo.* (transitive verb)
 [CF DET lion.SUBJ] be.3SG pet.PP by-DET man
 ‘The lion is petted by the man.’
- (19d) *Per la strada, corre [CF una ragazza].* (unergative verb)
 for DET street, run.3SG [CF a girl.SUBJ]
 ‘A girl runs on the street.’

In the case of Subject Focus, we only considered SVO sentences as unmarked; hence, in all other cases, relevant structures have been considered as derived. Lastly, 65 corrective sentences (3.28%) have been excluded from the analysis, so that the total amount of items considered is 1915.

A recap of the different constructions realized by informants as a corrective reply is provided in Table 1 below:²⁰

Structure	Object Focus	Subject Focus
SVO	✓	✓
VO(S)	✓	
OV(S)	✓	
(O)VS		✓
Cleft	✓	✓
Passive	✓	✓

Table 1: Informants' corrective replies

²⁰ Round brackets indicate a topicalized constituent.

The results obtained have been statistically analysed by means of a Multinomial Logistic Regression (henceforth, MLR), a type of Logistic Regression which can be used to predict informants' outcome including more than two categories (in our case, unmarked, fronting, cleft and passive; cf. Levshina 2015, Gries 2021). All statistical tests were conducted in R (R Core Team, 2020) and its integrated development environment RStudio (RStudio Team, 2021).

As for the output of MLR, the most important data for our analysis are 'Log Odds Ratios (LORs)' and '*p*-values'. LOR compares the odds of the outcome for each level (i.e., 'VO' or 'OV' in Tables 2 and 3) with respect to the baseline. In other words, it represents the odds which each construction (i.e., FF, cleft or passive) has of being realized in place of an unmarked sentence, for each predictive level. LORs are centred to zero; this means that positive values boost the chances of a certain outcome, with respect to the baseline (in our case, unmarked SVO sentences). On the contrary, a negative LOR (below zero) decreases the chance of a specific outcome, with respect to the baseline. Finally, as it is standard practice in statistical analysis *p*-values equal or below 0.05 indicate significant results.²¹

Furthermore, MLR models can be designed varying the number of included variables, in order to find the most explicative model. In such a case, the two (or more) models are compared through a Wald Test, whose output indicates which model is better and if the difference is significant. Specifically, models with lower Residual Difference (Res. Df) are more explicative (see Levshina 2015, Gries 2021).

3.1 *Priming effects*

As discussed in §2.2 above, we took into account the influence that the syntactic structure of the stimulus might have on informants' production and, consequently, on the results of the experiment. For this reason, each item presented either an SVO (VO) or an OVS (OV) version. Consider the results provided in Figures 2 to 5 below:

²¹ Other information given in MLR output tables are (i) Standard Errors (SE), (ii) z-values and (iii) 95% Confidence Interval (CI). Specifically, (i) indicates the standard deviation of the sampling distribution of the statistic, (ii) indicates the values of the z-test performed to check for significance within the model, (iii) measures uncertainty in a sample variable (values including zero indicate no correlations).

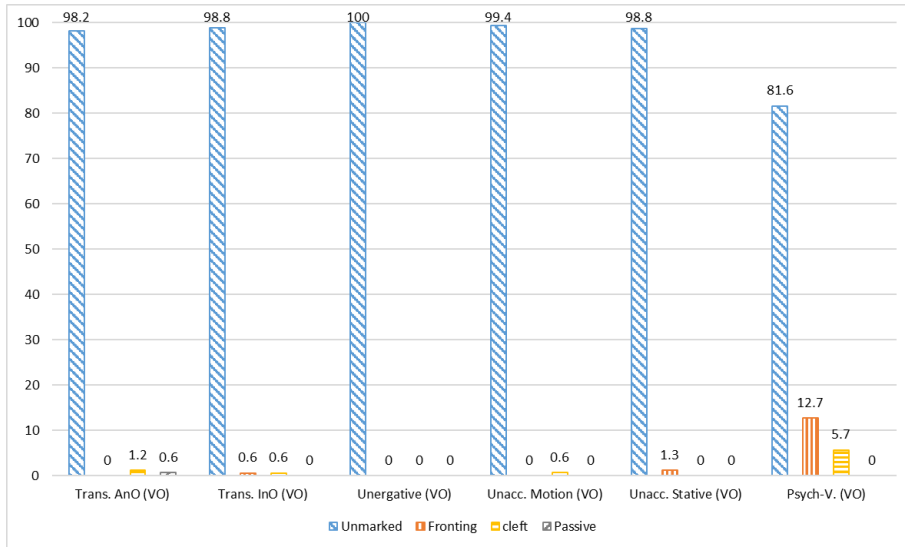


Figure 2: Object Focus - VO stimulus

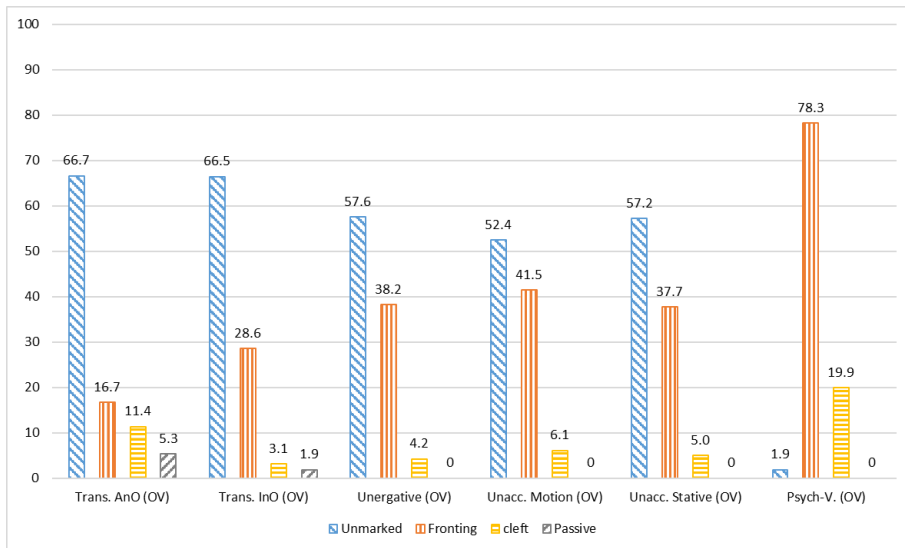


Figure 3: Object Focus - OV stimulus

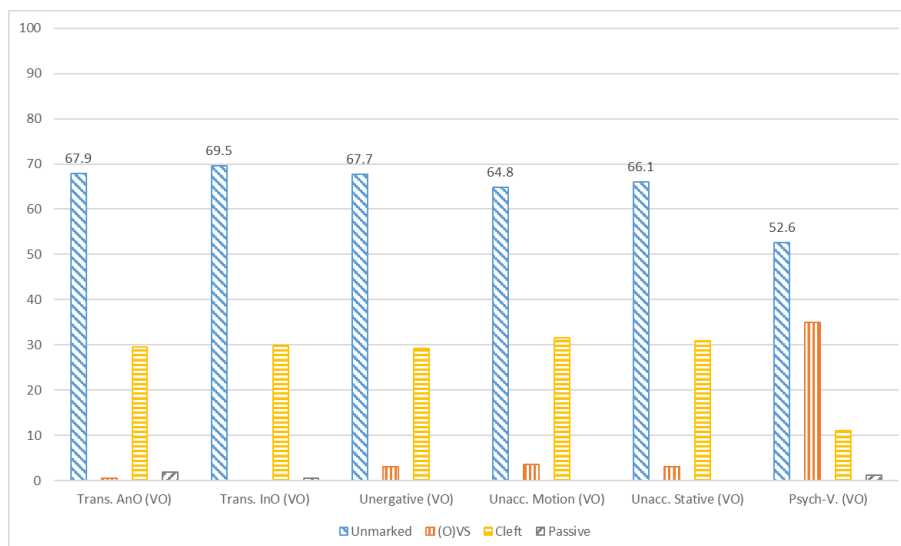


Figure 4: Subject Focus - VO stimulus

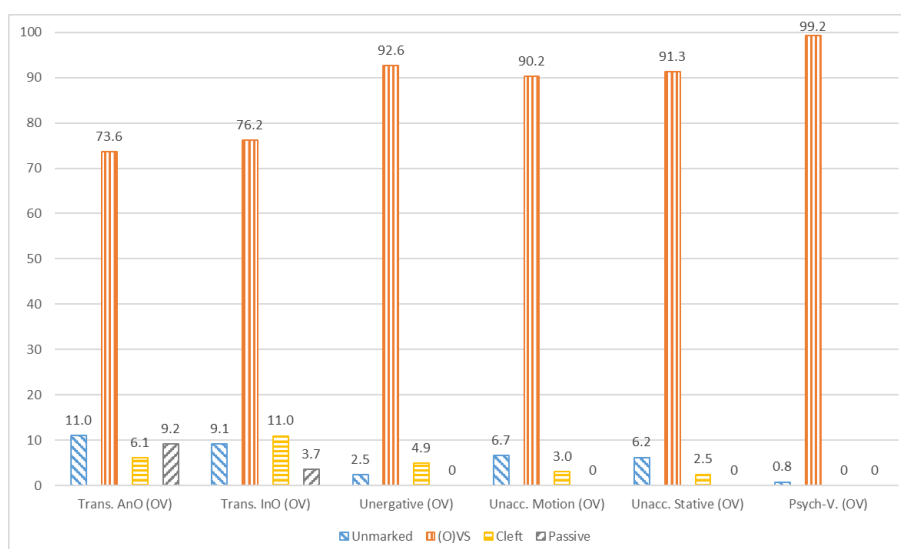


Figure 5: Subject Focus - OV stimulus

As can be seen, a priming effect clearly emerges across all verb types, with both Subject and Object Focus. In particular, in the case of Object Focus (Figures 2 and 3), results show that informants almost exclusively realize unmarked corrective replies when the stimulus is VO. Conversely, when the stimulus is OV, informants tend to increase the production of marked constructions (with different percentages depending on the type of verb involved), even though SVO sentences still qualify as the most frequent choice, *except in the case of psych-verbs*. As shown in Figure 6 and Table 2 below, MLR's results confirm these observations:

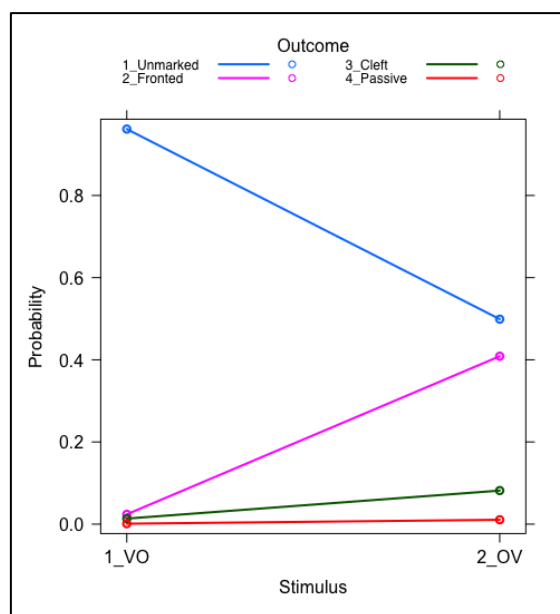


Figure 6: Priming Effect - Object Focus (Probability)

		CI (95%)					
		LOR	SE	z-value	p-value	Low	High
<i>VO</i>	<i>Fronted</i>	-3.69646	0.21109	-17.5117	< .001	-4.1101790	-3.282740
	<i>Cleft</i>	-4.26700	0.27929	-15.2781	< .001	-4.8143988	-3.719610
	<i>Passive</i>	-6.83195	1.00054	-6.8283	< .001	-8.7929665	-4.870925
<i>OV</i>	<i>Fronted</i>	3.49697	0.22200	15.7524	< .001	3.0618665	3.932073
	<i>Cleft</i>	2.45808	0.30515	8.0553	< .001	1.8599940	3.056160
	<i>Passive</i>	2.98180	1.05034	2.8389	< .001	0.9231767	5.040419

Table 2: Priming Effect - Object Focus (MLR's results)

As can be seen, the probability that informants realize a marked construction (i.e., FF, cleft or passive) rather than an unmarked one is significantly lower ($p < .001$) when the stimulus is VO, since LORs are below zero. Conversely, when the stimulus is OV the results is the opposite.

