Verb second and its deviations: An argument for Feature Scattering in the left periphery

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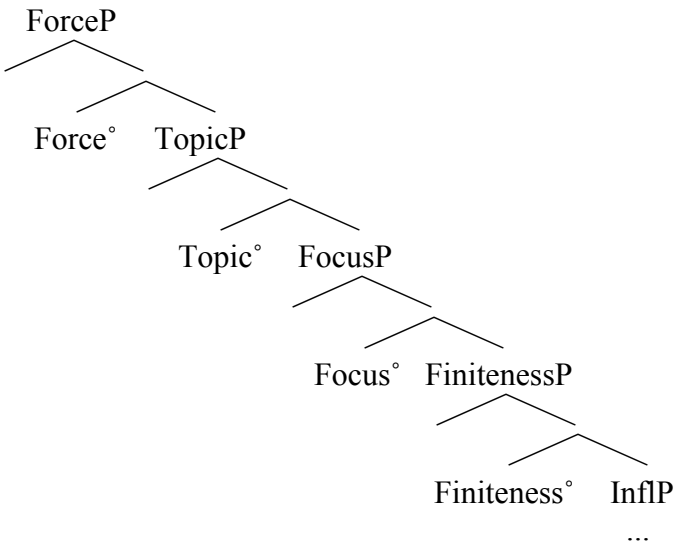
Abstract

This article focuses on the analysis of verb-second (V2) requirements in light of evidence that the clausal left periphery contains a series of functional projections in a fixed hierarchy (Rizzi 1997; Benincà and Poletto 2004, among many others). I discuss previous approaches to V2, the Bottleneck Effect and Stacked Head theories and argue that they are generally unable to account for a variety of "relaxed" V2 systems that allow V3 or V4 in some contexts. I propose a new analysis of variation in the strictness of V2 in terms of the Feature Scattering Hypothesis (Giorgi & Pianesi 1996); languages can vary in the number of functional category features that are bundled on individual heads. This allows a straightforward account for the attested typology of relaxed V2 systems, and a new explanation for cross-linguistic variation in the instantiation of functional projections.

1 The Cartographic Program and the problem of restricted instantiation

Following Rizzi (1997) a variety of evidence has emerged to suggest that the left edge of the clause, the traditional Complementizer Phrase, contains additional internal structure. Numerous works within the Cartographic Approach propose that rather than a single projection, the left edge of the clause includes a series of distinct functional projections, collectively referred to as the extended left periphery. These functional heads perform the various functions of complementizer-like elements, generally related to clause typing and the encoding of information structure. While the body of research within the approach has given rise to many proposed structures, we will consider for illustrative purposes the 'core' structure (based on the analysis of Benincà and Poletto 2004).

(1)



The extended left peripheral structure provides a straightforward means to account for languages that appear to freely instantiate multiple positions within the left periphery, permitting the overt realization of multiple heads or specifiers (Bianchi 1999; Aboh 2006; Demonte and Fernández-Soriano 2009).

However, if the full inventory of left-peripheral projections is available in all languages, how can we account for languages that overtly instantiate only a subset of these positions, or permit only a subset of these positions to be simultaneously realized? This paper examines in detail the case of verb-second restrictions (V2), which prove to be especially informative with respect to this issue, given that cross-linguistic differences among languages that show some degrees of V2 are well-documented.

Informally stated, the V2 restriction requires the main verb or highest tensed auxiliary of a clause to be preceded by exactly one phrase at the left edge of the utterance. Although there are some language-specific exceptions, the first position in V2 clauses can be occupied by constituents of a variety of grammatical functions or phrasal categories. Consider the examples from Dutch, as repeated from Haegeman (1996). Although a variety of arguments can appear in first position, it is generally not possible for multiple phrases to precede the verb simultaneously.

(2) a. *subject first*

Marie **zal** morgen dit boek kopen
Marie will tomorrow this book buy
'Marie will buy this book tomorrow.'

b. *object first*

Dit boek **zal** Marie morgen kopen
this book will Marie tomorrow buy
'Marie will buy this book tomorrow.'

c. *adjunct first*
Morgen **zal** Marie die boek kopen
tomorrow will Marie this book buy
'Marie will buy this book tomorrow'

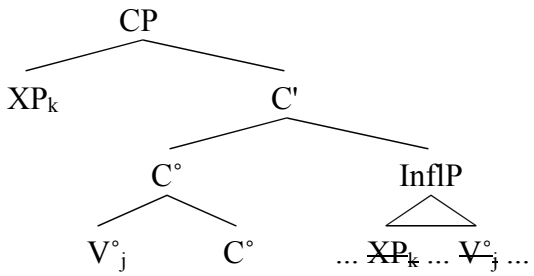
d. wh-*word first*
Welk boek **zal** Marie morgen kopen
which book will Marie tomorrow buy
'Which book will Marie buy tomorrow?' (Haegeman 1996: 139-140)

(3) a. *Morgen dat boek **zal** Marie kopen
tomorrow that book will Marie buy

b. *Morgen ze **zal** dat boek kopen
tomorrow she will that book buy (Haegeman 1996: 140)

Certain patterns of complementary distribution between V2 and overt complementizers suggest that V2 effects involve movement of the verb to a position within the complementizer domain. Prior to the development of the Cartographic Program, 'classic' analyses of V2 proposed that V2 clauses have two main properties: verb movement to a single complementizer head, and the movement of exactly one phrase to a higher specifier position (den Besten 1983; Travis 1984; Holmberg 1986; Vikner 1995; Fanselow 2004).

(4)



Further evidence to suggest that V2 effects involve the complementizer domain arises from observations that V2 generally interacts with the packaging of information structure, as certain items in first position are obligatorily topic- or focus-marked (Bhatt 1999; Fanselow 2004; Mohr 2009; Jouitteau 2010). To illustrate, consider the interpretational restrictions on first-position objects in German, as described by Mohr (2009). Objects can be licensed in first position only if they are interpreted as given information topics (5a), or contrastively focused (5b); objects that are neither topicalized nor focused are not accepted (5c).

(5) a. Diesen minister **hat** die Presse schon lange kritisiert
This-ACC minister has the press already long criticized
'This minister has long been criticized by the press.'

b. Einen MINISTER **hat** die Presse schon lange kritisiert,
A minister has the press already long criticized
(aber nicht den Kanzler)
(but not the chancellor)
'The press has already criticized a minister for a long time, not the chancellor.'

c. *Einen Minister **hat** die Presse schon lange kritisiert
A minister has the press already long criticized
(as broad focus) (Mohr 2009: 147)

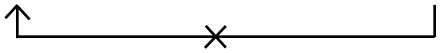
It appears natural to pursue an analysis in which the features driving movement to first positions in such examples are the same ones associated with TopicP and FocusP in the extended left periphery. However, this raises the question of why in most V2 languages, these positions cannot be simultaneously filled. If it is assumed that the full inventory of left-peripheral projections is universally present in all languages, strict V2 must amount to a requirement that phrasal movement target exactly one position above the landing site of the verb. However, this comes with the challenging task of explaining [1] why is only one position available before the second-position element, and [2] which functional projection(s) do the first-position and second-position items occupy?

In sections 2 and 3, I review existing Bottleneck Effect and Stacked Head approaches to this variation and their shortcomings, with an empirical focus on V2 and various deviations from V2. In section 4, I argue for an account in terms of the Feature Scattering Hypothesis, whose core claim is that functional categories can be realized as distinct heads, or bundled with other categories. Section 5 concludes the paper with a discussion of parametric variation and directions for future research.

2 V2 as a movement restriction: The Bottleneck Effect

One way of deriving second-position restrictions within an expanded left periphery proposes that while left-peripheral positions are universally present, fronting in some languages is restricted to exactly one left-peripheral position due to a "Bottleneck Effect" (Haegeman 1996; Roberts 2004; Cardinaletti 2010). The proposal claims that in languages with strict second-position restrictions, all left-peripheral fronting passes through Spec, FinP, perhaps due to a general EPP property of the Fin head (Roberts 2004). Once one phrase has moved through FinP, all further movement through this position is blocked, thereby restricting fronting to one constituent. This blocking has been proposed to be an effect of Relativized Minimality (Rizzi 1990); whatever phrase is attracted to Spec, FinP contains features that are sufficiently general to be the closest goal for any attractor in a higher projection, blocking all movement across FinP (Roberts 2004).

(6) a. $[_{FinP}$ XP_i V-Fin° [... t_i ... XP_j ...]
b. *$[_{FP}$ XP_j $[_{FinP}$ XP_i V-Fin° [... t_i ... t_j ...]



The Bottleneck Effect approach posits that V2 requirements are a restriction on possible movement. As such, it does not need to propose variation in the available inventory of functional projections, keeping intact a key tenet of the cartographic approach.

