

**Ways of *smuggling* in syntactic derivations.\*\***

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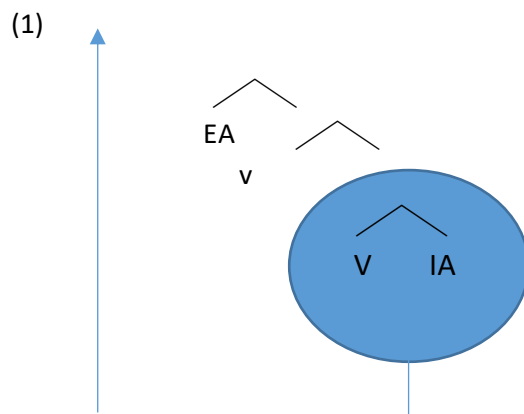
Abstract

The article presents and discusses a number of derivations such as passive, causative and passive in the causative voice/*si*-causative passive, which all involve movement of a chunk of the verb phrase containing the verb and its internal argument, yielding *smuggling* in Collins' (2005) sense. The questions of what the engine of a *smuggling* derivation is and how the relevant chunk to be *smuggled* is identified guide the discussion. Evidence from acquisition is also considered where derivations involving *smuggling* appear to be at the same time more complex and more readily available to the developing child. The relevant chunks can be attracted by different types of heads in the clause structure, which all have the property of attracting syntactic movement into their specifier. Such heads may express features of different nature present in the clausal map, such as the passive and causative voice, as well as discourse related features such as the (vP-peripheral) topic and focus features.

Keywords: passive, causative, *si*-causative passive, movement, locality, cartography, smuggling

1. Introduction

Since Collins' (2005) influential analysis of the derivation of passive through the process that he called *smuggling* similar derivations have been proposed for a number of other structures, among which: dative constructions, psych-verbs of the *worry* class, types of subject control verbs, causatives of the French/Italian Romance type (Collins this volume, Belletti & Rizzi 2013a, Mateu & Hyams this volume, Belletti 2017...).<sup>1</sup> A similar derivation had also been independently proposed earlier in the analysis involving movement of a chunk of the clause structure containing the verb and its internal argument/IA and also other higher material like a low adverb of Cinque's hierarchy (Cinque 1999, and the discussion in Belletti & Rizzi 2012). The mechanics of these derivations is essentially the same in all cases: a portion of the lowest part of the clause structure is moved into a Spec position in a higher part of the clause; the verb and its closest argument, the IA, is always included in the moved chunk:



<sup>1</sup> See also Bentea (2016), Belletti & Contemori (2010) on structures containing a postverbal subject analyzed through *smuggling* at a particular stage in acquisition.

What changes in the different cases is the final landing site of the moved verbal portion of the structure. For instance, adapting Collins' type analysis of passive, the landing site is a component of the passive voice, which can be identified with preposition *by*; in Romance type causatives the presence of a causative voice plays a similar role as the passive voice in passive (see Belletti 2017 for a detailed comparative presentation of the passive and causative derivations and below for more). (At least) two central questions are raised by derivations involving the movement of a verbal chunk illustrated in (1). They can be phrased as follows:

- What is the engine of a *smuggling* derivation?
- How is the relevant chunk to be *smuggled* identified?

In the present article I address these questions in cartographic terms (Rizzi 2004a, Cinque 2002, Belletti 2004a, Rizzi & Bocci 2017), assuming that the fundamental engine for syntactic movement is the presence in the clause structure of a feature with movement attracting properties; such feature functions as a *probe* searching for its goal in a *probe-goal* formulation of the searching operation at the base of movement (Chomsky 2001). Features are expressed on heads in the syntactic tree. Hence, under the (simplest) idea that each head expresses a single feature, a feature with movement attracting properties attracts a constituent into the Specifier of the head that expresses it. Thus, as far as question i. is concerned, there must be features/heads in the clause structure with the property of attracting a chunk of the verb phrase, in other words, features probing for a verbal goal (a chunk of a verb phrase or an extended projection of the verbal constituent). I elaborate on the nature of some of these features/heads, sometimes referred to as voices, in the sections below. As for question ii., some speculation will be offered on the question on which basis the relevant constituent may be identified in the various *smuggling* derivations. The consideration of recent results from acquisition will also contribute to the discussion, as *smuggling* types derivations appear to be at the same time more complex and more readily available to the developing child. The often-attested preference by young children for derivations involving *smuggling*, sometimes but not necessarily under the pressure of locality/Relativized Minimality expressed in featural terms (Rizzi 1990, 2004, Starke 2001, Friedmann, Belletti and Rizzi 2009) provides special lenses through which the fundamental questions in i. and ii. can be looked at.<sup>2</sup> In the following discussion I will mainly illustrate the different points under discussion mostly with Italian examples, taken in a comparative perspective

## 2. Some smuggling engines

### 2.1 Passive and (Romance/Italian) Causative

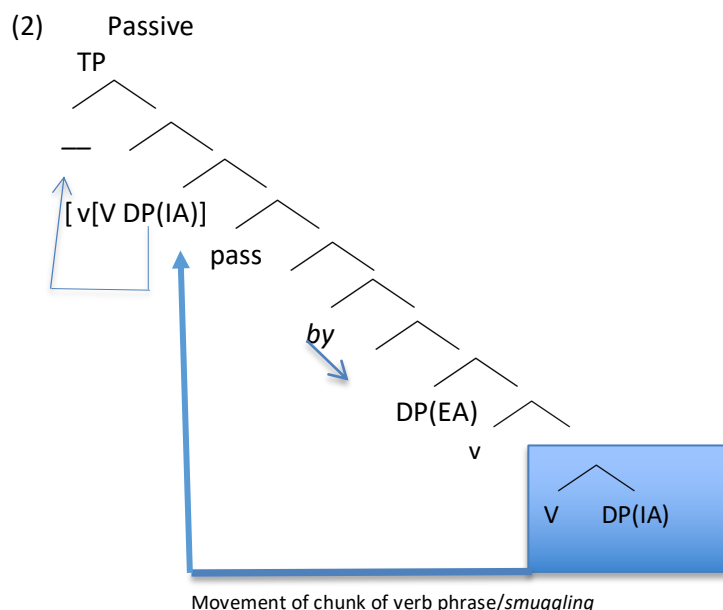
A component of the passive voice identified with preposition *by* plays the crucial role of attractor in Collins' by now classical derivation of passive.<sup>3</sup> According to the proposal in Belletti (2017) in

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<sup>2</sup> See Mateu and Hyams (this volume) for a partly different take on *smuggling* in development (see also Snyder and Hyams 2015 mentioned below). It could be that indeed a stronger *freezing* effect is at work in younger children as they propose, which is responsible for young children's dis-preference for (types of) passives (see also Belletti and Manetti 2018 on this point). However, the stronger effect cannot be categorical as young children do access passive from early on through visible movement of the verbal chunk as in the *si*-causative (and *get*-) passive, on which see below; see also the discussion in Belletti (2017, forthcoming) and references cited therein.

<sup>3</sup> (2) articulates in a slightly different way Collins' (2005) original representation of the passive voice (identified with *by*) in the aim of capturing the parallelism with the causative voice in (3) following. It keeps, however, the fundamental insight where voice is the attracting head forcing movement.