As for Subject Focus, a similar pattern can be noticed when the stimulus is VO (cf. Figure 4 above). On the contrary, (O)VS constructions are the absolute majority with an OV stimulus (once more, with differences based on the type of verb). This shows that the unmarked construction is not necessarily the best choice.

Once again, these observations are confirmed by the MLR, showing that the probability to realize a marked structure with a VO stimulus is significantly lower, while with an OV stimulus is significantly higher, as shown in Figure 7 and Table 3 below:

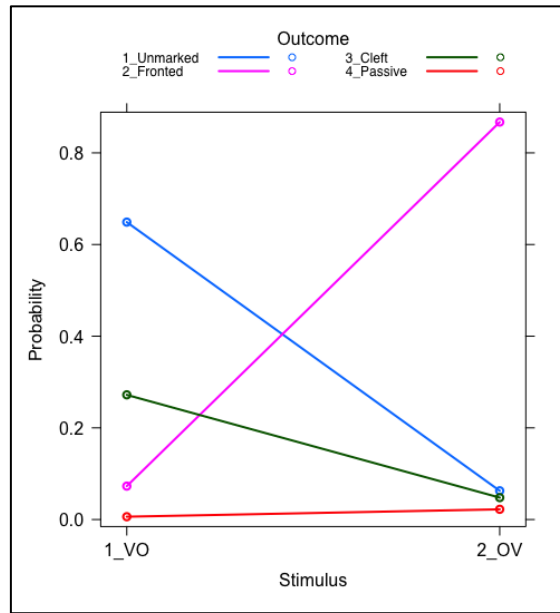


Figure 7: Priming Effect - Subject Focus (Probability)

		CI (95%)					
		LOR	SE	z-value	p-value	Low	High
<i>VO</i>	<i>Fronted</i>	-2.186210	0.125167	-17.4663	< .001	-2.4315324	-1.940887
	<i>Cleft</i>	-0.869160	0.073184	-11.8764	< .001	-1.0125971	-0.725722
	<i>Passive</i>	-4.657113	0.410182	-11.3538	< .001	-5.4610537	-3.853171
<i>OV</i>	<i>Fronted</i>	4.813086	0.183960	26.1637	< .001	4.4525307	5.173642
	<i>Cleft</i>	0.598285	0.211015	2.8353	< .001	0.1847032	1.011866
	<i>Passive</i>	3.624098	0.482511	7.5109	< .001	2.6783928	4.569802

Table 3: Priming Effect - Subject Focus (MLR's results)

Since these results show that a priming effect is present indeed, the Models constructed for the MLRs which will be conducted in the following sections will include this variable. This will allow the statistical analysis to account for the impact of the stimulus on the other variables and thus yield reliable results.

3.2 *Superiority at the syntax-semantic interface*

As described in §2.2, the main goal of the present work is to investigate the influence that the Subject-Object asymmetry at the syntax-semantics interface might have on fronting. In order

to assess this influence, the present experiment tested four different thematic hierarchies (cf. 16i-iv above).

As discussed above (cf. §3.1), when analyzing the impact of Subject/Object asymmetry on informants’ production (labelled ‘Outcome’ in the analysis), we included the variable ‘stimulus’ in the Models. As expected, Wald Chi-square test’s (X^2) results confirm that the relevant Models are more predictive than those which do not include it. Indeed, as is shown in Tables 4 and 5 below, Models including ‘stimulus’ are significantly more predictable ($p < .001$), since their Residual Difference (Res. Df) are lower (1891 vs 1894; 1900 vs 1903):

	Res. Df	Df	Test	X^2	p -value
Model 1: Outcome ~ Asymmetry	1894				
Model 2: Outcome ~ Asymmetry + Stimulus	1891	2	1 vs 2	204.03	< .001

Table 4: Model comparison - Asymmetry (Object Focus)

	Res. Df	Df	Test	X^2	p -value
Model 1: Outcome ~ Asymmetry	1903				
Model 2: Outcome ~ Asymmetry + Stimulus	1900	3	1 vs 2	505.01	< .001

Table 5: Model comparison - Asymmetry (Subject Focus)

Given these premises, we can now proceed with the analysis of data and relevant discussion, starting with Object Focus.

3.2.1 Superiority effects on Object Focus

Let us first consider the results reported in Figure 8 below:

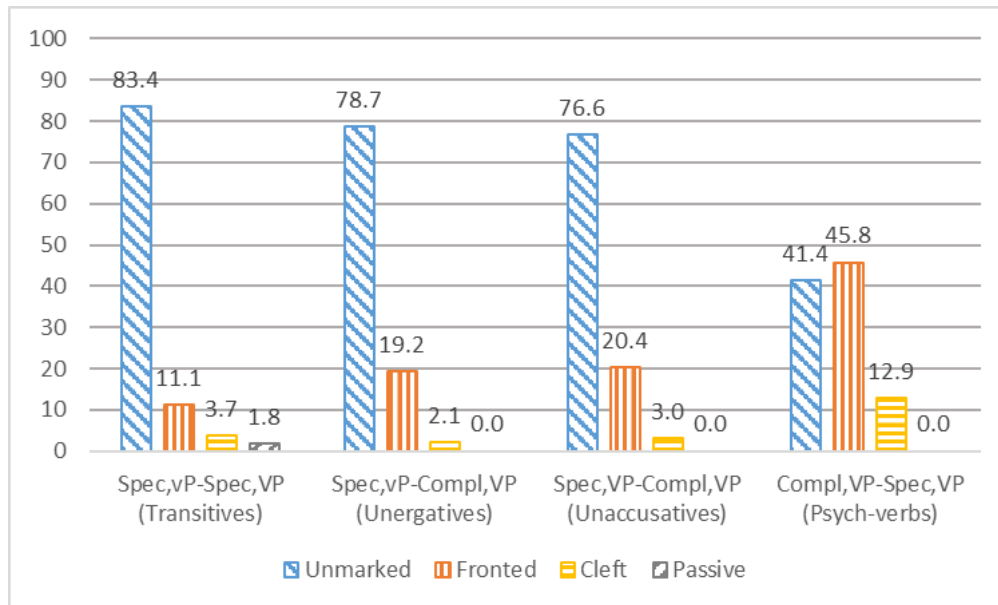


Figure 8: Object Focus results for thematic hierarchies²²

As can be seen, data show that thematic hierarchies have an impact on the frequency of Object FF. In particular, transitive verbs show the lowest frequency of fronting, whereas this option is very frequently used in the case of psych-verbs. On the other hand, unergative and unaccusative verbs behave similarly, insofar as they are more frequently associated with FF than transitive verbs are, but less than psych-verbs.

These results suggest that Merge superiority in the vP phase does influence FF. Indeed, the behaviour attested for psych-verbs seems to indicate that Merge of the Object in a position that is higher than the Subject (cf. Diagram 5 above) strongly favours FF. Conversely, Merge of the Subject in a position that is higher than the Object disfavours the fronting of a VP-internal Object, as in the case of transitive verbs. Finally, the behaviour of unergative and unaccusative verbs seems to indicate that an Object merged in Compl,VP is more likely to be fronted than one merged in Spec,VP, when Subject Merge is higher. This may suggest that Compl,VP qualifies as an ‘escape hatch’ from which movement is less hindered.

The result of the relevant MLR confirm these observations and, despite the influence of the stimulus²³, the relevant analysis is still significant. Specifically, the data in Table 6 below

²² Thematic hierarchies’ labels always show the Subject before the Object.

²³ Further statistical analyses show the robustness of the Model: Log-Likelihood: -920.11, McFadden R²: 0.34014, Likelihood ratio test: Chisq = 948.61 (p.value = < .001)

show that when the Object is merged lower than the Subject, the probability that informants realize marked constructions (i.e., FF, clefts, and passives) is generally below zero. In other words, when the Subject is higher than the Object in the vP domain, the unmarked construction is always the preferred option in SVO Italian. On the other hand, when the Object is merged higher than the Subject, the results are the opposite, since the probability of FF and cleft constructions increases significantly. Furthermore, MRL’s results also confirm the observation concerning unergative and unaccusative verbs. As a matter of fact, even though the Object is merged below the Subject, FF is still significantly more feasible to occur than with transitives. This results confirm that Compl,VP qualifies as an ‘escape hatch’(a theta-governed position in GB terms, unlike Specifiers), since the Object of unergative and unaccusative verbs, merged in Compl,VP, is significantly more likely to be fronted (LOR:0.6/0.7 respectively) than the one of transitives, merged in Spec,VP (LOR:-6):

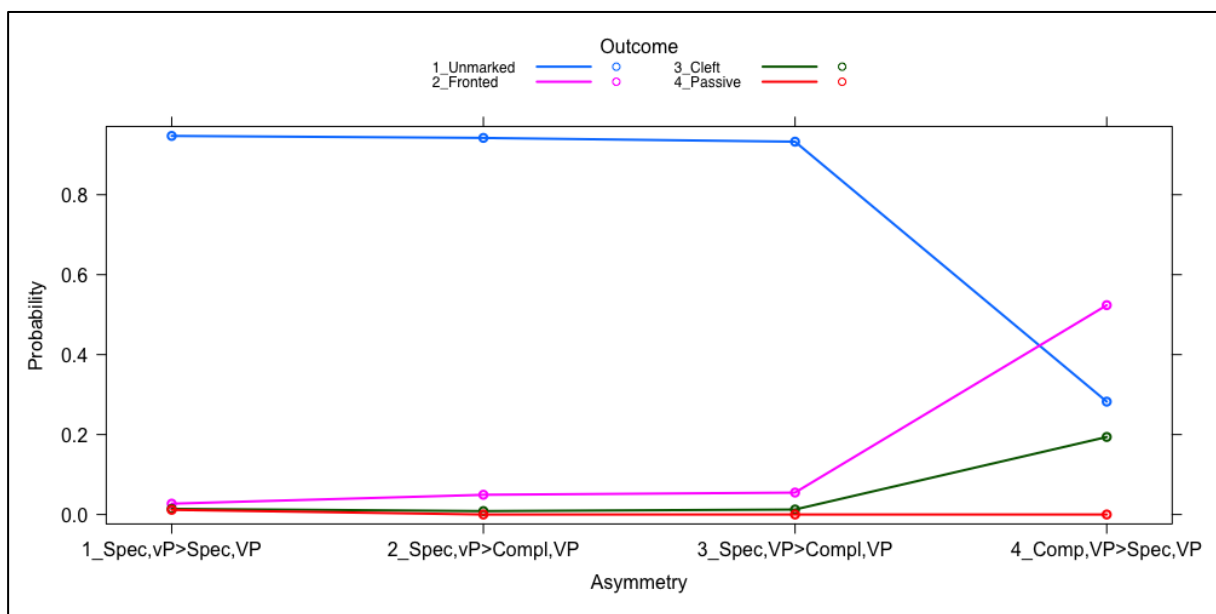


Figure 9: Asymmetry - Object Focus (Probability)

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Spec,vP-Spec,VP (Transitives)						
Fronted	-6.01390	0.38086	-15.7905	< .001	-6.7603670	-5.2674425
Cleft	-6.21497	0.47107	-13.1934	< .001	-7.1382456	-5.2916976
Passive	-5.78553	1.00153	-5.7767	< .001	-7.7484872	-3.8225652

Spec,vP-Compl,VP (Unergatives)						
Fronted	0.60531	0.21331	2.8377	< .01	0.1872302	1.0233875
Cleft	-0.49328	0.44830	-1.1003	.27	-1.3719304	0.3853634
Passive	-18.17535	3777.86057	-0.0048	.99	-7422.6460070	7386.2953142
Spec,VP-Compl,VP (Unaccusatives)						
Fronted	0.72133	0.18085	3.9886	< .001	0.3668773	1.0757864
Cleft	-0.10404	0.32600	-0.3192	.75	-0.7429871	0.5348993
Passive	-18.08000	2651.54361	-0.0068	.99	-5215.0099856	5178.8499757
Compl,VP-Spec,VP (Psych-verbs)						
Fronted	4.17221	0.35962	11.6018	< .001	3.4673759	4.8770455
Cleft	3.83233	0.41799	9.1685	< .001	3.0130915	4.6515736
Passive	-15.78732	3272.95481	-0.0048	.99	-6430.6608590	6399.0862284

Table 6: Asymmetry - Object Focus (MLR's results)

Interestingly, our results suggest that the External Merge of arguments also influences the frequency and probability (respectively, Figure 8 and 9 above) of cleft constructions. Indeed, data in Table 6 show that the use of clefts with a psych-verb is significantly higher than with a transitive verb, since LORs are above zero.