Exceptions to V2 in which more than one phrase precedes the verb can nonetheless be accomodated within the Bottleneck Effect Hypothesis, if certain XPs can be first-Merged (a.k.a. base-generated) in the left-periphery and not placed there by movement. Consider for example the construction common to non-English Germanic languages known as Contrastive Left-Dislocation (Thráinsson 1979), in which an XP appears in an utterance-initial position with contrastive topicalization or focus. A related construction, Hanging Topic Left-Dislocation, permits DPs with nominative case in first-position to correspond with a resumptive pronoun whose case is determined by the structure of the V2 clause. Crucially, these XPs appear to be invisible with respect to the second-position requirement. If left-dislocated constituents are base-generated in the left periphery, as argued by several authors (Anagnostopoulou 1997; Wiltschko 1997; Zaenen 1997; Frey 2004), this exception to V2 is unproblematic because the bottleneck effect is a restriction on movement.[1]

(7) Den Peter, den **habe** ich gesehen
3.ACC Peter, him have I seen
'I saw Peter.' (Ott 2014: 269)

(8) Dieser Frosch, den **hat** die Prinzessin gestern geküßt.
this.NOM frog 3.ACC has the princess yesterday kissed
'This frog, the princess kissed it yesterday.' (Boeckx and Grohmann 2004: 131)

In a similar vein, Poletto (2002) suggests that the left periphery can be further divided into two domains. Specifier positions of FocusP and below can only be filled by movement, and are thus subject to the bottleneck effect restriction. Positions above FocusP can be filled by first-Merged phrases, making them "invisible" to the verb-second restriction that holds below FocusP.

(9) $[_{\text{ForceP}}$ (XP) ... $[_{\text{TopicP}}$ (XP) ... | *$[_{\text{FocP}}$ XP_k $[_{\text{FinP}}$ XP_i V-Fin° [... t_i ... t_k ...]]

Base-generation possible | *Bottleneck Effect restriction holds*

Although certain relaxed V2 patterns can be reconciled with the Bottleneck Effect Hypothesis, I discuss two common types of V3 that cannot be adequately accounted for by the approach. These are patterns in which subjects appear in a preverbal position in addition to another phrase [XP Subject V ...], and patterns in which topics co-occur with either a focus or *Wh*-phrase that precedes the verb [Topic Focus/Wh V ...]. I argue that these cases can not be attributed to base-generation in the left periphery, indicating that Bottleneck Effect analyses of V2 as a movement restriction are on the wrong track.

[1] It remains controversial, however, whether Contrastive Left-Dislocation and related constructions, Clitic Left-Dislocation, and Hanging Topic Left-Dislocation are derived by base-generation in the left periphery, movement, or ellipsis (Alexiadou 2005; Ott 2014).

2.1 [XP Subject V] V3

Canonical cases of V2 exhibit a property known as subject inversion: While subjects can precede the main verb, if the first position phrase is a non-subject, the subject obligatorily follows the verb, as illustrated below for Yiddish (Diesing 1990). Subject inversion in the presence of a non-subject XP in first position is generally taken to be a clear diagnostic for V2 requirements.

(10) a. Max **shikt** avek dos bukh
Max sends away the book
'Max sends away the book.' (Diesing 1990: 42)

b. Dos bukh **hot** Max geleyent
The book has Max read
'Max has read the book.' (Diesing 1990: 44)

c. Vuhin **geyt** ir
where go you
'Where are you going?' (Diesing 1990: 50)

Subject inversion, however, is not obligatory in all languages that generally show V2 order. We first consider the case of Old English. Like other Germanic languages, Old English had a general V2 requirement within main clauses (van Kemenade 1987; Kroch, Taylor, and Ringe 1995; Pintzuk 1993; Trips 2002, a.o.). As shown in the following examples, the first position could be occupied by a variety of phrasal constituents.

(11) a. His mynster **ys** Hwiterne on Sanctus Martines naman gehalgod
his minister is Hwitern on Saint Martin's name consecrated
'His minister, Whitern, is consecrated in Saint Martin's name.'

b. Þæt hus **hæfdon** Romane to ðæm anum tacne geworht ...
that house had Romans to the one sign made
'The Romans had made that house to their sole sign...'

c. On his dagum **sende** Gregorius us fulluht
On this day sends Gregorius us Christianity
'On this day, Gregorius sends us Christianity.' (Trips 2002: 231)

Of particular interest is the fact that Old English allowed certain exceptions to V2 not attested in other Germanic languages. As noted in particular by Koopman (1998) and Haeberli (2002a, b), a type of V3 order is permitted if a full DP subject immediately precedes the main verb. In the corpus examined by Haeberli (2002b), [XP Subject V ...] orders were found to occur in 28.7% of main clauses in which the first XP is neither the subject nor an operator that triggers strict V2 (i.e. a *wh*-phrase or *þa*/*þonne* 'then').

(12) a. ...& fela ðinga swagerad man **sceal** don
and many things so.wise man must do
'...and such a wise man must do many things.'

b. Sumum monnum God **seleð** ægðer ge good ge yfel gemenged, ...
Some persons God gives both good and bad mixed
'God gives some people both good and bad things.' (Haeberli 2002a: 90)

Some cases of [XP Subject V ...] orders potentially reflect a structure in which the verb moves only as high as Infl° in a head-final InflP (cf. van Kemenade 1987), with the clause-initial XP occupying the specifier of a head-initial CP. However, Pintzuk and Haeberli (2008) show that this does not account for all of these orders; Items that must precede the finite verb in unambiguously head-final InflPs (certain particles, stranded prepositions, negative objects, and object pronouns) are found to follow finite verbs in [XP Subject V ...] sentences. In these cases, then, the verb is necessarily in a head-initial projection. Pintzuk and Haeberli's relevant diagnostic elements are underlined in the following examples.

(13) a. þæne se geatweard **læt** in
That-one the goatherd lets in
'That one, the goatherd lets in.'

b. Witodlice þes **nahte** naht oþres to his agnum bryce
Truly this neg-owed nothing other to his own gain
'Truly, this owed nothing other to his own gain.'

c. Æfter þan se ðo gilti beo **bidde** him forgifnysse
After that he who guilty is asks him forgiveness
'After that, the guilty one asks him for forgiveness.' (H&P 2008: 402)

Based on their distribution, Bech (1998), Westergaard (2005), and Hinterhölzl and Petrova (2010) propose that [XP Subject V] orders are possible (though not apparently obligatory) only for subjects that are given information topics. Such V3 orders, however, appear to be less common with non-subjects in the immediately preverbal position, indicating that both topichood and grammatical subjecthood are crucial to this position.[2] Similar exceptions to V2 have also been noted for historic varieties of other West

[2] Though their precise relative frequency is unknown, Haeberli (2002b) notes that in Old English there are rare occurrences of V3 structures in which neither of the preverbal items is the subject, as in (i). These examples can potentially reflect a structure in which both preverbal XPs are hosted in projection that allows multiple topic specifiers, a possibility discussed further in section 5.

(i) Dysne yrming æfter his forðsiðe **wurðodon** þa hæðenan eac for healicne god
This poor-wretch after his decease worshipped the heathens also instead-of high god
'After his disease, the heathens also worshipped this poor wretch instead of God' (Haeberli 2002b: 248)

Germanic languages, including Middle High German (Tomaselli 1995), Old Saxon and Middle Low German (Petrova 2012; Walkden 2015).

Similar patternings of subjects in V3 structures in contemporary Germanic languages are documented for Cimbrian (Bidese 2008; Grewendorf and Poletto 2011; Bidese et al. 2012; Bidese et al. 2016) and French Flemish (Ryckeboer 2004; Haegeman and Greco 2016). In Cimbrian, a heritage Germanic language spoken in the Italian town of Luserna, subjects appear obligatorily in a preverbal position; The subject-inversion pattern of 'classic' V2 is in fact reported as ungrammatical in declarative clauses.

(14) a. Haüt dar nano **iz** gerift atz Lusérn
today the grandfather is around in Lusérn
'Today the grandfather is in Lusérn'

b. Gestern dar puce **hott** gisekk in has
Yesterday the boy has seen a hare

c. *Gestern **hott** dar puce gisekk in has
Yesterday has the boy seen a hare
'Yesterday the boy saw a hare' (Bidese et al., 2016)

As in Old English, the placement of subjects is sensitive to information structure. In contrast with definite DP subjects, subject quantifiers like *niamat* 'nobody' can follow the second-position verb. This would suggest that discourse given-ness or an ability to be topicalized is a prerequisite for the placement of nominals before the finite verb.

(15) 'Z **hat** niamat telefonaart
It has nobody telephoned
'Nobody has telephoned.' (Grewendorf & Poletto 2011: 307)

[XP Subject V] orders are also common in the variety of Flemish spoken in northern France (Vanacker 1977; Marteel 1992; Ryckeboer 2004; Saelens 2014; Haegeman and Greco 2016). In contrast to standard Dutch, which shows typical subject inversion in V2, both full DP subjects and subject pronouns can appear in the preverbal position, following a non-subject phrase. While adverbials are most commonly accepted in first position, direct and indirect objects are acceptable as well, at least for some speakers.

(16) a. Morren 't **komt** ten langen leste schooen were
tomorrow it comes at long last nice weather
'Tomorrow it will finally be good weather.'

b. Alle vuuf voet den triek **is** veg
each five foot the electricity is gone
'The electricity is down every so often' (Ryckeboer 2004)

(17) De nieuwe wagens we **makten** he
the new cars we made PART
'We made the new cars.' (Haegeman and Greco 2016)

More significantly, the absence of subject inversion appears to be the least marked word order in declaratives; In clauses that begin with a non-subject XP, the subject preceded the verb in 85.4% and 89.4% of tokens in the corpora of Saelens (2014) and Vanacker (1977), respectively.