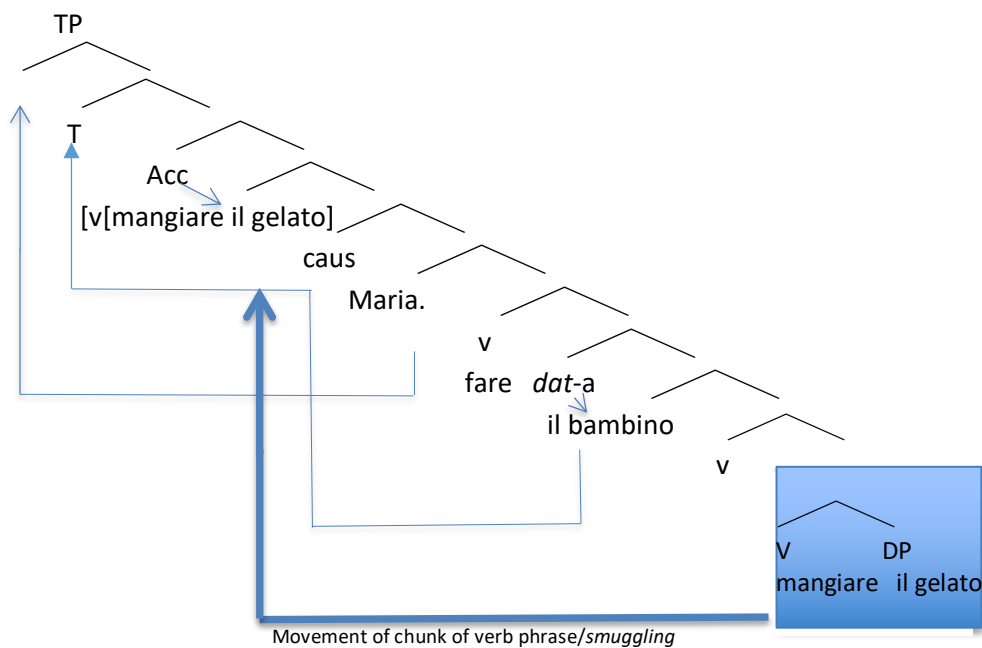
(Romance/Italian) causatives a similar role is played by the causative voice. I illustrate here the main aspects of that proposal, relevant to the present discussion<sup>4</sup>.



(3) *Fare-a* causative:

*Maria farà mangiare il gelato al bambino*  
 Maria will make eat the ice cream to the kid  
 'Maria will make the kid eat the ice cream'

<sup>4</sup> The analyses in (3) and (4) following slightly modify the one in Belletti (2017) in which preposition 'a' was located in a bit higher position in the verbal functional projection, directly selected by the *caus* voice. See the presentation there in terms of Krapova and Cinque's (2008) approach to the potential locality problem that that type of analysis potentially raised; a close investigation of this issue would take the discussion here too far afield. The analysis in (3) does not raise any such issue. It is adopted here also in consideration of its closer resemblance with Collins' (this volume) analysis of the dative alternation structure of English and its relation with the applicative voice (Pylkkanen 2002), which is in turn in the spirit of Kayne's (2004) analysis of English *to* in comparison to French *à* and *faire à* causatives. A more detailed presentation of the proposal and its relation with the affected interpretation of the *a*-marked external argument in *fare a* causatives (Guasti 1993) goes beyond the scope of the present discussion and is now postponed to future independent work. For the possibly higher position of *by* in *fare da* causatives see Belletti (2017) and Belletti (forthcoming.a) for a comparison with the *by* appearing in *si*-causative passive to be discussed in 2.2.



In the implementations in (2) and (3), the passive voice and the causative voice are in the selective spine of the markers *by* and *a* respectively, which are thus an essential part of the expression of these voices.<sup>5</sup> Furthermore, the causative interpretation of the verb *fare* in the construction is assured by the presence of the causative voice in the selecting functional spine.<sup>6</sup> A number of processes are implemented in the derivations in (2) and (3) – such as i.e. movement of V-to-T, Case assignment involving a head of the clausal spine (indicated as *Acc*=accusative for convenience, *by*, *dat*), movement of DP/IA in (2) and of DP/EA in (3) into the subject position. The crucial process moving a chunk of the verb phrase into the specifier of the phrase containing the attracting head is indicated through the thicker line of both (2) and (3).

## 2.2 *si*-causative passive

Next to the periphrastic passive using a passive auxiliary (*essere*/be or *venire*/come, in Italian) + past participle, a form of passive is present in Romance languages like Italian and French, that makes use of the causative verb, *fare/faire*; such passive also includes presence of the reflexive morpheme *si/se*.

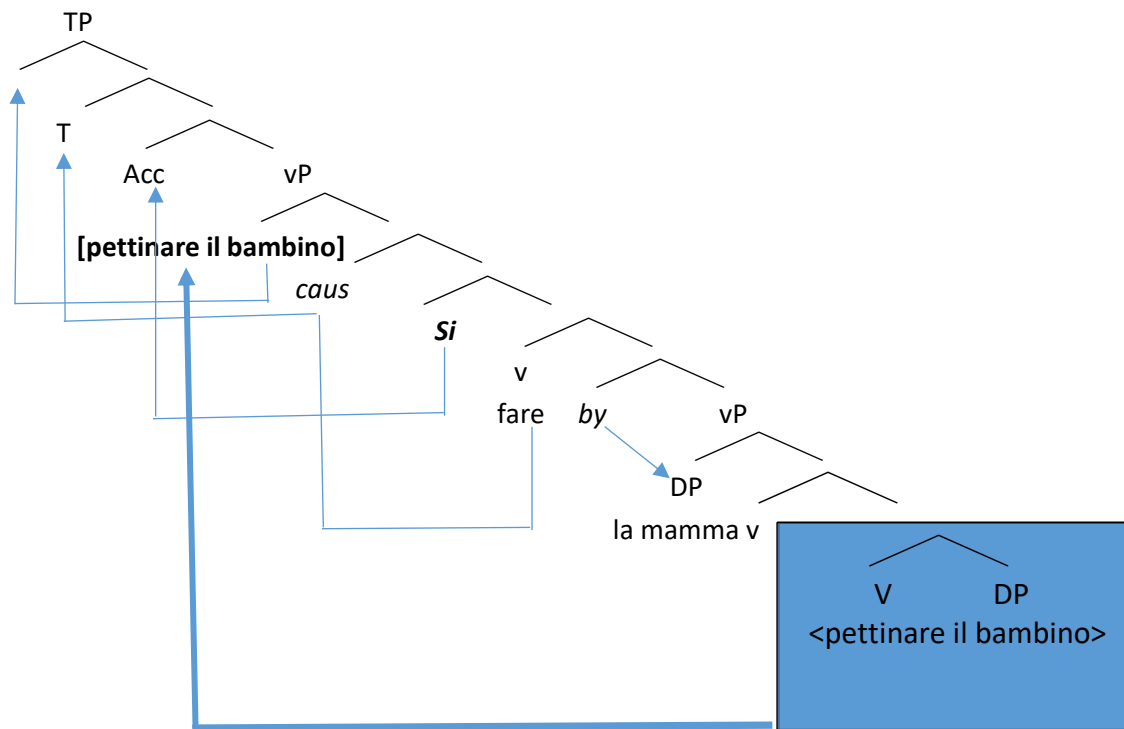
<sup>5</sup> *By* has the status of an expletive preposition voided of any autonomous content in passives in which its nominal complement preserves exactly the same interpretation/Th-role as the subject/EA in the corresponding active clause containing the same verb, a crucial property of passive; in (3) *a* acquires a typical flavor leading to the affected interpretation (Guasti 1993) of its nominal complement, the EA of the lexical vP. In *fare da/faire par* causatives the same preposition *by* acquires an agentive flavor, possibly as the result of being incorporated into the selecting causative head. See Belletti (2017) for detailed discussion. Here only some aspects of the proposal will be presented, which are relevant to the issues raised in the present work.

