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# THE ROLE OF THE CONSERVATIVE LEARNER IN THE RISE AND FALL OF VERB-SECOND*

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Abstract This paper argues that the diachronic rise and fall of verb-second grammars is tied to the conservative nature of child structure projection and movement postulation, within a Minimalist syntax. For the rise of V2, we propose that children bundle features on a single head in the left periphery, only unbundling (adding projections) with unequivocal input evidence. For the loss of V2, we appeal to the theory that children avoid verb movements, only postulating additional movements with unequivocal input evidence. Interim grammars along the developmental path – with bundled left peripheries or less-moved Vs relative to the input grammars – prescribe latent diachronic pathways available to actuate into community grammars. We assess our predictions for child interim grammars against the acquisition literature and find data consistent with both fewer projections and less movement in child language, relative to adult input grammars. We appeal to changes in the learning context, namely bilingualism in language contact, as the external impetus for the actuation of change, in both our V2 case studies (Rise: Old French, Loss: Germanic Urban Vernaculars). In language contact situations we suggest children are more likely to continue to use interim grammars for longer periods among their peer-groups, inviting innovative syntax to catch-on (or actuate) among young speakers in those speech communities.

## 1 Introduction

This paper explores a minimalist syntactic account of V2 phenomena that allows us to simultaneously capture the following three sets of empirical ob-

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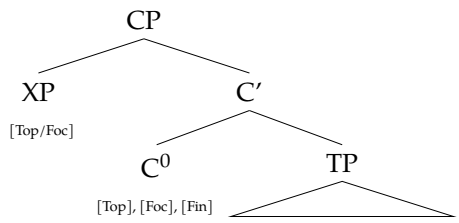
servations: (a) synchronic syntactic phenomena, (b) attested child learning pathways, and (c) diachronic change patterns to and from a V2 pattern, including the social contexts which foster these changes. Our main case studies are the rise of V2 in Old French, and ongoing word-order changes in Germanic Urban Vernaculars, which we argue to be relevant for the understanding of the loss of V2. We maintain that any synchronic analysis of V2 needs to be fully compatible with the dynamic patterns observed in both development and change. This work is necessarily a gestalt approach, rather than a detailed analysis of any one piece of the V2 story, as our primary aim is to find a unified analysis which best captures all three domains. We argue that adopting a bundling approach to the left periphery (1), in contrast to cartographic-type approaches (2), coupled with an emphasis on the acquisitional vulnerability of verb movement, accounts for all three empirical domains of relevance and how they dynamically interact. In brief, our approach uses V2 analyses and case studies to explore a theory of syntactic representations, highly prioritizing the evaluation metrics of realistic language acquisition sources and linking hypotheses to attested syntactic changes observed in E-languages (our approach is highly synergistic with Biberauer 2017, 2019).

(1)

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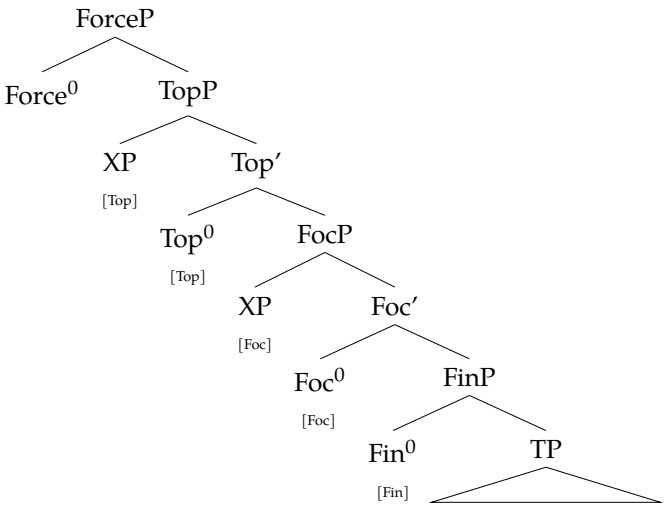


The structure of the paper is as follows. In section 2, we'll first cover the relevant background on V2 syntax description and theory, and our assumptions about the initial state of syntactic representations, with particular reference to V2 phenomena. We'll also lay out our assumptions about how children proceed from the initial state to their language-specific syntactic projections through their input experience. From there, we'll identify potential sources of syntactic change (innovation in child I-languages and actuation of innovation into E-languages) in the acquisition process, sketching a linking model for acquisition and change. Next, we will move to our case studies on the rise (Section 3) and fall (Section 4) of V2, illustrating how our acquisition model works. Section 5 briefly considers the actuation of change before we round off in Section 6 by discussing what is gained for the V2 story and for the child innovator approach to syntactic change, and remaining concerns and questions.

## 2 Background

### *2.1 Verb second (V2) – brief description and theory*

In descriptive terms, verb-second is a word order constraint that requires the finite verb to be the second constituent of the clause. This means that the prefield – the domain preceding the finite verb – can and must contain exactly one constituent.[1] This constituent is generally very flexible in terms of syntactic category and function, and generally expresses the topic or the focus of the clause in terms of information structure. The V2 constraint is cross-linguistically rare (see Holmberg 2015), but observable in all Modern Germanic languages with the exception of English. In these languages, the V2 constraint is active in all declarative main clauses and interrogative wh-clauses, as well as in a subset of embedded clauses. In Modern English and some Modern Romance varieties, the V2 construction applies only in (most) wh-interrogatives and with some cross-linguistic variation in a narrow set of particular constructions, earning these languages the label of 'Residual verb-

1 All V2-languages allow exceptions from this strong generalisation. Most notably, linear V3 structures are permitted across the board in Germanic V2 languages in the case of initial dislocated elements followed directly by a co-referent resumptive element and then the verb: $XP_i$ – $Resumptive_i$ -verb. The initial constituent of such V3 strings is topical in nature, and a distinction has been made in the literature between 'Contrastive Left-Dislocation' (CLD) and 'Hanging-Topic' dislocations' (Thráinsson 1979, Frey 2004b). Other linear non-V2 patterns also exist, with some variation across V2 languages (Klævik-Pettersen 2019a: chapter 2). The existence of these linear non-V2 constructions does not invalidate the generalisation that verb-second languages are governed by a general V2 constraint, sometimes called 'structural V2'.

second' languages (Rizzi 1990).[2]

(3) [*Boken*] ***har*** *jeg* *lest*
book.DEF have I read
'The book, I've read.' (Modern Norwegian)

While it is commonplace to refer to V2 as a 'word order rule' or 'constraint', these labels are mere surface descriptive terms.[3] The generally accepted analysis of verb-second, based on the work of den Besten (1983), has the advantage of reducing the surface properties of the construction to simple epiphenomena of phrase structure. According to this analysis, an inverted V2 clause like (3) has the derivation illustrated in (4): the finite verb moves to $C^0$ and the initial constituent is attracted to Spec-CP.[4] This analysis has the merit of providing a phrase structural representation of the phenomenon which also offers an explanation for the general linear V2 pattern, since the entire clause is considered to be a CP with a single A-bar position available to host the preverbal element in Spec-CP. The constituent in Spec-CP moves to check some information structure/discourse-related feature; both [Topic] and [Fo-

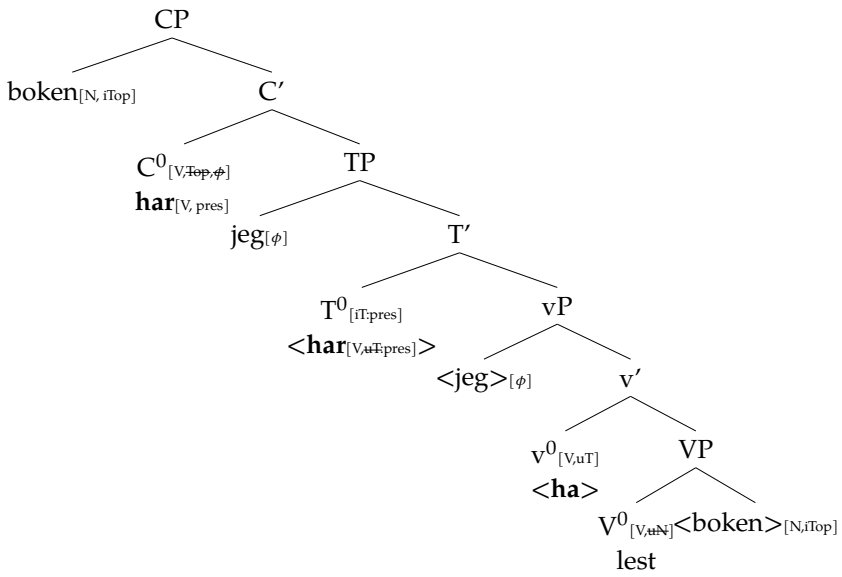
2 See Sailor (2020) for a critique of this term, since some of the so-called 'residual' V2 constructions in Modern English, like Negative Inversion, appear to have evolved after the loss of generalised V-to-C movement, thus being innovations rather than retentions. Also, as a reviewer points out, the very existence of structural V2 in the Old Romance languages is called into question by some researchers (Kaiser 2002, Rinke & Meisel 2009, Sitaridou 2019). Moreover, the status of 'residual V2' constructions in other Modern Romance varieties than French is less than clear due to null pronominal subjects (pro-drop), making it hard to determine the exact syntactic position of the verb.

3 A reviewer points out that most researchers assume that V2 is the result of V-to-C movement, which is clearly not a surface descriptive term. This is in fact precisely our point: few if any researchers assume that there exists a grammatical rule that explicitly references linear word order, yet something in the syntax (what the reviewer calls 'structural V2') assures linear V2 effects at the surface level (what we call 'the word order rule/constraint'). V-to-C movement is indeed standardly considered the relevant *explanans*. However, V-to-C does not equal V2, since the former is not sufficient to derive the latter. Klævik-Pettersen (2019a: chapter 2) provides extensive discussion and concludes that the notion of a 'V2-language' is at best a convenient generalisation rather than a stringent theoretical notion.

4 The feature triggering the head-movement of the verb is assumed to be *inflectional* in nature (Travis 1984, Holmberg 1986, Roberts 1993, Vikner 1995, Fanselow 2004) and is referred to as [Inf], [Agr], [Fin], [$\phi$] etc. in the literature. Evidence in favour of the inflectional nature of $C^0$ has been adduced in the form of *complementizer agreement* phenomena in certain varieties of Continental Germanic (Bayer 1984, Haegeman 1992, Zwart 1993). In (4), Head-Movement is for simplicity shown as replacement rather than adjunction. Chomsky (2001: 37-38) raises the question of whether head-movement is a syntactic operation at all, since the standard adjunction-analysis does not respect the Extension Condition (it does not involve Merge with the root of the phrase marker). For discussion, see Roberts (2011) and Dékány (2018).

cus], with various flavours, are available across the board in Germanic V2 languages.[5]

(4)




While this analysis leaves certain questions open,[6] it has the important merit of providing an explanation for the linear constraint. However, the advent of the cartographic model of the left periphery (Rizzi 1997) has cast some doubt on this simple explanation. The existence of languages that combine several constituents in the left periphery shows that the clause cannot be universally represented as a simple CP. Furthermore, strong generalizations can be made regarding (i) the information structural readings of these left peripheral XPs as well as (ii) their relative order. This suggests we are dealing with specific

5 $C^0$ is presumably equipped with an EPP-feature as well, causing the merger of an expletive or formal movement of the subject to Spec-CP in the case of all-focus clauses. This analysis is consistent with the facts of Northern Germanic without being obviously indispensable, since movement of the verb to $C^0$ and the subject to Spec-CP is string-vacuous in these SVO-languages (cf. the debate of the status of subject-initial clauses; see Travis 1984 and Zwart 1993, 1997 for arguments in favour of V-to-T, and Schwartz & Vikner 1989, 1996 for arguments in favour of V-to-C), while it is strongly motivated in Continental Germanic: in these SOV-languages, the linear V2 pattern of subject-initial clauses suggests the verb and the subject always move (Frey 2004a).