This pattern of exceptional V3 reveals a tendency for subjects, particularly those that are also given information topics, to move to a position above the main verb. While the pattern has been taken to suggest that verb movement targets a position below the complementizer domain like InflP or AgrSubjP (Pintzuk 1993, Haeberli 2002a), there is reason to believe that finite verbs move to a low C-domain position in these cases. First, the absence of embedded V2 in Old English and in certain embedded clause types in Cimbrian (Grewendorf and Poletto 2011) is best explained if V2 requires movement into the C-domain (Roberts 1996). Furthermore, the fact that information structure properties are encoded within the C-domain accounts straightforwardly for discourse restrictions on preverbal subjects in these languages (Walkden 2014, 2015). This analysis is additionally consistent with independent arguments that subject agreement takes place in FinP or in a SubjectP just above it (Poletto 2000, Aboh 2006, Ledgeway 2010, Branigan 2011). Under this view, [XP Subject V ...] V3 reflects the structure in (18).

(18) $[_{FP}\ (XP_{top/foc})\ [_{SubjP}\ (XP_{subj})\ [_{FinP}\ V^{\circ}\ [_{InflP}\ \ldots\ \sout{V^{\circ}}$

Given the above structure, the subject exception to V2 is difficult to handle in a Bottleneck Effect approach to V2. If subject DPs move to FinP, one expects the movement of any other phrase above the subject to be blocked. One might admit the possibility that the first phrase in these V3 examples is in fact some sort of a topic that is base-generated in the left periphery. However, it would remain unexplained as to why this sort of base-generation is possible only when the main verb is preceded by a subject.

One might consider, however, an alternate explanation of this pattern. Following Cardinaletti (1990, 1991) and Rizzi (1991), suppose that subjects in languages like Old English or Cimbrian can be A-moved into a low position in the left periphery. Because the movement of an object to the C-domain crossing over the subject would violate Relativized Minimality, this A-movement is possible only for subjects. It would further have to be the case that exactly one phrase must be A'-moved to a higher position, which can be derived if the relevant bottleneck is above the subject position.[3] While this is a potentially viable explanation for [XP Subject V] structures, it can not be extended to account for relaxed V2 patterns that involve multiple A'-moved items in the left periphery. We now turn to several of these cases in the remainder of section 2.

2.2 [Topic Focus/Wh V] V3

A number of languages that otherwise show linear V2 permit V3 orders where the main verb is preceded by both topicalized and focused phrases. The Nakh-Dagestanian

[3] I would like to thank an anonymous reviewer for suggesting this potential analysis.

language Ingush, as described by Nichols (2011), exhibits a V2 pattern quite similar to the German pattern. In main clauses, the verb or highest tensed auxiliary preferably follows exactly one phrase.

(19) a. Xii **mol**=ii wa?
water drink=Q 2s.erg
'Would you like a drink of water?

b. Muusaa **vy** hwuona telefon jettazh
Musa V.prog 2s.dat telephone strike.CVsim
'Musa's calling you / Musa's on the phone for you'

c. Cwa mealxara **jar** hwo, Tawaibat, ...
some sad J.be.pst 2s Tawaibat
'You're so sad, Taiwaibat, ...' (Nichols 2011: 678-679)

In Ingush, phrases in the preverbal position can be interpreted either as topicalized or focused. Crucially, if a main clause includes both a topic and a focus, both phrases precede the main verb in the order [Topic Focus V]. Both information focus and *wh*-words are analyzed as types of foci by Nichols.

(20) a. Jurta jistie joaqqa sag **ull** cymogazh jolazh
Town.GEN nearby J.old person lie.PRS sick.CVsim J.PROG.CVsim
(*topic*) (*focus*)
'In the next town an old woman is sick'

b. Mista xudar myshta **duora**?
sour porridge how D.make.IMPF
(*topic*) (*focus*)
'How did they make sour porridge?' (Nichols 2011: 683)

While such data is troubling for the Bottleneck Effect hypothesis in its original form, it potentially conforms to Poletto's proposal that projections above TopicP permit base-generated phrases. However, it raises the issue of explaining why the co-occurrence of topics and foci is prevented in V2 languages like Modern German, which will be discussed in more detail in the next section.

More problematic cases are found in languages where this type of V3 is possible only when the immediately preverbal phrase is a *wh*-phrase. Consider for instance the Badiotto variety of Rhaetoromance as discussed by Poletto (2002). In declarative sentences, the second-position verb is preceded by a focused phrase, and it is not possible for left-dislocated elements to precede the focused phrase. However, if the verb is preceded by a *wh*-phrase it is possible for left-dislocation to target the clause-initial position.

(21) a. *De Giani, CUN PIERO **a-i** bel baié
of Giani WITH PIERO have-I already spoken

b. De Giani, con che **bai-la** pa?
of Giani with whom speak-she INTERR.PRT
'With whom did you talk about John?' (Poletto 2002)

Similarly, while Yiddish is generally V2, it permits the optional topicalization of exactly one phrase before *wh*-words (Diesing 2005).

(22) mit di kinder vos **tut** men?
with the children what does one
'What does one do with the chidren?' (Diesing 2005: 206)

Minimally, the fact that certain types of pre-verbal phrases are permitted only when they co-occur with *wh*-words indicates that it would be overly simplistic to claim that items in the topic field are uniformly exempt from the bottleneck restriction. This would require the apparent stipulation that the base-generation of topics is in some instances possible only if *wh*-movement has already taken place.

Perhaps the most curious case of this type is found in Kashmiri, which we will consider in greater detail. Kashmiri is relatively unique among Indo-Aryan languages in that it has a robust V2 requirement in main clauses (Bhatt 1999).

(23) a. rameshan **dyut** raath laRk-as kalam
Ramesh gave yesterday boy pen
'It was Ramesh who gave a pen to the boy yesterday.'

b. laRk-as **dyut** rameshan raath kalam
boy gave Ramesh yesterday pen
'It was a boy to whom Ramesh gave a pen yesterday'

c. *tem raath **dyut** akhlaRk-as kalam
he yesterday gave oneboy pen (Bhatt 1999:93)

The language additionally places an interpretational restriction on non-subjects fronted to first position, requiring them to be focused, not topicalized. Quantified objects that are ineligible topics are freely fronted to first position; Furthermore, only phrases in first position can be suffixed by the focus-sensitive particles -ti and -yioot, which resemble *even* and *only* respectively.

(24) sooruyikeNh **khyav** rameshan
everything ate Ramesh
'Ramesh ate everything' (Bhatt 1999: 87)

(25) huun-ti **chu** behna broNh panin jaay goD saaf karaan
dog-even is seat before self's place first clean do-perf
'Even the dog cleans his place before sitting.' (Bhatt 1999: 88)

One type of V3 order is admitted under a fairly restricted circumstance. As typical of V2 languages, *wh*-phrases move to an immediately preverbal position in interrogative main clauses. However, if the clause includes a topicalized phrase, it is preferably placed in a clause-initial position preceding the *wh*-phrase, yielding [XP_{top} *Wh* V ...] orders. This pattern is particularly unexpected due to the fact that topics do not front to first-position in declarative V2 main clauses (Bhatt 1999, Manetta 2011).[4]

(26) a. tse kyaa **dyutnay** Rameshan
you what gave Ramesh
'As for you, what is it that Ramesh gave?

b. ?kyaa **dyutnay** Rameshan tse
what gave Ramesh you (Bhatt 1999: 107)

If the *wh*-word is placed into a left-peripheral FocusP or InterrogativeP (Rizzi 2001) by movement from the lower part of the clause, as commonly assumed, the clause-initial topic must be placed above the *wh*-phrase by base-generation. Although the proposal by Poletto (2002) permits base-generation above FocusP, it would have to be stipulated that base-generated topics are permitted only when followed by a *wh*-phrase, a rather unusual restriction. Furthermore, Holmberg (2015) notes that a base-generation analysis of initial topics is unlikely, as the fact that they are case-marked suggests that they are first Merged lower in the clause, rather than directly in the left periphery.

2.3 V>3

In a recent corpus study, Wolfe (*to appear*) identifies substantial word order variation within main clauses of medieval Romance languages, many of which have previously been described as exhibiting relaxed V2 restrictions (Benincà 1983, 2006; Adams 1987; Roberts 1993; Vance 1997; Franco 2009, a.o.). Several generalizations are revealed in this reproduced summary table. First, V2 is the most common word order in all of the languages considered. There is variation however, in the types and statistical frequency of permitted non-V2 orders. For instance, while it is highly rare for more than two items to precede the verb (V>3) in Old French, Old Spanish, and Old Venetian, such orders, at least for V4, are more common in Old Occitan and Old Sicilian. There is also a range of variation with respect to the acceptability of verb-initial (V1) orders, from being unattested in Old French to consisting of 24.37% of the Old Venetian corpus.

