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Acquisition of French Causatives: Parallels to English Passives

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Abstract: Guasti (2016) notes similarities between English *get*- and *be*-passives, and Romance causatives of the *faire-par* and *faire-infinitif* types, respectively. On this basis she conjectures that *faire-infinitif* will show an acquisitional delay similar to that found for English *be*-passives, which are not mastered until sometime after the age of four. Here, this prediction is tested and supported for French *faire-infinitif* causatives of transitive verbs. To explain the delay, the Universal Freezing Hypothesis (UFH) of Snyder and Hyams (2015) is extended to this type of causative: a restriction on movement is recast as a restriction on AGREE. A novel prediction, that *faire* causatives involving unergative or unaccusative verbs will be acquired much earlier, is also tested and supported. Finally, English *get*-passives and French "reflexive causative passives" are examined in light of the fact that both are acquired substantially earlier than age four.

Keywords: first language acquisition; relativized minimality; causatives

1. Introduction

Children acquiring English often start using *get*-passives before they turn three, but most studies find that children have difficulties producing and understanding *be*-passives until much later ages. The details vary by study but, in general, children do not reliably succeed on the *be*-passives of eventive verbs (especially if a *by*-phrase is present) until around the fourth birthday, and they continue to have substantial difficulties with the *be*-passives of non-eventive verbs (e.g., *see*, *like*) until age five or six. Guasti (2016) conjectures that a similar acquisitional time course might exist for certain causative constructions found in Romance languages like French. Her idea is that the delay seen for English *be*-passives might also exist for French causatives of the *faire-infinitif* type.

In this paper we will first test, and strongly support, Guasti's (2016) conjecture as it applies to French causatives of transitive verbs. Next, we will propose that the Universal Freezing Hypothesis (UFH) of Snyder and Hyams (2015), which seeks to explain the delay in English *be*-passives, can be extended in a natural way to explain the observed delay in this type of causative. The proposed extension leads to novel predictions for the acquisition of causatives involving intransitive verbs, and we will provide evidence supporting these predictions. Finally, we will examine two early-acquired structures, English *get*-passives and French reflexive causative passives. The key point will be that, in both cases, the external argument associated with the lower verb does not have to be present in the syntactic structure and, as a consequence, children's early successes are fully consistent with the UFH.

2. French Causatives and Guasti's (2016) Conjecture

2.1. Causatives and Passives

Within the Generative tradition there exists an extensive literature on French *faire*-causatives, dating to Kayne's (1975) seminal analysis dividing them into two main types, *faire-infinitif* and *faire-par.* In *faire-infinitif* causatives, if the causativized verb is transitive, the causee is obligatorily realized as either a dative-marked Determiner Phrase (DP) following the embedded object, as in (1a), or as a dative clitic preceding *faire*, as in (1b):

1. a. Jean a fait laver la voiture à Paul
   John has made to-wash the car DAT Paul
   'John made Paul wash the car.'

   b. Jean lui a fait laver la voiture
   John him.DAT has made to-wash the car
   'John made him wash the car.'

   c. Jean a fait laver la voiture (par Paul)
   John has made to-wash the car (by Paul)
   'John had the car washed (by Paul).'

The causee in the *faire-par* causative, however, appears in an optional *par*-phrase, which is located after the object of the lower verb, as shown in (1c).

In the present paper we will employ a somewhat larger, five-way classificatory scheme, as indicated in (2):

2. a. *Faire*-Dative (FD) = *faire* + $V_{transitive}$ with a dative causee
   Jean a fait laver la voiture à Paul. Jean lui a fait laver la voiture.

   b. *Faire-Par* (FP) = *faire* + $V_{transitive}$ with a *par*-phrase
   Jean a fait laver la voiture par Paul.

   c. *Faire*-Null (FN) = *faire* + $V_{transitive}$ with a null (i.e., omitted) causee
   Jean a fait laver la voiture.

   d. *Faire*-Unaccusative (FuA) = *faire* + $V_{unaccusative}$ (and an accusative causee)
   Jean a fait partir Paul. Jean l'a fait partir.
   John has made leave Paul John him.ACC has made leave

   e. *Faire*-Unergative (FuE) = *faire* + $V_{unergative}$ (and an accusative causee)
   Jean a fait danser Paul. Jean l'a fait danser.
   John has made dance Paul John him.ACC has made dance

Thus, the *faire-infinitif* sentences in (1a,b) will both be referred to as FDs. The *faire-par* sentence in (1c) will be referred to as an FP if the *par*-phrase is pronounced, or an FN if the *par*-phrase is omitted.

Alongside the differences in the causee phrases, there exist a number of semantic differences across the various subtypes of causatives. Crucially, Guasti (2016) notes that certain semantic restrictions found in FP/FNs are also found in English *get*-passives: First, stative verbs (*loved*, *aimer* in 3a,b) are rejected in both *get*-passives (e.g., Hirsch and Wexler 2004) and FP/FNs:

3. a. ?* John got loved

   b. ?* Ils ont fait aimer Jean (par Marie)
   they have made love John (by Mary)
   (?*) 'They had John loved (by Mary).'

Second, Guasti (2016) notes that both *get*-passives and FP/FNs require the logical object to be [+affected]. For example, in (4a,b) *the answer/la solution* is [-affected]:

4. a. ?* The answer got found

   b. ?* Ils ont fait trouver la solution (par le chercheur)
   they have made find the answer (by the researcher)
   (?*) 'They had the answer found (by the researcher).'

These restrictions are absent in *be*-passives (5a,b), and in FDs (6a,b):

5. a. John was loved

   b. The answer was found

6. a. Ils ont fait aimer Jean à Marie
   they have made to-love John DAT Mary
   'They made Mary love John.'

   b. Ils ont fait trouver la solution au chercheur
   they have made find the answer DAT+the researcher
   'They made the researcher find the answer.'