6 A crucial problem is that linear V3 should be possible through adjunction of an element to CP, contrary to fact. This problem was previously solved through a somewhat stipulative 'ban on CP-adjunction' (de Haan & Weerman 1986, Iatridou & Kroch 1992, Schwartz & Vikner 1996). In some strains of cartography (Cinque 1999, Benincà & Poletto 2004) this has turned into a ban on adjunction *tout court* – a solution which is preferable on principled grounds. For a thorough discussion of other unresolved issues of the den Besten-analysis, see Klævik-Pettersen (2019a: chapter 2).

projections. However, if the CP is a shorthand for a variety of projections (5), as suggested in Rizzi (1997) and since elaborated upon by others (Benincà & Poletto 2004, Grewendorf & Poletto 2011)), the notion of V-to-C movement is no longer precise, nor is it clear why there can (in the general case) be only one constituent in front of the verb in V2 languages, as the ungrammaticality of (6) illustrates:

(5) [ForceP [TopicP*[FocusP [TopicP*[FinP]]]]]

(6) *[*I morgen*] [*jeg*] ***skal*** *lese* *boken*
in morning I shall read book.DEF
Intended: 'Tomorrow I will read the book' (Standard Norwegian)

The inherent tension between the rich phrase-structural representations of cartography and the very restricted linear pattern found in Germanic V2 languages has not yet been resolved. Logically, two solutions present themselves. Either one can work from the premise that the full array of left-peripheral projections postulated in cartographic work exist in all languages. Within this vein of cartographic literature, a strong hypothesis has gained favour, called the 'One-Feature-One-Head' principle (Kayne 2005), which simply states that the existence of a particular reading, and by extension a particular feature, automatically signals the existence of a dedicated and universal projection responsible for encoding that specific feature (Benincà & Poletto 2004, Rizzi 2013). The other solution is to reject the universalist claim of the cartographic model and to assume that Germanic V2 languages are phrase-structurally impoverished in comparison to Romance style languages like Italian with articulated left peripheries.[7]

In this paper, we adopt the second solution. We interpret the highly restricted prefield of Germanic V2 languages as counter-evidence to the tenet 'One-Feature-One-Head'. We will demonstrate that a simpler and empirically adequate solution is available by assuming that several features may be car-

7 The first solution has enjoyed favour with Romanists working on older stages of the Romance languages. The reason is that many of these medieval varieties featured inversion strings of a kind that is not possible in their modern descendants, and which furthermore bears resemblance to the strings found in Germanic V2 languages. At the same time, the linear restriction to a single constituent in front of the verb is not nearly as strict as in Modern Germanic. It is possible to reconcile both of these facts in a cartographic model of the CP by assuming verb movement to some low left peripheral head like $Fin^0$, thereby accounting for subject-verb inversion, combined with an articulated CP that is accessible for both scene-setting elements, topics, and foci – thereby accounting for the linear V3, V4 etc. strings (Poletto 2014, Ledgeway 2017, Wolfe 2018). For a critique of cartographic analyses of so-called 'relaxed V2', see Hsu (2017).

ried by the same projection. Furthermore, we go one step further by hypothesizing that this is the default representation for children acquiring language, and that cartographic-like representations only potentially – but not necessarily – arise at a later stage through input experience. We will then argue that this way of conceiving of the acquisition of phrase structure allows us to make sense of diachronic change in word order.

### *2.2 Features and Projections: Initial state and acquisition*

We assume that features and projections must be mapped to each other in the acquisition process, mediated by the morphemes and phrases of the input language, and that children are cautious structure builders who look for convincing input evidence before making new syntactic projections in their grammars (cf. Snyder 2007).[8] Children's learning-path grammars contain feature bundles on single projections (Giorgi & Pianesi 1996, Hsu 2017) that may potentially be unbundled into unique heads, in the sense of Pannemann (2007) (see also Lee & Cournane 2019), by the discovery that more fine-grained syntactic structure must be projected to account for input patterns (i.e., to host morphemes or phrases in a way that captures word order and reflects the semantics). The default state of the syntax is to bundle by major domain (e.g., DP, CP). Essentially, we decouple the processes of discovering which features are active in one's input, from that of working out which require distinct projections.[9]

The successful mapping of a feature to a projection might be innocuously referred to as a 'parameter', as long as the term is used descriptively with no expectations of concomitant 'cluster effects'. The discovery of features with interpretive effect, in the case of verb second typical A-bar-features like [Topic] and [Focus] – with many sub-flavours which must also be represented through features – does not lead children to postulate more structure, only to be attentive to that feature and recognize it plays an active role in their input language. We further assume children perceive that these various features are associated in different clauses with the single element in the prefield of the finite verb, and hence 'bundle' these features on the head of the relevant projection, in this case the CP. This does not mean that the head $C^0$

8 In spirit our approach is like Snyder (2007), but his proposal concerns conservativity of parameter setting, while we are focusing on conservativity of structure projection.

9 For example, there is reason to ask if some features are absent completely from certain domains. In modern vernacular French, left peripheral foci are extremely marginal (Larrivée 2020), focus being primarily expressed through clefts. This might suggest that, at least for some I-grammars, there is no focus-feature at all in the C-domain. This is not surprising on our view, but something that needs an explanation if a left-peripheral focus-projection is universally available.

$$\left( \begin{array}{lll} C^0[\text{Fin}], [\text{EPP}] & [\text{Focus}] & [\text{Topic}] \\ & [\text{Contrastive}] & [\text{Contrastive}] \\ & [\text{Mirative}] & [\text{Shifting}] \\ & [\ldots] & [\ldots] \end{array} \right)$$

**Figure 1** A feature bundle on $C^0$

will carry all the different features in the derivation of any given clause, since that would lead to gross incoherence at the interpretive component. Rather, it means that children postulate a lexical entry for $C^0$ which contains a structured feature bundle, and then a subset of these features are chosen for the derivation of any clause involving the head $C^0$.[10]

In addition, in a V2 language, the merger of $C^0$ invariably triggers movement of the verb in main clauses regardless of what other features are chosen, so this feature (conventionally represented as a finiteness-feature) is associated directly with this head. Apart from this feature, which is uniquely associated with C in V2 languages,[11] we hypothesize that this is the initial representation of CP for all children, positing that children bundle all C-domain

10 Questions arise, such as what it means for a lexical entry to have a structured list like in Figure 1. It could be that the features are represented without any internal structure and that the derivation simply crashes at LF if incompatible features are chosen. Most importantly, the features [Topic] and [Focus] cannot be chosen simultaneously, but there are also no *mirative topics* nor *aboutness foci*, as far as we are aware. Notice also that, although a cartographer might assume dedicated functional projections for different kinds of topics like *aboutness topics*, *shifting topics*, *contrastive topics*, etc., these are not unitary features, as a 'One-Feature-One-Head' approach would have it, but rather different features combined with the feature [Topic]. The same applies to different kinds of foci. In other words, even fine-grained cartographic projections seem to presuppose feature-bundles. Rizzi (2013: 198) stresses that complex heads are not incompatible with cartography, but also suggests that these only arise through incorporation via Head-to-Head-Movement.

11 A reviewer asks how *Stylistic Fronting* or expletive subjects are accounted for by the feature bundle in figure 1. As for the latter, we conventionally assume that the C-head is directly equipped with an EPP-feature which can trigger formal movement of the subject or the merger of expletives. Stylistic Fronting, apart from being very marginal in Modern Germanic outside Icelandic (Holmberg 2006, Thráinsson 2007), is predominantly an embedded phenomenon with an unclear landing site, and perhaps a PF movement operation altogether. Therefore we take no stance here on whether Stylistic Fronting involves the C-head at all; see Klævik-Pettersen (2019a: chapters 3 and 4) for the claim that SF does not reach the C-domain in Old French.

features until they encounter enough robust evidence that certain features require distinct projections. Such evidence could be the co-occurrence of a fronted topic and a focus in the same sentence, where two constituents need to be hosted. When confronted sufficiently with strings of this kind, the children will eventually unbundle ('unravel' in Pannemann 2007) the feature bundle and postulate two distinct heads $Top^0$ and $Foc^0$. Concretely, this means that we hypothesize that even children learning a language with a rich left periphery (e.g. Italian) pass through bundled phases before they eventually acquire the articulated structure of their input language's left periphery. The learning task is not just mapping linguistic material to available projections by feature/function (as in cartography), but also creating new hosting projections if and only if required to capture morpheme or word order patterns of the input language. We decouple learning that a feature is active in the input language from learning that a feature requires a projection of its own to host input linguistic material.

In strict V2 languages of the Modern Germanic kind, the necessary evidence to unbundle and create new LP projections is simply never forthcoming,[12] such that the default feature bundle solidifies into the mature state of the grammar. If this hypothesis on the acquisition of phrase-structure is on the right track, we speculate that this can help shed some light on the extraordinary diachronic 'inertness' of Germanic V2 grammars, which on available evidence seem to have kept the V2 constraint virtually unchanged for a millennium (but for the partial exception of English), in the midst of a series of other profound syntactic changes (Eythórsson 1995, Axel 2007, Walkden 2015).[13] If feature bundles represent the default representation, a relatively homogeneous speech community will produce little that could be affected by reanalysis by the next generation of acquirers. Notice that such inertness should not hold for an articulated left periphery, since the feature bundle in CP that children originally postulate must be unbundled during child development by positive evidence of co-occurrences of multiple left peripheral constituents. It is an uphill struggle against an entrenched defender, since

12 Again we must stress that there is evidence for more than one position in the C-domain, in the case of left-dislocation structures with linear V3 order:

(i)

| | | | | |
|---|---|---|---|---|
| [*Boken*], | [*den*] | ***har*** | *jeg* | *lest* |
| book.DEF | that | have | I | read |

There is in other words an additional slot for dislocated elements, and the features here are much less diverse than in the immediate prefield, since dislocated elements are seemingly always topical in nature (see fn. 1).