[4] My analysis of Kashmiri interrogatives is based on the convergent descriptions of Bhatt and Manetta. However, there appears to be additional variation across speakers with respect to word order in interrogatives. Koul and Wali (2015) observe that *wh*-phrases can stay in situ for some speakers, and speakers vary in whether they permit multiple *wh*-movement to the preverbal position (p.c. Constantin Freitag)

	Old French		Old Occitan		Old Sicilian		Old Venetian		Old Spanish	
	N	%	N	%	N	%	N	%	N	%
V1	0	0.00	48	7.52	52	8.21	154	24.37	11	2.29
V2	475	75.16	340	53.29	318	50.24	371	58.70	436	90.83
V3	155	24.53	188	29.47	189	29.86	103	16.30	32	6.67
V4	2	0.32	50	7.84	61	9.64	4	0.63	1	0.21
V5	0	0.00	8	1.25	11	1.74	0	0.00	0	0.00
V6	0	0.00	4	0.63	1	0.16	0	0.00	0	0.00
V7	0	0.00	0	0.00	1	0.16	0	0.00	0	0.00
Total	632	100	638	100	633	100	632	100	480	100

Table 1: Verb placement in Medieval Romance Main Clauses (Source: Wolfe, *to appear*)

What is clearly revealed by Wolfe's corpus and the previously discussed examples is the generalization that there is a continuum of structural restrictions on verb placement, of which strict V2 appears to be at one extreme. However, as languages permit an increasing number of deviations from linear V2, there is perhaps a tipping point at which such languages would not be described by researchers as having any sort of V2 requirement. I adopt the suggestion of a number of recent works (Ledgeway 2008, Poletto 2013, Holmberg 2013, Wolfe 2015a,b) that the classification of a language as being V2 depends not on a linear second-position requirement, but rather on systematic movement of inflected verbs into the left periphery. Although we have seen that subject inversion is not a foolproof diagnostic, we still expect verb movement to the left periphery to be identifiable where non-subject preverbal items are uniformly subject to discourse restrictions, and if inflected verbs can be shown to always occur higher than items clearly in InflP.

The availability of V4 structures has important implications for the Bottleneck Effect Hypothesis. Wolfe notes that attested V4 orders consist of sequences of a frame-setting adverbial, a topic, and a focus preceding the verb [Frame-setter Topic Focus V], as exemplified in this following example from 12th-century Sicilian. The same analysis is given for V4 orders in Old Italian (Florentine) by Poletto (2014).[5]

(27) *Old Sicilian*

[tamen poy di la morti loru]	[li ossa loru]	[pir virtuti divina]	**operannu**
then after of the death their miraculi	the bones their	by virtue divine	perform.3PL
miracles			

'Then after their death, their bones perform miracles through divine virtue.'

(Wolfe, *to appear*)

[5] Several of the examples given by Poletto and those in Wolfe's corpus consist of sentences where the verb is clause-final, potentially suggesting an analyses in which the verb is located in a head-final C-domain or Infl-domain projection. The fixed relative ordering of different discourse-marked preverbal items, however, strongly suggests that they occupy positions within the articulated C-domain. A conclusive resolution of the issue of head direction must await further study, and the identification of diagnostics of the sort used by Pintzuki and Haeberli (2008) for Old English.

(28) *Old Italian*
[e per volontà de le Virtudi] [tutta questa roba] [tra' poveri] **dispense**
and by will of the virtues all this stuff among poor-PL distribute.3SG.PST
'And according to the will of the virtues, distributed all these goods among the poor.' (Poletto 2014: 16)

As noted by Wolfe, such data appear to be compatible with the proposed bottleneck in FinP, as long as both the frame-setting adverbial and the following topic are base-generated in the left periphery. A base-generation approach to frame-setting adverbs is plausible, given that they are adjunct-like in nature and independent of argument structure within the clause.

However, this analysis raises the important question of why such V4 orders are not available, or substantially more marginal, in other Old Romance languages or the stricter modern day Germanic languages. To address this issue of variation, Poletto (2002, 2013), Walkden (2015), and Wolfe (2015, *to appear*) propose that languages can vary in the height of the bottleneck restriction. Specifically, they propose that the locus of the bottleneck can be either in FinP or ForceP.

(29) *FinP bottleneck*
$[_{\text{FrameP}}\ (\text{XP}_{\text{Frame-setter}})\ [_{\text{ForceP}}\ \ldots\ [_{\text{TopP}}\ (\text{XP}_{\text{Top}})\ [_{\text{FocP}}\ \text{XP}_{\text{Foc}}\ [_{\text{FinP}}\ \sout{\text{XP}_{\text{Foc}}}\ \mathbf{V}^{\circ}\ [_{\text{InflP}}\ \ldots\ \sout{\text{V}^{\circ}}]]]]]$

(30) *ForceP bottleneck*
$[_{\text{FrameP}}\ (\text{XP}_{\text{Frame-setter}})\ [_{\text{ForceP}}\ \text{XP}_{\text{Top/Foc}}\ \mathbf{V}^{\circ}\ [\ldots\ \sout{\text{V}^{\circ}}]]]$

A language with a ForceP bottleneck shows stricter V2 restrictions, since fewer positions are available for base-generated constituents. This structure is argued to account for languages with relatively strict patterns, like Modern German and Modern Dutch. Languages with a bottleneck in FinP permit more relaxed V2 patterns, such as those of Old Romance, due to the availability of more positions where base-generation is possible.

While the proposal does allow for a means to account for cross-linguistic variation in the strictness of V2 requirements, the ForceP bottleneck structure presents a number of theoretical problems. For instance, how can we explain how phrases in Spec, ForceP can be interpreted as topics, foci, or *Wh*-elements? Within the Cartographic Approach, we expect such items to be attracted only by the left-peripheral Topic° and Focus° heads. One possible analysis is to say that these items first move through TopicP or FocusP before landing in Spec, ForceP. This movement path is illustrated in (31), where a focused XP moves first to Spec, FocusP, then to Spec, ForceP. However, this type of two-step movement would violate Criterial Freezing (Rizzi 2006, 2010), the generalization that items moved to a position that licenses some discourse property cannot undergo further movement.

(31) $[_{\text{ForceP}}\ \text{XP}_{\text{Foc}}\ \mathbf{V}^{\circ}\ [_{\text{TopicP}}\ \ldots\ [_{\text{FocusP}}\ \sout{\text{XP}_{\text{Foc}}}\ [_{\text{Fin}}\ \sout{\text{V}^{\circ}}\ [_{\text{InflP}}\ \ldots\ \sout{\text{V}^{\circ}}\ \ldots\ \sout{\text{XP}_{\text{foc}}}]]]]]$

An alternative analysis that avoids this issue is to claim that in languages with a ForceP bottleneck, Force° inherits certain features of the lower heads, allowing topics and foci to

move directly to Spec, ForceP. However, this approach requires additional claims about feature inheritance within the left periphery.

In addition, there are empirical limitations to the types of variation that can be accounted for by varying the height of the bottleneck. For instance, a number languages allow V3 structures only with first-position frame-setting adverbials. This can be illustrated by comparing Standard Dutch to West Flemish with respect to the availability of frame-setting adverbials (Haegeman and Greco 2016). Standard Dutch prohibits frame-setting adverbials to precede V2 declarative clauses, whereas this option is available in West Flemish dialects.

(32) a. *Standard Dutch /√West Flemish
Voor da-j dat weet, dat kind is weg me je geld
Before that-you that know that child is away with your money
'Before you know, the child is off with your money.'

b. *Standard Dutch /√West Flemish
Als mijn tekst klaar is, ik zal je hem opsturen
When my text ready is I will you him send
'When my text is ready, I will send it to you.' (Haegeman and Greco 2016)

Similar patterns of V3 with a clause-initial frame-setter are additionally attested in Rhaetoromance (Fuss 2005), several dialects of medieval Venetian and Spanish (Wolfe 2015a, *to appear*), and historic stages of High German (Axel 2004, 2007).

To account for the dialectal difference as variation in the height of the bottleneck restriction, one could propose that the bottleneck is in a higher position in Standard Dutch than in West Flemish, high enough to prevent anything from being Merged in Spec, FrameP. Potentially, then, Standard Dutch has a bottleneck in FrameP or higher. However, this would again raise the question of why the interpretation of first-position items in Standard Dutch is not restricted to frame-setting functions.

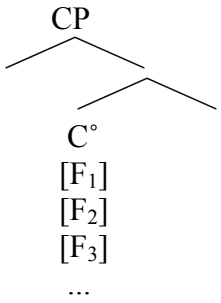
Lastly, it should be noted that this approach to the Bottleneck Effect predicts certain entailment relations in the possible movement types to the left periphery. For instance, if subjects move to a dedicated position in the preverbal field (as in Old English, Cimbrian, French Flemish), this indicates that the bottleneck is in a low position like Fin°. We predict, then, that all positions above TopicP should be able to be simultaneously filled, permitting for instance the V4 patterns discussed for Old Sicilian and Old Italian. In the absence of more detailed data to test this prediction, however, this issue will have to be left for further research.

So far, I have presented an overview of various relaxed V2 patterns, and shown that they pose numerous challenges for the Bottleneck Effect Hypothesis. In particular, the existence of highly relaxed V2 languages must be taken to indicate that numerous phrases can be base-generated in the left periphery for some languages. This, however, requires a revised analysis of more strict V2 systems. More significantly, the approach fails to account for patterns of dependence, in which the availability of a high left-peripheral projection depends on movements that have occurred in a lower projection.