On the basis of these parallels, Guasti (2016, p. 185) conjectures that the acquisitional time course of French causatives will mirror that of English *get*- and *be*-passives: just as *be*-passives are delayed relative to *get*-passives, FDs will be delayed relative to FP/FNs.[1]

2.2. Testing Guasti's (2016) Conjecture

In order to assess Guasti's (2016) conjecture we examined 11 longitudinal corpora from CHILDES (MacWhinney 2000) for children acquiring French in France: Anaïs, Marie, Marilyn, Nathan, Théotime (Demuth and Tremblay 2008); Anaé, Antoine, Léonard, Madeleine, Théophile (Morgenstern and Parisse 2007); and Anne (Plunkett 2002). The ages covered for the children in question are listed in Table 1, in Y;MM,DD format.

Table 1. Age Ranges of Corpora.

Child	Ages
Anaé	1;04,20–5;01,21
Antoine	1;00,24–6;03,08
Leonard	0;11,19–5;03,19
Madeleine	1;00,05–6;11,27
Théophile	1;00,09–4;11,11
Anais	1;00,23–3;00,15
Marie	1;00,02–4;00,05
Marilyn	1;06,13–2;11,14
Nathan	1;00,12–3;00,03
Théotime	0;11,17–3;00,03
Anne	1;10,12–3;05,04

[1] Strictly speaking, Guasti (2016) states her conjecture in the broader terms of *faire-infinitif* versus *faire-par* causatives, but we will initially focus on the subtypes of these causatives in which the causativized verb is transitive (hence, FDs and FP/FNs). We will turn to the causatives of intransitive verbs in Section 4.

For our analysis we first used a computer search to identify all child utterances containing any form of the verb *faire*, and then we manually removed all non-causative uses. Next we classified each of the causatives as either "Clear FD", or "Other", according to the criteria in (7) and (8) (these criteria are based directly on the discussion in Guasti 2016).

7. **Clear FD:** A causative containing an overt dative argument, and/or a transitive verb that is semantically incompatible with FP/FN (i.e., a non-eventive verb, or a verb with a direct object that is [-affected]).

8. **Other:** A causative containing an overt *par*-phrase, or a lower verb that is either intransitive or semantically compatible with being an FN.

Note that children often omit material that is obligatory for adult speakers. Hence, our criteria do not rely exclusively on the form of the causee. An utterance like (9), where the causee is omitted, would nonetheless be classified as a clear FD, since the verb *trouver* 'to find' does not satisfy the semantic constraints on FP/FNs:[2]

9. Ils ont fait trouver la solution (. . .)

Our prediction is that no instances of a clear FD will appear in the children's utterances prior to the late age-range associated with the appearance of *be*-passives: any child using clear-cut FDs prior to age four will be a counterexample.[3]

2.3. Results

Our examination of the 11 children's data found no use of a clear FD prior to age four. As expected, shortly after the age of four some of the children did begin using clear-cut FDs, as seen in (10). Additionally, as expected, other types of causatives appeared much earlier. In fact, the data included two examples of FPs (11a,b), and both were produced well before the age of three:[4]

10. Je faisais faire quoi à mes trois enfants?
I made do what DAT my three children?
'What did I make my three children do?' (Madeleine 4;01,27)

11. a. Il va [se] faire gronder par sa maman et papa
he goes [self] make scold by his mom and dad
'He's going to get (himself) scolded by his mom and dad.' (Antoine 2;09,16)

b. Elle se fait tirer par la boulle comme ça fait du bruit
she self makes pull by the ball as that makes of-the noise
'She is getting (herself) pulled (=becoming irritated) by the ball since it makes noise.' (Madeleine 2;05,12)

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[2] Note that in principle a child might fail to respect the semantic constraints on FNs, and produce an early use of an FN that would be coded, under (7), as "clearly FD". For example, in principle a child might have a non-adult-like grammar that allowed her to say the FP/FN, *Je l'ai fait aimer (par Paul)* 'I had her loved (by Paul)'. If the *par*-phrase were omitted, this utterance would be coded as "clearly FD", since the verb *aimer* 'love' should be incompatible with an FP/FN, according to the judgments reported in the literature. Moreover, as brought to our attention by an anonymous reviewer, it seems that certain adult speakers of French may sometimes violate the claimed semantic constraints on FP/FNs. Yet, as we will see below, the children in our study did not produce anything that was coded as "clearly FD" until after the age of four. Hence, if any child in our study ever violated the semantic constraints on FP/FNs (and simultaneously omitted the *par*-phrase), the utterance in question must have occurred at too late an age to affect our results (i.e., it must have been produced after the child had turned four).

[3] We chose the age of four years (48 months) as a cut-off point because (i) studies reporting a delay in *be*-passives report that difficulties persist at least until this age; and (ii) in absolute terms, by the age of four children are remarkably successful at most aspects of their target grammar; hence, any delay beyond 48 months is notable in its own right.

[4] Interestingly, both instances of FPs were reflexive. This point will be discussed in Section 5.

Table 2 provides the results by child. For example, the child Madeleine produced her first example of a (non-FD) *faire*-causative at the age of two years, one month (2;01), and produced an additional six such utterances before her fourth birthday. Her first recorded use of an FD was at the age of 4;02, and was followed by two additional FDs before the end of her corpus. In Figure 1 we have graphed Madeleine's use of causatives as a function of her age.

Table 2. Results by Child.

	Onset of Non-FDs	#Non-FDs before Age 4	Onset of FD	#FDs (to End of Corpus)
Anaé	2;00	12	>5;01	0
Anaïs	2;08	5	>3;00	0
Anne	2;04	14	>3;05	0
Antoine	2;06	11	4;02	1
Léonard	2;01	2	>3;02	0
Madeleine	2;01	7	4;02	3 (see Figure 1)
Marie	2;05	18	>4;00	0
Marilyn	2;09	4	>2;11	0
Nathan[5]	>3;00	NA	>3;00	NA
Théophile	2;10	11	>4;11	0
Théotime	2;03	13	>3;00	0

FD = *Faire*-Dative: *faire*-causative + transitive V with dative causee.