13 This is simplifying somewhat. In some dialects, the linear V2 pattern seems if anything to have strengthened over historical time (Axel 2007, Petrova 2012, Demske 2018, Speyer & Weiß 2018, Catasso 2021).

the evidence for an articulated left periphery must repeatedly overcome the feature bundle in every single generation. There is no guarantee that the evidence will be sufficiently forthcoming over long stretches of historical time. In a homogeneous V2 community, the primary feature bundle is unchallenged.

The other property of V2 grammars, V-to-C movement of the finite verb, should be more vulnerable to change. For example, English has lost V-to-C movement (except for in the so-called 'Residual V2' constructions), but it is tempting to speculate that it has kept the feature bundle in Spec-CP. This would explain why English, like the Germanic languages which have maintained V2, is also averse to combining several constituents in the left periphery.

(7) *This book, to JOHN I'll give (not to MARY)

The reason V-to-C should be vulnerable to loss also follows from our theory of acquisition which holds children to be cautious structure builders. Unlike the feature bundle, which can survive as long as there is no concrete evidence against it, the V-to-C movement must be acquired afresh from positive evidence, namely from input subject-verb-inversion strings. We assume that the default for verb position is its merge position and structures with movement must be created from positive evidence during development (just as with unbundled projections in the LP), and will therefore be open to loss.

### *2.3 Linking Theory for Acquisition and Change*

We assume a child innovator approach (CIA; Cournane 2017) to syntactic change (like Lightfoot 1979, Roberts & Roussou 2003, van Gelderen 2004, Snyder 2017, Kodner 2020, i.a.), and so ask whether and how child learners could have created the novel grammars involved in the rise and fall of V2 (see also Lightfoot & Westergaard 2007, Westergaard 2008). Most CIA research compares two differing I-languages in a descent relationship, representing two distinct adult stages in diachrony, and infers that the innovative grammar came about from a relevantly distinct external input experience, in conjunction with postulations about syntactic theory (i.e., economy metrics in van Gelderen 2004). For example, in Lightfoot's cue-based parametric approach to syntactic change (Lightfoot 1999, 2006, cf. the triggering model of Gibson & Wexler 1994), a grammatical setting like [+V2] comes about from experience with the input sentences; the child sets a parameter on the basis of whether a particular setting is cued by their input (i.e., is required of the grammar to account for the input sentences). For example, assuming a generalized V2

parameter, the cue for V2 is non-subject initial clauses in the following configuration:

(8) Cue-based V2 parameter resetting
Input Grammar (+V2) → Innovative Grammar (-V2)
Cue for a V2-grammar: [$_{CP}$ XP [$_{C'}$ $C^0$+ V...]]
Cause of Change: Insufficient input-cueing for V2

Westergaard (2008) demonstrates that this kind of macroparameter is too powerful (see also Valian 1990), as languages show grammatically-conditioned V2 sub-variation, and even very young child productions show sensitivity to this variation. She argues for micro-parameters (Kayne 2005, i.a.) and associated micro-cues, adopting the cartographic Split-CP left periphery of Rizzi (e.g., with cues associated with InterrogativeP, TopicP rather than just with CP as for Lightfoot 2006). On this cue-based micro-parametric model, diachronic change is modelled as different parametric settings between grammars in a descent relationship. The mechanism giving rise to this difference is the child setting a micro-parameter differently from the input generation.

To explain why parameters sometimes get set differently by children, Lightfoot and Westergaard appeal to the fact that every individual has a unique input experience: innovative settings would arise when a child gets an input experience that fails to cue for a setting that was cued for in prior generations. In Westergaard's words, "If the frequency of a particular cue falls below a certain level, children may ignore it and the corresponding syntactic configuration will be lost from the language of the next generation" (2008, p. 1843) (see also Snyder 2017 for an interesting alternative cause, using his 2007 learning theory). This is a reasonable idealization of different syntactic patterns between static generations, but it is not fully consistent with what we see happening in individual children's language usage patterns, nor in E-languages.

We do not see children behaving uniformly unlike their parents' generation throughout their development, nor do we see evidence of clean breaks in grammars between generations (e.g., Kroch 1989, Valian 1990, Yang 2000, Labov 2001, Heycock & Wallenberg 2013, Hall 2020, among many others). In contrast to the cue-based parametric approach, we assume that rather than children ignoring cues that have become low frequency in their input, they may just acquire these aspects of the input later[14] than prior generations and

14 Alternatively, they may be slow to correct non-target analyses they have posited: "Thus, low input frequency is not the cause of the children's errors, but it is argued that once an error pattern appears in the child grammar, low input frequency may make this persist for an extended period of time" (Westergaard & Bentzen 2007: 271).

in an additive or diglossic fashion (i.e. maintaining their earlier analysis, not replacing it; see also, Diercks & Bossi 2021, Gary Thoms, p.c.). Children's syntactic stages typically overlap and show protracted variability or optionality of target and non-target forms (e.g., Valian 1990, Hyams 1996, Yang 2000), or significantly non-adult rates of variation (e.g., Waldmann 2014, Cournane 2020, Hall 2020). This state of affairs can persist: we see speakers and writers of all ages using both innovative and conservative variants, with intra-speaker variation and a change in distributions of variants over time (Kroch 1989, Yang 2000, i.a.).

The major components of how we view the relationship between learning and change are: (a) innovative properties of child I-languages are ubiquitous, (b) individual children may contribute their innovations to their speech community and also still learn the conservative grammar (i.e., they can have intra-speaker syntactic variation), and (c) child social interactions are essential to add to the mix for a theory of child-learner driven syntactic change that addresses *actuation* (Weinreich, Labov & Herzog 1968; see Moyna & Sanz-Sánchez, forthcoming, for a synergistic approach to child-driven change).

*Innovation is ubiquitous during learning.* We take any input-divergent grammatical representation during development to be a syntactic *innovation* (Hale 1998, Cournane 2015, 2017, 2019a,b, Lee & Cournane 2019; see also Biberauer 2017, 2019). Any representation in a child's mental grammar that is inconsistent with the representation of their input speakers is an input-divergent grammatical representation.[15] Reducing innovations to input-divergences renders all child learners innovators on their learning path; all language learners start at the same beginning, and go through many stages of input-divergent representations during the multi-year abductive and cumulative process of learning their mental grammars from their input experience.[16] Crucially, input-divergent representations in child learners provide us with a pool of latent diachronic innovations.

15 In acquisition research, input-divergent grammatical representations are often called errors, or non-target or non-adultlike: we avoid these terms because (a) the assumption in language acquisition research since early days has been that there is a stable, 'correct', target that the child will attain (e.g., Brown 1973), which was a necessary simplification to begin to study development, is (a) inconsistent with the child innovator approach to language change, and (b) they imply that children's grammars are incomplete, 'waiting' or incorrect compared to a stable target, when often when examined as-is there is no reason to consider them anything other than viable grammatical settings, influenced by the input the learner has had up to that stage in development.

16 Most input-divergences, for most individuals, will be lost with further learning from the input experience, neither remaining in that individual's grammar past childhood, nor spreading to other speakers. In other words, in retrospect, most input-divergent grammatical representations will not become innovations in the E-language (Hale 1998).

*Children hold onto learning-path grammars.* Children, like adults, may command multiple distinct grammars or grammatical settings. This is patently true in the case of bilingual acquisition, with learners differentiating languages from early on (Paradis & Genesee 1996, i.a.). A growing body of literature also shows preschoolers and early school age children using intra-speaker variation in line with patterns of sociolinguistic variation in their input communities (e.g., Smith, Durham & Fortune 2007). And, most relevant for us, children often appear to use multiple grammars even for *invariant* elements of their input, e.g., producing both sentences with and without obligatory elements. This fact about children's productive language was an early criticism to Chomsky's (1981) parameters theory. For example, children learning a non null subject language like English initially produce many null subject sentences, and only gradually over the course of years achieve the fully adult-like rates and environments (see Hyams 1986, Valian 1990, i.a.). This is inconsistent with a deterministic view of parameter setting whereby as soon as children access the relevant cues from their input experience, their grammars should reflect the set parameter.

Many proposals exist for how to reconcile parameter-setting theory with the gradualness of empirical variation in child production data, dating from Hyams's (1986) mis-setting proposal. Some attribute children's non-target productions to non-syntactic performance constraints (e.g., Bloom 1990). Snyder (2007) argues children avoid setting parameters, and their usage reflects this avoidance, until they are certain of the grammatical basis for the patterns observed in their input (*Grammatical Conservatism*). Yang (2000) argues that parameter setting is probabilistic: children entertain both settings of a parameter, and probabilistically produce sentences from both settings. The model rewards grammars the input is consistent with, gradually upping the weight of the target grammar. While non-parametric, our view is most similar to Yang (2000) because we take there to be two grammars active, and child productions reflect variable use of both (see also Heycock & Wallenberg 2013). There is also a strong commonality of spirit between our approach and the 'Maximise Minimal Means' (MMM) approach of Biberauer (2017, 2019), as both approaches capitalise on *input generalisations* that lead children to overextend an analysis, only gradually retracting as they grow aware of more distinctions in the input. Like us, Biberauer also links such overextended representations in child language to attested diachronic changes, comparing interim non-target-like embedded V2 in wh-interrogatives in child Swiss German to the general availability of V2 in embedded wh-clauses in Afrikaans.[17]

17 Biberauer also hypothesizes that language contact might have been instrumental in the rise of embedded V2 in Afrikaans. A difference between our approach and Biberauer's is that we

As children learn more about the target grammar, and their productive language begins to reflect new grammatical analyses, they still hold onto prior grammatical analyses in parallel to new ones and continue to use them. In our model, children remain innovators so long as they continue to use, any percent of the time, an input-divergent grammatical representation from their syntactic developmental pathway.

*The actuation of innovations into the E-language.* In order for child innovations to be recognized as innovations in the standard sense that historical linguists use the word, they need to survive the acquisition process and catch on in speech communities in detectable ways. This process of catching on is actuation (Weinreich et al. 1968; see also Walkden 2017a), and is distinct from innovation as the level of analysis is the E-language. The fact that children produce output from their input-divergent learning path grammars, invites actuation of an innovation in the E-language (Cournane 2019a) for two reasons. First, children's productions may provide input to peer learners, who want to sound like their peers rather than like their parents. Children peer-align (away from adult-alignment) by age 4 (e.g., Labov 2001; see also Lightfoot 1999: 60). And, secondly, children from the same or overlapping speech communities learn from similar input, increasing the likelihood of the same learning-path innovations occurring in members of peer groups, and reinforcing each other (Cournane 2017). What is required for actuation to happen here, is that the phase when children continue to productively use their prior learning path grammar is protracted to some extent, related to the generation before them, so that it may reinforce with peers and be maintained in their language community.[18] Actuation may occur even if children eventually also attain convergence with the input grammars along their learning path; this is an important loophole to help reconcile why we can get child-driven language change even when children are exceptional language learners (for V2: Westergaard 2008), even of multiple grammars in parallel (e.g., Paradis & Genesee 1996). We'll appeal to contact situations as fostering the actuation of syntactic changes in the cases of the rise and fall of V2, which we return to in Sections 3 and 4.