<sup>6</sup> Folli and Harley (2007), Ramchand (2008) and much related work stemming from the lexical decomposition approach originally inspired by Hale and Keyser (1993). The derivation in (3) is in fact an update of classical analyses of causatives involving a process of VP-preposing such as Burzio (1986). See Belletti (2017) and further references cited there on this point.

I refer to this passive as the *si-causative* passive. In (4) an example of the construction and its schematic derivation involving movement of a portion of the verb phrase is illustrated (thicker line), according to the proposal developed here.<sup>7</sup>

(4) *si-causative* passive

*Il bambino si fa pettinare dalla mamma*  
 the child SI-cl makes comb by the mother  
 'The child makes the mum comb him'

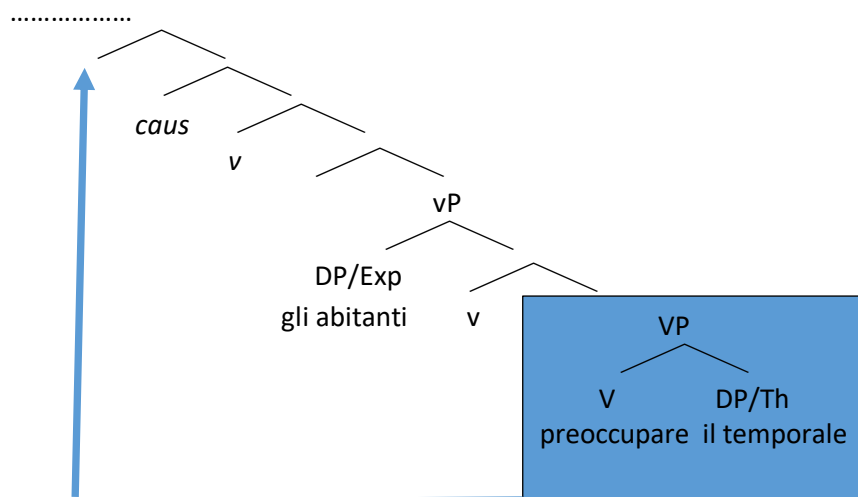


2.3 *Psych-verbs: worry-class/object experiencer*

Belletti and Rizzi (2012) put forth the proposal that psych-verbs of the *worry* class may also involve a *smuggling* type derivation. Assuming Belletti & Rizzi's (1988) analysis of psych-verbs of this class, sentences containing these verbs involve derivations in which, much as in passive, the DP merged as the theme/Th IA is the subject of the clause. The object in the sentences is the DP experiencer/Exp. Given rather uncontroversial assumptions on argument structure originally directly inspired by Baker's (1988) UTAH, so called object-experiencer verbs of the *worry* class are thus naturally amenable to a derivation along the same lines as the passive one in (2) (and the causative in 3). The schema in (5), adapted from Belletti and Rizzi (2012), illustrates the main relevant aspect of the proposal, i.e the movement of the verbal chunk:

(5) *Il temporale preoccupa gli abitanti*  
 the storm worries the

<sup>7</sup> The agentive interpretation of the causative *by*-phrase mentioned in footnote 6 is consistent with the overall agentive interpretation of the EA of *si-causative* passives. It may be held partly responsible for the absence of *si-causatives* with 'a', combined with lack of the affected interpretation of the EA in this type of (passive) causatives that 'a' would induce. Thanks to a reviewer for raising this point.



The final sentence in (5) is obtained through the further movement on the DP/IA from the smuggled position into the Spec/TP subject position, in the same way illustrated in (2) for the derivation of passive. V-to-T completes the computation.

According to the proposal in (5) *smuggling* crucially operates in the derivation: the typical verbal chunk containing the verb and the IA is attracted into the specifier of a higher head in the verbal functional spine. Such higher head is identified with a causative voice, namely the same head expressing the same feature present in the syntactic causative construction in (3). This adapts and updates the proposal in Belletti and Rizzi (2012), keeping its main insight. As discussed in that work, the presence of an element of causation has often been recognized with object experiencer verbs, at least since Pesetsky (1995) and much subsequent literature. One main difference between the syntactic causative illustrated in (3) and lexical psych-verbs of the *preoccupare/worry* class with their causative interpretation illustrated in (5) through presence of the causative head, is the fact that in the former the causative head is expressed through the overt realization of the causative verb *fare*, whereas in the latter no special morpheme overtly expresses the causative interpretation. In the representations of the causative construction in (3), and similarly in the *si*-causative passive in (4), the verb *fare* overtly realizes a *light verb* component of the verbal shell. As such, its status may be considered semi-functional, with an EA as the initiator (Ramchand 2008) of the caused event (Belletti 2017 for this particular implementation of the proposal). The further initiator role introduced by *fare* in the syntactic causatives is attributed to the DP *Maria* in (3) and to the reflexive clitic *si* in (4) respectively. No such initiator EA is present in the psych-verb representation in (5), in which the light little 'v' of the verb functional structure has no overt lexical realization either; the two properties go hand in hand.

#### 2.4 The nature of the attractor and what acquisition results may reveal

The illustrations in the previous sections have indicated a first crucial difference that can occur in seemingly closely related derivations all involving *smuggling*: the feature attracting the verbal chunk in its specifier can be overtly expressed through a head that somehow lexicalizes it, or it can be null, non-overtly expressed. The former case is illustrated by the causative structures of the Italian/French Romance type, in which the semi-functional verb *fare/faire* is selected by the causative feature/voice (3 and 4). The latter case is illustrated by the psych-verbs of the *worry* class (5). The case of passive illustrated in (2) can be considered intermediate in that the passive voice can have an overt lexical reflex through presence of preposition *by*, the expletive preposition that Case marks the EA of the lexical verb. However, since such EA may remain implicit, in these cases no *by* is overtly realized in the

structure. Results from acquisition seem to indicate that the property of the attracting head may matter.<sup>8</sup>

It is a well-known developmental fact that passive is properly mastered relatively late in acquisition, say around age 5 in average. Some experimental techniques – such as syntactic priming or discourse appropriateness – have indicated that the ingredients of the computation involved in passive are in fact in place relatively early on, already around age 3 (see references in footnote 6). There may also be cross-linguistic differences depending on specific morphosyntactic properties of the different languages considered (see Guasti 2016 for recent overview; Demuth 1989). However, it seems a fair conclusion to say that productive mastering of what we call ‘passive construction’ comes relatively late. Not all passives are equally late, though. If periphrastic passive involving a passive auxiliary (i.e. *the copula or venire/come in Italian*) and the past participle and an optionally present *by*-phrase, such as the English example in (6) or the equivalent Italian example in (7) are relatively late mastered by English and Italian speaking children, other kinds of passives are in contrast early mastered in the same languages. Such passives are the English *get*-passive (Crain et al. 2009) and the Italian *si*-causative passive (Contemori and Belletti 2014, Manetti and Belletti 2015, Belletti and Manetti 2018), illustrated in (8) and (10)

(6) The boy is / is being / has been pushed by his friend

(7) Il bambino è / è stato spinto dal suo amico

(8) The boy gets pushed by his friend

(9) Il bambino si fa spingere dal suo amico

It thus seems fair to say that children show a preference for the *get*- and the *si*-causative type of passive.<sup>9</sup> The latter preference has been shown in recent results from different experimental designs