3 A unique C head with stacked features

Some of the aforementioned difficulties of capturing loose second-position patterns within the Cartographic Program motivated the 'stacked head' theory separately proposed by Lahne (2009) and Manetta (2011). Significantly, this approach denies the cartographic assumption that separate left-peripheral features occur in separate heads. The main claim is that rather than a series of functional projections, there is only one C° head that contains an ordered 'stack' of features.

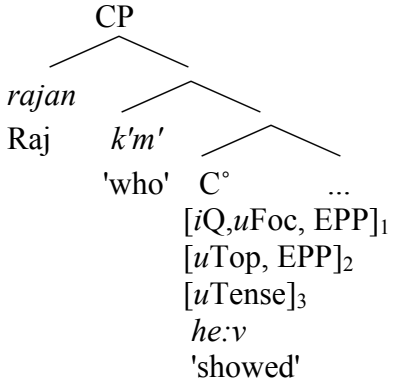
(33)



The features in the stack are crucially ordered such that features at the top of the stack must be checked before those lower down. The theory further assumes the availability of multiple specifiers (Chomsky 1995) for the unique CP projection. Consequently, the relative ordering of phrases moved to the left periphery reflects the order in which individual features of C° are checked. The approach is argued to account for the descriptive generalizations about word order in the left periphery, while obviating the question in cartography of which functional head determines the complementizer-domain phase in the sense of Chomsky (2000, et seq.) an issue that remains largely unresolved (but see Roberts 2012 for one approach to FinP as the phase).

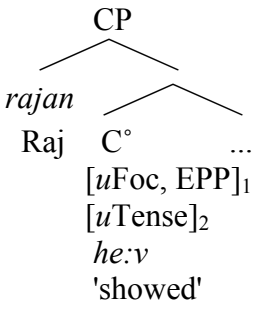
Consider the derivation of the V3 example in Kashmiri as given by Manetta (2011) with slightly adapted notation. What is crucial is that two sets of features contain an EPP feature. The first set [*i*Q,*u*Foc, EPP] triggers movement of the *wh*-word. The second set [*u*Top, EPP]$_2$ then triggers movement of the topic.

(34)



As this is the only deviation from V2 in Kashmiri, this is the only possible stacking of features that has more than one EPP feature. The standard V2 patterns are derived by selecting a head with only one EPP feature that is associated with [*u*Foc].

(35)



Although the question is not considered in detail by Lahne or Manetta, the stacked head approach creates a way to account for cross-linguistic variation. Because a C° head can in principle contain as many EPP features as uninterpretable features, the number and types of constituents that can front to the left periphery depend simply on the distribution of EPP features within the C° head. A strict second-position requirement is generated if C° always has exactly one EPP feature. As more feature stacks with more than one EPP features are admitted, second position requirements become increasingly relaxed, allowing for a straightforward way to account for the continuum of V>2 patterns.

However, the theory is not without substantial complications. If we assume a direct mapping from the above structures to word order, we predict all fronted left-peripheral phrases to precede a unique complementizer head. Complementizers are not expected to precede fronted items, and the occurrence of multiple complementizer heads in distinct portions of the periphery is unexpected (Roberts 2004 on Welsh; Aboh 2006 on Saramaccan; Demonte and Fernández-Soriano 2009 on Spanish). Examples of these patterns are given below.

(36) *Colloquial Spanish*

Dijo	[**que**	a	ese tío	**que**	no	podía	ni	ver-lo]
said	[that	to	that guy	that	NEG	could	even	see-CL

'S/he said that s/he could not stand that guy.'

(Demonte and Fernández-Soriano 2009: 44)

(37) *Saramaccan*

Mi	táki	[**táa**	dí	bakúba	**dɛ́**	Amato bói	en]
1.SG	say	that	DET	banana	TOP	Amato cook	3SG

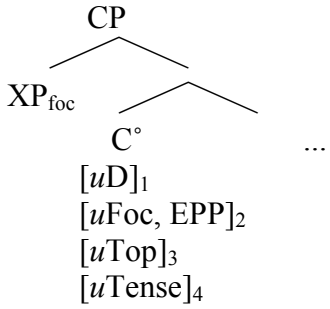
'I said that, as for that banana, Amato cooked it.' (Aboh 2006: 10)

To account for these cases, Lahne and Manetta propose that the appearance of such heads is the result of post-syntactic operations. Complementizer-initial word orders with left-peripheral topics or foci require a postsyntactic reordering of the C° head so that it precedes the fronted phrases. The apparent realization of multiple complementizer heads is proposed to result from a postsyntactic insertion of morpho-phonological markers.

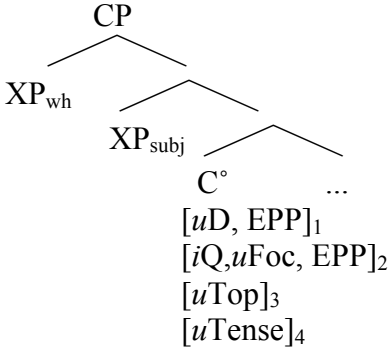
Putting aside this issue of theoretical incompatibility, a more serious empirical concern is that there is no way to straightforwardly account for attested patterns of *dependence* between different types of fronting. Recall that in Kashmiri and San Leonardo di Badia Rhaetoromance, topicalization or left-dislocation are available only if

they are followed by a moved *wh*-word. However, within stacked head theory in its current form, there are no inherent constraints on the possible distribution of EPP features within a single language. One can predict, for instance, the existence of a language that permits exactly two patterns. In declaratives, the first position is focused, and strict V2 is observed. In interrogatives however, the first-position *wh*-word must be followed by a subject.

(38)



(39)



Thus, while a stacked head approach provides an account of second-position patterns and deviations from them, it must appeal to mechanisms outside of the proper syntactic derivation in order to explain patterns that involve complementizer-initial orders and the simultaneous realization of more than one C-domain head. The approach comes with a substantial theoretical cost; by permitting reordering and morpheme-insertion within a postsyntactic module, the predictive power of a system of constrained syntactic operations is greatly weakened. Furthermore, the proposal appears to overgenerate possible exceptions to verb second.

To summarize the discussion so far, the existence of various relaxed V2 systems poses significant challenges to the Bottleneck Effect and Stacked Head theories. The bottleneck effect hypothesis is overly restrictive in the permitted types of relaxed V2 patterns, while the stacked head theory overgenerates possible exceptions and is difficult to reconcile with other patterns that are accounted for within the Cartographic Program.

4 V2 as variation in bundled heads

What is clear from the variety of relaxed V2 patterns is that analyses of V2 as the result of a restriction on movement, as proposed in all instantiations of the Bottleneck Effect Hypothesis, or a uniform restriction on the number of heads in the left periphery, as in Stacked Head Theory, are empirically inadequate. If this is the case, it indicates that

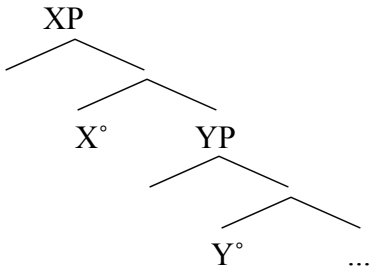
alternative parameters are necessary to account for variation in the strictness of V2 requirements.

The existence of a wide range of relaxed V2 patterns indicate that V2 does not arise from a uniform restriction on possible movement or the number of heads in the left periphery, but from the confluence of multiple parameter settings. In this section, I argue that the aforementioned variation in the strictness of V2 systems is the result of variation in the number of left-peripheral projections, as predicted by the Feature Scattering Hypothesis. Lastly, I consider several additional parameters that can result in relaxed V2 patterns, including the number of permitted specifiers, and the height of verb movement.

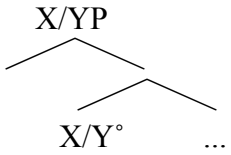
4.1 The Feature Scattering Hypothesis

The Feature Scattering Hypothesis (Giorgi and Pianesi 1996; Bianchi 1999) proposes that languages can permit certain category features to head their own projections or allow them to be bundled on single heads. In the following schematic example, the features X and Y can either head their own phrases (40) or be grouped together in a single X/YP (41). In the remainder of the work, I will refer to features that share a head as being *bundled*.

(40)



(41)



Proposed by Giorgi & Pianesi to account for variation in the realization of Tense, Aspect, and Mood, this general approach is adopted in Poletto's (2000) account of cross-linguistic variation in the realization of subject positions in the IP domain, and given some application to the realization of complementizers by Bianchi (1999). While not couched in the same terms, the approach to variation that allows some functional heads to be bundled has also been proposed for Infl/Agr heads (Iatridou 1990; Ouhalla 1991; Speas 1991; Bobaljik 1995; Thráinsson 1996; Bobaljik and Thráinsson 1998) and for Voice and Causative heads (Pylkkänen 2002). Although it predates the stacked head theory and much of Cartography, it amounts in some respects to a compromise between the two programs.