Figure 2 sketches our model of syntactic innovation and actuation from the learning path. The learning stage grammars (bottom row) occur in the opposite order to diachronic stages (top row) (*Oppositional Pathways* of Cournane 2017). Cournane (2017) argued that for syntactic development pat-

focus on the generalisation/overextension of projections, rather than features.

18 Our view of the role of first language acquisition in change-in-progress differs from the standard variationist sociolinguistic view (see Labov 2001), in that it affords acquisition a role in creating or extending new variants (for details as to how it differs, see Cournane 2019a, 2020, Hall 2020).

terns, children tend to use grammars that would be diachronically innovative for their input language earlier on their learning path than the target (e.g., they acquire monoclausal structures prior to biclausal, and biclausal > monoclausal is a common syntactic change), the reverse of assumptions that ontogeny should recapitulate phylogeny.

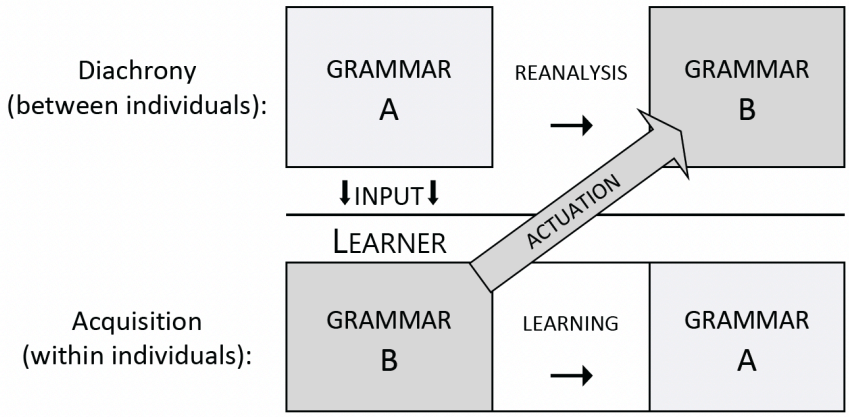



**Figure 2** Model of syntactic Innovation & Actuation from the Learning Path

We claim that learners who hold onto their input-divergent learning path analyses, and use those grammars with their peers, can re-write the E-language's future from their learning path. We will assess both the rise and fall of V2 against learning path phenomena.

## 3 Case Study 1. The rise of V2 in Old French

We now turn to diachrony, addressing the question of whether the child innovator story presented above can provide insights into the rise of V2 as a historical change. We therefore briefly consider the case of Old French, which according to many researchers presented a full V2 system in the 13th century (Adams 1987, Roberts 1993, Vance 1997, Rouveret 2004, Salvesen 2013, Klævik-Pettersen 2019a).[19] We refer to the cited works for details about the

19 Although it might seem more natural to look at the rise of V2 in Germanic, where the status of V2 is undisputed and best understood, it is unfortunately the case that the rise of V2 in Germanic is a *prehistoric change*. With the possible exception of Gothic (Eythórsson 1995), the earliest attested sources of Germanic already seem to present the V2 phenomenon (Eythórsson 1995, Axel 2007, Walkden 2015). We must therefore look elsewhere, and the Latin/Romance historical corpus provides the necessary continuity, although we certainly rely on some qualified conjecture to reconstruct the stages of the change here as well.

synchronic nature of the Old French V2 system, which functioned in a very similar, although not entirely identical fashion, to V2 in Modern Germanic. Here, we focus rather on how this system could have arisen, and the role children may have played in bringing it about.

The first important observation is that not only Old French, but indeed Old Romance in general, featured widespread subject-verb inversion. Unlike in Modern Romance, such inversion was not restricted to specific constructions or specific predicates (for instance intransitives). One possible explanation for this, in favour with some Romanists (Benincà 1983, Vanelli, Renzi & Benincà 1985, Ledgeway 2005, Poletto 2014, Wolfe 2018), is that all of these languages had developed generalised V-to-C movement. However, there is another way in which Old French is special, namely in being much stricter than the other varieties with respect to the numbers of constituents in front of the verb. While other Old Romance varieties seemingly allowed linear V3, V4, or even more in liberal fashion, Old French generally restricts the prefield to a single constituent, thereby obeying some kind of 'linear V2 constraint':[20]

(9) [*miels*] ***voudroie*** *je morir a honor que vivre a honte.*
better would I die in honour than live on shame.
'I would rather die with honour than live in shame.'
(*Le Roman de Tristan en Prose*, 13th C. Edition: (Curtis 1963: 61))

The task is therefore to explain both similarities and differences between Old French and its medieval sister languages. Since generalised inversion seems like a pan-Romance occurrence, it is natural to assume that it represents a shared innovation at a relatively early stage. Indeed, evidence for a verb-initial grammar has been detected in Late Latin independently by Ledgeway (2017) and Klævik-Pettersen (2019a,b); see also Salvi (2000, 2004). In the late 4th century text *Itinerarium Egeriae*, main clauses predominantly show VSO order (10). However, there is certainly no restriction on the prefield, which is sometimes accessed by a single constituent (11), sometimes by multiple constituents (12).[21]

20 Just like in Modern Germanic, exceptions exist and have been pointed out repeatedly in the literature (Kaiser 2002, Rinke & Meisel 2009, Elsig 2012). Certain adverbs were involved in linear V3 strings, and initial subordinate clauses were generally followed by an uninverted subject-verb sequence. Whatever the proper analysis of these strings, their presence in the historical corpus does not give the lie to the *structural* V2 constraint.

21 In (12), *ergo* is a Wackernagel-clitic that attaches to the first word (not constituent) of the clause at PF.

(10) ***Ostendit*** *etiam nobis sanctus episcopus memoriam*
show.PRF-3SG also us.DAT holy bishop.NOM tomb.ACC
*Aggari…*
Abgar.GEN
'The holy bishop also showed us the tomb of Abgar…'
(*Itinerarium Egeriae*, c.386. Edition: Maraval 1982; 19.18)

(11) *atque* [*iterata oratione*] ***benedixit*** *nos*
and repeat.PST.PTCP-ABL prayer.ABL bless.PRF-3SG us.ACC
*episcopus*
bishop.NOM
'And after another prayer, the bishop blessed us.'
(*Itinerarium Egeriae*, c.386. Edition: Maraval 1982; 21.1)

(12) *Ac* [*sic*] *ergo* [*aliquo biduo*] [*ibi*] ***tenuit***
and thus some two-day-period.ABL there keep.PRF-3SG
*nos sanctus episcopus…*
us.ACC holy bishop.NOM
'And thus the holy bishop lodged us there for a couple of days…'
(*Itinerarium Egeriae*, c.386. Edition: Maraval 1982; 9.1)

The next question is therefore how to account for the special status of Old French with respect to linear order. Here, we will rely on the scenario sketched out in Klævik-Pettersen (2019b), who sees prolonged influence from Old Franconian in the Merovingian era as the decisive factor in the rise of the restricted prefield. We refer to the paper for a more detailed hypothesis on the sociolinguistic dynamics of the bilingual speech community and the growing, then declining, role of the Old Franconian stratum.

Let us suppose the existence of a relatively homogeneous Gallo-Roman speech community in 4th century France, which had inherited the inversion system from Late Latin. At some stage of development, these inversion strings must have been analysed by children as V-to-C movement of the verb. Furthermore, our theory predicts that children would have initially postulated a feature bundle on $C^0$, restricting the prefield to a single, multifunctional slot. However, the multiply accessible C-domain of Late Latin persisted in Early Old French as well as in other Old Romance varieties, meaning co-occurrences of topics and foci were sufficiently present in the input[22] to cause an 'un-

22 Unfortunately, no textual record in the vernacular exists from the Merovingian period, forcing us to draw conclusions based on comparative reconstruction. In this case, the correspondence set includes inversion in all branches of Old Romance and a multiply accessible left periphery in all branches except from Old French. See Walkden (2015) for arguments in favour of

bundling' learning event, whereby children would reassemble individual features like [Topic] and [Focus] on individual projections in a hierarchical relationship, thereby extending the phrase marker. However, the growing bilingualism in Northern France from the 5th century onward will have changed the input to new generations of acquirers. At first only moderately, since the initial stage of bilingualism in all likelihood primarily involved adult L2 acquisition of Old Franconian. Intermarriage and the gradual fusion of the ethnic groups will have ushered in the final and decisive stage, represented through widespread bilingual first language acquisition (Klævik-Pettersen 2019b).

This stage, we believe, also sounded the death knell for the articulated left periphery in Old French. There are two mutually reinforcing principles behind this, both well attested from the acquisition literature. The first is a very general one, whereby bilingual L1 acquisition delays the acquisition of target-like proficiency in some aspects of grammar (those sensitive to input frequency), thus increasing the likelihood that innovations in child language survive into the critical age where they might spread into peer groups. The diachronic 'innovation' of relevance to us is the retention of the primary feature bundle, which we assume to be the conservative default representation for all children. The second reason is more specific to the particular bilingualism at stake, since the Old Franconian language itself on available, albeit limited, evidence (Walkden 2015) must have been a V2 language with a restricted prefield.[23] We may therefore also rely on *transfer effects*, since there will have been considerable *overlap in input structures* (Lucas 2015; see also Hulk & Müller 2000: 229).

What we get is diachronic change through no change at all in the acquisition process. There is no 'unbundling' event, with the result that the primary feature bundle solidifies into a mature state of the I-language. Needless to say, the processes described here are mutually reinforcing, since the input to subsequent generations will have contained more linear V2 and less linear V$\geq$ 3. We repeat from above that we need not assume an overly abrupt change. This is indispensable at the level of the speech community (the E-language), since diachronic change is gradual at this level (Kroch 1989, i.a.), but also a major asset to a theory even at the individual level (the I-language), since it accounts

syntactic reconstruction.

23 We thank a reviewer for bringing to our attention recent work suggesting Old Franconian, like other medieval Continental Germanic varieties, might not have been as 'strict' with respect to the linear V2 order as their modern descendants (Catasso 2021, Petrova to appear). This suggests it is unrealistic to assume that the Old Franconian input to acquirers consisted uniquely of linear V2 strings. On our view, this caveat does not jeopardize the hypothesis that the existence of a structural V2 rule, absent from Gallo-Romance, might have led to transfer effects in L1 and L2 acquisition.

for intra-textual variation, a pervasive feature in historical corpora. Bilingual children might well have acquired the conservative variant with its articulated left periphery as well, at least in early stages of the change. No need to invoke parameter-resetting; to the extent that multiple preverbal constituents were felt to be precisely conservative/old-fashioned, their frequency will have been on the decline until they were no longer acceptable outside a limited set of particular constructions.[24]

In sum, the rise of V2 therefore involved two independent diachronic changes, possibly separated by centuries in time: V-to-C movement of the verb plus a linearly restricted left periphery, which we analysed as a feature bundle. On the whole, a child innovator approach based on default bundled projections and conservative parsing allows us to make sense of the latter change – the rise of a linearly restricted V2 system in Old French – for which we lack direct diachronic evidence, but which must be inferred by considering what preceded it (Latin) and the 13th century textual record.