This outcome can be explained considering the syntactic derivation of cleft sentences and the specific A-bar movements involved. As mentioned above (cf. note 18) we follow Frascarelli's (2010) proposal, according to which clefts are specificational copular sentences (cf. Den Dikken 2006), in which a free relative clause is realized as the Subject of a Small Clause and the focused constituent as its predicate. Based on this assumption, any possible restriction on Focus movement (to Spec,FocP) cannot be responsible for the different frequency that clefts show for the verb types under exam. Indeed, the focused constituent in clefts always starts its movement from the same position (i.e., the predicate of a Small Clause), regardless of verb type. Hence, we propose that what (dis)favors the realization of clefts with specific verb types is the *External Merge of arguments within the Subject relative clause*, which can trigger intervention effects on the A-bar movement of the null relative operator (i.e., the Object of the relative clause, cf. §4.3 for details).

Finally, data show that passive structures are restricted to a minority of cases and no significant values are attested in this respect, as is shown in Table 6 above. Indeed, as it can be expected, they only appear with transitive verbs.

3.2.2 Superiority effects on Subject Focus

Let us now turn to the results concerning the realization of Subject Focus, reported in Figure 10 below:

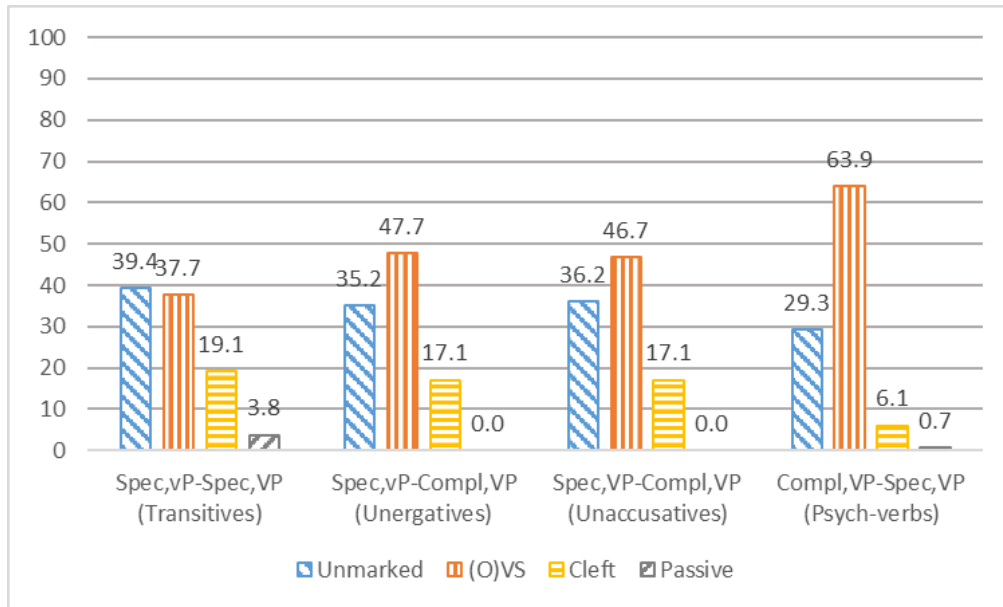


Figure 10: Subject Focus results for thematic hierarchies

As can be seen, contrary to Object Focus, SVO sentences are not the preferred choice with any of the thematic hierarchies under analysis. This result can be explained by the fact that Subject fronting in an SVO language qualifies as a ‘vacuous movement’ and, as such, Subject FF is not perceived by informants as a ‘real’ marked strategy, due to its ‘invisible’ (vacuous) quality. This is in line with Belletti’s (2008) analysis, according to which the VS construction is the most frequent strategy for Subject Focus.

Nevertheless, data show that thematic hierarchies have an impact on the realization of Subject Focus as well. Specifically, Figure 10 shows that transitive verbs show the lowest frequency of (O)VS constructions, while psych-verbs the highest. Once again, similarly to Object Focus, transitive and psych-verb stand at opposites while unergative and unaccusative verbs behave similarly, since they are more frequently associated with (O)VS than transitive verbs, but less than psych-verbs.

Indeed, the relevant MLR (Table 7), confirm our observations and yield similar results to those obtained with Object Focus.²⁴ Specifically, when the Object is merged higher than the Subject (i.e., in the case of psych-verbs), (O)VS structures are significantly more feasible to be used (LOR: 3.8). On the contrary, when the Object is merged below the Subject, marked structures are significantly less probable to occur. Furthermore, MRL's results also confirm the distinct behaviour of unergative and unaccusative verbs. Even though the Object is merged below the Subject, also in the case of Subject Focus (O)VS structure are significantly more probable to occur than with transitives:

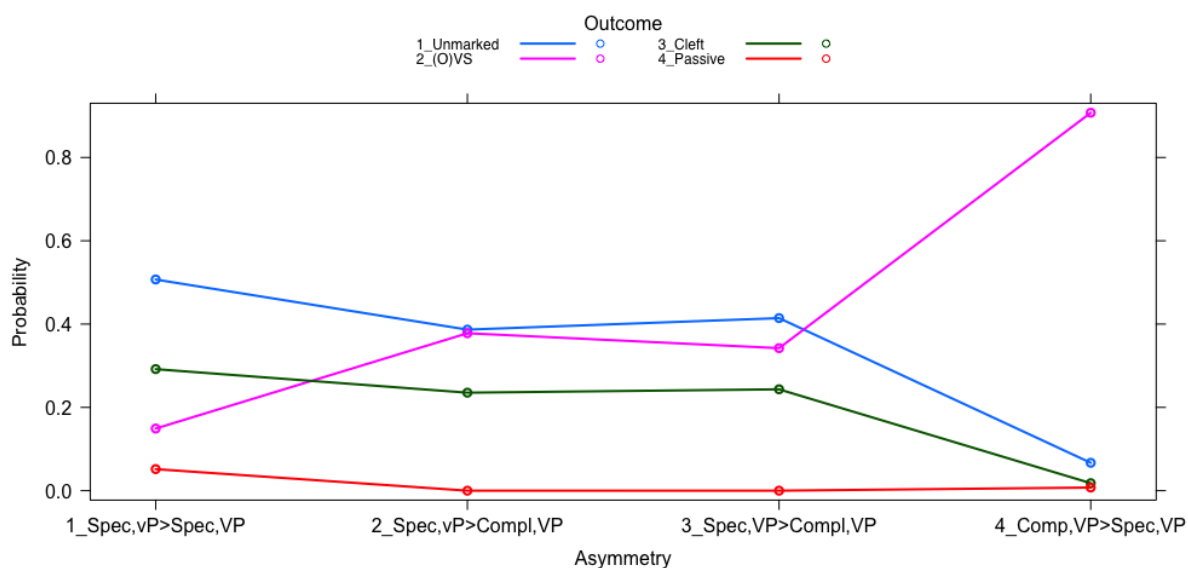


Figure 11: Asymmetry - Object Focus (Probability)

²⁴ Also in this case, the robustness of the model is confirmed by further statistical analyses: Log-Likelihood: -1200.9, McFadden R²: 0.4189, Likelihood ratio test: Chisq = 1731.4 (p.value = < .001).

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Spec,vP-Spec,VP (Transitives)						
(O)VS	-4.246751	-4.246751	-14.5054	< .001	-4.8205707	-3.6729306
Cleft	-0.815896	0.116633	-6.9954	< .001	-1.0444919	-0.5873006
Passive	-3.949065	0.477220	-8.2751	< .001	-4.8843993	-3.0137317
Spec,vP-Compl,VP (Unergatives)						
(O)VS	1.200805	0.302507	3.9695	< .001	0.6079014	1.7937084
Cleft	0.055463	0.197901	0.2803	.78	-0.3324163	0.4433422
Passive	-18.24752	3755.119970	-0.0049	.99	-7378.1474213	7341.6523746
Spec,VP-Compl,VP (Unaccusatives)						
(O)VS	1.032053	0.234807	4.3953	< .001	0.5718401	1.4922657
Cleft	0.020237	0.160081	0.1264	.90	-0.2935155	0.3339896
Passive	-18.35014	2646.405885	-0.0069	.99	-5205.2103607	5168.5100845
Compl,VP-Spec,VP (Psych-verbs)						
(O)VS	3.830317	0.336771	11.3736	< .001	3.1702579	4.4903770
Cleft	-0.761103	0.290695	-2.6182	< .01	-1.3308546	-0.1913523
Passive	0.102773	0.830493	0.1237	.90	-1.5249636	1.7305089

Table 7: Asymmetry - Object Focus (MLR's results)

These results show that (O)VS constructions with Subject Focus present the same behaviour as Object FF. Thus, if we consider that the postverbal focalization of the Subject implies the topicalization of the Object, data seem to indicate that the movement of the latter is constrained by the External Merge position of the Subject (cf. §4.2 for details). In particular, similarly to Object FF and clefts (cf. §3.2.1), our results show that the A-bar movement of an Object merged lower than the Subject is significantly disfavoured, while when the Subject is merged lower than the Object its movement is more frequent. Once again, the constraints on Object movement are mitigated in the case of unergative and unaccusative verbs, supporting the hypothesis that Compl,VP qualifies as an ‘escape hatch’.

As for cleft constructions, the data regarding Subject Focus show an inverse trend compared to Object Focus, since for Subject Focus the realization of cleft sentences is significantly less probable with psych-verbs. These results are consistent with (and support) the hypothesis proposed in the previous section, namely, that the External Merge of arguments

within the Subject relative clause triggers intervention effects, constraining the A-bar movement of the null relative operator (cf. §4.3 for details).

Finally, passive structures qualify as a marginal strategy with Subject Focus as well. However, it is interesting to notice that in two cases (0.7%), informants realized a passive sentence (20b) to correct a stimulus featuring a psych-verb (20a):

(20a) *Guardare la tv scoccia al bambino.*

watch.INF DET tv bother.3SG to-DET child

‘Watching TV bothers the child.’

(20b) *No, il bambino è scocciato dai compiti.*

no, DET child be.3SG bother.PP by-DET homework

‘No, the child is bothered by homework.’

Even if the frequency of this phenomenon is extremely low, it is in line with the fact that, in standard Italian, it is rather common to consider the experiencer-IO as the ‘logical Subject’ of sentences involving this type of verbs, regardless of its dative case (for discussion, see Culicover and Jackendoff 2005). Hence, the realization of a passive sentence may be seen as a formalization of the experiencer’s ‘quasi-Subject status’.

3.3 Further insights on specific verb types

Before turning to the final discussion in section 4, let us concentrate on the results concerning the specific verb types and, in particular, on the two subgroups of transitives and unaccusatives.