To check for statistical significance of the observed delay in FDs, we employed an absolute-frequency binomial test, as described in Snyder (2007, chp. 5): as indicated in (12–14), we first calculated the total number (U) of child utterances in our sample that were produced after the given child was already producing both datives and (non-FD) causatives, but before the child had reached the age of four years:

12. U = 33,244 utterances

To estimate the per-utterance frequency of FDs in speakers whose grammar allows them, we analyzed all parental utterances in our 11 corpora, calculated each parent's per-utterance frequency of FDs, and then took the median, F:

13. F = (7 FDs)/(22,778 utterances by the given parent)

To calculate the probability that U would be as high as observed (or even higher), under the null hypothesis that FDs were always available to children as soon as they had both non-FD causatives and dative arguments, we calculated the binomial probability, $p = (1-F)^U$:

14. $p = 0.00003651 < 0.0001$

As seen in (14), the age gap between the onset of non-FD causatives and dative-marked arguments, on the one hand, versus the first clear FD, was robustly significant. Therefore, Guasti's (2016) conjecture (at least as it applies to FDs) is strongly supported by our longitudinal data. In the next section we look at the connection between these results and the UFH, before moving on to more fine-grained predictions regarding the acquisition of causativized intransitives.

[5] Nathan's corpus ends (at age 3;00,03) before he uses either dative arguments or causatives of any kind.

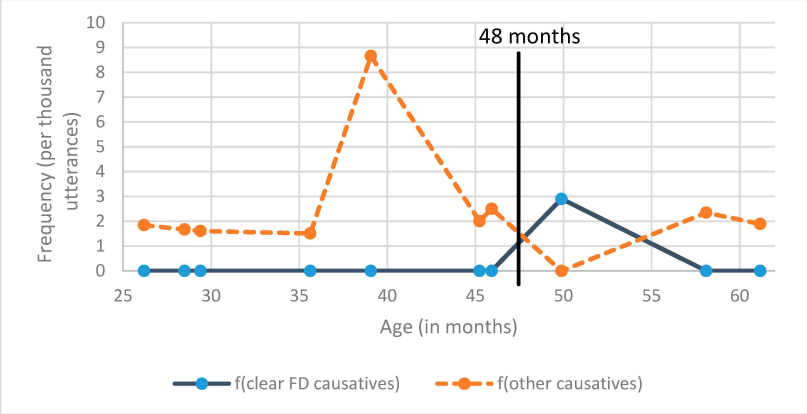


Figure 1. Frequency of Causatives by Age (Madeleine).

3. Explaining the Acquisitional Delay for *Faire*-Datives

In this section we will first review Snyder and Hyams' (2015) account of the acquisitional delay found in English *be*-passives. Then we will show that their account, the UFH, can be extended in a simple way to account for the observed delay in FDs.

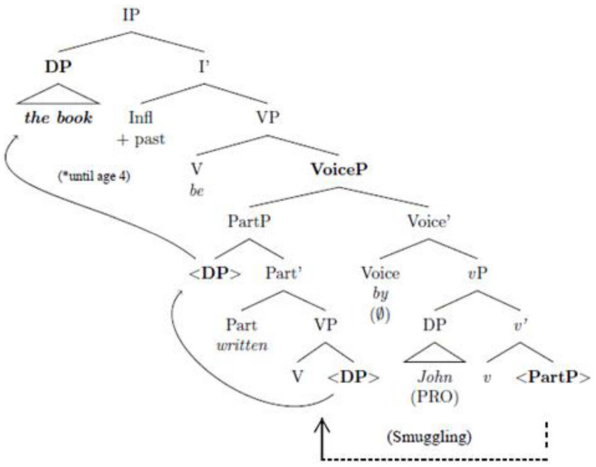
3.1. English Be-Passives and the Universal Freezing Hypothesis

Snyder and Hyams (2015) propose that the lateness of English *be*-passives is due to a freezing effect. For the syntax of the passive, they adopt the analysis of Collins (2005a), which is based on a strict interpretation of UTAH (i.e., the Uniformity of Theta-Assignment Hypothesis; Baker 1988, p. 46; 1997, p. 74). Under Collins (2005a) interpretation, a verb's external θ-role must be assigned in exactly the same way in active and passive sentences, namely to the specifier of *v*P. In a passive the external argument is realized either as a PRO, in the case of a short passive; or as an overt DP (preceded by the overt voice-head *by*), in the case of a long passive.

Consider the *be*-passive in (15). Given the presence of the external argument *John* in Spec-*v*P, simple argument-movement of the object DP *the book* into Spec-IP would violate relativized minimality (RM; Rizzi 2001, 2004). The solution proposed by Collins (2005a) is that the object is "smuggled" past the external argument, via movement of a larger phrase, after which it raises to subject position without a minimality violation, as shown in (16).

15. The book was written by John.

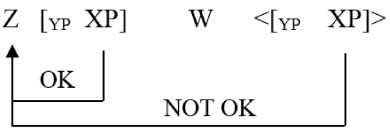
16. Cf. Collins 2005a, pp. 90, 95



In (16), the V *write* raises to the head of PartP and forms the participle. Smuggling occurs when the entire PartP, including the object, raises past the external argument in Spec-*v*P and lands in the specifier of the passive voice phrase. From here the object DP can undergo cyclic movement into the subject position in a fashion compatible with minimality.

Collins (2005b, p. 292) defines "smuggling" in terms of the illustration in (17): The constituent XP cannot be directly related to Z, due to an intervening element W. Yet, after movement of the larger constituent YP to a position from which it c-commands W, XP can be related to Z. In this case, YP "smuggles" XP past W.[6]

17. Smuggling (Collins 2005b, p. 292, ex. 6)



In the cases of smuggling discussed by Collins (2005a, 2005b), the relation between XP and Z is always one of movement: the relation created by moving XP to position Z.

The entire concept of smuggling hinges on the idea that the Freezing Principle (which was proposed independently in Ross (1967, 1986) and Wexler and Culicover (1980)) allows for some exceptions. One formulation of the principle, based on Müller (1998), is given in (18).

18. Freezing Principle: In the following configuration, no operation (such as Move) may relate X and Z: * Z . . . [Y . . . X . . .] . . . <Y>

According to this principle, the direct object inside the PartP in (16), which corresponds to the X inside Y in (18), should be frozen to further syntactic operations, and therefore unable to undergo raising into subject position. Hence, Collins (2005a, 2005b) concludes that there must exist situations in which the Freezing Principle fails to apply, although he does not attempt to spell these out in a general theory.