Although the Feature Scattering Hypothesis loosens the requirement for each feature to be realized on a distinct head, assumed in many Cartographic works (Cinque and Rizzi 2010), it is intended to be compatible with the claim that functional features are strictly ordered across languages. Possible variation in how multiple features can be realized on

individual heads is substantially constrained by a universal ordering constraint (Giorgi & Pianesi 1996) on the checking of features, which presumably mirrors the feature-checking orders proposed in the Cartographic Program.

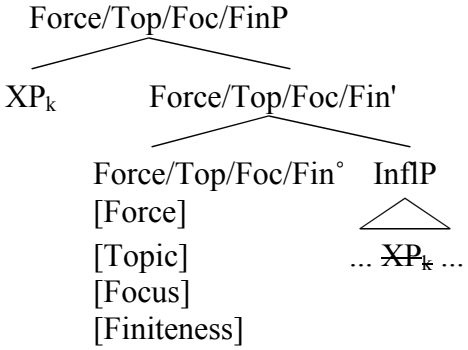
(42) UNIVERSAL ORDERING CONSTRAINT: The features are ordered so that given $F_1 > F_2$, the checking of F_1 does not follow the checking of F_2. (Giorgi and Pianesi 1996)

One consequence of the constraint in (42) is that category features bundled onto single heads must be those that would otherwise be structurally adjacent if realized as distinct heads (similar arguments are given by Caha (2013) for syncretism in case paradigms).

4.2 Bundled heads and relaxed V2

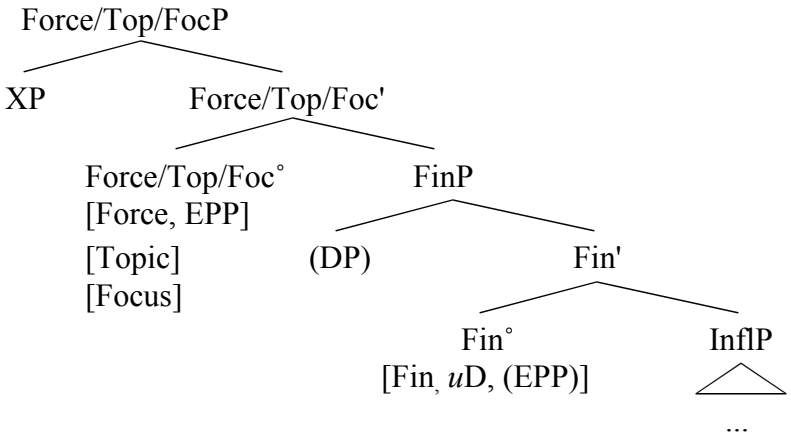
We now consider the application of the Feature Scattering Hypothesis to V2 and relaxed V2 patterns. I propose that the number of apparently realized projections in the left periphery varies in accordance with the number of bundled features. The strictest second position requirement emerges if all left-peripheral category features are bundled into a single head that also attracts verb movement. If this head contains exactly one feature that triggers movement to its specifier (e.g. an EPP feature), regardless of how many category features it contains, this ensures that only one phrase precedes the second-position head. This is the structure that corresponds to languages that have been analyzed as having only a single left-peripheral projection, notationally represented as CP.

(43)



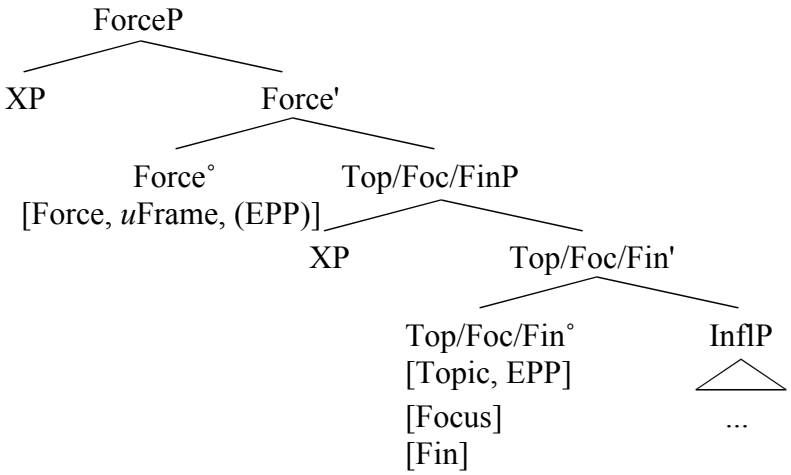
Second position restrictions become increasingly relaxed as the number of features in distinct projections increases. For example, the Old English-style V3 pattern is generated if subjects are attracted to the specifier of FinP (Aboh 2006), instantiated separately from the higher Force/Topic/FocusP that houses first position non-subjects. As long as the verb remains in Fin°, Subj°, or a bundled Fin/Subj° head, this allows the verb to be preceded by both a topicalized or focused phrase and the subject. The fact that preverbal subjects must be discourse-familiar or possible topic is explained if [Fin] requires agreement with a definite DP.

(44) *Old English V3*



Languages like West Flemish, which permit V3 only with clause-initial frame-setting adverbs, are generated when a high left-peripheral feature such as [*u*Frame] is realized in an independent projection, while the lower bundled head attracts either a topic, focus, or subject. Note however that it is not crucial to the present analysis whether the frame-setting adverbial is base-generated in or moved to the highest specifier position; All that is required is for a unique projection to be available to frame-setting items.

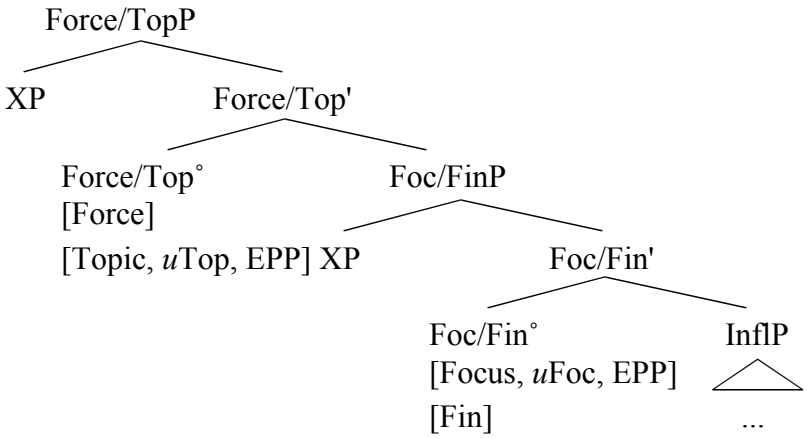
(45) *West Flemish*



It appears at first glance that a similar structure could account for strict V2 languages with Contrastive Left-Dislocation or Hanging Topic Left-Dislocation by splitting off a different left-peripheral feature. However, given the variety of evidence that these sentences are derived from an underlyingly bi-clausal structure (Ott 2014), I will remain agnostic on extending the present analysis to these structures.

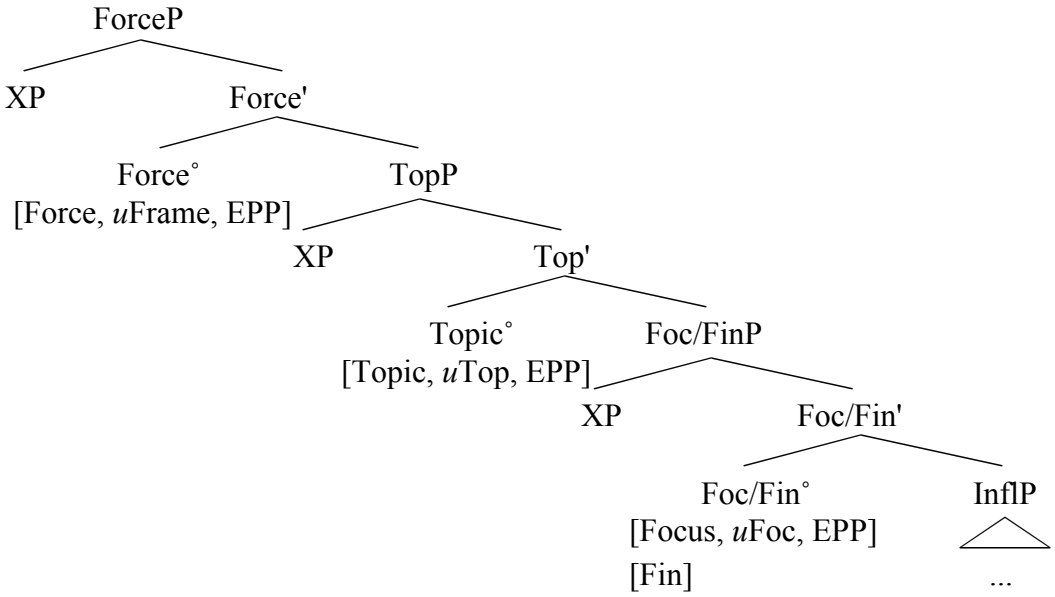
The case of Ingush, where the main verb can be simultaneously preceded by both a topic and focus, arises if [Topic] and [Focus] are realized on distinct projections, each potentially associated with an EPP feature.