Also in this case, when analyzing the impact of ‘verb type’ on informants’ production, we included the variable ‘stimulus’ in the Models. Once again, as expected, Wald Chi-square test’s (X^2) results confirm that the relevant Models are more predictive than those which do not include it. Indeed, as shown in Tables 8 and 9, Models including ‘stimulus’ are significantly more predictable ($p < .001$), since their Residual Difference (Res. Df) are lower (1885 vs 1888; 1897 vs 1894):

	Res. Df	Df	Test	X ²	p-value
Model 1: Outcome ~ Asymmetry	1888				
Model 2: Outcome ~ Asymmetry + Stimulus	1885	3	1 vs 2	204.32	< .001

Table 8: Model comparison - Verb Type (Object Focus)

	Res. Df	Df	Test	X ²	p-value
Model 1: Outcome ~ Asymmetry	1897				
Model 2: Outcome ~ Asymmetry + Stimulus	1894	3	1 vs 2	504.09	< .001

Table 9: Model comparison - Verb Type (Subject Focus)

3.3.1 The animacy of transitive DOs

Let us start by looking at the results concerning the two subgroups of transitive verbs, presented in Figures 12 and 13:

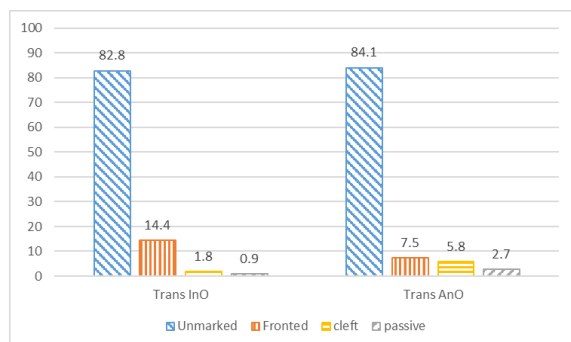


Figure 12: Inanimate vs Animate DOs - Object Focus

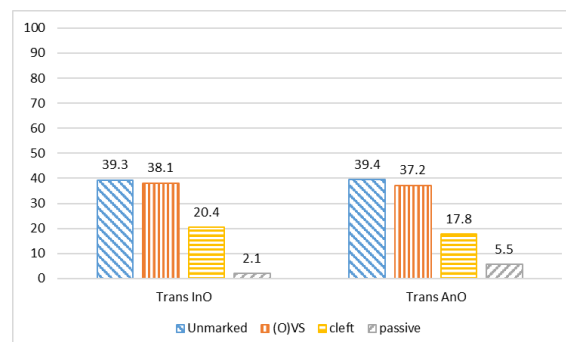


Figure 13: Inanimate vs Animate DOs - Subject Focus

As already mentioned above (cf. §§3.2.1-3.2.2), transitive verbs show the lowest frequency of marked constructions. However, taking into consideration the two subgroups at issue, the present results show some interesting distinction between them. Indeed, though in general DO animacy does not influence informants' production, the results of the MLRs carried out for Object and Subject Focus indicate the existence of some small differences, as is shown in Tables 10 and 11 below:²⁵

²⁵ Since we are concentrating on the comparison between the two subtypes of transitive verbs, the results concerning the other verb (sub)types have not been included in the Tables.

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Transitive InO						
Fronted	-5.80297	0.39579	-14.6619	< .001	-6.578699e+00	-5.02724671
Cleft	-6.96680	0.59170	-11.7741	< .001	-8.126519e+00	-5.80708159
Passive	-6.52545	1.13051	-5.7721	< .001	-8.741210e+00	-4.30968068
Transitive AnO						
Fronted	-0.55971	0.29499	-1.8974	.06	-1.137885e+00	0.01846961
Cleft	1.23776	0.49509	2.5001	.02	2.673993e-01	2.20812601
Passive	1.16619	0.69001	1.6901	.09	-1.861993e-01	2.51858752

Table 10: DO animacy - Object Focus (MLR's results)

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Transitive InO						
(O)VS	-4.2923	3.2385e-01	-13.2538	< .001	-4.926990	-3.6575210
Cleft	-0.75502	1.5703e-01	-4.8082	< .001	-1.062792	-0.4472500
Passive	-4.6067	6.0025e-01	-7.6747	< .001	-5.783190	-3.4302690
Transitive AnO						
(O)VS	0.093842	2.8524e-01	0.3290	.74	-4.652202e-01	0.6529048
Cleft	-0.12563	2.1945e-01	-0.5724	.57	-5.557470e-01	0.3044961
Passive	1.0494	4.9771e-01	2.1084	.03	7.386919e-02	2.0248589

Table 11: DO animacy - Subject Focus (MLR's results)

As can be seen, in the case of Object Focus, cleft structures are significantly more probable to be produced by informants when the DO is animate (LOR: 1.2). As for Subject Focus, passive structures are significantly more probable with an animate DO (LOR: 1.04).

In this respect, it should be considered that in the case of Object Focus, fronting an animate Object may lead to ambiguity, since there seems to exist a semantic requirement for Agent arguments to be located in first position (cf., among others, Tomlin 1986, Dahl and Fraurud 1996, Primus 1999, van Bergen 2011, Verhoeven 2014). Therefore, informants seem to be more inclined to use a cleft construction to highlight a focused animate Object, when using marked structures, so as to avoid the ambiguities deriving from placing an animate DO before the Agent Subject (sitting in postverbal position).

As for Subject Focus, the higher probability of passive structures with an animate DO could be explained by the fact that Subjects are prototypically animate. Since in passive sentences the Subject corresponds to the 'original' DO, it is feasibly more likely for an animate DO to 'be promoted' to Subject function in this context.

Nevertheless, it is important to underline that unmarked structures are the absolute majority with transitive verbs, regardless of DO animacy, and thus the significant differences between marked constructions mentioned above concern a relatively small amount of data. In any case, we can provide a tentative explanation for the different behaviour emerged with animate and inanimate DOs, leaving a full assessment open to future research.

3.3.2 *Unergative and unaccusative verbs*

As discussed in Section 3.2, unergative and unaccusative verbs show the same behaviour with respect to the influence of their thematic hierarchy on informants’ production. Furthermore, we selected two different types of unaccusatives for the present analysis, so as to check whether their semantic differences might have an impact on the issue at hand. Let us then consider the results concerning the specific verb types reported in Figures 14-15 and Tables 12-13 below:²⁶

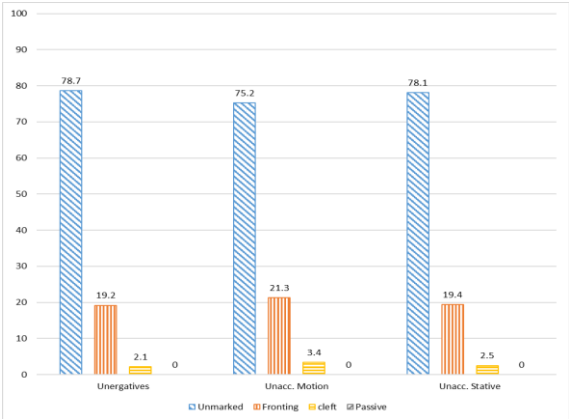


Figure 14: Unergative and unaccusative verbs - Object Focus

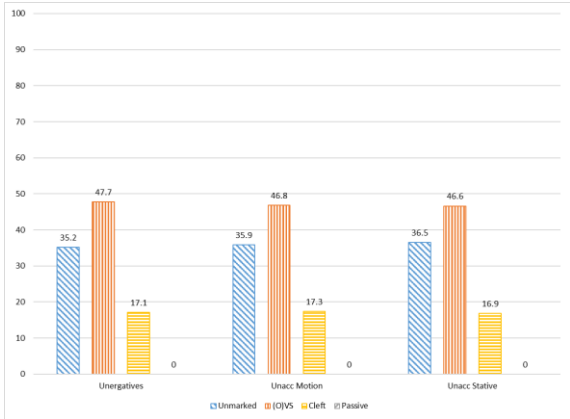


Figure 15: Unergative and unaccusative verbs - Subject Focus

²⁶ Since we are concentrating on the comparison between unergatives and the two subtypes of unaccusative verbs, the results concerning the other verb (sub)types have not been included in the following Tables.

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Unergative						
Fronted	0.605315	0.213314	2.8377	<.01	0.1872277	1.0234028
Cleft	-0.493277	0.448301	-1.1003	.27	-1.3719319	0.3853773
Passive	-18.175258	3777.705137	-0.0048	.99	-7422.3412709	7385.9907540
Motion						
Fronted	0.788447	0.213142	3.6992	<.001	0.3706960	1.2061983
Cleft	0.064519	0.387383	0.1666	.87	-0.6947376	0.8237755
Passive	-18.031083	3699.360946	-0.0049	.99	-7268.6453029	7232.5831368
Stative						
Fronted	0.652725	0.215411	3.0301	<.01	0.2305266	1.0749242
Cleft	-0.297101	0.428630	-0.6931	.49	-1.1372009	0.5429990
Passive	-18.130413	3806.013908	-0.0048	.99	-7477.7805961	7441.5197710

Table 12: Unergative and unaccusative (sub)types – Object Focus (MLR’s results)

	LOR	SE	z-value	p-value	CI (95%)	
					Low	High
Unergative						
(O)VS	1.2009	0.30252	3.9696	< .001	0.6079403	1.7937920
Cleft	0.055448	0.19790	0.2802	.78	-0.3324310	0.4433265
Passive	-18.247	375.51	-0.0049	.99	-7378.1455402	7341.6505701
Motion						
(O)VS	1.0191	0.29241	3.4850	< .001	0.4459521	1.5921859
Cleft	0.041034	0.19630	0.2090	.83	-0.3437046	0.4257717
Passive	-18.355	372.86	-0.0049	.99	-7326.2777215	7289.5685833
Stative						
(O)VS	1.0456	0.29613	3.5310	< .001	0.4652275	1.6260523
Cleft	-0.00088890	1.9781	-0.0045	.99	-0.3885953	0.3868175
Passive	-18.345	375.67	-0.0049	.99	-7381.3910979	7344.7001972

Table 13: Unergative and unaccusative (sub)types - Subject Focus (MLR’s results)

As can be seen, FF/(O)VS constructions are significantly more probable with all three verb (sub)types, both with Object and Subject Focus. These results thus exclude that the semantic differences of the verb subtypes may have an impact on informants’ production, confirming the analysis based solely on their thematic hierarchies (cf., §3.2.1).

4. Superiority Constraint on A-bar Movement

4.1 Superiority effects in Object FF

As is standard assumption, Object FF involves the overt A-bar movement of the Object from its Merge position to a dedicated functional projection in the CP, namely FocP, where the [+foc] feature is encoded (cf. Rizzi 1997 and subsequent works in the cartographic approach; for discussion and references on this issue, see also Puglielli and Frascarelli 2011). In this respect, the results illustrated in §3.2.1 indicate that the fronting of the Object is more frequent with some thematic hierarchies than with others. Therefore, we propose that this is due to *intervention effects*, due to *Superiority at the syntax-semantic level*.

In particular, our data show that informants tend to *avoid Object fronting with transitives*. According to the thematic hierarchy of this verb type (showed in Diagram 2 and synthesized in (16.i) above), the Subject is merged as the external argument in the highest position at the syntax-semantic interface (i.e., Spec,vP), while the DO sits lower in the phrasal hierarchy (i.e., in Spec,VP). This means that, if fronted, the DO must cross over the Subject (or, better, over its trace/copy, after Subject movement to Spec,TP for EPP requirements) to reach Spec,FocP. Therefore, we argue that the A-bar movement of the Object is hindered, and thus disfavoured, by the superior External Merge of the Subject within the vP, as shown in Diagram 6 below:

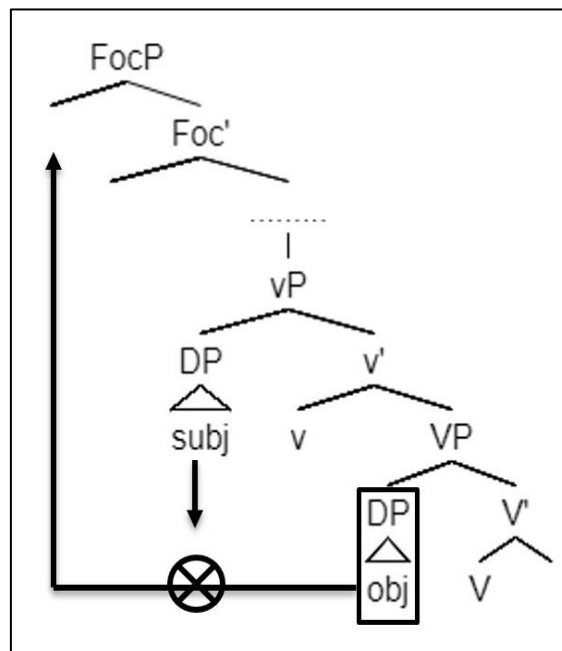


Diagram 6: Object FF - transitives

In line with this hypothesis, psych-verbs show an inverse trend. Indeed, the frequency and probability of Object FF strongly increase with these verbs, which present an opposite Merge hierarchy within the vP, with respect to transitive verbs (cf. Diagram 5 and (16.iv) above). Specifically, the Object is merged higher than the Subject and thus the former does not cross over any intervening phrase (or its trace/copy) within the vP in its movement towards the left periphery of the sentence, as shown in Diagram 7 below:

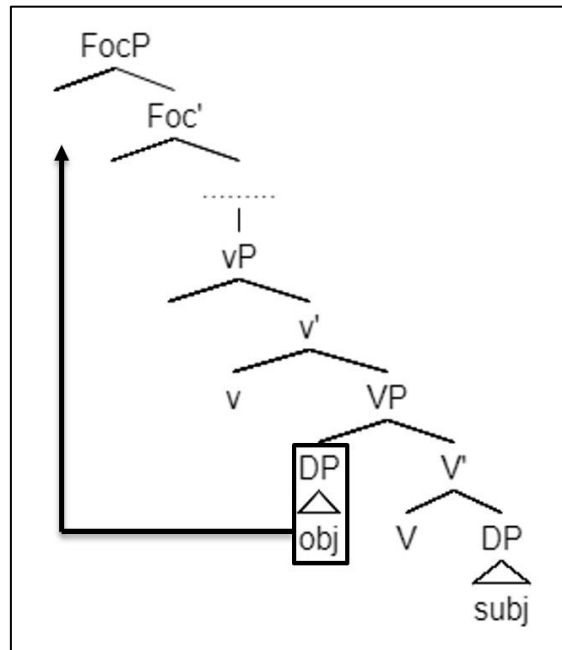


Diagram 7: Object FF - psych-verbs

Finally, unergative and unaccusative verbs (cf., respectively, Diagram 3-(16.ii) and Diagram 4-(16.iii) above), occupy an intermediate position between the two opposites just examined (namely, transitive and psych-verbs). Indeed, with these verbs Object FF occurs less than with psych-verbs but is more probable than with transitive verbs (cf. Figures 8-9 and Table 6).