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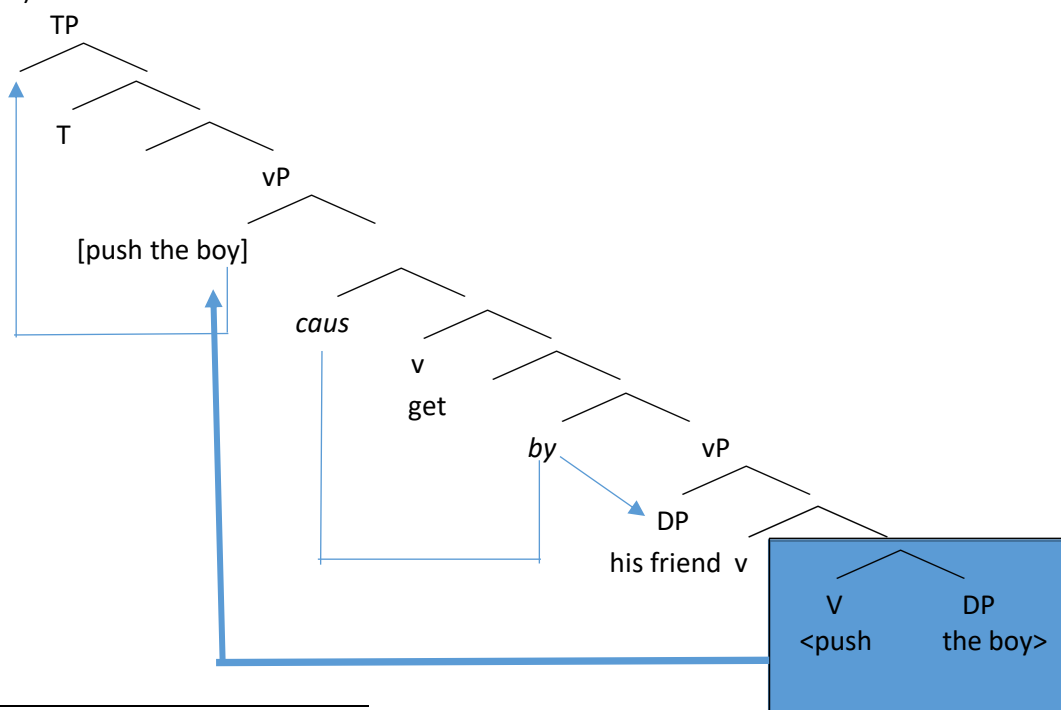
<sup>8</sup> The choice of special auxiliaries in the passive -e.g. *essere/be* and *venire/come* in Italian – are also overt signs of the presence of the passive voice. However, they are not involved in the direct triggering of the *smuggling* operation as the passive Aux is in a T position (possibly the same as the active auxiliary), hence in a position higher than the landing site of the moved verbal chunk. Interestingly, what seems to play a role is not just an unambiguous identification of the type of structure, i.e. passive, causative etc., but the nature of the attracting voice, which can be either silent or overtly lexicalized. The relevance of this consideration for acquisition will be addressed momentarily.

As for the difference in the timing of acquisition sometimes discussed in the literature between so called long-passive (with an overtly expressed *by*-phrase, later) vs short passive (with no *by*-phrase, earlier) the evidence is not uniform (e.g. Fox and Grodzinsky 1998-late, vs results from priming elicited productions, e.g. Manetti 2013-early for Italian, similarly Messenger et al. 2008 for English; see also Crain et al. 2009-early, for English). To the extent that some higher complexity of long passives may manifest itself, I assume that it should be considered as epiphenomenal, due to factors different from the expression of the component of the passive voice that is expressed through *by* and that is directly implicated in triggering the movement operation.

<sup>9</sup> Contemori and Belletti (2013) elicited active object relative clauses (with a lexical relative head and a lexical subject in the relative clause). The results showed productions of so called PORs (passive object relative, i.e. subject relative when an object relative was elicited by the prompting question) increasing with age and approaching the adults’ productions (90% of PORs in the elicitation experiment). The *si*-causative passive was the first type to appear and the preferred one until age 8 (up to 40.4%; type of structure produced: *...il bambino che si fa pettinare dalla mamma/the boy that gets combed by the mother*). Belletti and Manetti (2018) elicited Clitic left dislocations/CILD and passives: all passives produced by children were *si*-causative passives. In Belletti and Manetti’s results (Exp.1) passive was produced by children in up to 11% of their productions (children preferred to respond with CILDs to the elicitation question, which was a discourse felicitous kind of answer as well). The entire 11% of their passive answers was in the form of the *si*-causative passive: *il cane si fa lavare*

of elicited productions, (see references in footnote 7) indicating a robust conclusion; it is shown to occur early in development, already at age 3-4, similarly to the same preference documented for the English *get*-passive (Crain et al. 2009). Children's preferences constitute a potentially rich source of information on different properties of the constructions under analysis. A number of reasons can be at the source of their preference for the *get*-passive and the *si*-causative passive. Among them the fact that these passives typically occur with agentive verbs, is likely to play a role, (these are the core type of transitive verbs in the first periphrastic passives that children access later in their development). Be it as it might as far as this lexical aspect is concerned, early mastering of the *si*-causative passive by Italian speaking young children indicates that the computation involved in its derivation is not problematic for them. Hence, this in turn indicates that *smuggling* is early accessed in development. In fact, the computation involved in *si*-causative passive is preferred to the one involved for the derivation of the periphrastic copular and *venire* passives, even when agentive verbs are involved. Furthermore, early access to this type of passive also indicates that young children properly master the discourse conditions in which passive is appropriate (Belletti and Manetti 2018 for close discussion of this aspect). Given that also the English *get*-passive involves a causative interpretation, it is natural to assume that this type of English passive is amenable to a derivation along the same lines as the one proposed in (4) for the Italian *si*-causative passive. In particular, *get*-passive much as *si*-causative passive should involve the *smuggling* operation, with the verbal chunk containing the lexical verb and the DP/IA attracted into the Specifier of the functional projection of the causative head present in the clausal structure. The main lines of the proposal are illustrated in (10) (only relevant aspects illustrated)<sup>10</sup>:

(10)



*dal gatto/ the dog makes si-wahs by the cat. In the same experiment adults preferred a passive response in up to 68% of their responses; their productions had a 49% of copular and *venire* passives and 19% of *si*-causative passive. The difference between children and adults is also revealing of the fact that early access to the *si*-causative passive in children is not amenable to an input effect. This poverty of the stimulus argument and the related frequency issue is directly addressed in detail in Belletti (2017b, c).*

<sup>10</sup> Haegeman (1985), Fox & Grodzinsky (1998) for classical approaches to the movement derivation of *get*-passive in English and on the short V-movement occurring in *get*-passive targeting a lower position (the *caus* voice in our proposal) than the one of aspectual auxiliaries and *do*.