### *3.1 The conservative learner story for the rise of V2*

For the rise of V2, child conservative structure projection plays out in the following way. Children assume bundled features on a single head (Pannemann 2007, Lee & Cournane 2019 i.a.), and will only unbundle (i.e., project new structural positions) when they get clear evidence from their input that they need to do so to host pronounced material (i.e., their existing structural representations are insufficient). This means that bundled projections are prior to unbundled along the learning path. If children maintain a developmentally earlier bundled-LP syntactic representation, this would give rise to a V2 grammar from the L1 learning path of an articulated-LP language. With learning, children will likely also acquire the developmentally later stage, here the unbundled LP grammar (as long as it is still sufficiently attested in the input, as

24 In fact, the Early Old French textual record (ca. 950-1150), which consists almost uniquely of verse, does show more word order variation and a greater tendency towards V3 (Labelle 2007, Zaring 2017). Klævik-Pettersen (2019b) argues that this is likely not because the restricted prefield had not developed yet, but rather because verse resorts to archaisms for the benefit of rime, rhythm, meter, and other poetic concerns. A reviewer offers a potential counterargument, pointing out that Early Old French shares many word order patterns with other Early Old Romance prose texts. However, the work cited on Old Spanish by Cho (1997) and Old Italian by Benincà (2004) is, with some minor exceptions for the latter, based on texts from the 13th century (and onwards). That the textual record from Early Old French should be similar to these texts, with more use of linear ≥3, seems natural to us, since we suspect that this reflects something like a 'Pan-Romance' pattern with an articulated left periphery, which subsequently was replaced by a bundled CP in Old French, but not elsewhere. Our claim is that the Early French verse texts are reminiscent of this stage, although we believe it was already a foregone stage in the spoken vernacular.

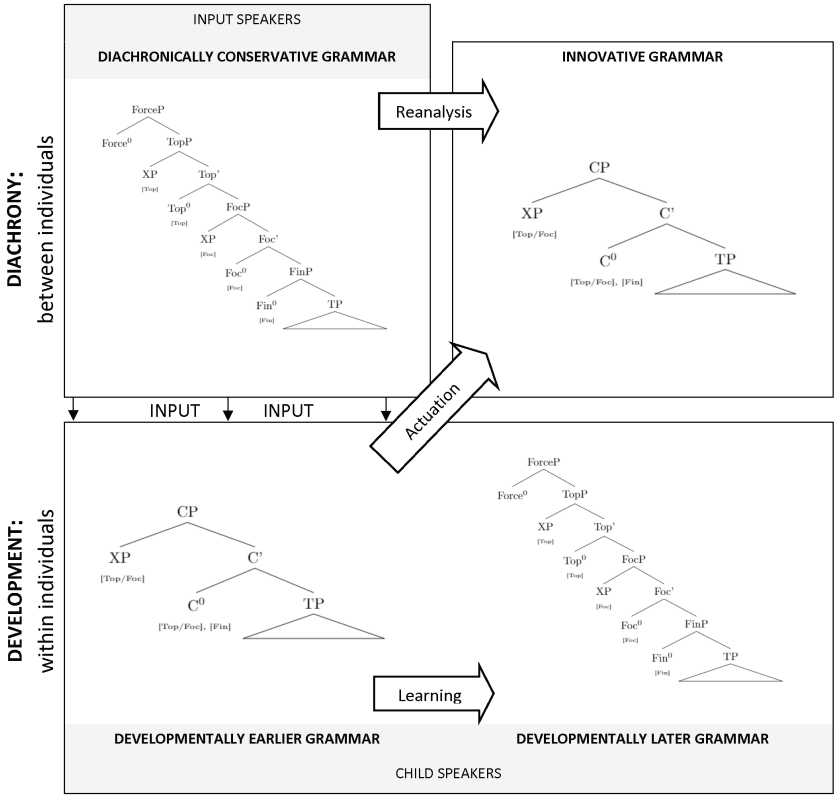



**Figure 3** The Rise of V2: Actuation of the Bundled LP from the Learning Path

is very likely in early stages of a change-in-progress). What is critical for actuation of an innovative grammar is that children maintain their earlier analysis, regardless of whether or not they also learn the non-innovative input target.

Figure 3 shows the dynamics of diachrony (top row) and development (bottom row) for the rise of V2. Input-speakers only use the diachronically conservative grammar (rich LP); their output forms the input to the child learner. Children show input-divergence during their development, initially bundling features of the LP. Children initially use their developmentally primary bundled grammar (presumably through at least the preschool years, when children become peer-aligned), and then they may eventually use both the bundled grammar and the unbundled grammar, as they will acquire evidence that they need to unbundle to capture certain input facts. Actuation

occurs so long as children maintain usage of their bundled grammar among peers who also maintain usage from that grammar. This situation will allow peer-to-peer reinforcement to actuate change in the E-language. The developmentally primary grammar survives to become a diachronically innovative grammar.

For unbundled LPs and bundled LPs the output strings generated by these grammars are in a superset-subset relationship: all strings possible in the bundled grammar are also possible in the unbundled one (but not the other way around). So in terms of which strings can be generated by an individual with both grammars (i.e., child learners using both bundled and unbundled grammars), there will be no way of telling when they are maintaining usage of the bundled grammar. Cournane (2019a,b) offers a potential solution. Appealing to her distinction between grammatical representations and the usage patterns they give rise to, we predict that individuals in generations who maintain the bundled grammar will use that grammar in addition to the conservative grammar, increasing usage rates of restricted prefield strings. From here, grammar competition patterns should ensue (Kroch 1989, i.a.). Furthermore, if learning path grammars are really fostered by peer-groups, we expect age-graded variation whereby superset strings (>1 element in the prefield) are rarer in younger age-matched groups. These predictions are testable: we predict preschool and early school aged children learning rich-LP languages, once they show productive use of multiple phrases in the prefield, to quantitatively show more limited-prefield utterances than older speakers, especially when talking to age-matched young peers.

Do developmental linguists argue that children make use of fewer projections in their productive grammars than do adults? Broadly, the acquisition literature commonly argues that child productions reflect smaller trees. These are smaller because of either a lack of certain higher functional projections (e.g., Guilfoyle & Noonan 1988, Clahsen 1990, Radford 1990, Friedmann, Belletti & Rizzi 2021), a truncation of higher functional projections (i.e., where higher layers may occur for only some clauses for learners, whose root clauses start lower than in the input grammars) with subsequent maturation of certain projections (Rizzi 1993), or an underspecification of heads relative to the adult grammar (Hyams 1996), which is sometimes analysed as an economical learning strategy (e.g., licensing a superset of contexts for German embedded-V2 in L1 acquisition, Sanfelici, Trabandt & Shulz 2020). Some argue explicitly for bundling as developmentally primary (for DPs: Pannemann 2007, Lee & Cournane 2019; see also Scontras, Polinsky & Fuchs 2018[25]; for

25 In an experimental study of the nominal domain in Spanish heritage vs. native speakers, Scontras et al. (2018) show that Spanish heritage speakers make use of a bundle for gender and

TPs: Cournane 2016).

But, child production data is complicated to analyse – what counts for bundled 'heads' vs. the absence of certain heads vs. underspecified heads? Very often what separates these is at least in part based on theoretical priorities, rather than solely irrefutable empirical evidence. This is because children produce various kinds of adult-like and non-adult-like strings and we must work out many levels of analysis in parallel, including (non-exhaustive list): (a) their semantics for each morpheme and combinations thereof, (b) what features they take to be active, (c) how they are mapping each morpheme to structural positions, (d) what phrases are paratactic versus integrated clauses, and (e) what non-adult aspects are due to performance limitations rather than representational input-divergences. These challenging issues are the bread and butter of developmental syntax research, and there is no foolproof off-the-shelf analyses for historical linguists using the CIA to adopt as fact.

That said, there are some simple conclusions we can draw. Root V2 is apparent very early in child productions (e.g., Dutch: Jordens 1990; German: Wexler & Poeppel 1993; Swedish: Santelmann 1995; Icelandic: Bohnacker 1998; Norwegian: Westergaard 2008), and children already show competence with clause-type specific and lexeme specific sub-patterns (Lightfoot & Westergaard 2007, Westergaard 2008, i.a.). This suggests that the CP layer is present and active in early child grammars at least in some form (see also Waldmann 2012), allowing us to reject theories of child structure building which argue for a complete lack of this layer. Furthermore, children learning rich LP languages like Hebrew do not show the full adult array of LP constituents early in development, initially not showing any, then showing inner LP activity, and only later higher LP activity (Friedmann et al. 2021). Friedmann et al. (2021) argue that this order of production developments in child Hebrew shows that children *grow trees*: they initially have the root clause start lower than adults have it, and they mature cartographic projections by domain (TP > Lower CP > Higher CP), eventually using the whole LP. However, the data patterns are also consistent with our non-cartographic, non-parametric view, whereby Hebrew-learning children initially treat all CP-domain input as mapping to a single projection until they become clear on which morphemes and clauses associate with which active features, and which require unique projections. As they get evidence from their input, they unbundle features from the initial CP bundle to host grammatical material.

number, where Spanish native speakers use an unbundled nominal domain with more structure. Considering that heritage speakers typically get less sustained L1 input (here Spanish), this is fully consistent with our model for CP changes of a similar type.

The relative ordering of LP projections will be determined by the Hebrew input, but our approach must acknowledge that the nature of unbundling will give rise to quasi-universal relative orders as the cartographic literature has demonstrated with cross-linguistic data. We can conclude that the acquisition path data for V2 and rich-LP languages is consistent with our approach, but the acquisition path for rich-LP languages is also consistent with other approaches like Friedmann et al. (2021).

In sum, maintenance of a feature bundle may be the source of innovative V2 grammars. We suggest that feature bundles themselves are acquisitionally primary to articulated structures, early learned and in turn diachronically conservative.[26] We speculate that these properties might explain the remarkable stability of V2 grammars over time, and suggest that cases of loss of V2 come about because the property of V-to-C movement itself is more vulnerable, which brings us to our next case study.

## 4 Case Study 2. The loss of V2: V3 in Germanic Urban Vernaculars

We now turn to considering the opposite change, from a V2 system to a non-V2 system. It follows from our definition of V2 as a composite phenomenon that V2 can be lost in one of two ways: either through loss of V-to-C movement or through unbundling the feature bundle in the left periphery. We are aware of at least two languages that have lost V2 in historical times, namely English and French. In both cases, V-to-C movement was lost, a gradual change that can be observed in the historical records (Roberts 1993, Côté 1995, Platzack 1995, Andrade 2018).