(46) *Ingush V3*



Further splitting of the [Force] and [Topic] features into separate heads accounts for V4 patterns of the type discussed in Old Sicilian and Old Italian, [Frame-setter Topic Focus V], under the assumption that frame-setting adverbs occupy Spec, ForceP.[6]

(47) *Old Sicilian, Old Italian V4*



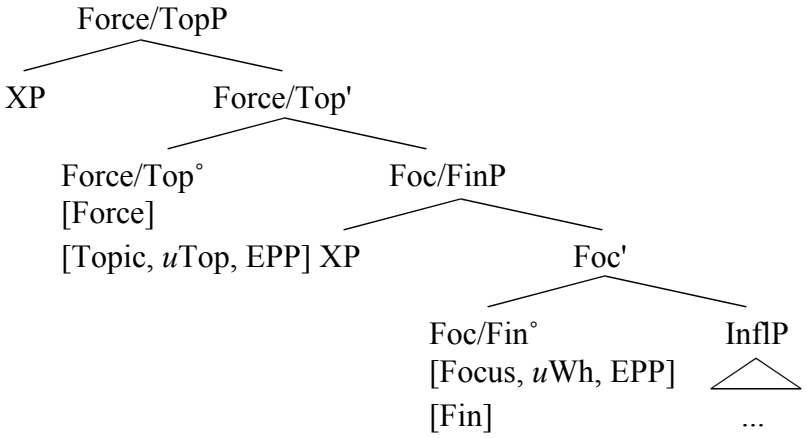
Although a number of previous analyses have proposed that the CP can be either "split," containing multiple functional projections, or "un-split," consisting of a single C° head, (Rizzi 1997; Poletto and Tomaselli 1999; Shlonsky and Rizzi 2007; Biberauer and Roberts 2015; Douglas 2015), the present system predicts that a language can instantiate any number of left-peripheral heads between one and the maximum number of left-peripheral features, whatever it turns out to be. Furthermore, the system does not predict

[6] There are many proposals that hanging topics and scene-setting adverbials in fact occupy projections that are above and distinct from ForceP, sometimes known as the FrameP field (Poletto 2002; Benincà and Poletto 2004; Giorgi 2010; Wolfe 2015, a.o.). For presentational simplicity, I will make the simplifying assumption that these elements are in ForceP, a shorthand for a bundled Force/FrameP.

many of the entailment relations among available positions required by the Bottleneck Effect Hypothesis, discussed in section 2. Specifically, the availability of a low left-peripheral projection does not imply that all higher left-peripheral features can trigger movement or base-generation.

Lastly, we return to the cases of Kashmiri, Yiddish, and Badiotto Rhaetoromance, where the degree of bundling depends on clause type. Under the assumption that *wh*-phrases are attracted by properties of the [Focus] category feature, interrogative clauses that allow [Topic Wh V] orders reflect the two-projection structure in (48), whereas declarative clauses have only a single bundled head.

(48) *Kashmiri, Yiddish, Badiotto V3*



In this case, it appears that bundling is sensitive to additional features or associated with [Focus]; A [Focus] feature associated with a [*u*Wh] probe does not need to be bundled with other features, whereas a non-interrogative [Focus] feature must be bundled with other features. More generally, I propose that if a categorial feature can be associated with different uninterpretable features, individual feature values can determine whether or not their associated categorial feature is bundled.

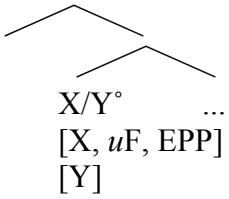
In this particular case [Focus] only varies in whether or not it is bundled with the hierarchically higher category feature [Topic], as topic movement is suppressed when [Focus] lacks a [*u*Wh] probe, suggesting that both features are contained within the same head. In the absence of known evidence to the contrary, we can make a strong claim that category features are only specified as to whether or not they are bundled with the category feature that is immediately higher in the hierarchy of projections. This restriction rules out dependencies across 'non-adjacent' features (e.g. properties of [Fin] can not affect the realization of [Topic]), and dependencies in the opposite direction of the hierarchy (e.g. properties of [Focus] can not affect whether or not it is bundled with [Fin]).

Lastly, it should be noted that in the absence of additional restrictions on how particular feature values can affect bundling, we predict the existence of languages with opposite patterns of feature sensitivity. For instance, one expects to find languages in which a [Focus] feature that is [*u*Wh] is obligatorily bundled, while its non-interrogative version is not. If some patterns of feature sensitivity turn out to be unattested, it may suggest that the possibilities of Feature Scattering are constrained by additional syntactic or semantic factors.

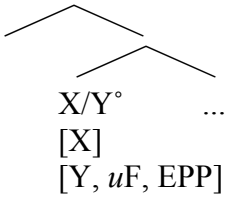
4.3 Variation in active features within bundled heads

A crucial consequence of adopting the Feature Scattering Hypothesis is the prediction that certain features, even if universally present, can appear to be inactive in a given language under certain circumstances. Consider the behavior of features that are bundled with other features on some head, and not associated with an EPP feature, and do not show overt agreement. The two examples below show bundled heads that contain category features X and Y. Each head contains one pair of features that triggers movement, [*u*F, EPP]. However, the EPP property is associated with X in (49) and Y in (50). In terms of surface word order, this will give the appearance of the first language having only head X while the second has only Y.

(49)



(50)



As also first noted by Giorgi and Pianesi, this possibility can also explain variation in the semantic interpretation of items that occupy an identical specifier position. Here, we consider the discourse restrictions on first-position phrases in Swedish, Kashmiri, and German V2. Recall that in Kashmiri V2, objects fronted to first position are obligatorily focused, and can not be topicalized. In contrast, Swedish V2 requires sentence-initial objects to be aboutness topics or contrastive topics (Holmberg 2015). Possible topics like definite object DPs can precede the second-position verb, but ineligible topics like bare quantified DPs can not; The restriction against non-topics in first position does not apply to subjects. Both the Swedish and Kashmiri patterns can be contrasted with German, which permits either focused or topicalized readings for first-position objects (5).

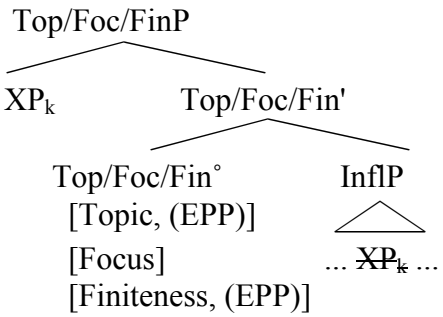
(51) a. Den filmen får du bara inte missa
That film must you just not miss
'You simply mustn't miss that film.'

b. *? Allt åt Johan
Everything ate Johan (Holmberg 2015)

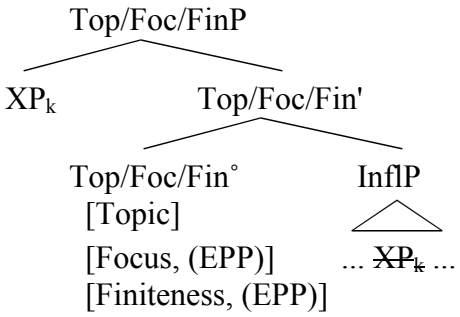
c. Allt är stängt
Everything is closed
'Everything is closed'

Given that there is only one available position preceding the verb in German, Swedish, and Kashmiri, we maintain that declarative clauses contain only a single head with multiple bundled features. The relevant difference between the three languages is in which category feature(s) the EPP is associated with. Assuming still that informationally neutral subjects are attracted by a property of [Fin], whereas foci and topics are attracted by [Foc] and [Top] respectively, the three patterns can be analyzed as follows: Swedish permits a single EPP feature to be associated with either [Fin] or [Top], Kashmiri permits the EPP feature to be associated with either [Fin] or [Foc], while German allows the EPP to be associated with [Fin], [Top], or [Foc].

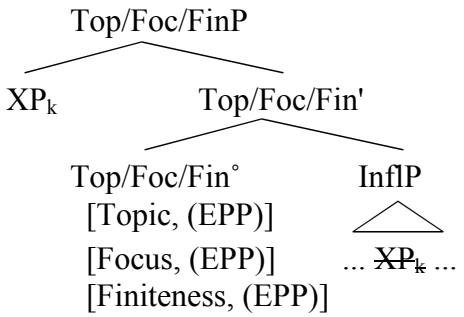
(52) *Swedish*: [Fin] or [Top] has an EPP feature



(53) *Kashmiri:* [Fin] or [Foc] has an EPP feature



(54) *German:* [Fin], [Top] or [Foc] has an EPP feature



Much work remains to be done in understanding the factors that determine variation in the possible association of the EPP feature with discourse features within bundled heads. What is crucial is that the Feature Scattering approach allows for a straightforward way to account for why multiple discourse features can in some languages be associated with an apparently unique syntactic position. Because multiple features can be bundled into a single head, the analysis requires no additional stipulations about feature inheritance between left-peripheral heads, as required by the ForceP bottleneck analysis.

In summary, adopting the Feature Scattering Hypothesis in the analysis of V2 allows us to maintain the key insights of the Cartographic approach with respect to the possible orderings of heads and the checking of features, while accounting for cross-linguistic variation in the number of realized positions. Furthermore, it allows for an appropriate amount of flexibility in the number of positions available for movement, relative to the overly restrictive Bottleneck Effect Hypothesis.