In conclusion, the results from acquisition just considered clearly indicate that attraction of the verbal chunk by the overt causative head is properly early mastered by young children, who may be said to even show a preference for this type of passive<sup>11</sup>. Since the same good mastery is not documented for other types of periphrastic passives, we can capitalize on the difference highlighted earlier: only in the *si-causative/get*-type passive is the attracting head lexicalized in the form of the causative verb *fare/get*. The attracting head is more transparent in the *si-causative/get*-type passive than it is in the periphrastic one.<sup>12</sup> The possible non-overt realization of the *by* component of the passive voice may make the identification of the relevant attracting head overall opaque hence harder to identify for the developing children. Notice furthermore that since subsequent movement of the IA is involved in *si-causative/get*-passive much as it is involved in the copular periphrastic one, it must also be concluded that young children do not experience any special difficulty with A-movement from very early on. So, it seems unlikely that delayed acquisition of copular/periphrastic passive be due to the fact that it involves an A-movement process.<sup>13</sup> This is a welcome conclusion since A-movement is in fact also at play in all types of active clauses, with transitive and intransitive verbs – with movement of the EA into Spec-TP, a shared assumption since Koopman & Sportiche (1991). With unaccusative verbs movement affects the IA into Spec-TP. The latter derivation with unaccusatives is early mastered by young children as well (Friedmann 2007). This is in contrast with copular/periphrastic types of passives, as just discussed, on the basis of the available literature. No *smuggling* process is assumed to be involved in the derivation of sentences with unaccusative verbs. Thus, to the extent that lexical unaccusatives are acquired earlier/in a smoother way than passives of all kinds, possibly also including *si-causative/get* passives, it would seem legitimate to conclude that this process may have some cost for the developing system anyway (Snyder & Hyams 2015, [Mateu & Hyams this volume and footnote 3](#)). The specific suggested comparison between lexical unaccusatives and types of passive is not however available and is yet to be done in a controlled way. The hypothesis [defended](#) here is that such cost is anyway higher if the attracting head of the verbal chunk is silent and as such opaque and hard to identify.

On a similar vein, an interpretation is directly suggested for a further finding found in development concerning object experiencer psych-verbs of the *worry* class, that according to our proposal imply the *smuggling* derivation in (5). These verbs are known to be hard for children to acquire. The simple presence of *smuggling* in the computation of this verb class cannot be the real source of the problem, though: we have just seen that young children do not experience special difficulties with this computation in the *si-causative* and in the causative *get*-passive. It then seems reasonable to propose that among the reasons that contribute to the difficulty that children experience with these verbs a

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<sup>11</sup> Early access to the equivalent *se-faire* passive in French is also indirectly documented by use of this type of passive in the elicitation of object relatives in which children preferred to resort to this type of passive in their PORs (footnote 6). Délage (2008) for results using a similar elicitation design as the one utilized for Italian, both directly inspired by the COST-A33 project.

<sup>12</sup> Overtness of the causative head may also be of help in inducing the becoming/change of state interpretation that passive brings about following Gehrke and Grillo's (2009) proposal, also appealing to a derivation involving *smuggling*. Given Collins' (this volume) analysis of the dative alternation in English in which preposition 'to' functions as the attractor of the verbal chunk (I gave John a book >> I gave a book to John) the expectation is that, all things being equal, such alternation should not be especially problematic for English speaking developing children.

<sup>13</sup> *Pace* Borer & Wexler (1987) and related subsequent literature.

role is played by the fact that the attractor of the verbal chunk, the *caus* head in our proposal, remains completely silent in the *worry* class, and as such its identification is harder<sup>14</sup>.

The approach just sketched out interprets the gradualism found in the acquisition of types of passives, psych-verbs of the *worry* class and active sentences with all verb types: the latter are early acquired and no *smuggling* is necessarily involved in their derivation, whereas *smuggling* is involved in the derivation of both all kinds of passives and of the psych-verbs of the *worry* class. However, only in the latter and in copular/periphrastic passive the attractor *is/can be* silent, hence opaque; no special problem is posed by *smuggling* when the passive is realized through the explicit causative voice. A direct expectation is generated by this set of hypotheses when it comes to a closer consideration of the causative voice: to the extent that the passive in the causative voice is preferred by children in the intended sense, is the syntactic causative construction in the active also early and easily acquired? Let us concentrate our attention on the Romance type causative of the Italian kind in (3). As the same overt head *fare* that lexicalizes the causative voice triggers movement in both the *si*-causative passive and in active causatives like the *fare-a* in (3), the latter should also be easily acquired by young children. Although clear experimental results on the acquisition of active *fare* causatives are not yet available (Bellucci 2014 for a preliminary study), recent corpus analysis of the Italian files in the CHILDES database (Mac Whinney 2000) have indicated that the causative construction is indeed present in children's early spontaneous productions (in the active form).<sup>15</sup> This is an encouraging result indicating that the overtly realized causative attractor is in fact early mastered by the developing systems.

### 3. The intervention issue

#### 3.1. No look ahead in smuggling

A crucial aspect of the smuggling approach to the derivation of passive since its first formulation in Collins' (2005) is that through such derivation movement of the IA into the subject position in Spec-TP does not cross over the intervening EA in Spec-vP, see (2) with this consideration in mind. The violation of locality expressed in terms of Relativized Minimality/RM and intervention (Rizzi 1990, 2004) that would inevitably occur in the standard derivation of passive sentences is thus overcome through *smuggling*. The very term 'smuggling' is precisely meant as a metaphor to suggest that what looks like a simple DP-movement, with the inevitably induced violation of RM, is in fact a more articulated process, involving movement of the verbal chunk as in (1) first. This consideration has sometimes generated some skepticism on the *smuggling* approach viewed as a look ahead type

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<sup>14</sup> Another relevant factor may be found in the non-canonical distribution of the Th-roles in sentences containing verbs of the *worry* class, with the DP subject the Theme and the DP object the Experiencer; see Belletti and Rizzi (1988) for a first assessment of the issue; Hartshorne et al. (2016) for a recent discussion also based on experimental data from children. Following Belletti and Rizzi's (1988) original proposal, this non-canonical distribution is a derived one, with Th-roles canonically associated with the same positions – IA-Theme /lower and Experiencer argument/ higher – with all classes of psych-verbs (*worry, fear, piacere/like*). The proposal in Belletti and Rizzi (2012), of which the implementation in (5) is adopted here, is that *smuggling* is involved in the derivation of the *worry* class with further movement of the IA into subject position.

<sup>15</sup> Zimbardi (2017) MA thesis University of Siena. Borgea & Snyder (2016) for similar conclusion on the analysis of the French files. As the EA of the lexical vP is not necessarily present in children's early productions of active causatives, the remaining open question is whether these are instances of *fare a/faire à* or *fare da/faire par* constructions. An issue that deserves closer further investigation, although both, and possibly the former more than the latter, are instantiated in the Italian files (Borgea & Snyder (2016) for partly different conclusion in French). An issue in need of further investigation.

process<sup>16</sup>: movement of the verbal chunk would be performed in order to make the subsequent movement of the DP/IA possible, without violating RM. In other words, the derivation would be a device to circumvent the RM violation.