Moreover, in the case of Object FF, results do not show any significant difference between these two different thematic hierarchies, suggesting that as far as intervention effects are concerned, there is no difference between Subject Merge in Spec,vP or Spec,VP. Indeed, as long as the Subject is higher than the Object, the latter must cross over the former if fronted, and these operations are expected to be hindered in the same way, as is shown in Diagrams 8 and 9 below:

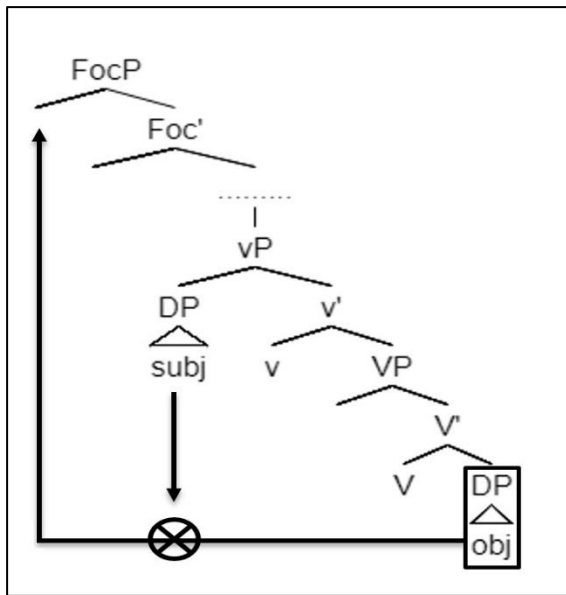


Diagram 8: Object FF – unergative verbs

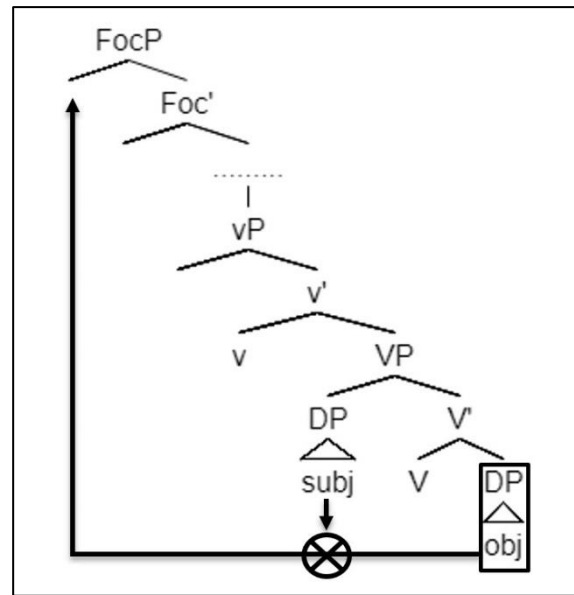


Diagram 9: Object FF - unaccusative verbs

Yet, the higher probability of Object FF for unergatives and unaccusatives, with respect to transitives, still remains to be explained, considering that the Object crosses over the Subject in both cases. In this respect, we hypothesize that Compl,VP (traditionally, a ‘governed’ position) qualifies as an ‘escape hatch’. Consequently, Object movement is subject to weaker restrictions.

Considering all the above, we propose that with transitives, unaccusatives and unergatives, fronting is disfavoured because of the superior External Merge of the Subject, which triggers intervention effects on the A-bar movement of the Object. In addition, Object fronting is less disfavoured with unergatives and unaccusatives, due to Object Merge in Compl,VP, a position which facilitates the extraction of constituents. Conversely, the fronting of the Object is favoured with psych-verbs, because they do not trigger intervention effects, since Object Merge is higher than Subject Merge and, as a consequence, the former does not cross over the latter when fronted to Spec,FocP (cf. Diagram 7).

4.2 Superiority effects in (O)VS Subject Focus constructions

It is crucial to notice that (O)VS constructions feature the topicalization of the Object. The latter can be feasibly considered a familiar G-Topic (i.e., a Topic serving a retrieving function in the discourse, cf. Frascarelli and Hinterhölzl 2007; on Familiar Topics cf. Roberts 2004), since it always refers to the Object expressed in the preceding stimulus (to be corrected).

According to Frascarelli and Hinterhölzl’s (2007) proposal, G-Topics are realized in the lowest Topic projection in the C-domain, immediately dominating FinP, whereas two additional

Topic projections are assumed above the FocP, namely ContrP and ShiftP, dedicated to Contrastive Topics and Aboutness-Shift Topics respectively, as is shown in the hierarchy given in (21):²⁷

(21) [_{ForceP} [_{ShiftP} [_{ContrP} [_{FocP} [_{FamP} [_{FinP} [_{AgrSP}

Focusing on Aboutness-Shift Topics (A-Topics), in a cartographic approach in which discourse properties are encoded in syntax in the form of formal (functional) features, the Shift⁰ head is argued to be endowed with a specification for interpretable [aboutness] and [shift] features. Therefore, since the [aboutness] feature is proposed as an extended EPP feature (Frascarelli 2007, 2018), the Spec,ShiftP qualifies as a *criterial* position (Rizzi 2006) and, as such, it must be filled in every predicational sentence. In this respect, a Topic Criterion is proposed in Frascarelli (2007), which reads as follows:

(22) Topic Criterion

- a. [+aboutness] is connected with an (extended) EPP feature in the high topic field that yields a specific discourse-related property, namely “aboutness.”
- b. The [+aboutness] topic matches with an argument in the main clause through Agree.
- c. When continuous, the A-Topic can be null (i.e., silent).

The Topic Criterion implies that every sentence contains a position in its C-domain endowed with the [aboutness] feature. However, since a shift is not realized in every sentence, it is assumed that, within discourse, predication can imply *multiclausal domains* in which chains of clauses are combined and refer to an established A-Topic, whose [aboutness] feature is kept *continuous*. Specifically, Topic continuity is enabled across sentences by the presence of low-toned and silent copies of the established A-Topic, heading the relevant Topic chain (cf. Frascarelli 2018 for details and relevant data).

Based on this assumption, Frascarelli and Jimenez-Fernandez (2019: 168-169) provide evidence that, contrary to A-Topics – which are externally merged in Spec,ShiftP in Clitic Left-

²⁷ Evidence for the validity of the relevant hierarchy and the necessity of dedicated projections to account for different Topic types is provided for different languages in subsequent analyses (cf., among others, Puglielli and Frascarelli 2009, Jiménez-Fernández 2016, van Gelderen 2013, Frascarelli 2007, 2018, Ylinärä and Frascarelli 2021).

Dislocation Languages (CLLD) like Italian – a G-Topic *moves* to Spec,FamP and enters an Agree relation with the Shift⁰ head, so that its [aboutness] and [ref(erential)] features can be interpreted at the interfaces. This means that, in this case, the [shift] feature is not realized:

(23) [_{ShiftP} A-Topic_z [_{Shift'} Shift⁰ [shift; aboutness; ref] [_{FamP} G-Topic/pro_z [aboutness; ref] [_{Fam'} Fam⁰ [aboutness; ref] [_{TP} t_z T [_{VP} v+V]]]]]]]

Importantly, when a sentence is part of a discourse-related multiclausal domain, its Spec,ShiftP position is filled by a *silent A-Topic* (silent phrases are indicated in angle brackets, as is standard usage):

(24) [_{ShiftP} <A-Topic>_z [_{Shift'} Shift⁰ [aboutness; ref] [_{FamP} G-Topic [aboutness; ref] [_{Fam'} Fam⁰ [aboutness; ref] [_{TP} t_z T [_{VP} v+V]]]]]]]

This is exactly what we propose for (O)VS constructions realized to correct a Subject Focus. In other words, based on a Topic continuity account, we propose to consider a corrective reply as *part of a multiclausal domain initiated by the previous statement*. As such, the Shift⁰ head does *not* realize the [shift] feature (as in (24) above). However, differently from the structure examined in Frascarelli and Jimenez-Fernandez (2019), in this case the Topic in Spec,ShiftP is generally *overtly realised* (silent realizations only amount to 3,5% of total cases), while the G-Topic moved to Spec,FamP is a silent copy. This proposal can be illustrated for the target sentence in Diagram 10 below, taken from the reply in (25):

(25) A. *Il cane lo lava lo zio.*
the dog it.CL.OD wash.3SG the uncle
‘The uncle is washing the dog.’
B: *No! Il cane lo lava la mamma.*
No the dog it.CL.OD wash.3SG the mummy
‘No! Mummy is washing the dog.’

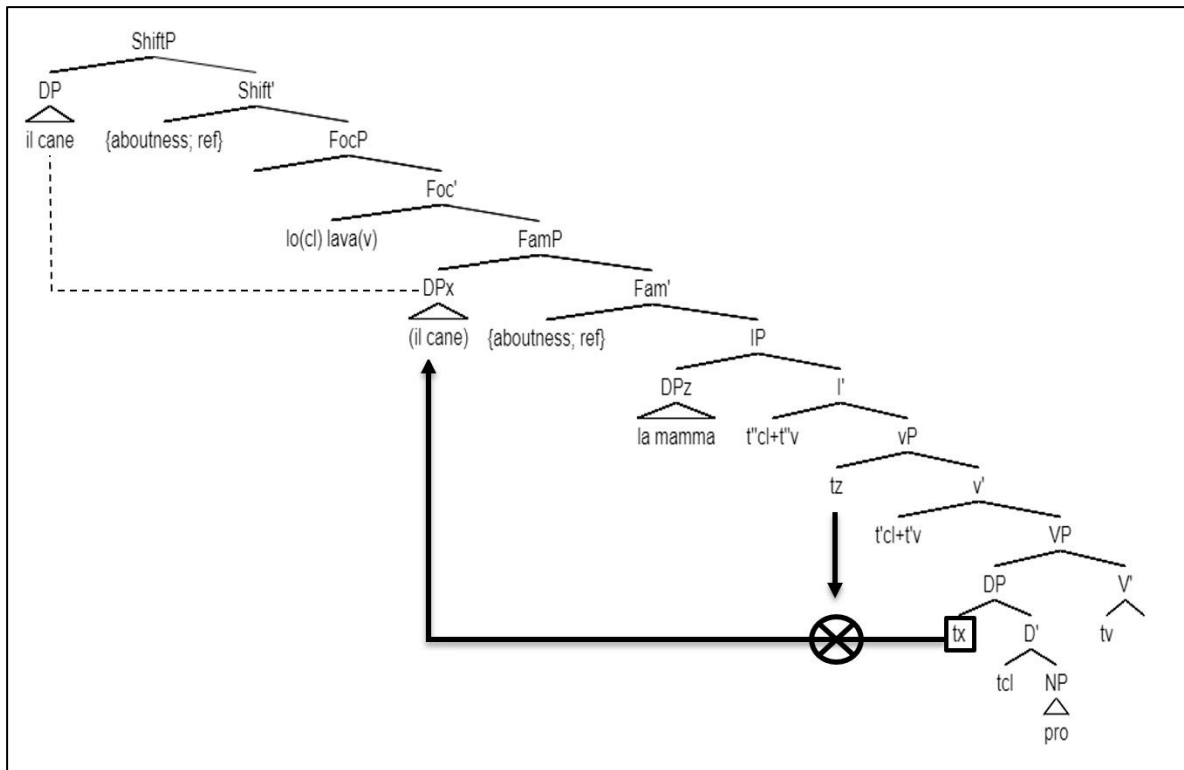


Diagram 10: Intervention effects in (O)VS constructions (Transitives)

This analysis is in line with current interface accounts on Topic continuity and can provide an immediate and consistent explanation for the present findings. Indeed, as with Object FF (cf. §4.1), in Subject Focus (O)VS sentences, the (superior) external Merge of the Subject (in Spec,vP) interferes with the A-bar movement to Spec,FamP of the (silent) Object (as shown in Diagram 10 above). Therefore, similarly to Object FF, these constructions are avoided with transitive verbs, while they are significantly more probable to occur with psych-verbs, in which the Subject is merged in the lowest position (i.e., Compl, VP). Once again, unergatives and unaccusatives occupy an intermediate position between these two extremes (i.e., (O)VS constructions are more probable than with transitives, but less than with psych-verbs), supporting the analysis of Compl,VP as an ‘escape hatch’, which facilitates Object movement.