Finally, the role of smuggling in the late acquisition of the *be*-passive, according to Snyder and Hyams (2015), is connected to a difference in the capacity of adults and children under four to make the required exception to the Freezing Principle. In children that young, the Freezing Principle blocks smuggling, and thereby blocks the *be*-passive: without smuggling, the underlying object cannot get past the intervener that separates it from subject position. Snyder and Hyams (2015) formulate this hypothesis as the UFH, as stated in (19).

19. The Universal Freezing Hypothesis: For the immature child (until about age four), the Freezing Principle always applies. No subpart of a moved phrase can ever be extracted.

The UFH thus accounts for the observed delay in children's mastery of *be*-passives, which depend on smuggling to circumvent a Minimality violation.

3.2. The Universal Freezing Hypothesis and the Locus of Maturational Change

As formulated above, the UFH describes a change in the availability of exceptions to the Freezing Principle, but it does not address why such a change would occur. The answer presumably depends on the precise nature of the maturational change that the UFH describes. For example, one possibility is that there are essentially two Freezing Principles provided by Universal Grammar (UG). Under this

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[6] Collins (2005a, 2005b) does not require the movement of YP in (17) to be feature-driven, except insofar as XP may need to enter into a feature-checking relation with Gehrke and Grillo (2009) have worked out a possible feature-driven version of smuggling for the case of English *be*-passives, in which a VP-shell is attracted to Spec-VoiceP by a feature of passive voice. Snyder and Hyams (2015) assume that some version of this feature-based approach can be maintained, and we will make the same assumption here.

view, a "maximally restrictive" version of the Freezing Principle, which is active in the grammar of very young children, is replaced by a "selective" version sometime around the age of four.

Yet, this is not the approach that we advocate. For one thing, there are reasons to doubt that the Freezing Principle itself (whether selective or restrictive) is actually a primitive element of UG. For example, Uriagereka (1999) argues that freezing effects can be made to follow as a deductive consequence from mechanisms that are independently needed for cyclic spell-out. Alternatively, Keine (2016) argues that they can be derived from limitations on the search space of probes.

Furthermore, in Borga and Snyder (forthcoming) we review recent experimental evidence suggesting that an absolutely restrictive version of the Freezing Principle would be too strong, even for children younger than four. As an alternative, we propose that the syntactic structures resulting from a smuggling-based derivation impose excessive demands on the child's computational resources for language processing. This proposal accommodates recent evidence suggesting that children's ability to produce and comprehend *be*-passives improves in experiments that either (i) eliminate the need for the use of a smuggling derivation in the first place, for example by adding a feature like [+*wh*] or [+Topic] to the derived subject (cf. Rizzi 2004); or (ii) take steps to reduce the processing load that a smuggling-based structure creates, for example by providing a structural prime for the *be*-passive (e.g., Messenger 2010). In the case of (i), information structure is manipulated via context provided in the experimental task, resulting in a derived subject which is either discourse old ([+Topic]) or which undergoes *wh*-movement, avoiding Minimality violations and the need for smuggling in either case (cf. footnote 8). As regards (ii), one analysis of syntactic priming studies is that the comprehension of a sentence can aid in activating its underlying syntactic representation, which can then be re-used in further production and comprehension, at a reduced processing cost (Guasti 2016, p. 203). The point which follows from both observations is that the change taking place around the age of four is not a change in the grammar itself, but rather in the level of computational complexity (and, hence, grammatical complexity) that the child's language processing system can handle.[7]

3.3. Extending the Universal Freezing Hypothesis to Faire Datives

Despite the existence of parallels between English passives and Romance causatives, it is not immediately clear that Snyder and Hyams (2015) freezing-based approach to passives can account for the acquisitional timing of causatives. The maturational delay described in the UFH appears to be tied to DP movement, which does not play any role in standard analyses of *faire*-causatives (e.g., Kayne 1975; Rouveret and Vergnaud 1980; Burzio 1986). Yet, there is reason to think a form of smuggling might also be needed in certain causatives.

A number of authors, going back to Kayne (1975), have proposed that a derivation along the general lines of (20) (which is based on a discussion in (Belletti and Rizzi 2012)) is found in French and Italian FDs.

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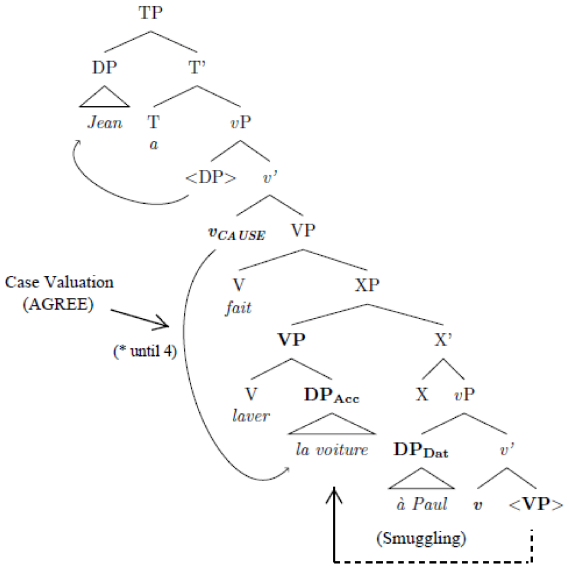
[7] As noted in Borga and Snyder (forthcoming), it is not entirely straightforward to harmonize the assumptions of (Collins (2005a, 2005b) for smuggling, with those of (Rizzi (2004)) for Relativized Minimality (RM). According to this version of RM, in a configuration [... X ... Z ... Y], a local relation cannot hold between X and Y if Z belongs to the same structural type as X, where structural type is determined in terms of feature classes. Under Rizzi's (2004) assumptions it should be possible to derive an English *be*-passive without risk of an RM violation and, hence, without smuggling, when the logical object bears a feature such as [+Topic] or [+WH]. Yet, on the assumptions of Collins (2005a, 2005b), without smuggling the surface word order comes out wrong (e.g., *The book was by John written*). Borga and Snyder (forthcoming) very briefly sketch an approach that might resolve this conflict. In particular, it would allow a child to avoid the need for a smuggling derivation altogether, when the logical object bears one of the aforementioned features.