The discussion in the preceding section 2, however, indicates clearly that there is no direct relation between involving *smuggling* in a derivation and the avoidance of an intervention locality violation. *Smuggling* moving the relevant chunk of the verb phrase can occur independently of the subsequent further movement of the DP/IA. This is clearly the case in the derivation of Italian/Romance active causatives with the (semi-)functional verb *fare/faire*. This is also the case in the discourse-driven movement yielding VOS to be discussed in section 3.2 following. The crucial property is whether there is in the structure a head expressing a feature with the property of attracting the verbal chunk into its specifier, in the way described. No further movement of the DP/IA needs to subsequently occur, as it is precisely the case in the illustrated (active) causatives; in other words, there is no necessary relation between computing *smuggling* and the necessity to avoid a locality violation. Nevertheless, computing *smuggling* may open up as an indirect consequence the possibility of moving the DP/IA in compliance with RM: this is precisely the case of passive, in its various possible implementations, including the *si*-causative and *get*-passive ones. I have proposed in previous work (Belletti 2017) that movement of the verbal chunk may constitute a way to label the structure in the way required by the so-called labeling algorithm (Chomsky 2013, Rizzi 2015, Cecchetto & Donati 2014). For instance, once the verbal chunk is attracted into the specifier of the attracting head in passive, the remaining portion of the structure can be labeled DP and hence be accessible to being the argument of preposition *by*. Similarly, in the *fare-a* causative in (3), where movement of the verbal chunk makes the stranded portion labeled as DP, the natural complement of preposition *a*. See the reference quoted for further details of the overall proposal. What needs to be emphasized here is that, according to this proposal, *smuggling* ultimately is one of the movement options implemented to assure the readability of the syntactic structure<sup>17</sup> at the interfaces. This is the case in passive like derivations that also involve movement of the IA, and in active causatives that don't. Hence, *smuggling* is not just a strategy to avoid intervention; rather, the possibility of overcoming intervention may be a side effect of this type of computation.

### 3.2. Discourse related smuggling and feature-relations

This section describes a different domain of application of a *smuggling*-type operation in which the triggering feature may be a discourse related one.

Consider the following discourse exchange:

(11) External context: (At the Book Fair everybody talks about a certain novel)

Q. Come va la fiera del libro?  
How is the Book Fair going?

A. \*(Bene!) Presenterà il romanzo l'autore  
(Well) – will present the novel the author

(11)A. does not sound as a felicitous answer to the question in (11)Q in Italian. The sentence sounds in fact as essentially ungrammatical. The clear feeling that a native speaker has when confronted with

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<sup>16</sup> As in e.g. Gehrke & Grillo (2009).

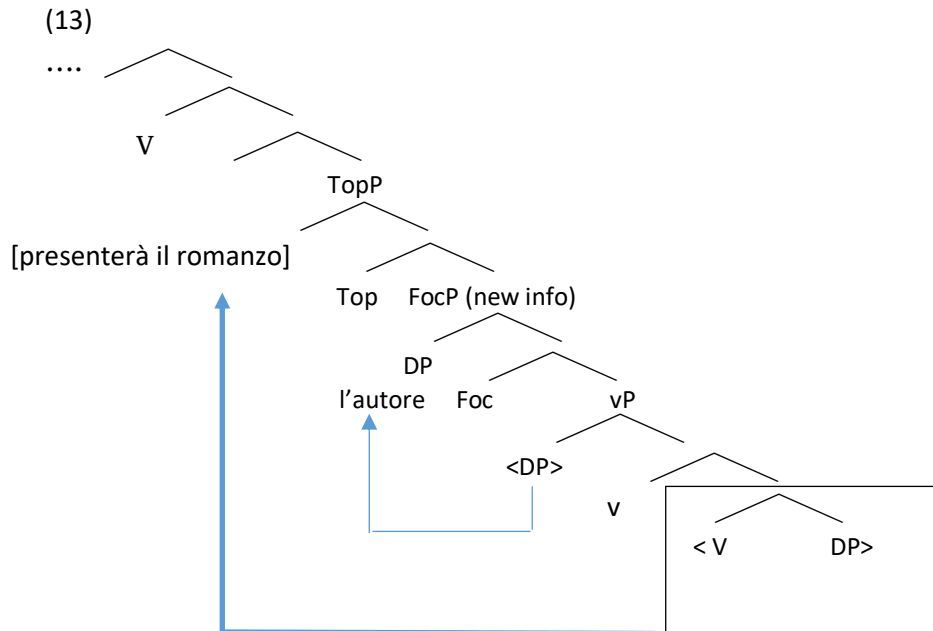
<sup>17</sup> Much as movement of DP/EA in to Spec-TP allows for the labelling of the remaining structure as vP, which can thus be read off and interpreted at the interfaces. Essentially, according to the labelling algorithm, movement must break the symmetric structure *à la* Moro (2000).

(11)A. is that it is an awkward sentence; a sentence that may be possibly pronounced, but not in the given context.

In the same external context as the one in (11), consider now the following further exchange:

- (12) Q. Chi presenterà il romanzo?  
Who will present the novel
- A. % Presenterà il romanzo l'autore  
– will present the novel the author

(12)A. is the same sentence as (11)A. but it is pronounced as the answer to a different question. In the question in (12)Q. both the object and the verb are given: they are just repeated in the answer in (12)A. Such answer has the subject at the end of the clause, in the post-verbal position where it is interpreted as the focus of new information: it is the subject of which the question requires the identification. Hence, in (12)A. the verbal chunk containing the verb and the object are given and the postverbal subject is new from the discourse perspective. Assuming the idea according to which the vP-periphery of the clause contains discourse related positions of Focus (of new information) and of Topic along parallel lines as the clause external left periphery, following previous proposals (Belletti's 2004 and related and subsequent literature, footnote 15), it can naturally be assumed that (12)A. displays a *smuggling* derivation whereby the chunk containing the given verb and direct object moves into the specifier of the low Topic position, attracted by an active topic feature; the subject in turn moves into the specifier of the low new information focus head.<sup>18</sup> This *smuggling* type derivation, schematically reproduced in (13), is thus crucially triggered by discourse factors. In the cartographic perspective assumed here, such factors are in fact discourse features present in the map of the clause structure, with the property of attracting syntactic movement<sup>19</sup>:



<sup>18</sup> On the existence of discourse related positions in the low part of the clause, see also, in a crosslinguistic perspective, Jayaseelan (2001), Tsai (2015), Badan & Del Gobbo (2010), Poletto (2006). For details on the assumed analysis, see the reference quoted in the text and also the recent novel assessment in Belletti (2018) and references cited there.

<sup>19</sup> Further movement of V into some inflectional head may also be at work. For the sake of clarity only movement of the topic chunk and of the new information focus subject are illustrated in (13).

The most natural alternative to the answer in (12)A. in exactly the same contextual conditions would be (14)A., in which the object is not repeated as a lexical noun phrase in the answer but is realized as a pronoun<sup>20</sup>. Such pronoun is necessarily a clitic pronoun in Italian:

(14) A. L'ha presentato l'autore  
It-Cl – has presented the author

Before comparing (12)A. vs (14)A., let us first go back to the comparison between (12)A. and (11)A, which started our discussion. Why is the same answer in (11)A so much more deviant than in (12)A? Some elements of background need to be provided first. Assuming the featural approach to RM as proposed in Friedman et al. (2009) and further developed in Belletti et al. (2012) and much subsequent work<sup>21</sup>, a nominal feature expressing the presence of a lexical restriction, dubbed [+NP] in the quoted references is present among the features that participate in triggering syntactic movement into the left periphery of the clause. Thus, for instance the [+NP] feature participates in attracting the relative head in (a raising analysis of) headed relative clauses. A very robust crosslinguistic fact in acquisition is that, given a lexically headed object relative clause like (15), presence of a preverbal intervening lexical subject makes it (and similar structures) hard to compute for children.<sup>22</sup>

(15) Il bambino che la mamma abbraccia <il bambino>  
The kid that the mum hugs <the kid>

By using the notation of the quoted work, the nominal [+NP] feature is shared by the lexical relative head and by the intervening lexical subject, as illustrated in (17) below. Such feature is in fact included in the relative head that fills the left peripheral position endowed with both a [+R] feature, the relative attracting feature, and the [+NP] feature, the feature expressing presence of a lexical restriction (the lexical head of the relative clause). Under featural Relativized Minimality/fRM, given X (the target position of movement), Z the intervener, Y the origin, the restriction in (16) holds:

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<sup>20</sup> This is in fact the typical discourse situation in which a pronoun is used in discourse, where repetition of the same lexical noun phrase is disfavoured. This is the issue addressed in the relevant psycholinguistic literature on what is sometimes referred to as the 'repeated noun penalty' (Almor & Nair 2007, a.o.). The account to be developed momentarily in the text singles out locality among the grammatical factors that may be held responsible for this particular instance of avoidance of the repetition of the lexical object. See Balaban et al. (2016) for discussion of a different class of cases showing preference for use of a pronoun instead of a repeated lexical noun phrase concerning the grammatical binding principle C.