Finally, it must be noticed that the topicalized Object is often resumed by a clitic pronoun with all verb types (with transitives’ DOs clitic resumption is indeed mandatory), thus qualifying as an instance of Clitic Doubling. In this respect we follow Uriagereka’s (1995) proposal, according to which third person clitics are determiners, which can select for null NPs as complements and may host a co-indexed DP (the ‘double’) in their specifier (see also Cecchetto 2000). In the case at issue this (silent) double undergoes A-bar movement to Spec,FamP and it is this movement that is constrained by the Subject’s higher Merge, resulting

in the different probability of (O)VS constructions, depending on the thematic hierarchy involved.

4.3 Superiority effects in clefts

To conclude the present analysis, let us now consider the case of cleft sentences. As said above (cf. note 18 and §3.2.1), we consider cleft sentences to be specificational copular sentences, featuring a free relative clause as the Subject of a Small Clause and the focused constituent as its predicate. Diagram 11 illustrates the derivation of the example given in (25) below:

- (26) È [CF *un ragazzo*] *che arrestano i poliziotti.*
 be.3SG [CF DET guy] that arrest.3PL DET policemen.SUBJ
 ‘It is a guy that the policemen arrest.’

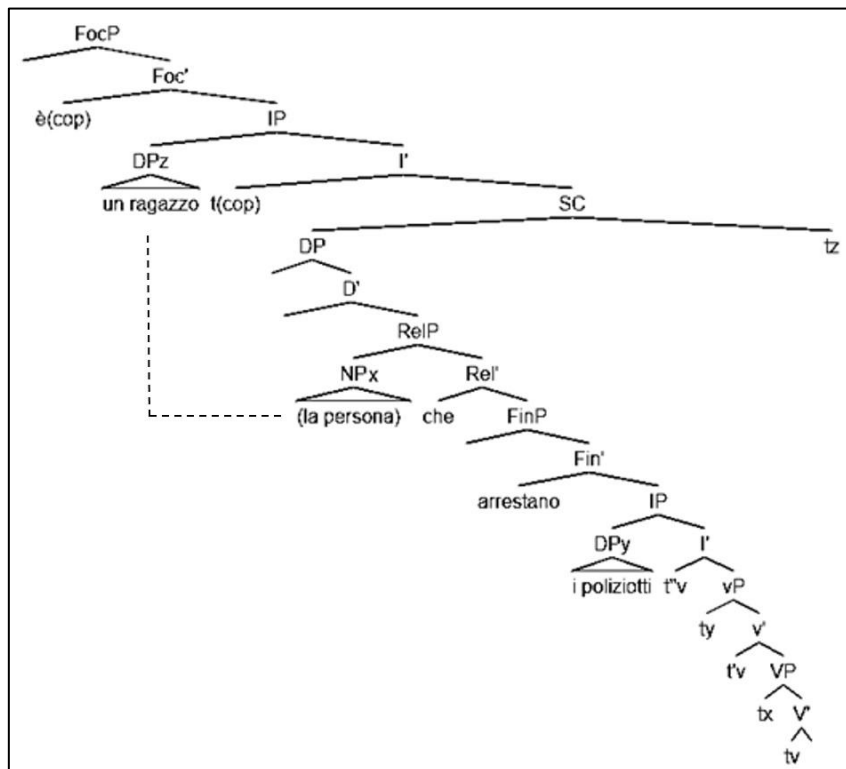


Diagram 11: Clefts syntactic structure

As can be seen in Diagram 11, the Focus (i.e., *un ragazzo*, the predicate of the SC) matches via Agree with a generic (silent) XP ranging over a limited set of denotations (i.e., ‘person’, ‘thing’, ‘place’, ‘time’; *persona* ‘person’, ‘in this case), which is externally merged within the vP of the relative clause and undergoes operator movement to Spec,RelP, to assume scope over the relative clause.

As already discussed above (cf. §§ 3.2.1-3.2.2), (O)VS constructions and Object FF show the same behaviour with respect to the different verb subtypes, despite the different functions of the focused constituent. Conversely, cleft sentences show an inverse trend depending on whether the Focus is on the Subject or on the Object, as resumed in Figure 16 below:

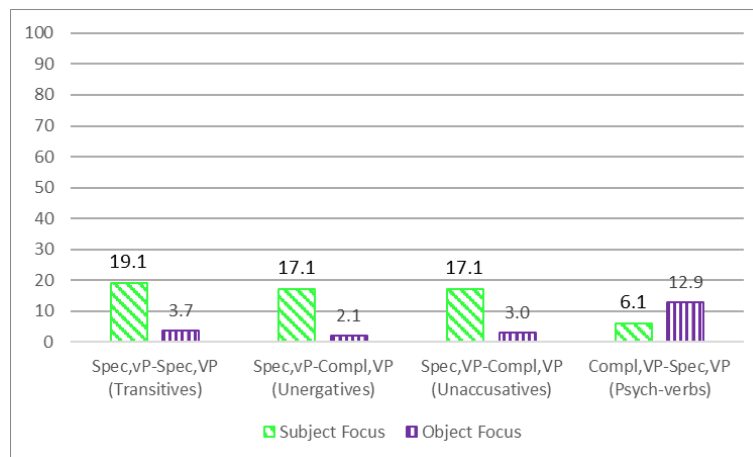


Figure 16: Subject vs. Object clefts

Far from being a conundrum, this discrepancy does provide further support to the hypothesis put forth in the previous sections. Specifically, both with Object FF and with (O)VS sentences, the constituent undergoing A-bar movement to the left periphery is always the Object (to be either focused or topicalized, cf. §§4.1 and 4.2, respectively). Hence, assuming the intervention effect of a superior Merge of the Subject, the fact that these two constructions share the same pattern is expected.

On the other hand, in the case of clefts, the function of the focused constituent is determined by the function of the operator that undergoes A-bar movement to Spec,RelP, thus predicting the inverse pattern attested in the results. Indeed, when the Focus is on the Subject, the (null) relative operator is the Subject of the relative clause. Consequently, its movement is disfavoured with psych-verbs, as the higher External Merge of the Object constrains the A-bar movement of the Subject, whereas it is favoured with any other verb type, as shown respectively in Diagrams 12 and 13 below:

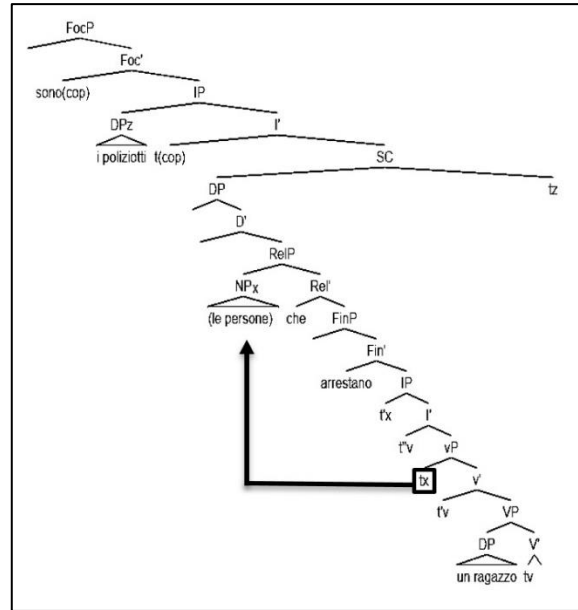
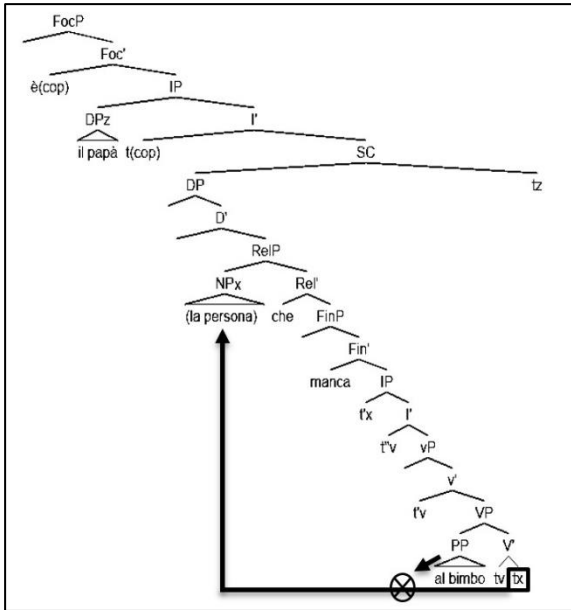


Diagram 12: Intervention in Subject clefts (psych-verbs) Diagram 13: Intervention in Subject clefts (transitives)

Conversely, with Object Focus, the (null) relative operator is the Object and, as such, its movement is favoured with psych-verbs, in which the Object is merged higher than the Subject, while it is disfavoured with any other verb type, as shown respectively in Diagrams 14 and 15 below:

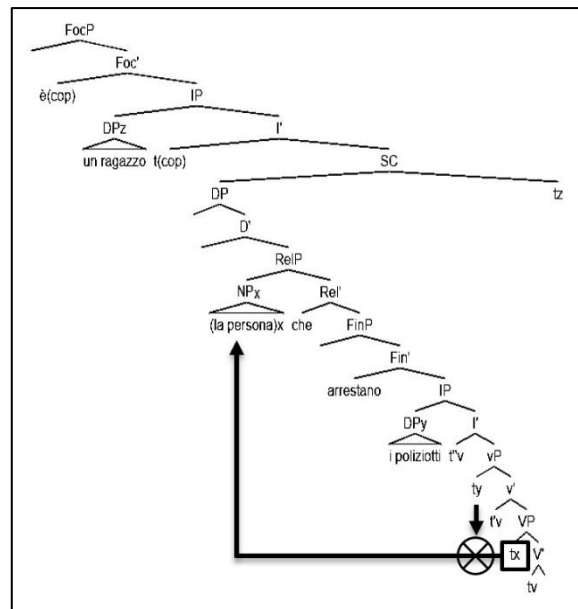
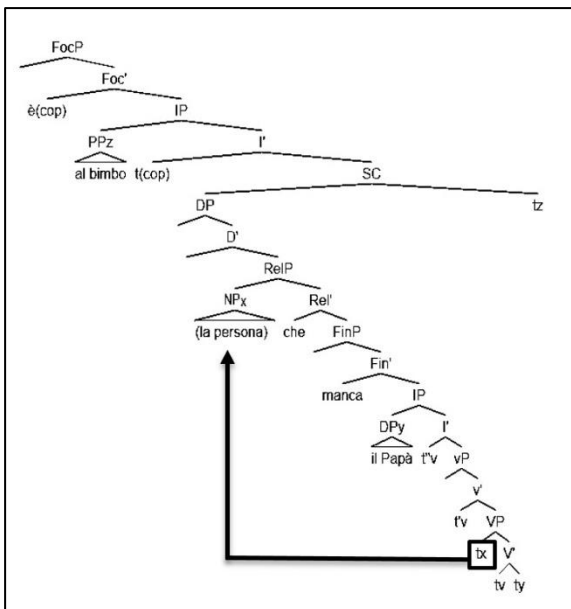


Diagram 14: Intervention in Object clefts (psych-verbs) Diagram 15: Intervention in Object clefts (transitives)

Notice that, besides supporting our working hypothesis, these results indicate that intervention effects are not only triggered by a higher Subject Merge, but can also be prompted by the presence of a higher Object in the vP. Hence, we argue for the existence of a general constraint which influences the acceptability (and thus the frequency) of sentences featuring A-bar movement, as proposed in (26):

(27) EXTERNAL-MERGE INTERVENTION CONSTRAINT (EMIC)

Avoid A-bar movement over the External Merge of a superior argument in the vP phase.