This time, however, we are presented with an interesting opportunity to study a change-in-progress rather than relying on textual evidence or reconstruction. This opportunity is offered by ongoing word order change in certain varieties of Germanic V2 languages, sometimes called 'multiethnolects' (Quist 2000, Nistov & Opsahl 2014), since they are strongly associated with immigrant communities in urban areas. We will follow Walkden (2017b) and use the term *Germanic Urban Vernaculars* (GUVs). In these varieties, linear V3

26 Cowper & Hall (2012) argue for the separation of a bundled Voice & Aspect into distinct Voice and Aspect heads in the history of English. They argue that a single syntactic head hosts both sets of active features, and then is split into two heads to host the features separately. This is in part like our analysis, as it assumes features and heads can change their bundling and mapping relations in diachrony, and in learning, but appears to be a counterexample for directionality (diachrony: bundled > unbundled). However, they isolate change in meaning of a particular morpheme (suffix *-en*), and argue that the unbundling change has to do with learners thinking that suffix *-en* needed its own projection to host its passive use. This is a re-mapping of a morpheme to semantics. Re-mapping of morphemes to features of this sort is a plausible way for learners to create more projections, rather than less.

orders of the following kind are commonplace, although they are strongly ungrammatical in the standard languages.[27]

(13) [*Med limewire*] [*det*] ***tar*** *en to dager*
with Limewire it takes one two days
'Using Limewire, it takes about two days'
(Norwegian Urban Vernacular; Freywald, Cornips, Ganuza, Nistov & Opsahl 2015: 84)

This phenomenon has been attested across Continental Germanic (for German, see Wiese 2009, 2012; for Dutch, see Meelen, Mourigh & Cheng 2020) and in all Mainland Scandinavian languages (for Swedish, see Kotsinas 1998, Ganuza 2008; for Danish, see Quist 2000, 2008; for Norwegian, see Nistov & Opsahl 2014; for comparative perspectives, see Freywald et al. 2015, Walkden 2017b). There are remarkable similarities between all attested varieties, not only with respect to the actual word order patterns observed, but also in terms of the sociolinguistic profile of the speakers. In the vast majority of cases, the speakers are young, bilingual or multilingual immigrants or descendants of immigrants. They have full command of the standard language and/or the relevant dialect of the area, and they are consciously aware of linguistic differences between the latter and their in-group vernacular (the GUV). This enables them to switch between the standard or dialect in more formal settings and the vernacular for in-group situations, in seemingly diglossic fashion.

There are several reasons why it would be misleading to say that V2 has been lost in the GUVs. For starters, as pointed out by Walkden (2017b), the GUVs constitute the birth of new varieties, and it would therefore make little sense to say that they have 'lost' a word order pattern. Secondly, the GUVs clearly have the regular V2 grammar intact as well. In fact, most clauses show the same evidence for V-to-C movement as in the standard languages, with subject-verb inversion and a single preverbal constituent. It seems to be the case that there is a very specific context where the GUVs license linear V3 order against the standard, namely in the case of an initial adjunct, as illustrated in (13). Finally, even when restricting our attention to these linear V3 strings, the question of whether they lack V2 or not is partially a matter of definition, partially of analysis. On our definition of V2, which accords that label only if there is V-to-C movement *and* a restricted prefield, examples like (13) are

27 Again we must stress that linear V3 does occur in the standard varieties of many Germanic V2 languages. Left-dislocation structures (Contrastive Left Dislocation and Hanging Topics) with resumptives in the prefield are particularly common, as illustrated in the introduction. Other patterns also exist; for examples of non-inverted linear V3 in other varieties of Dutch and German see te Velde (2013), Klævik-Pettersen (2019a), Bunk (2020), Breitbarth (2022).

not V2 clauses since there are several constituents in the prefield, regardless of whether the verb has moved to $C^0$ or not. For researchers who see V-to-C movement itself as the only decisive criterion and who are willing to contemplate 'relaxed' forms of V2, the actual analysis of the landing site of the verb in these strings is crucial for deciding whether they constitute part of the V2 grammar or not.

Indeed, two analyses are possible. Either the verb still moves to $C^0$, in which case there are clearly two positions available in the C-domain, as argued for by Walkden (2017b). This would mean that the primary feature bundle, which we hypothesize to be present in the grammar of all children acquiring the language, has been unbundled. The second possibility is that the verb does not move to $C^0$, but rather to some lower position like $T^0$. If so, the presence of two constituents in the prefield does not mean that the left periphery is articulated, since only the higher/first constituent is necessarily part of the C-domain.

We believe there are strong arguments in favour of the latter view. The reason is that, just like the first constituent is virtually always an adjunct of some kind, the second constituent is always the subject. In other words, the linear V3 strings permitted in the GUVs are *non-inverted*:

(14) [*Wenn* *der* *mann* *dis* *hört*], [*er*] ***wird*** *sagen*…
if the man this hears, he will say
'If the man hears this, he will say…'
(German Urban Vernacular, KiDKo, transcript MuH9WT)

(15) [*då*] [*alle*] ***började*** *hata* *henne*
then everyone started hate-INF her
'Then everyone started hating her'
(Swedish Urban Vernacular; from Ganuza 2008: 53)

Walkden (2017b: 56) reports two alleged exceptions from the KidKo corpus of Kiezdeutsch, the German Urban Vernacular. However, they both involve the adverbial element *dann* 'then' followed by another adverb and then the verb:

(16) *und* *dann* *hier* *ist* *auch* *noch* *ein* *Loch*
and then here is also still a hole
'And then here is another hole.'
(German Urban Vernacular; from Walkden 2017b: 56)

In our opinion, there is reason to raise the question whether such strings really involve two positions in front of the verb at all. In either case, this pattern seems available even in standard German, provided the initial element 'dann'

is interpreted as some kind of discourse-connective rather than a full temporal adverbial. See Schalowski (2017) for V3 orders with 'dann' in Modern German. Google searches for "und dann unten ist" or " und dann hinterher wird" or "und dann später muss", etc. all return very large numbers of seemingly authentic attestations. Two native speakers of German also accepted these strings. They therefore seem to mirror the discourse-connective 'så' which can be used in the same way in Norwegian:[28]

(17) *Og så her er det nok et hull*
and then here is it yet a hole
'And there here is yet another hole' (Modern Norwegian)

While it is true that initial subjects overwhelmingly tend be interpreted as topics, there is no reason why topicalisation should not also target other arguments of the verb, like the direct or indirect object. Since the initial constituent is an adjunct functioning as a clause-wide scene setting element, we concur with Walkden (2017b) that it makes sense to assume that it is first-merged directly in the C-domain. However, this makes it all the more surprising that only subjects should follow, since there seems to be no principled way of preventing the grammar from first generating an inverted V2 clause with topicalisation or focalisation of the direct object to a low specifier in the C-domain, and then first-merge the frame-setter in a higher specifier. Yet such strings are not forthcoming in the corpora on the GUVs, and Walkden also reports that Wiese's informants for Kiezdeutsch did not accept object-fronting in linear V3 strings.

If we assume rather that the V3 strings reflect lack of verb movement to $C^0$, preverbal subjects are exactly what is expected, since they would occupy the canonical subject position in Spec-TP. In fact, this is a well-known pattern from other reported varieties, contemporaneous and historical. Haegeman & Greco (2018) show that linear V3 orders of the same kind are found in Flemish in certain bilingual dialects (18), that they increase in frequency with vicinity to the French border, and that they constitute the norm in Flemish spoken on French territory. Norwegian heritage speakers in the United States also produce similar non-inverted V3 strings, particularly after long initial adjuncts (Westergaard, Lohndal & Sundquist 2021). For historical varieties, Old French of the 13th century exhibited exactly the same pattern (19). Linear

28 A reviewer accurately points out that *inverted* linear V3 strings with intial adjuncts also exist in V2 languages, following the pattern : adjunct-resumptive-verb. These constructions, which exist in the Urban Vernaculars as well, clearly feature V-to-C movement plus a resumptive in Spec-CP and are therefore intimately connected to other dislocation structures featuring linear V3. For resumptives in the prefield of V2 languages, see Meklenborg (2020).

V3 is well attested with initial adjuncts with scope-wide semantics, and the following constituent is almost without exception the subject.

(18) [*Vroeger*] [*de Siphon*] ***was*** *een gekende restaurant*
previously the Siphon was a well-known restaurant
'In the old days, the Siphon used to be a famous restaurant.'
(Oostkerke West Flemish dialect; from Haegeman & Greco 2018)

(19) [*Qant il li ot tot conté*], [*sa feme*] *s'* ***escria***...
when he her.CL had all told his wife REFL.CL cried
'When he had told her everything, his wife cried out...'
(*La Vie de Saint Eustace*, 13th C. Edition: Murray 1929: 8)

Over the 14th and 15th centuries, the French language gradually lost subject-verb inversion, meaning more diverse contexts, including argument fronting under topicalisation, failed to trigger movement of the verb. However, the first signs of weakness in the V2 grammar involved framing or scene-setting adjuncts, just like in certain Flemish dialects, and on our view, in the Germanic Urban Vernaculars. We therefore suggest a V-to-T analysis of linear V3 strings in the GUVs.

We must briefly address a potential complication of this analysis. While the V-to-T analysis seems to make perfect sense for the Mainland Scandinavian GUVs, which share the SVO order with the standard languages, Continental Germanic has a basic SOV-order, which is apparent in subordinate clauses. As Walkden points out (2017b: 59), positing V-to-T for linear V3 strings amounts to saying that there is a head-initial TP in these varieties.[29] The question then becomes why we do not find SVO-order in normal embedded clauses in these varieties, which also show the verb-final pattern of the standard languages. One possible solution is to say that the verb simply does not raise at all in embedded clauses. This would give the GUVs three different positions for the verb: $C^0$ in inverted linear V2 strings (for example under topicalisation) and in some embedded clauses without complementisers, $T^0$ in the linear V3 strings, and in-situ for embedded clauses. This scenario

29 The status of the TP in German remains a matter of debate, since empirical evidence for it is hard to come by, so hard that some researchers have concluded it is absent from the syntax completely (Abraham 1993, Haider 1993, Choi 1999, Berman 2003). Others have suggested the TP is head-final with string-vacuous movement of the verb in embedded clauses (Grewendorf 1988, Vikner 1995, Bobaljik 2002). A head-initial TP has also been proposed (Vikner 2001, Haider 2010), an analysis that presupposes the verb does not move to $T^0$ in embedded clauses. Another option is to imagine a 'split head parameter', such that the TP is head-initial in main clauses, but head-final in embedded clauses. In fact, this is a fairly standard analysis of the SVO/SOV-alternation of Classical Latin (Bauer 1995, Klævik-Pettersen 2019a: chapter 4. See also Danckaert 2017), and is not to be dismissed off-hand.

is in itself not far-fetched, since it mirrors the situation in Scandinavian V2 languages, where the verb stays in situ in most embedded clauses, without moving out of the vP-complex. Walkden points out that while this derivation might possibly capture the facts, it loses the insight that it is the presence of the complementiser that blocks verb movement in embedded clauses. This is an important argument, but perhaps not decisive, since it is imaginable that the EPP on $C^0$ triggers formal movement of the subject only when $C^0$ is merged and that this merger simply does not take place in subject-initial clauses, if these are simple TPs. In embedded clauses, then, the verb is simply not interested in $T^0$ – like in Mainland Scandinavian – and $C^0$ is either occupied by a complementiser, thereby bleeding movement, or vacant, in which case the EPP again attracts the subject, or alternatively some other argument is fronted by a stronger feature (say [Topic]) to Spec-CP, again triggering verb movement to $C^0$.[30] Admittedly, this analysis relies on several interlocked assumptions which are hard to demonstrate empirically. It may well be that Scandinavian and Continental Germanic V2 need different analyses, and that this applies to the respective GUVs as well.