<sup>21</sup> Often related to acquisition results. See Belletti and Manetti (2018) on CLIL, Rizzi (2018) for a general illustration.

<sup>22</sup> Results from adults' online parsing also give comparable results (Gordon et al. 2001, Belletti and Rizzi 2013 for discussion and comparison of the parsing approach and the assumed grammar based one). The literature on acquisition on the issue is extensive cross-linguistically; any list would not make justice to it in the present context where it must remain necessarily limited. See the references quoted in the text and the preceding footnote for related references, and Belletti and Guasti (2015) (chapters 5 and 6) for review of the main results from Italian.

(16) **Featural Relativize Minimality:**

X        Z        Y

The dependency between X (target) and Y (origin) cannot be established if Z structurally intervenes, and Z and X are positions that **share relevant features**

(Rizzi 1990, 2004, Starke 2001)<sup>23</sup>

By expressing feature relations in set theoretic terms as in Friedmann et al. (2009) and related literature, the feature composition of the intervener Z (the subject) is properly included in the feature composition of X, the target position of movement, as indicated in (17), for the headed object relative clause (15):

(17) Il bambino che la mamma abbraccia <il bambino>  
The kid that the mum hugs <the kid>  
+R, +NP                +NP                <+R, +NP>

The *inclusion* relation appears to be hard in development; it remains somewhat hard to compute also for adults – as the psycholinguistic evidence has shown (footnote 19) – who master the structure nevertheless. Total feature *disjunction* is mastered well by everybody (lack of intervention); also the feature modulation yielding *intersection* of relevant features appears to be properly mastered by children and adults. *Identity* of relevant features between target and intervener is the core case uniformly excluded by the Relativized Minimality principle. Hence, the featural approach essentially indicates that intervention may be modulated in such a way as to make presence of the lexically restricted intervener less disturbing, with development as far as the inclusion relation is concerned. The references quoted and the related literature develop the system in great detail. Here only the essential functioning of the featural approach has been illustrated, in the aspects that may be relevant to the present discussion. With this background in mind, let us go back to the comparison between (11)A and (12)A, i.e. the same sentence answering different questions, repeated here for convenience:

(11) A. \*(Bene!) Presenterà il romanzo l'autore  
(Well) \_ has presented the novel the author

Answer to: Come va la fiera del libro?  
How is the Book Fair going?

(12) A. % Presenterà il romanzo l'autore  
\_ will present the novel the author

Answer to: Chi presenterà il romanzo?  
Who will present the novel?

In (11)A the DP direct object, which is given in the general external context, should fill the specifier of a low vP-peripheral Topic position; the DP subject, which expresses a new information in the general external context, is in the specifier of the low new information Focus position. As for the verb, it is raised into a higher inflectional head. This would yield the order VOS with the described discourse value for the noun phrases. As schematized in (18) the two noun phrases are in a relation of intersection as far as their feature composition is concerned:

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<sup>23</sup> Chomsky's (2001) *Minimal Search Condition* expresses the constraint in derivational terms.

(18) Presenterà [[il romanzo] Top [ [l'autore] Foc [vP <DP/EA> v [ <V> <DP/IA>]]]]  
 \_ will present the novel the author  
 +Top, +NP +Foc, +NP

Comparing (18) with the derivation of (12)A illustrated in the schema in (13), a major difference emerges between the two derivations: in (18) the DP/IA crosses over the DP/EA in its movement to the Spec-TopP position; the intervention of DP/EA is modulated once it fills the Spec-FocP position yielding the illustrated intersection relation of relevant features. In contrast, in (13) the DP/IA never crosses over the DP/EA due to the *smuggling* derivation whereby the whole portion of the verb phrase is moved into the Spec-TopP position. On the basis of this comparison, one may want to suggest that only the structure involving no intervention, i.e. (13), may be accepted with the implied interpretation, whereas the structure in which intervention is just modulated as in (18) is strongly dis-preferred. Hence, no intervention should be better valued than modulated intervention. This conclusion is however too strong in general and in this case in particular. The specific reason is that a feature relation comparable to the one illustrated in (18) is completely well-formed in the clause external left periphery, as shown by the acceptability of (19), containing a Clitic left dislocated/ CLLD direct object topic and a left peripheral contrastively focused subject:<sup>24</sup>

(19) La verità GIANNI la dirà (non Maria)  
 the truth GIANNI it-Cl will say (not Maria)  
 +Top, +NP +Foc, +NP  
 'As for the truth, GIANNI will say it (not Maria)

More generally, as mentioned above, the intersection feature relation is perfectly accepted by adult (Italian) speakers and, as noted, also young children can master it relatively early on (in contrast with inclusion Belletti et al. 2012,). Some further different reason must then be at the source of the unacceptability of (11)A in the described discourse condition.<sup>25</sup> The unacceptability of (11)A. may in fact be due to the impossibility to attract the DP object into the vP-peripheral Spec-TopP position altogether. Lack of a resumptive clitic in the sentence (11)A, which contrasts with its presence in the left peripheral CLLD in (19), may be at the origin of such impossibility.<sup>26</sup> Thus, the object DP could move

<sup>24</sup> Left peripheral Focus is only contrastive in standard Italian. See Rizzi (1997) and much subsequent literature. The low-clause internal Focus is instead simple new information, as noted in the text. See Cruschina (2012) for discussion of Sicilian where the two types of foci may have a partly different distribution.

<sup>25</sup> Sentences like i. in which the left peripheral Focus DP precedes the Topic one and no Clitic is present in the following clause resuming it, are also marginally possible.

i. GIANNI la verità dirà (non Maria)  
 Gianni the truth will say (not Maria)

Their marginality is due to both the Focus-Topic order in the left periphery (vs the Topic-Focus one of 19 in the text) and to lack of the clitic in the following clause (in general obligatory with left dislocated direct objects). On Top below Foc in the left periphery, see the discussion in Belletti (2004), Benincà & Poletto (2004), Rizzi (1997, 2004).

<sup>26</sup> I thank Giuliano Bocci for pointing out this potential crucial role played by absence of the clitic in (11)A and for illuminating discussion. As he also notes, if the clitic is present, the answer in i. otherwise equivalent to (11)A becomes much more acceptable in the same given external context. The same relation among features relevant to the fRM principle is implemented in i. as the one in the parallel situation in (19) in the left periphery:

to some other position, if available (may be a higher Case related position). To the extent that such movement can be implemented, however, it would give rise to a feature composition which yields a fRM violation along the lines illustrated in (20):

(20) Presenterà [[il romanzo] [ [l'autore] Foc [vP <DP/EA> v [ <V> <DP/IA>]]]]  
 \_ will present the novel the author  
                   +NP                  +Foc, +NP

The impossibility of (20) falls directly within the predictions of the fRM approach *à la* Starke (2001), Rizzi (2004), whereby if target (X) and intervener (Z) are distinct from one another in their composition of relevant features, the one that must be more richly specified is the target and not the intervener, as the crucial role is played by the attracting features of X. Hence (11)A with the analysis in (20) is a plain violation of fRM<sup>27</sup>.