These results are consistent with Villata et al.'s (2016) proposal (cf. §1.3), since EMIC depends on a so-called '*Complex Identity*' intervention (cf. (13D) above), in which the constituents involved always share two features, namely, they are noun phrases [+N] (in some cases, preceded by a preposition) and arguments [+A]. This explains why informants still realize the disfavoured structures in some cases, since as proposed by Villata et al. (2016) Complex Identity is a weaker type of intervention and relevant sentences are not completely unacceptable.

5. Conclusions

The outcome of the present pilot experiment has provided evidence that the *External Merge of arguments* plays a role in Move operations to the C-domain. In particular, the data presented seem to indicate that External Merge in the vP phase determines specific *intervention effects* across verb classes, suggesting the existence of a tripartite distinction with respect to Fronting operations between (i) transitive verbs, (ii) unaccusative and unergative verbs, and (iii) psych-verbs of the '*piacere*' class. The thematic hierarchies characterizing this tripartite division can provide the pivotal approach for a novel analysis of the factors that can (dis)favour Fronting.

Furthermore, *intervention effects* have been explored to account for data apparently challenging the present proposal, especially related to cleft constructions. Relevant analysis has thus led to the claim that intervention effects can also be prompted by the External Merge of the Object in the vP shell. Hence, the existence of a general Constraint is argued (the EMIC, in (27) above), according to which A-bar movement is avoided, in line with Villata et al.'s (2016) approach to intervention effects. This constraint is claimed to affect the acceptability (and thus the probability) of sentences featuring A-bar movement in Italian.

However, it should be specified that, though showing what factors *disfavour* FF, the data collected through our experiment do not provide clear-cut evidence on what *determines* FF. Thus, this aspect is left open for further research.

Finally, the analysis of data indicates that alternative marked strategies are especially used in the case of Subject Focus, possibly because the fronting of the Subject in an SVO language qualifies as a *vacuous movement*, and the (O)VS construction seem to emerge as the most frequent strategy. Furthermore, the pilot's results also attest significantly more clefts with Subjects than with Object Focus. This result can also be explained in the light of the present proposal, since data show that the A-bar movement of the (null) relative operator (necessary for the derivation of clefts) is disfavoured when crossing over the External Merge of a *superior argument* as predicted by the EMIC.

To conclude, the data presented in this paper provide evidence for a consistent analysis which substantiates our working hypothesis. Specifically, it has been shown that *Superiority in syntax-semantics interface* provide a novel path of research for the understanding what might favour or disfavour FF. In particular, it may be remarkable to notice that this kind of Superiority does not depend on Spell-Out c-command but to the LF representation of the of A-bar movement, namely the position of the to-be-focused constituent in the vP-phase. We can therefore hypothesize that the gradient effect attested in our results could be due to the LF nature of this specific intervention

Obviously, since the experiment has been designed as a pilot investigation, future research is needed to expand on these results through a wider comprehensive analysis, in order to provide further and more exhaustive data in favour of the present proposal.

Acknowledgements: We wish to thank ASIIt reviewers, whose precious comments and suggestions have helped us improve the quality of this paper. We would also like to thank Cecilia, a prized friend and outstanding researcher, whose inspiring works have greatly contributed to linguistic investigation.

References

- Agbayani, Brian (2000). Wh-Subjects in English and the Vacuous Movement Hypothesis. *Linguistic Inquiry* 31: 703–713.
- Alboiu, Gabriela. (2004). Optionality at the interface: Triggering focus in Romanian. In *Triggers*, ed. by Henk van Riemsdijk and Anne Breitbath, 49–75. Berlin: Mouton de Gruyter.
- Alexiadou, Artemis, and Elena Anagnostopoulou (2004). Voice morphology in the causative-inchoative Alternation: evidence for a non-unified structural analysis of unaccusatives. In *The Unaccusativity puzzle*, ed. by Artemis Alexiadou, Elena Anagnostopoulou, and Martin Everaert, 114-136. Oxford: Oxford University Press.
- Alexiadou, Artemis, Elena Anagnostopoulou, and Florian Schäfer (2006). The properties of anticausatives crosslinguistically. In *Phases of Interpretation*, ed. by Mara Frascarelli, 187-212. Berlin: Mouton de Gruyter.
- Arad, Maya (1998). *VP Structure and the Syntax-Lexicon Interface*. Doctoral Dissertation: University College London.
- Arnon, Inbal, Neal Snider, Philip Hofmeister, T. Florian Jaeger and Ivan Sag (2006). *Cross-linguistic variation in a processing account: Multiple wh-questions*. Ms., Stanford University, Stanford, CA.
- Belletti, Adriana (2008). *Answering strategies: New information Subjects and the nature of clefts*. London: Routledge.
- Belletti, Adriana, and Luigi Rizzi (1988). Psych-verbs and θ -theory. *Natural Language and Linguistic Theory* 6 (3): 291-352.
- Bennis, Hans J. (2004). Unergative adjectives and psych verbs. In *The Unaccusativity Puzzle: Explorations of the syntax-lexicon interface*, ed. by A. Artemis Alexiadou, 30–65. Oxford: Oxford University Press.
- Bergen, Geertje van (2011). *Who's first and what's next? Animacy and word order variation in Dutch language production*. Doctoral Dissertation, Radboud University Nijmegen.
- Bianchi, Valentina, and Giuliano Bocci (2012). Should I stay or should I go? Optional focus movement in Italian. In *Empirical issues in syntax and semantics 9*, ed. by Christopher Piñon, 1–16. Paris: EISS.
- Bianchi, Valentina, Giuliano Bocci and Silvio Cruschina (2015). Focus Fronting and its implicatures. In *Romance Languages and Linguistic Theory 2013*, ed. by Aboh Enoch, Jeannette Schaeffer and Petra Sleeman, 3-20. Amsterdam/Philadelphia: John Benjamins.

- Bianchi, Valentina, Giuliano Bocci and Silvio Cruschina (2016). Focus fronting, unexpectedness, and evaluative implicatures. *Semantic and Pragmatics* 9 (3).
- Bolinger, Dwight (1978). Asking more than one thing at a time. In *Questions*, ed. by Henry Hiz, 107–150. Dordrecht: Reidel.
- Boškovič, Željko (2002). On Multiple wh-fronting. *Linguistic Inquiry* 33, (3): 351-383.
- Bouma, Gosse, Robert Malouf, and Ivan Andrew Sag (2001). Satisfying Constraints on Extraction and Adjunction. *Natural Language & Linguistic Theory*, 19, 1-65.
- Branigan, Holly P., Martin J. Pickering and Mikihiro Tanaka M. (2008). Contributions of animacy to grammatical function assignment and word order during production. *Lingua* 118: 72-189.
- Bresnan, Joan (1982). *The Mental Representation of Grammatical Relations*. Cambridge, MA: MIT Press.
- Brugé, Laura, Anna Cardinaletti, Giuliana Giusti, Nicola Munaro, and Cecilia Poletto, Cecilia, (eds) (2012). *Functional Heads: The Cartography of Syntactic Structures, Volume 7*. Oxford: Oxford University Press.
- Carella, Giorgio (2019). *Discourse categories, conversational dynamics and the root/embedded distinction between comprehension and production in normal children*. Doctoral Dissertation, University of Roma Tre.
- Cecchetto, Carlo (2000). Doubling Structures and Reconstruction. *Probus* 12 (1):1-34.
- Chomsky, Noam (1973). Conditions on transformations. In *A festschrift for Morris Halle*, ed. by Anderson Stephen R. and Paul Kiparsky, 232–286. New York: Holt, Rinehart and Winston.
- Chomsky, Noam (1977). On wh-movement. In *Formal Syntax*, ed. by Peter Culicover, Thomas Wasow and Adrian Akmajian, 71-132. New York: Academic Press.
- Chomsky, Noam (1981). *Lectures on government and binding*. Dordrecht: Foris.
- Chomsky, Noam (1986) *Barriers*. Cambridge, MA: MIT Press.
- Chomsky, Noam (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam (2008). On phases. In *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. by Freidin Robert, Carlos P. Otero and Maria Luisa Zubizarreta, 133–166. Cambridge, MA: MIT Press.
- Cinque, Guglielmo, and Luigi Rizzi (2008). The cartography of syntactic structures. *Studies in Linguistics – CISCL Working Papers* 2, 42–58.

- Clifton, Chuck, and Fernanda Ferreira (1987). Modularity. In *Modularity in Sentence Comprehension: Knowledge Representation and Natural Language Understanding*, ed. by Jay L. Garfield, 277-290. Cambridge, MA: MIT Press.
- Collins, Chris (1997). *Local Economy*. Cambridge, MA: MIT Press.
- Costa, João, and Ana Maria Martins (2011). On Focus Movement in European Portuguese. *Probus* 23(2): 217-245.
- Culicover, Peter W., and Ray Jackendoff (2005). *Simpler Syntax*. Oxford: Oxford University Press.
- Dahl, Östen, and Karl Fraurud (1996). Animacy in grammar and discourse. In *Reference and Referent Accessibility*, ed. by Thorstein Fretheim and Jeannette K. Gundel, 47-64. Amsterdam/Philadelphia: John Benjamins.
- Dikken, Mark den (2006). *Relators and Linkers: The Syntax of Predication, Predicate Inversion, and Copulas*. Cambridge, MA: MIT Press.
- Embick, David (1997). *Voice systems and the syntax/morphology interface*. Doctoral Dissertation: University of Pennsylvania.
- Fanselow, Gisbert (2001). Features, θ -Roles, and Free Constituent Order. *Linguistic Inquiry* 32 (3): 405–437.
- Fanselow, Gisbert, and Denisa Lenertova (2010). Left peripheral focus: mismatches between syntax and information structure. *Natural Language and Linguistic Theory* 29: 169-209.
- Fillmore, Charles J. (1968). The Case for Case. In *Universals in Linguistic Theory*, ed. by Emmon Bach, and Robert T Harms, 1-88. New York: Holt, Rinehart and Winston.
- Fodor, Janet Dean (1978). Parsing strategies and constraints on transformations. *Linguistic Inquiry* 9: 427–474.
- Frascarelli, Mara (2007). Subjects, Topics and the Interpretation of Referential pro. An interface approach to the linking of (null) pronouns. *Natural Language and Linguistic Theory* 25 (4): 691-734.
- Frascarelli, Mara (2010). Narrow Focus, Clefting and Predicate Inversion. *Lingua* 120 (9): 2121-2147.
- Frascarelli, Mara (2018). The interpretation of pro in consistent and partial NS languages: A comparative interface analysis. In *Null-Subjects in Generative Grammar. A synchronic and diachronic perspective*, ed. by Federica Cognola and Jan Casalicchio, 211-239. Oxford/New York: Oxford University Press.