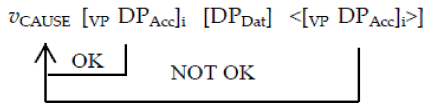
20. FD Cf. Belletti and Rizzi 2012



In (20) we have labeled as 'smuggling' the step of the derivation in which the VP headed by *laver* 'wash' is moved past the external argument, *à Paul* 'to Paul'. (In the version of this analysis sketched by Belletti and Rizzi (2012, p. 135), the VP undergoes feature-driven movement to the specifier of a functional head, X, which the authors, suggest is the head of a "(small) clausal complement" to the causative verb).

As emphasized by Belletti and Rizzi (2012), this is an instance of smuggling, even though nothing moves out of the moved constituent. The VP containing the lower verb's direct object moves past the intervening dative causee, into a position where the direct object can be case-valued by v_{cause}.[8] To repeat the definition from Section 3.1, stated in terms of the diagram in (17) (repeated as (21), with the elements from the FD inserted), smuggling is the movement of a constituent YP (here the VP containing the lower object) into a position where XP (the lower object) can be "related to" Z (the higher functional v_{CAUSE} head).

21. Smuggling in the *faire dative:*



In the cases of smuggling discussed in Collins (2005a, 2005b), the relation between XP and Z was always one of movement, but if we take movement to require the establishment of an AGREE relation, then the crucial relation between XP and Z can be seen as one of AGREE. Correspondingly, in (20) the crucial relation is an instance of AGREE that simply values a case feature of XP, with no resulting movement.

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[8] The nature of the dative case on the transitive causee is the subject of a number of competing analyses, including those where the causee argument is located in an additional Applicative projection (Pylkkänen 2008). Belletti and Rizzi's (2012) smuggling approach is consistent with any analysis in which the causee argument is generated in a position intervening between the case-assigning causative head and the object in need of case valuation. Bellucci (2015) proposes an analysis based on Manzini and Savoia's (2011) analysis of oblique case as interpretable; in this case the dative-causee remains in the specifier of *v*P. In Kayne's (2004) analysis, the causee is still merged in Spec-*v*P initially, and *à* itself is responsible for checking dative case; the causee Goal must raise to establish an Agree relation with the prepositional Probe, and the VP chunk containing the object still must raise to a position local to the accusative case-assigning causative head. Both analyses make the same acquisitional prediction regarding the need for smuggling of the object-containing VP.

Hence, to extend the UFH to FDs we really only need to make one change: freezing effects are not fundamentally about movement, but rather about AGREE. As a first approximation we can state this view in the form of a "Modified Freezing Principle", as in (22):

22. Modified Freezing Principle: In the following configuration, an AGREE relation (usually) cannot be established between X and Z: * Z . . . [$_{Y}$ . . . X . . .] . . . <Y>

The formulation in (22) includes the qualification "(usually)" as an explicit indication that certain exceptions will be possible for adults, but—precisely as before—the UFH will mean that these exceptions are unavailable to children younger than four. Hence, the UFH now works well for FDs: children will have substantial difficulties until the age of about four, because the lower verb's direct object cannot be case-valued without making an exception to the Modified Freezing Principle.

Indeed, potential support for an interaction between freezing and AGREE can be found in recent work by Keine (2016, 2018), who notes a type of freezing effect on long distance agreement in Hindi.[9] Agreement between a matrix verb and the object of a nonfinite embedded clause is usually optional in Hindi, as in (23), but is substantially degraded in instances where the lower clause has undergone extraposition, as in (24):

23. shiksakõ-ne [raam-ko kitaab parhne] d-ii
teachers-$_{ERG}$ Ram-$_{DAT}$ book.$_{F}$ read.$_{INF}$ let.$_{PFV.F.SG}$
'The teachers let Ram read a book.'

24. ?? shiksakõ-ne t_i d-ii [raam-ko kitaab parhne]$_i$
teachers-$_{ERG}$ let.$_{PFV.F.SG}$ Ram-$_{DAT}$ book.$_{F}$ read.$_{INF}$
'The teachers let Ram read a book.'

Thus, it appears that Hindi may provide support for the idea that freezing effects can be found in the domain of AGREE, per se, even when extraction from the moved constituent is not at issue.

In order to interpret the UFH in terms of the computational demands of language processing, as described in Section 3.2, and in terms of a maturationally-timed change in children's computational abilities, we will need one more adjustment to our assumptions. In terms of movement operations, a smuggling-based derivation requires the language processing systems to represent a chain whose "tail" is properly contained within the "head" of another chain (for example: *The book was* [*written* <*the book*>] by John <*written the book*>.) This configuration is plausibly responsible for a substantial increase in computational complexity. Yet, in order to subsume FDs under this account, we will need to assume that this configuration is a special case of a more general source of computational complexity: structures involving AGREE into a moved constituent. In other words, regardless of whether any phrase moves out of the moved constituent, simple AGREE into a moved constituent is something that is both necessary to represent, and difficult to represent, during the computations that subserve language production and comprehension.

Finally, note that our account crucially relies on the idea (shared with Snyder and Hyams (2015)) that *get*-passives can, at least in some cases, be derived without recourse to smuggling. We will discuss this point in detail in Section 5. First, however, we will derive and test a novel prediction of the proposals that we have made in the current section.

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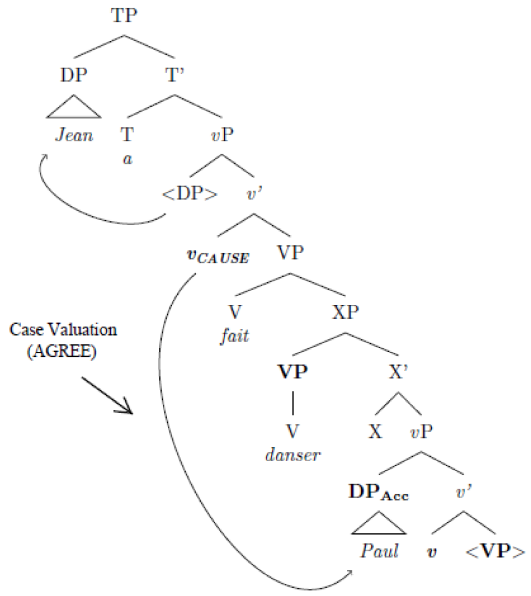
[9] We only recently learned of Keine's (2016, 2018) work, and were pleased to discover that he had independently arrived at—and extensively developed—the same general idea discussed above: namely that there should exist closely related restrictions on AGREEment into, and movement out of, a moved constituent.