5 Conclusion: The ingredients of V2

The existence of a variety of relaxed V2 systems suggests that V2 requirements are not the result of a uniform macroparameter, but rather the confluence of multiple parameter settings with respect to movement and bundling. In this paper, I have argued that the idealized, "strict" V2 system arises under conditions where [1] all left-peripheral category features are bundled on one head, [2] the bundled head attracts exactly one specifier, and [3] verb movement is triggered by some left-peripheral feature. So far, we have discussed deviations from V2 that appear to reflect the presence of more unbundled heads. Here, I briefly discuss other deviations from V2 that result from parameters [2] and [3]: variation in the number of specifiers permitted in left-peripheral projections and variation in the target of verb movement.

Pesetsky (2000) argues against theories of uniform restrictions on the internal structure of XPs in syntax, and proposes that individual heads can vary in the number of specifiers that they permit or require. Heads are individually specified in whether they attract exactly one phrase, multiple phrases, or none at all.

Under this view, even if all category features in the left periphery are bundled into a single head, V3 or V4 orders can occur if this projection permits multiple specifiers. This appears to be the case in San Leonardo di Badia Rhaetoromance (a.k.a. Northern Ladin), a relaxed V2 language that permits multiple topics to front in declarative main clauses, creating a certain type of V3 (Casalicchio and Cognola 2015). Subjects and indirect

objects can both precede the verb and are not apparently restricted in their ordering, which suggests that the subject here does not occupy a dedicated position as it does in Old English, Cimbrian, and French Flemish.[7]

(55) a. Luca ala mama ti-**à**-l cumprè n liber
Luca to.the mother 3DAT-has-3NOM bought a book

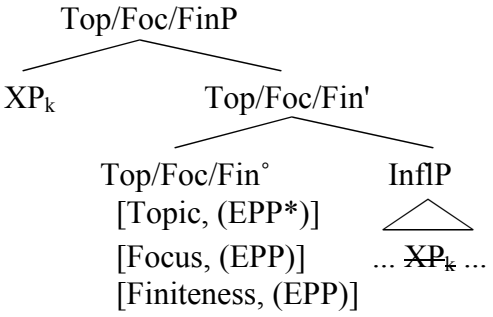
b. ala mama Luca ti-**à**-l cumprè n liber
to.the mother Luca 3DAT-has-3NOM bought a book
"Luca bought a book for his mother" (Casalicchio & Cognola 2015)

It appears then that the language allows its [*u*Topic] feature to be associated with multiple EPP features [uTopic, EPP*]. Crucially, it is not the case that the bundled C-head allows multiple specifiers generally. For instance, it is not possible for both a topic and focus to be fronted before the verb.

(56) *La mama LA ORDÖRA l' a la cumprè
The mother the fruit 3.ACC-has-3.NOM bought
(Casalicchio & Cognola 2015)

Although the idea requires further investigation, the pattern suggests that a given projection can allow multiple specifiers only if they are associated with an identical uninterpretable feature.

(57) *S. Leonardo di Badia Rhaetoromance*: Only [Top] permits multiple EPP features



Adherence or deviation from strict linear V2 also depend on which left peripheral head is the target of verb movement. Old English again provides a well known case. We have seen evidence for a mostly bundled left periphery which instantiates two distinct projections. While [XP Subject V] V3 orders are common in typical declarative clauses, clauses that begin with *wh*-phrases, negative adverbials, and the adverbs *þa*/*þonne* 'then' are robustly V2. It has widely been proposed that this is because verbs move to a higher functional projection when these triggering items are present (Pintzuk 1993, Roberts

[7] Crucially, while indirect objects and direct objects can be simultaneously fronted, topicalized subjects and direct objects can not co-occur in the preverbal position. Casalicchio and Cognola argue that this is due to a ban on the co-occurrence of certain types of case features within a single projection, potentially a type of Distinctness restriction with respect to case (Richards 2010).

1995, Kroch and Taylor 1997, Cardinaletti and Roberts 2002). Particularly strong evidence for this is seen in the distribution of subject and object pronouns, which typically precede the verb (60a), but appear postverbally in clauses with a triggering item (60b).

(58) a. Eac ic **wille** geswigian Tontolis and Philopes
also I will silence Tontolis and Philopes
'I will also silence Tontolis and Philopes.'

b. On þære cyricean he **forlet** his pallium ...
On thither church he lost his pallium
'On thither church he lost his pallium.' (Trips 2004: 233)

(59) a. Hu **wurð** he elles gelæred?
How was he otherwise taught
'How was he taught otherwise?'

b. ne **bið** he lengra þonne syfan elna lang
NEG is he lenger than seven ells long
'He is not taller than seven ells.'

c. þa **for** he wið his mid siex hund monna, ...
then went he against his with six hundred men
'Then he went against him with six hundred men ...' (Trips 2004: 234-235)

This pattern is explained if pronouns occur in a fixed position in the low left periphery, in between the two possible landing sites of the verb.[8] In terms of the structure that we have proposed in (44), I propose that in standard declaratives the verb moves to Fin°, while the presence of a *wh*-phrase, negative adverb, or *þa*/*þonne* in the specifier of the higher Force/Foc/TopP triggers verb movement to the Force/Foc/Top° head.

There is evidence that some cases of V1 are the result of verb-movement to a high left-peripheral position with no specifier. This possibility seems to be most clearly exemplified by Early Old French, a minimal pair of Old English in certain respects. While generally V2 (Foulet 1928; Dupuis 1989; Roberts 1993; Vance 1997; Labelle 2007) permitted both V2 and V1 orders in declarative main clauses (Labelle and Hirschbühler 2012).[9]

(60) **Cunuit** Brendans a l'air pluius que li tens ert mult annüus
knew Brendan from the air rainy that theweather was very worrisome
'Brendan knew from the wet wind that the weather was worrisome.'

[8] For similar arguments that clitic-like items in the left periphery occupy a fixed position in a low complementizer head see Haegeman and Craenenbroeck (2007) on Belgian Flemish dialects.
[9] The possibility of V1 orders appears to have been lost entirely in later Old French, as seen in the corpus data of Wolfe (*to appear*).

(Labelle and Hirschbühler 2012)

Labelle (2007) argues that V1 orders are derived by verb-movement to a higher landing position than in V2 clauses. This analysis is supported by the placement of object clitics (Labelle 2007). In V2 clauses, object clitics appear in an immediately preverbal position. In V1 clauses, however, object clitics appear immediately following the verb.

(61) Et sa seror *li* **fist** il esposer
And his sister him made he marry
'and he had him marry his sister' (Labelle 2007: 300)

(62) **Vait** *s'en* Brandan vers le grant mer
Go refl-loc Brendan towards the big sea
'Brendan goes away twoards the sea' (Labelle 2007: 300)

Initially, the pattern resembles a classic Tobler-Mussafia effect (Tobler 1875; Mussafia 1886) in which object clitics are postposed (i.e. through lower copy spell-out or Prosodic Inversion) in order to avoid appearing in a clause-initial position. However, Labelle (2007) presents evidence that Early Old French had no restriction against Intonational Phrase-initial object clitics. In particular, object clitics can appear immediately after parentheticals, which are expected to produce Intonational Phrase breaks (63). Furthermore, they are permitted to occur following sentence-initial particles that are themselves phonologically reduced (64). Given that both the initial particle and object clitic appear to be phonologically clitic-like, we would not expect such examples to be acceptabile if early Old French simply banned clitics in Intonational Phrase-initial position.

(63) a. Jo, qui voldreie parler a tei, *le* **receverái**
I, who would.like to.talk to you him will.receive
'I, who would like to talk to you, will receive him.'

b. Tout ainsi, fet il, *le* **ferons**
Just so, says he, it will.do
'We will do it just so, says he' (Labelle 2007: 301)

(64) a. *N'i* **ad** castel, ki devant lui remaigne
NEG-there have castle that before him stay
'No castle could resist him.'

b. *S'en* **volt** ostages, e vos l'en enveiez
if-GEN want hostages, and you him gen send..
'If he wants hostages, and if you send some to him ...' (Labelle 2007: 301)

Labelle thus argues that object clitics occur in a fixed position above the landing site of the verb in V2 clauses; In V1 clauses, the verb moves to a higher complementizer head above the position of object clitics.

(65) V1: $[_{FP}$ **V** [... Cl_{obj} $[_{FinP}$ ~~V~~ $[_{InflP}$ ... ~~V~~]]]]
(66) V2: $[_{FP}$ (XP) [... Cl_{obj} $[_{FinP}$ **V** $[_{InflP}$ ... ~~V~~]]]]

Early Old French thus resembles Old English in that it allowed two principle landing sites for inflected verbs within the left periphery. The primary differences here are that the higher functional projection in Early Old French had a less specified trigger for verb movement (perhaps unassociated with any clear discourse effect), and did not permit movement to its specifier.

In conclusion, this paper has discussed several types of relaxed V2 patterns, and the challenges that they pose for the Bottleneck Effect and Stacked Head approaches to V2. I have proposed that variation in the distribution of functional features among left-peripheral heads is essential to accounting for a variety of relaxed V2 patterns. More generally, these patterns of cross-linguistic variation in the left periphery provide empirical evidence in support of the Feature Scattering Hypothesis as a means to account for a reconciliation of cross-linguistic variation in the instantiation of functional projections with the Cartographic Program.

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