We must stress that we are not claiming that all linear V3-orders in the Urban Vernaculars can be derived by V-to-T movement. We only suggest that the innovative V3 orders with 'adjunct-subject-verb' order are derived by V-to-T. Like the standard languages, the GUVs contain the V2 grammar (V-to-C movement) with all its linear deviations. All word orders featuring inversion are still derived by V-to-C. This applies to standard inverted V2 orders, V3 orders of the dislocation plus resumptive type, and other canonical examples like (20).[31] Here, the 'why'-word activates the [wh]-feature of the bundled CP, whereas the initial adjunct-clause is either adjoined on top of the CP or resides in some dedicated 'scene-setting' projection above the CP, most likely the very same projection that hosts the initial adjunct in the innovative V3 orders.

30 A reviewer suggests that if the verb is not interested in $T^0$ (in embedded clauses), then we would never expect verb movement to this position. This claim is too strong, we believe, since multiple and seemingly optional landing sites for verbs are well-attested, for instance for finite verbs in Latin (Danckaert 2017, Klævik-Pettersen 2019a) and infinitives in French (Pollock 1989). Modern colloquial Norwegian allows seemingly optional V-to-T in embedded non-V2 contexts like relative clauses and temporal adjunct clauses (Klævik-Pettersen 2019a). The same reviewer remarks that embedded conditional clauses in German can feature verb-movement if the complementiser is dropped. This is standardly analysed as V-to-C movement due to the vacant C-position and does not seem to have any direct bearing on the availability of $T^0$ as a landing site for the verb. As a side point, since these verb-initial conditionals are also available in non-V2 Modern English ('Had I known this before, I would…), it is not clear beyond doubt that these structures are 'part of the V2 grammar', so to speak.

31 We have borrowed this example from a reviewer.

(20) *Hvis du er så god, hvorfor behøvede du mine penge?*
if you are so good why needed you my money
'If you are so good, why did you need my money?'

We round off this section by returning to the question of what it means that non-inverted linear V3 strings in the GUVs are a case of 'loss of V2' in a diachronic sense. On our analysis, these constructions lack V-to-C movement, and hence do not qualify as V2 constructions. In that sense, there is a partial loss, provided we take as the point of departure the full-fledged V2 system of the standard languages. This conclusion may be artificial or even logically flawed, since it involves comparing two different *synchronic* varieties which are not strictly speaking in a descent relationship (although it is straightforward to tell which retains conservative properties and which has diverged with innovative properties, for the narrow domain we address). If the GUVs should lose V-to-C movement altogether, developing into non-inverting SVO languages of the English kind, we could justifiably claim that they had lost V2. Even this scenario, however, would have no bearing on V2 in the Germanic standard V2 languages and other dialects. Only if the V3 strings should spread from the GUVs, 'spilling over' into the standard languages, and from there conquer more syntactic domains, would we be justified in talking about 'the loss of V2'. Our concern in this section has been to demonstrate a phenomenon that is relevant to the understanding of the loss of V2 more generally, since it seems to mirror with astonishing precision what we know about attested cases of loss of V2 in the diachrony of Old French or of change-in-progress in Flemish dialects. Furthermore, this striking coherence suggests that there is something like a 'prescribed pathway of change' that is latent in a V2 language and which can be triggered by relevant changes in the larger speech community. It seems like V-to-C movement is a vulnerable property. This follows in a very general way from the theory that is proposed here, namely through children being conservative or minimalistic in their representations, or in their 'string-to-structure assignment' algorithm.

### *4.1 The conservative learner story for the loss of V2*

For the loss of V2, child conservative string-to-structure assignment plays out in the following way. Children prefer to move as little as possible, initially assuming no verb movement, and only begin to include movement in their syntactic representations when they get clear evidence from their input that they need to represent the finite verb in more than one projection. This means that along the learning path, structures with less displaced verbs are present

earlier than those with more displaced verbs[32] and if children maintain a developmentally earlier V-to-T stage, without moving the verb further to C for some strings, this gives a V3 grammar from the L1 learning path of exposure to an input V2 language. The V-to-T grammar will be sufficient to capture many input sentences, those with Subject-Verb word orders. If this grammar is maintained, speakers will be able to represent and parse [XP] – [Subject] – [Verb] patterns as grammatical, with the first XP in Spec CP and the subject in Spec TP.

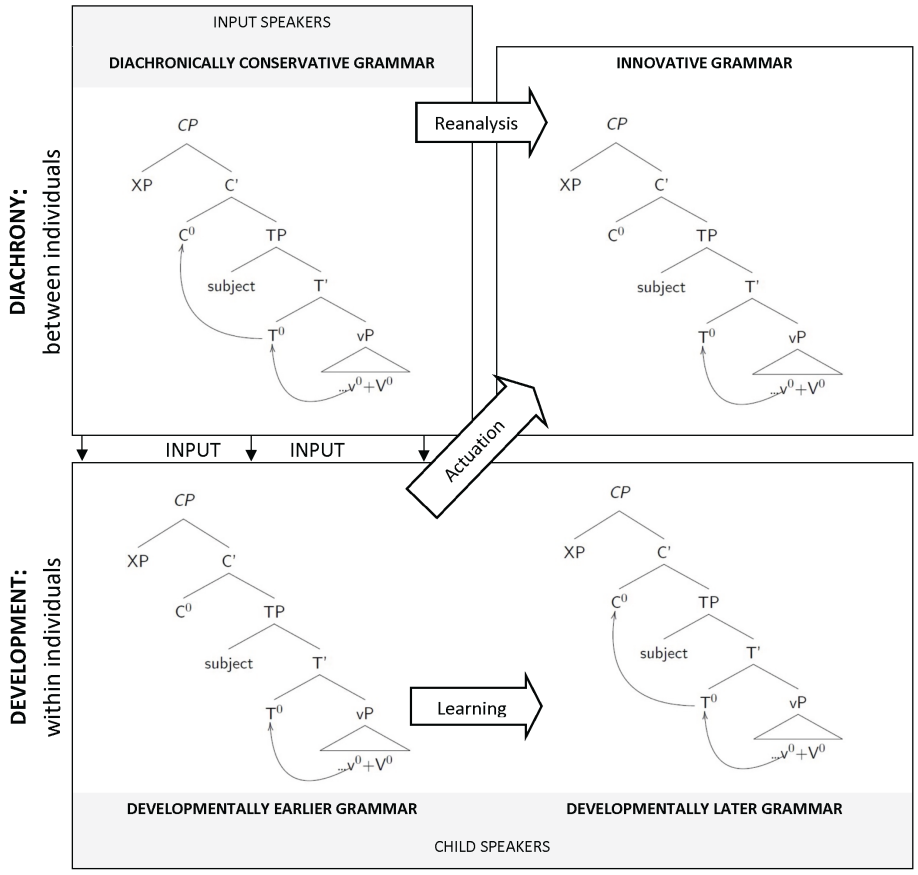



**Figure 4** The Loss of V2: Actuation of V-to-T from the Learning Path

32 We are aware that patterns that would seem to point in the opposite direction have been reported in the literature. Both Schönenberger (2001) and Waldmann (2014) show that children might in fact postulate more verb movement than what is warranted by the input. However, this crucially applies to *embedded clauses*. It is therefore likely that children show some domain-insensitivity early on, overextending their representations of main clause syntax to all domains.

Figure 4 shows the dynamics of diachrony (top row) and development (bottom row) for the loss of V2. Input-speakers only use the diachronically conservative grammar (V-to-C); their output forms the input to the child learner. Children show input-divergence during their development, initially assuming movement only to T (presumably maintaining this through at least the preschool years, when children become peer-aligned). Children initially use their learning path grammar, and then they may use both their learning path grammar and the later-acquired V-to-C grammar, where they support more movement. Actuation can occur so long as children maintain usage of their V-to-T grammar among peers, who also maintain usage from that grammar.

Does child language research show evidence of children treating verbs as lower in the syntax than in the target input grammar? More specifically, do children show V-to-T stages, when the input language is V-to-C? Broadly, much L1 acquisition literature has argued that movement structures are dispreferred during learning for reasons of economy (Platzack 1996, Zuckerman & Hulk 2001, Waldmann 2012, i.a.). For example, Westergaard & Bentzen (2007) argue Tromsø Norwegian learners initially seek to minimize movement, and use V-to-T when that analysis is string-consistent for their input, as in common subject-initial declarative clauses (e.g., when children encounter V-Neg strings V-to-T is the most economic analysis that still gives that word order).[33] Waldmann (2014) adopts this analysis for Swedish learners, and further argues that children overgeneralize this V-to-T analysis from main clauses to embedded clauses. This overgeneralization, which Waldmann calls Economy of Movement, accounts for the fact that Swedish children's embedded clauses show overgeneralized V-Neg patterns (vs. Neg-V). Waldmann shows there is little evidence in child-directed Swedish to overcome this embedded V-to-T so children persist (cf. German where children only very rarely make this overgeneralization, Mills 1985). Faroese learners also "initially hypothesize more V-to-T than is warranted by the input" for V2 embedded and root clauses (Heycock, Sorace, Hansen & Wilson 2013: 19). And, Heycock & Wallenberg (2013) argue for the loss of verb movement in embedded clauses in Faroese and Mainland Scandinavian due to learners reanalysing embedded V-to-T as in-situ (diachronic: V-to-T > V-in-situ).[34] For another analysis of loss of V-to-T (for resultant V-in-situ) in English, linked to the rise of *do*-support, see Snyder (2017). In sum, loss of movement is consistent with generative syntactic theory and supported by several empir-

33 Lightfoot (1997: 265) found that about 70% of the matrix sentences of Dutch, German, Swedish and Norwegian have an SVO surface order.

34 Using Yang's (2000) Variational Learner, they argue we don't need to build-in a bias against movement: learnability from the input word orders – the persistent consistent structures – does the work in creating a preference for the non-movement structures.

ical studies for verb movement (and other movement phenomena, e.g., wh-movement vs. wh-in-situ, Zuckerman & Hulk 2001).

We find support in the acquisition literature for the viability of a loss of V-to-C movement story to explain the loss of V2, and loss of movement is consistent with historical cases like that of English. Several studies already demonstrate the basic input-divergent child preference our model predicts, but we could go further and more precisely test our model by looking for relatively longer persistence of V-to-T in main clauses in bilingual children's Germanic languages (e.g., for children learning German/Norwegian/etc and another language) than in monolingual learners of the same language. However, for common SVO productions there is no way to tell apart V-to-T from V-to-C, so unless children show the V3 orders of the GUV-kind discussed, it would be difficult to draw conclusions. Data of this kind specifically from these communities would add weight to the full story, which involved contact situations for the rise of GUVs.