4. The Universal Freezing Hypothesis and Causatives of Intransitive Verbs

4.1. New Predictions for Causativized Intransitives

Further examination of the syntax literature on Romance causatives has led us to a novel prediction: the causative of an intransitive verb, whether unaccusative (FuA) or unergative (FuE), will be within the grammatical capabilities of a two- to three-year-old child. Specifically, we note that Guasti (1996) and Folli and Harley (2007) have argued that, in terms of Kayne's (1975) distinction between *faire-infinitif* and *faire-par*, FuEs necessarily belong to the *faire-infinitif* type, with a derivation along the lines of (25):[10]

25. *Faire* + unergative = '*faire-infinitif*'



In (25), the assumption is that FuEs, like FDs, require movement of the lower VP, but there is nothing to intervene between v_{cause} and the accusative-marked causee, *Paul*. Note, too, that in terms of the Modified Freezing Principle, the UFH does not create any problems for the child under four. This is because there is no AGREE operation into the VP that underwent movement.

In the case of FuAs, Folli and Harley (2007) and Guasti (1996) argue that *faire*-causatives without an external argument are at least potentially instances of Kayne's (1975) *faire-par* causative (recall that, in present terms, these correspond to FP or FN causatives, depending on whether the optional *par*-phrase is present). For a typical FP, (26) shows a version of the analyses proposed by Folli and Harley (2007) and Guasti (1996): the complement of *faire* is not a *v*P but rather a nominalized VP.[11] The *par*-phrase is a PP adjunct similar to the *by*-phrase in English derived nominals (Folli and Harley 2007) and does not count as an intervener in either movement or case valuation. Accordingly, neither smuggling nor the Modified Freezing Principle plays any role in FP/FN causatives. Similarly, when the causativized verb

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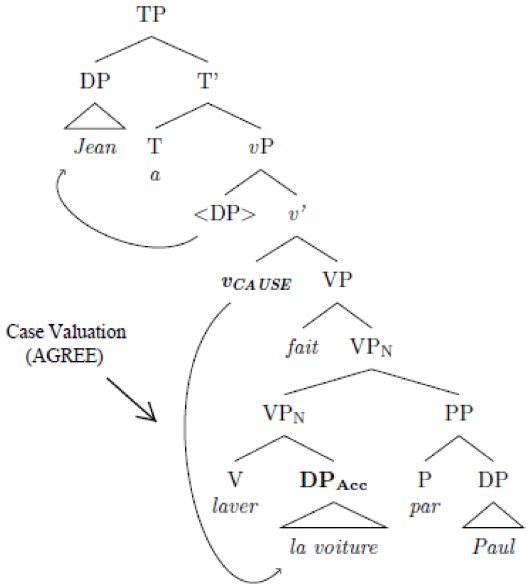
[10] Folli and Harley (2007) and Guasti (1996) base their argument on passivization facts in Italian. There the *faire-infinitif* does not passivize, and passivized causatives containing verbs with alternating unergative/unaccusative interpretations are only acceptable on an unaccusative reading. For a discussion of the corresponding passivization facts in French, see Belletti (2016a, pp. 15–18).

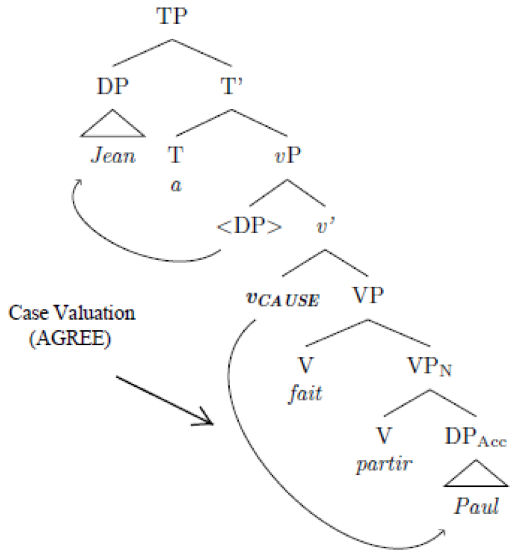
[11] A reviewer points out issues with Folli and Harley's (2007) analysis of the embedded VP in FPs as nominalized; in particular, the allegedly nominalized constituent does not behave like a DP as regards restrictions on extraction. Labelle (2013) presents an analysis based on Folli and Harley (2007) in which *faire* simply embeds a non-external argument assigning *v*P, with an agent optionally assigned in a PP. As regards the acquisitional prediction, both analyses critically posit the absence of an intervening external argument in the FP.

is an unaccusative, as in (27), there is nothing to intervene between v_{cause} and the accusative-marked causee, *Paul*. No smuggling occurs, and the Modified Freezing Principle is respected. Hence, the prediction of the UFH is that children under four will succeed.

26. *Faire-par (FP):* Cf. Guasti 1996; Folli and Harley 2007



27. *Faire* + unaccusative = '*faire-par*'



4.2. Testing the Predictions

Note that Guasti's (1996) acquisitional conjecture, which she expressed in terms of Kayne's (1975) *faire-infinitif*/*faire-par* distinction, linked causatives of the *faire-infinitif* type with English *be*-passives. In Section 2, when we tested her conjecture, we focused on FDs, which are *faire-infnitif* causatives in which the causativized verb is transitive. Yet, as discussed in the preceding section, FuEs also seem to belong to the *faire-infinitif* type of causative. If so, one might expect them to show the same acquisitional delay seen for FDs in Section 2.3. Yet, as indicated above, the UFH actually leads to the opposite prediction: FuEs (as well as FuAs) are expected not to show any particular delay.

For the corpus results reported in Section 2.3, we simply distinguished between FDs and other causatives, but to evaluate the new predictions for causativized intransitives we will now examine utterances in the "Other" category more closely. In brief, both types of causative are attested at early ages, although at all ages FuAs are produced much more frequently than FuEs. Ten of the 11 children produced at least one example of an FuA in their recorded speech, and in all ten cases the first use was prior to the age of three. For FuEs, 6 of the 11 children produced at least one example, and in four cases the first use was prior to the age of three. Some representative examples of FuEs are provided in (28), and details for each child are provided in Table 3.