- Frascarelli, Mara, and Roland Hinterhölzl (2007). Types of Topics in German and Italian. In *On Information Structure, Meaning and Form*, ed. by Susanne Winkler and Kerstin Schwabem 87-116. Amsterdam/Philadelphia: John Benjamins.
- Frascarelli, Mara, and Ángel L. Jiménez-Fernández (2019). Understanding partiality in *pro*-drop languages: An information-structure approach. *Syntax (Special Issue on Information Structure)* 22, (2-3): 162-198
- Frascarelli, Mara, and Tania Stortini (2019). Focus constructions, verb types and the SV/VS order in Italian: An acquisitional study from a syntax-prosody perspective. *Lingua* 227, 102690.
- Gabriel, Christoph (2010). On focus, prosody, and word order in Argentinean Spanish: A minimalist OT account. *Revista virtual de estudos da linguagem* 4, 183–222.
- Gärtner, Hans-Martin. (2002). On the force of V2 declaratives, *Theoretical Linguistics* 28: 33–42.
- Gelderen, Elly van (2013). Null Subjects in Old English, *Linguistic Inquiry* 44, (2): 271-285.
- Gries, Stefan Th. (2021). *Statistics for Linguistics with R. A practical Introduction*. Berlin/Boston: De Gruyter.
- Giurgea, Ion (2016). On the interpretation of focus fronting in Romanian. *Bucharest Working Papers in Linguistics XVIII*: 37-62.
- Gussenhoven, Carlos (2008). Types of focus in English. In *Topic and Focus: Cross-linguistic Perspectives on Meaning and Intonation*, ed. by Lee Chungmin, Matthew Gordon and Daniel Büring, 83-100. New York/London: Springer.
- Haida, Andreas (2008). The Indefiniteness and Focusing of Wh-Words. In *Proceedings of SALT XVIII*, ed. by Márta Abrusán, Friedman Tova and Satoshi Ito, 85-118. Ithaca, NY: Cornell University.
- Haider, Hubert (1993). Principled variability. Parametrization without parameter fixing. In *The Parametrization of Universal Grammar*, ed. by Gisbert Fanselow, 1–16. Amsterdam/Philadelphia: John Benjamins.
- Hale, Samuel, and Jay Keyser (1993). Prolegomenon to a Theory of Argument Structure. *Language* 81 (1): 248-251.
- Halliday, Michael A. K. (1967). Notes on Transitivity and Theme in English: Part II. *Journal of Linguistics* 3: 199-244.
- Harley, Heidi (1995). *Subjects, Events and Licensing*. Doctoral Dissertation: MIT.
- Hartmann, Katharina, and Malte Zimmermann (2007). In place – out of place: Focus in Hausa. In *On information structure, meaning and form: Generalizations across languages*, ed. by

- Schwabe Kerstin and Susanne Winkler, 365–403. Amsterdam/Philadelphia: John Benjamins.
- Heycock, Caroline (2006). Embedded Root Phenomena. In *The Blackwell companion to syntax*, ed. by Martin Everaert and Henk van Riemsdijk, 174–209. Oxford: Basic Blackwell.
- Hofmeister, Philip (2007). Retrievability and gradience in filler-gap dependencies. In *Proceedings of the 43rd regional meeting of the Chicago Linguistics Society*, ed. by Malcolm Elliott, James Kirby, Osamu Sawada, Eleni Staraki and Suwon Yoon, 109–123. Chicago: Chicago Linguistics Society.
- Hooper, Joan, and Sandra Thompson (1973). On the applicability of root transformations. *Linguistic Inquiry* 4: 465–497.
- Jones, Mari C., and Edith Esch. (eds.) (2002). *Language Change: The interplay of internal, external and extra-linguistic factors*. Berlin: Mouton de Gruyter.
- Kiss, Katalin, ed. (1995). *Discourse-Configurational Languages*. Oxford: Oxford University Press.
- Kiss, Katalin (1998). Identificational focus versus information focus. *Language* 74: 245-273.
- Jackendoff, Ray (1972). *Semantic Interpretation in Generative Grammar*. Cambridge, MA: MIT Press.
- Jiménez-Fernández, Ángel L. (2016). When discourse met null subjects. *Borealis: An International Journal of Hispanic Linguistics* 5 (2): 173–189.
- Kotek, Hadas (2017). Dissociating intervention effects from Superiority in English wh-questions. *The Linguistic Review* 34, 2, 394-417.
- Kratzer, Angelika (1994). On External Arguments. In *Functional Projections*, ed. by Elena Benedicto and Jeffrey Runner, 103-130. Amherst/Mass.: GLSA, UMass Amherst.
- Krifka, Manfred (2007). Basic notions of information structure. In *Interdisciplinary studies on information structure*, ed. by Féry Caroline and Manfred Krifka, 13–55. ISIS: Universitätverlag Potsdam.
- Ladd, Robert D. (2008) [1996]. *Intonational phonology. Second edition*. Cambridge: Cambridge University Press.
- Lambrecht, Knud (1994). *Information Structure and Sentence Form: Topic, focus and the mental representation of discourse elements*. Cambridge: Cambridge University Press.
- Landau, Idan (2009). *The locative syntax of experiencers*. Linguistic Inquiry Monographs 53. Cambridge, MA: MIT Press
- Larson, Richard K. (1988). On the double Object construction. *Linguistic Inquiry*, 19 (3): 335-391.

- Levin, Beth, and Malka Rappaport Hovav (1996). Lexical Semantics and Syntactic Structure. In *The Handbook of Contemporary Semantic Theory*, ed. by Shalom Lappin, 487-507. Oxford: Blackwell.
- Levshina, Natalia (2015). *How to do Linguistics with R. Data exploration and statistical analysis*. Amsterdam/Philadelphia: John Benjamins.
- Manning, Christopher David, Ivan Andrew Sag, and Iida Masayo (1999). The Lexical Integrity of Japanese Causatives. In *Readings in HPSG*, ed. by Robert D. Levine and Georgia M. Green, 39-79. Cambridge: Cambridge University Press.
- Marantz, Alec (1997). No escape from syntax: don't try morphological analysis in the privacy of your own lexicon". *University of Pennsylvania Working Papers in Linguistics* 4 (2): 201-225 (Article 14).
- Neeleman, Ad, Elena Titov, Hans van de Koot, and Reiko Vermeulen (2007). A syntactic typology of topic, focus and Contrast. In *Alternatives to Cartography*, ed. by van Craenenbroek Jeroen, 15-52. Berlin: Mouton de Gruyter.
- Neeleman, Ad, and Hans van de Koot (2008). Dutch scrambling and the nature of discourse templates. *Journal of Comparative Germanic Linguistics* 11 (2): 137–189.
- Neeleman, Ad, and Reiko Vermeulen (eds.) (2012). *The Syntax of Topic, Focus, and Contrast* (Studies in Generative Grammar). Berlin/Boston: Mouton de Gruyter.
- Pesetsky, David (1987). Wh-in-situ: Movement and unselective binding. In *The representation of (in)definiteness*, ed. by Reuland Eric and Alice ter Meulen, 98–129. Cambridge, MA: MIT Press.
- Pesetsky, David (1995). *Zero Syntax*. Cambridge, MA: MIT Press.
- Pesetsky, David (2000). *Phrasal movement and its kin*. Cambridge, MA: MIT Press.
- Poletto, Cecilia (2010). The syntax of focus negation. *Quaderni di lavoro ASIt– ASIt working papers, 10*.
- Poletto, Cecilia, and Paola Benincà (2004). Topic, Focus and V2: defining the CP sublayers. In *The structure of CP and IP, Vol 2*, ed. by Luigi Rizzi, 52-75. Oxford & New York: Oxford University Press.
- Primus, Beatrice (1999). *Cases and thematic roles: Ergative, accusative and active*. Tübingen: Niemeyer.
- Puglielli, Annarita, and Mara Frascarelli (2009). Position, Function and Interpretation of Topics in Somali. In *Information Structure and Its Interfaces*, ed. by Lunella Mereu, 325-348. Berlin: Mouton de Gruyter.

- Puglielli, Annarita, and Mara Frascarelli (2011). *Linguistic Analysis: From Data to Theory*. Berlin: Mouton de Gruyter.
- R Core Team (2020). *R: A language and environment for statistical computing*. Vienna: R Foundation for Statistical Computing. <https://www.R-project.org/> (last accessed May 22, 2022).
- Rizzi, Luigi (1997). The fine structure of the left periphery. In *Elements of grammar: Handbook in generative syntax*, ed. by Liliane Haegeman, 281–337. Dordrecht: Kluwer.
- Rizzi, Luigi (2004). Locality and the left periphery. In *Structures and Beyond: The Cartography of Syntactic Structures*, vol. 3, ed. by Adriana Belletti, 223-251. Oxford University Press, Oxford.
- Rizzi, Luigi (2006). On the form of chains: Criterial positions and ECP effects. In *Wh-movement: Moving on*, ed. by Lisa L.S. Cheng and Norbert Corver, 97–134. Cambridge, MA: MIT Press.
- Rizzi, Luigi (2018). Intervention effects in grammar and language acquisition. *PROBUS* 30, (2), 339-367.
- Roberts, Craige (2004). Discourse context in dynamic interpretation. In *Handbook of Contemporary Pragmatic Theory*, ed. by Laurence Horn and Gregory Ward, 197-220. Blackwell Publishing.
- Roberts, Ian (1997). *Comparative syntax*. London: Arnold.
- Rooth, Mats (1992). A theory of focus interpretation. *Natural Language Semantics* 1, 75–116.
- RStudio Team (2021). *RStudio: Integrated Development Environment for R*. Boston: RStudio, PBC. <http://www.rstudio.com/> (last accessed May 22).
- Sabatini, Francesco (1985). L'italiano dell'uso medio: una realtà tra le varietà linguistiche italiane. In *Gesprochenes Italienisch in Geschichte und Gegenwart*, ed. by Holtus Günter and Edgar Radtke, 154-184. Tübingen: Narr.
- Salveste, Nele, Jonathan Harrington and Felicitas Kleber (2015). Phonetic effects of corrective Focus in Estonian. *Proceedings of the 18 International Congress of Phonetic Sciences* (online publication).
- Samek-Lodovici, Vieri (2018). Contrast, Contrastive Focus, and Focus Fronting. *UCL Working Papers in Linguistics* 57-77.
- Sigurðsson, Halldor Á. (2006). PF is more 'syntactic' than often assumed. *Working Papers in Scandinavian Syntax* 77: 101-128.

- Sigurðsson, Halldor Á., and Joan Maling (2010). The Empty Left Edge Condition. In *Exploring Crash-Proof Grammars*, ed. by Michael T. Putnam, 56-89. Amsterdam/Philadelphia: John Benjamins.
- Skopeteas, Stavros, and Gisbert Fanselow (2011). Focus and the exclusion of alternatives: On the interaction of syntactic structure with pragmatic inference. *Lingua* 121 (11): 1693-1706.
- Sprouse, Jon, Ivano Caponigro, Ciro Greco, and Carlo Cecchetto (2016). Experimental syntax and the cross-linguistic variation of island effects in English and Italian. *Natural Language and Linguistic Theory* 34(1): 307-344.
- Stechow, Arnim von (1995). Lexical Decomposition in syntax. In *Lexical Knowledge in the Organization of Language*, ed. by Urs Egli, Peter E. Pause, Christoph Schwarze, Arnim von Stechow, and Götz Wienod, 81-95. Amsterdam/Philadelphia: John Benjamins.
- Szabolcsi, Anna (2006). Strong and weak islands. *The Blackwell companion to syntax*. 4. 479-532.
- Tomlin, Russell S. (1986). *Basic word order*. London: Croom Helm.
- Trifone, Pietro (2008). *Storia Linguistica di Roma*. Roma: Carocci.
- Uriagereka, Juan (1995). Aspects of the Syntax of Clitic Placement in Western Romance. *Linguistic Inquiry* 26: 79-124.
- Vander Klok, Jozina, Heather Goad, and Michael Wagner (2017). Prosodic focus in English vs. French: A scope account. *Glossa: a journal of general linguistics* 3(1): 1-47.
- Verhoeven, Elisabeth (2014). Thematic Prominence and Animacy Asymmetries: Evidence from a Cross-Linguistic Production Study. *Lingua* 143: 129-161.
- Villata, Sandra, Luigi Rizzi, and Julie Franck (2016). Intervention effects and Relativized Minimality: New experimental evidence from graded judgments. *Lingua* 179: 76-96.
- Watanabe, Tomoko (2000). Object Topicalization, Passive, and Information Structure in Japanese. *Pacific Asia Conference on Language, Information and Computation*.
- Williams, Edwin (1981). On the notions 'lexically related' and 'head of a word'. *Linguistic Inquiry* 12: 245-274.
- Yiya, Chen (2006). Durational adjustment under corrective focus in Standard Chinese. *Journal of phonetics* 34: 176-201.
- Ylinärä Elina, and Mara Frascarelli (2021). Subjects, Topics and the ACC Case alternation in Finnish. A discourse-related "split" account for the Subject function. *Lingua*. (online publication [lingua.2021.103051](https://doi.org/10.1016/j.lingua.2021.103051)).