### *4.2 Why is V-to-C always lost first?*

Throughout this paper, we have considered V2 not as a parameter, but as a surface descriptive term. The term 'V2' is therefore not a primitive of the theory, and the label is open to definitions. We have argued that two distinct properties, namely V-to-C movement and a bundled left periphery, constitute the ingredients in a full-fledged V2 systems of the Modern Germanic kind, and that the label should be reserved to languages that present both of these properties, as in the case of Old French.

From the perspective of our theory of acquisition, these two properties are very distinct. Bundling features on single heads constitute the default representation for children, and more articulated, cartographic-like structures must therefore be acquired by sufficient positive evidence. The relevant evidence is the co-occurrence of multiple constituents (or morphemes) with different features. Every single child acquiring articulated structures must pass through the same stages – bundling only *potentially* followed by unbundling – and this developmental pathway prescribes a latent diachronic pathway in the opposite way. As for V-to-C movement, this is far from the default representation of phrases, which are initially given minimal representations in a child's developing I-grammar. V-to-C may be acquired through sufficient inversion strings of an appropriate kind, but unlike bundling features, which is the default, higher verb movement is developmentally later, although often already completed in very young children of 2–3 years (Westergaard 2008, Tsimpli 2014), given its strong attestation in the input.

There is another, perhaps more important reason why V-to-C is the weak link of the V2 construction, prone to loss in diachrony. If we consider the two properties involved in V2 analytically, we observe that they predict a four-way typology.[35]

| | **Bundled CP** | **Articulated CP** |
|---|---|---|
| **No V-to-C** | English | Italian |
| **V-to-C** | Germanic V2, Old French | 'Relaxed V2' in Old Romance??? |

**Table 1** A four-way typology

Three of the four language types are attested. As for the type with V-to-C movement plus an articulated left periphery, the situation is less clear. Some historical Romanists have claimed that this is the case for certain medieval varieties of Romance languages, based on the observation that these varieties feature considerable subject inversion strings, but also strings with three, four, or even more constituents in front of the verb (Ledgeway 2009, Poletto 2014, Wolfe 2018). While we do not have any stake in the debate around the proper analysis of such varieties, we would just like to point out that there is a strong inherent tension between acquiring V-to-C movement and acquiring a strongly articulated C-domain. The reason is simple: V-to-C movement is cued from inversion strings, and inversion rates drop dramatically with an increased number of constituents to the left of the verb. A linear V4 string without inversion is not likely to cue V-to-C movement in a developing I-language guided by a conservative parsing algorithm:

35 The table is overly simplistic in that it presents V-to-C as a binary, on or off phenomenon, when we know in fact that this is not the case. All of the non-V2 languages in the table have V-to-C movement in (some) wh-questions and even a few other contexts. The difference is that V2 languages display V-to-C even in the absence of such narrow criteria, in normal declarative clauses. Even within declarative clauses, it is far from beyond doubt that V-to-C always takes place, such as in subject-initial clauses in the Scandinavian languages (cf. the debate of the 'split' (Travis 1984, Zwart 1997) vs. 'symmetric' (Schwartz & Vikner 1989, 1996) analysis of V2). In Scandinavian V2 languages, there are unequivocal examples of declarative main clauses in these languages that do not feature V-to-C:

(i) [*Kanskje*] [*han*] [*ikke*] ***vet*** *det*
maybe he not knows it
'Maybe he doesn't know it' (Norwegian)

The notion of a dedicated locus of verb movement within a single clause type is therefore highly questionable. This is particularly relevant to many Old Romance languages, since it might well be that they featured V-to-C in some declarative clauses, but that only Old French generalised this pattern completely.

(21) [*tamen poy di la morti loru*], [*li ossa loru*] [*pir virtuti divina*] ***operannu*** *miraculi.*
Then after of the death their the bones their by virtue divine perform.3PL miracles
'Then after their death, their bones perform miracles through divine virtue' (Old Sicilian, *Sanctu Gregoriu* 262)

Although the global input must be taken into account to decide whether V-to-C movement has taken place, we believe that, given child conservativity of representation and movement, there is a tension between assigning multiple left peripheral specifiers as well as a left peripheral head to serve as landing place for the verb for the same input strings. A system with both these properties, if possible at all, should be a very ephemeral thing.

## 5 A note on Actuation in contact situations, for both case studies

Contact situations are present for both our case studies of attested rise and fall of V2 changes. Population changes of this far-reaching kind are plausible actuation triggers because they alter the amount and properties of linguistic input to children,[36] and they alter the social dynamics of the speech communities (see e.g., Trudgill 2011, Weerman 2011, Walkden 2017b, Klævik-Pettersen 2019a,b). We appeal to contact for the *actuation* of both novel syntactic analyses we cover, arguing that innovations from the learning process (i.e., child input-divergent I-languages) are more likely to catch-on (i.e., actuate from I-languages to E-languages) in contact situations. Syntactic acquisition appears to be autonomous in each language and relatively robust to variation in input amount (Paradis & Genesee 1996, i.a.). However, any aspect of grammar that is sensitive to input amount will be affected by mixed language input (see e.g. Gathercole & Thomas 2009, Grüter & Paradis 2014), though more for the minority language not spoken in the wider community (de Houwer 2007). Contact situations usually also involve more L2 speaker exposure. Input from perceptibly L2 speakers is dispreferred by L1 learners (see Newport 1999, Hudson Cam & Newport 2005), again potentially reducing the input data that children actually learn from 'intake' (Gagliardi 2012, i.a.).

A simultaneous or sequential bilingual first language learner[37] will receive quantitatively less input for their e.g., Norwegian than a monolingual

36 Compare this to most CIA approaches where changes in input amount or properties directly cue *innovation*, rather than contributing to opportunity for actuation (e.g., Lightfoot 1999, Lightfoot & Westergaard 2007).

37 Any language acquisition occurring in early childhood is first language acquisition.

learner. And, they likely frequently have e.g., Norwegian as their chronologically second language if they are sequential bilingual and (first-generation) speakers. These differences in age of onset and input quantity could have effects on when individual children acquire certain syntactic constructions, and how long they maintain usage from earlier learning path syntactic representations. Recall that sociolinguistic work suggests that children become more sensitive to and interested in their peers' language after age 3 (prior to that they are seen to largely match patterns in their caregivers' speech (Labov 2001, Smith et al. 2007), at least for lexical and ph-variables). Thus, bilingual first language acquisition (both for simultaneous and sequential bilingual learners) may amount to less unambiguous evidence for (a) unbundling, or (b) V-to-C, and in turn, longer maintenance of the learning-path innovative grammar. On our model children still learn the input grammar, but too late for it to be their only grammar, and become bi-dialectal. Furthermore, the syntactic innovation itself need not be related to the syntax of the other languages involved in acquisition, but draws from the learning path. In sum, because children in these communities may use learning path grammars longer than their monolingual counterparts, they may be more likely to reinforce each others' input-divergent grammars within their childhood peer-groups in a way that leads to actuation.

## 6 Discussion and Conclusion

In this paper, we have argued that adopting a bundling approach to the left periphery best allows us to account for all three empirical domains of relevance for V2 phenomena (synchronic syntax, L1 acquisition, change), and how they dynamically interact. On the synchronic level, we believe our analysis of V2 as a complex phenomenon consisting of V-to-C plus a feature bundle captures the facts in a satisfying way. In particular, the hypothesis of a feature bundle provides a natural account of the linear restriction that is difficult to explain in a fully cartographic model. Furthermore, we have assessed our predictions for child learning paths against the extant L1 acquisition literature, showing that there is broad evidence that child language initially uses fewer projections for domains like CP or DP, (although there is much debate over how to theoretically capture this difference; compare e.g. Hyams 1986, Pannemann 2007, Friedmann et al. 2021) and also that children often appear to opt for unmoved (or less moved) structures compared to adults, including for verb movement of the relevant types.

We have presented a linking model for acquisition and change, and illustrated how that model would work for V2-related changes. We assume children are conservative structure projectors, both for adding unique projec-

tions in the LP and for movement postulation. And, we argue they hold onto to learning-stage (or interim) grammars for some time during development (a view that is consistent with the variability extant in child production data). From these kinds of child conservativity, we find our innovative diachronic stages and render both the rise and fall of V2 dynamically the same – a learning path innovation that actuates into the speech community. We presented two case studies, the rise of V2 in Old French and relatively recent V3 orders in the Germanic Urban Vernaculars, to exemplify and evaluate the theoretical model. In both cases, we relied on language contact, or more precisely widespread *bilingualism*, as the external factor that fostered change. Contact situations prolong learning stages, with the result that conservative, interim representations like a bundled CP or V-to-T are increasingly likely to actuate through peers into the community, and thus catch on as an innovation in the E-language. In the case of Old French, *interference effects* probably also played an additional role.

As with all theories of such general scope and ambition to unify diverse fields, there are issues. We will address one of them here, namely how languages like Modern Italian with richly articulated LPs could arise at all, if children by default bundle features on single heads and are strongly biased against going beyond the input. For the immediate case, the answer is simple: because Italian children are confronted with sufficient co-occurrences of left peripheral constituents to unravel the feature bundle. This does not address the question of how Italian came to have these properties in the first place.

While we can only speculate, a possible solution is that there is continuity from the very free word order of Latin through the medieval phase where Italian had many preverbal constituents and until today. The representations of these preverbal sequences in the I-languages may have shifted over time, being partially contingent on other factors, notably the structural position of the finite verb, which ultimately dictates how preverbal constituents are parsed. Once variable verb movement is reanalysed and fixed to its current position in $T^0$, an upwards shift of the preverbal field may have occurred. Another potential source of new projections could be that truly external phrases, which are not even part of the clausal spine, become reanalysed as high topics of the LP. These are just plausible conjectures, and only careful and extensive diachronic data on the process of changing from a relatively free word order language to a rich LP language could decide whether they have merit.

Finally, on our child innovator story for the rise and fall of V2, most of the action in change involves verb movement. We find this attractive because less movement in the innovative grammar is also more consistent with generalized generative change theories (Roberts & Roussou 2003, van Gelderen 2004,

2011), where learner preference for non-movement is inferred from the comparison of many discrete diachronic stages across domains of syntax. So many attested case studies in syntactic change show the loss of movement that theories about syntactic reanalysis have generalized principles about this repeated phenomenon. For example, the "Merge over Move" principle from Roberts & Roussou (2003) argues that the historical evidence suggests that learners have reanalysed morphemes as direct exponents of their landing site, rather than merged lower and moved (as in the diachronically conservative grammar). Similarly, van Gelderen's (2004) "Late Merge Principle" argues that learners are economical, opting to merge as late in the derivation as possible to represent the input string. Both of these principles appeal to learners reducing movement, when comparing their grammars to the input grammars.

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