28. a. Il me fait pleurer
he me makes cry
'He is making me cry.' (Marilyn 2;11,14)

b. Ça me fait rire
that me makes laugh
'That makes me laugh.' (Théotime 2;7,28)

Thus, our evidence from the acquisition of French *faire* causatives with intransitive verbs, both FuAs and FuEs, is fully in line with the predictions of the UFH.

Table 3. Causativized intransitives, by Child.

	First Use of FuA (Age)	#FuA (Total)	First Use of FuE (Age)	#FuE (Total)
Anaé	2;00	7	NA	0
Anaïs	2;08	3	NA	0
Anne	2;04	10	2;05	2
Antoine	2;06	11	4;02	1
Léonard	2;01	2	NA	0
Madeleine	2;01	10	NA	0
Marie	2;06	12	2;05	1
Marilyn	2;09	3	2;11	1
Nathan	NA	0	NA	0
Théophile	2;10	8	3;07	3
Théotime	2;03	9	2;05	4

5. *Get*-Passives and Reflexive Causative Passives

In this section we return to two structures that are acquired substantially earlier than the age of four, *get*-passives and reflexive causative passives, to clarify how they differ from *be*-passives and FDs, respectively.

5.1. Get-Passives

In contrast to *be*-passives, English *get*-passives are produced and understood by the age of two or three years (Turner and Rommetveit 1967a, 1967b; Harris and Flora 1982; Crain and Fodor 1993; Slobin 1994). While the underlying structure of *get*-passives is controversial, one influential view is that there exist multiple types of *get*-passives, each with its own structure (Reed 2011, p. 42). Snyder and Hyams (2015) contend that the types of *get*-passive that are produced and understood by children younger than four do not contain an external argument.

Tests for the syntactic presence of a phonetically null, external agent argument include compatibility with a purpose clause, as in (29), and compatibility with the adverbial modifier *on purpose*, as in (30) (these examples are based on Fox and Grodzinsky 1998, p. 327).

29. a. The ship was sunk [PRO to collect the insurance money].

    b. *The ship sank [PRO to collect the insurance money].

    c. *??The ship got sunk [PRO to collect the insurance money].

30. a. The book was torn on purpose.

    b. *The book tore on purpose.

    c. *??The book got torn on purpose.

The *be*-passives in (29a) and (30a) clearly have an understood agent in their syntactic structures, because the agent is available to control the PRO subject in a purpose clause (29a), or to license the use of the agent-oriented adverbial *on purpose* in (30a). The anticausative counterparts in (29b) and (30b), which uncontroversially lack any external argument, are sharply ungrammatical (at least on the interpretations available in 29a and 30a). Crucially, the *get*-passives in (29c) and (30c) appear to pattern with the anticausatives, which indicates that these particular examples of the *get*-passive are actually incompatible with the syntactic presence of an understood Agent.

Yet, while the native-speaker judgments indicated in (29) and (30) are the ones that are usually reported, there does exist some inter-speaker variation for the (c) examples.[12] Indeed, Reed (2011) and Alexiadou (2012) report that *get*-passives are sometimes judged to be fully compatible with a *by*-phrase, or with other diagnostics for the syntactic presence of an Agent, especially if contextual support is provided. According to Alexiadou's (2012) account, English actually has two different non-actional voice heads, corresponding to passive voice and middle voice, that are possible in a *get*-passive (in contrast, the *be*-passive always contains the 'passive' voice head). Crucially, passive voice assigns an external argument, but middle voice does not.

For Alexiadou (2012), two factors contribute to the structural ambiguity of *get*-passives. First, English middle voice is not associated with any overt morphology.[13] Second, *get* is a semantically bleached aspectual verb introducing a change-of-state event, but lacking its own argument structure. Hence, the verbs that typically form *get*-passives are semantically unspecified for a distinction between external and internal causation. In contexts that strongly favor an agentive interpretation of the event associated with the participle, an underlying passive-voice construal of the *get*-passive is, at least, marginally possible for some speakers, and this yields the less-than-straightforward judgments for examples like (29c) and (30c).

For present purposes, the essential part of Alexiadou's (2012) account is simply that the "passivized" verb in an English *get*-passive routinely lacks the external argument that would be present in a *be*-passive. If there is no external argument to intervene, the promotion of the logical object into subject position will not require smuggling. Hence the Freezing Principle will not be violated, and the UFH is fully compatible with children's early success on *get*-passives.

5.2. Reflexive Causative Passives

As noted above, the earliest examples of FPs that we found were actually reflexive causatives; these were already present in the speech of two-year-olds. As discussed by Belletti (2016a) for Italian, these "reflexive causative passives" are, intuitively, an extremely complex grammatical construction, yet

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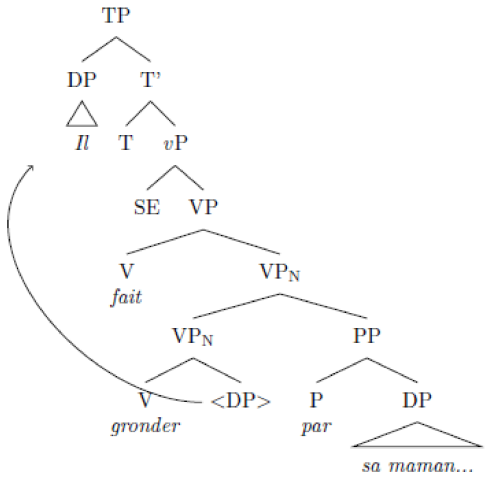
[12] We thank an anonymous reviewer for bringing this to our attention.

[13] See Alexiadou (2012) and Alexiadou and Doron (2012) for discussion of cross-linguistic variation in the morphological realization of the functional head for middle voice. There the *get*-passive is specifically compared to the medio-passive forms in Greek and Hebrew, which do not require the presence of an external argument and share morphology with the dispositional middle.

people's intuitive ideas about grammatical complexity are a poor predictor of acquisitional timing, and in Italian (much as in French), children produce Reflexive Causative Passives (RCPs) remarkably early.