In (12)A where the discourse conditions favored the given/topic interpretation of the verb + direct object chunk, no such intervention locality problem arises, as explicitly expressed through the derivation in (13), where the entire portion of the verb phrase is hosted in Spec/TopP and no crossing of the lexically restricted DP/IA over the restricted DP/EA occurs, as is always the case in *smuggling* type derivations.

Consider now the perfect status of (14)A, in which the direct object is realized as a pronoun, which in a language like Italian has to be a clitic pronoun. Cliticization is a process that includes movement of the pronominal object into a high functional position in the clause structure.<sup>28</sup> Details aside, such movement necessarily crosses over the postverbal subject, as schematically illustrated in (21) (only directly relevant parts of the structure and of the derivation are given in the representation):

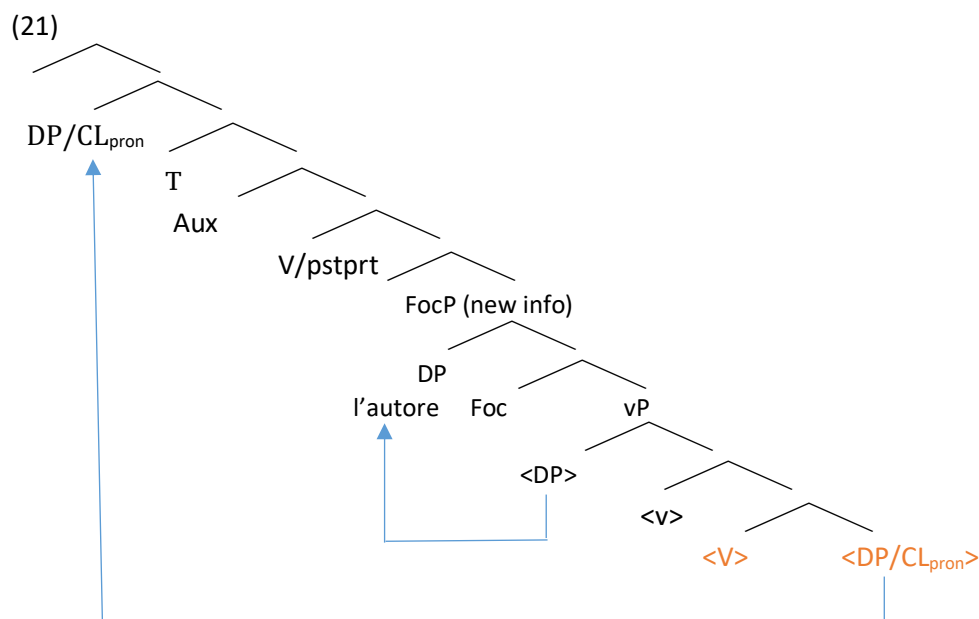
i. Lo presenterà il romanzo l'autore  
 It-Cl will present the novel the author  
                   +Top +NP +Foc, +NP

A particular prosody needs to be associated to the answer in i. Note, however, that no special prosody could 'save' the impossible (11)A, as the analysis to be illustrated in (20) predicts. Indeed, (11)A/i. is hardly pronounceable.

<sup>27</sup> The feature relation in (20) corresponds to the 'inverse inclusion' relation that Villata et al. (2016), identified in the context of the discussion of types of *wh*-island violations. Such 'inverse inclusion' relation yields the same level of unacceptability as the intervention configuration, i.e. it does not modulate intervention, along the same lines discussed in the text for the unrelated structure in (20).

<sup>28</sup> Depending of the analysis adopted, movement can directly concern the clitic pronoun or a silent pronominal associated to it (Belletti 1999, 2001, Sportiche 1996). These details are not crucial for the argument in the text: the displacement of the pronominal object across the low subject is the relevant aspect under discussion.





Such crossing, however, is not in violation of fRM since a pronoun is not, by definition, lexically restricted, i.e. the pronominal DP does not contain a lexical noun phrase expressing its lexical restriction. Hence, according to the described system, it is not specified with the feature [+NP]. Consequently, even if the postverbal subject is lexical, hence endowed with the [+NP] feature, it does not count as an intervener in the displacement of the object clitic and the dependency between the moved clitic and its merge position within the verb phrase can be properly established.<sup>29</sup> This is the case even without occurrence of the *smuggling* operation, as suggested in (21). It is worth noting in conclusion that, should the postverbal focus subject be a pronoun as in (22), the same derivation in (21) could take place without inducing a fRM violation, as no relevant [+NP] feature would be carried by the pronominal DPs anyway.

(22) L'ha presentato lui  
 it-Cl has presented he

We note incidentally that this is an interesting conclusion from the perspective of fRM as it indicates that the intervention configuration is not simply sensitive to the similarity between the two DPs *per se* (e.g. two pronouns, in this case), but to the (set theoretic) relation between the relevant features that compose them.

#### 4. Concluding considerations: verbal chunks may be attracted by different heads expressing different contents in the clausal map

In conclusion, we have seen that chunks of the verb phrase containing (at least) the verb and its direct object/IA can be attracted by different types of heads in the clause structure, which have the property of attracting syntactic movement into their specifier. Such heads may express features of different nature, such as morphosyntactic voices in the functional spine of the TP clause (passive) and in the verbal functional structure (causatives, psych-verbs...), as well as discourse related features such as the (vP-peripheral) topic and focus features. In some cases, further movement of the IA into the high subject position of the clause can take place (types of passive, psych-verbs), in other cases no such

<sup>29</sup> On the principled exclusion of the VSO order in Italian in terms of intervention, see Belletti (2004).

movement occurs (active causatives, VOS with V+O topic). Thus, derivations moving the verbal constituent with the general shape in (1) are not implemented to avoid a potential locality violation expressed in terms of (f)RM and intervention. As for the portion of verbal constituent that undergoes attraction into the Specifier of the probing feature head, we have considered here all instances in which the moved chunk includes the verb and its IA and excludes the EA/higher argument. This might indeed be the core cases of *smuggling*, in which the portion identified for the movement operation is the smallest and lowest chunk. By considering the problem from the point of view of acquisition, this conclusion is sound as it may in fact suggest that the identification issue does not really arise (question ii. at the outset), at least in the core cases of the operation: the relevant chunk is the first chunk in a bottom up analysis of the clause structure.<sup>30</sup> By reconsidering some results from acquisition, syntactic derivations involving the movement of a portion of structure including the verb and its internal argument, appear to be in fact early accessible to the developing child, especially in those cases in which the attracting head has an overt lexicalized manifestation, as it the case in the Romance type causatives described and in passives involving the causative voice, including English *get*-passive.

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<sup>30</sup> Tentatively, one could also speculate that more complex reorderings like those giving rise to the apparent violation of the adverbial hierarchy discussed in Cinque (1999) and reviewed in footnote 1, may be harder to acquire as they do indeed involve the identification of a bigger portion of the constituent to be moved, also including the EA and the adverb outside vP. Controlled experimental results on this relatively subtle question are yet to be gathered.

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