For RCPs (see 31), we again follow Guasti (1996) and Folli and Harley (2007) in their analyses of FPs. For the object-to-subject analysis of "formally reflexive" clitic constructions in French, we follow Sportiche (2010). Snyder and Hyams (2015) have provided extensive evidence for early mastery of reflexive and non-reflexive clitics in children acquiring French and Italian. Moreover, despite the passive-like interpretation, there is no passive morpheme in reflexive FPs, and thus—once again—no need for smuggling. Hence, children's early success on RCPs is entirely as expected.

31. Reflexive Causative Passive (RCP):



Belletti (2016a, 2016b), however, offers an alternative analysis of RCPs, in which the reflexive morpheme represents the external argument of the causative verb, and the lower argument does have to be smuggled past it into surface subject position. Belletti (2016b) further notes that the *da*-phrase in the Italian reflexive *si-fare* is compatible with non-agent arguments (32a), which are illicit in the regular, non-reflexive *fare-da* (32b).

32. a. Maria si fa capire da tutti
Maria SI makes understand by everybody
'Maria makes herself understood by everybody.' (Belletti 2016b, p. 5)

b. *Questa spiegazione ha fatto capire il problema da tutti
this explanation has made understand the problem by everybody
'This explanation has made the problem understood by everybody.'

Belletti (2016b) takes this latter observation to indicate that the reflexive FP causative, at least in Italian, is not always as closely related to the non-reflexive FP as the presence of the *da*-phrase would suggest, and indeed she leaves open the possibility that the construction is potentially ambiguous between a more complex, semantically reflexive construction requiring smuggling, and a simpler derivation along the lines of (31). Hence, one possibility is that Belletti's (2016a) analysis (with smuggling) is the correct one when a true, semantic reflexive is present (as it often is, in adult speech), while the structure is simpler (and smuggling is not involved) when the construction is only "formally" (not semantically) reflexive.

There are several reasons to assume that a simple structure of this kind is indeed available to children who have not yet mastered smuggling. As regards the reflexive morpheme, Snyder and Hyams (2015) provide detailed evidence for two-year-old French and Italian children's mastery of formally (but not semantically) reflexive constructions with *se*. In addition, Labelle (2013) observes that the reflexive morpheme in the RCP (*se-faire*) construction in some cases must not be associated

with the external argument of the causative verb, as the surface subject cannot be construed as playing a role in bringing about the caused event (33).

33. Les habitants se sont fait sorprendre pendant leur sommeil par
the inhabitants SE AUX made surprise during their sleep by
l'eruption du volcan
the eruption of-the volcano
'The inhabitants were taken by surprise during their sleep by the eruption of the volcano.' (Labelle 2013, p. 238)

Hence, at least in some cases, *se* clearly is not the external argument of the causative verb. In our view it is quite reasonable to assume that the RCPs in early child speech are not semantically reflexive, that *se* is not an intervener for purposes of RM, and that no smuggling is required.

Finally, we would like to note that Labelle (2013) posits that *se* in RCPs is actually the overt realization of a non-active voice head which prevents the merge of an external argument, resulting in the promotion of the internal argument from the embedded predicate and the absence of a semantically reflexive interpretation. The causative verb itself is described as a semantically underspecified lexical realization of a verb which brings about an event. In light of the acquisitional evidence presented in this paper, we believe the parallels between these ideas and the structure Alexiadou (2012) formulates for the *get*-passive in English definitely warrant further exploration.

6. Conclusions

In this acquisitional study of French causatives, we first tested and found support for Guasti's (2016) conjecture regarding the acquisition of *faire-par* versus *faire-infinitif* causatives, at least as it applies to causativized transitives: there was strong evidence for a delay in FDs. Next, drawing on the syntax literature for Italian, and updating the Freezing Principle to take AGREE relations into account, we showed that the UFH can explain the observed delay for FDs. We then derived a novel prediction: even though *faire*-causatives with unergative verbs require an analysis as *faire-infinitif* causatives, they will not be delayed like the FDs, since the unergatives have no internal argument requiring case valuation. This prediction was tested and supported. Finally, we examined certain parallels between RCPs and *get*-passives with respect to non-assignment of an external theta-role, which help to explain why these structures are not affected by the UFH.

The above findings raise several questions for future research. As described by Hirsch and Wexler (2006), children at least as old as age 5 struggle with accurate comprehension of the *by*-phrase in English nominals. One potential take-away from this observation is that children have difficulties acquiring the default Agent interpretation conveyed by the by-phrase, outside of those actional passives where young children do succeed, given adequate context or a structural prime. The *par*-phrase in both the FP and RCP constructions has been analyzed as similarly conveying a default Agent role (Guasti 1996; Folli and Harley 2007; Labelle 2013). As Guasti (2016) notes, this would seem to predict that children acquiring these constructions might experience difficulties in the accurate comprehension of the *par*-phrase. As several instances of *par*-phrases did appear in the spontaneous speech data prior to age 3, this prediction deserves further review. In light of Belletti's (2016b) observation regarding the differences between *da*-phrases in the Italian FP and RCP constructions (the former involving a default Agent role assignment, the latter transmission of a thematic role from the verb), future research might test whether children acquiring French display asymmetries in the comprehension/production of these two constructions.

Another area in which the UFH makes predictions concerns the inverse/specificational copular construction in English. Specificational copular sentences (34a) appear to invert the typical order of arguments in a predicational copular construction (34b).

34. a. The doctor is Maria

    b. Maria is the doctor

Under several analyses of specificational copular sentences including that developed in Mikkelsen (2005), the predicational argument (*the doctor* in (34)) is Merged in a structurally lower position than the referential argument (*Maria)* prior to being promoted to subject position, resulting in what appears to be a Minimality violation. If this violation must be circumvented via a more complex smuggling derivation, then a delay in the acquisition of specificational copular sentences is predicted under the UFH.

In conclusion, evidence from the acquisition of Romance causatives provides further evidence for the UFH, and contributes to a developing understanding of the role of freezing effects in acquisition. The similarities between *get*-passives and RCPs merits further acquisitional and theoretical research, particularly given the very early appearance of the latter in spontaneous speech data.

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