The syntactic nature of focus

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Contents

1   Introduction

The nature of focus is very elusive. On the one hand, its manifestations are extremely varied across languages (some of them are very robust, some of them very subtle). On the other hand, its analyses can also be extremely different: depending on the language under study and the theoretical prism taken for the analysis, focus can be a fundamental notion, central to the architecture of the clause, or a mere discursive notion which does not affect the grammar in any significant way. Thus, the attempts looking for its proper place in the architecture of language vary widely, and there exists a range of innovative architecture proposals for focus that we do not see with other notions like, say, plurality, conditionals, or even discourse-oriented features such as evidentiality.

As the title of this article advances, the paper makes a plea for the syntactic nature of focus. This is, I will argue, the only coherent conception in terms of descriptive and explanatory adequacy.

The paper is structured as follows: Section 2 presents the major assumptions and architectural consequences of the cartographic approach to focus. This is probably the most widely accepted conception and the most 'orthodox' one, as it assumes (and I will argue, is fully compatible with) the inverted-Y model architecture of language that characterizes generative grammar. Then Section 3 briefly outlines the major tenets of two recent alternative proposals that seek to do away with focus features and/or movement-triggering features and propose accounts based on interactions between the syntactic component and the interfaces. Next, Section 4 provides a broad overview of the cross-linguistic manifestations of focus in phonetico-phonological terms as well as in morpho-syntactic terms. My main argument is that any theory that seeks to capture the nature of focus has to be able to frame all such patterns, as the architecture of grammar is (by assumption) not subject to parametrization; any statement about the architecture of grammar is a statement about UG. Then Section 5 critically contrasts the descriptive and predictive power of the syntactocentric cartographic proposal with the proposed alternatives, arguing that the former is the only coherent one. Last, Section 6 closes the article with the conclusions.

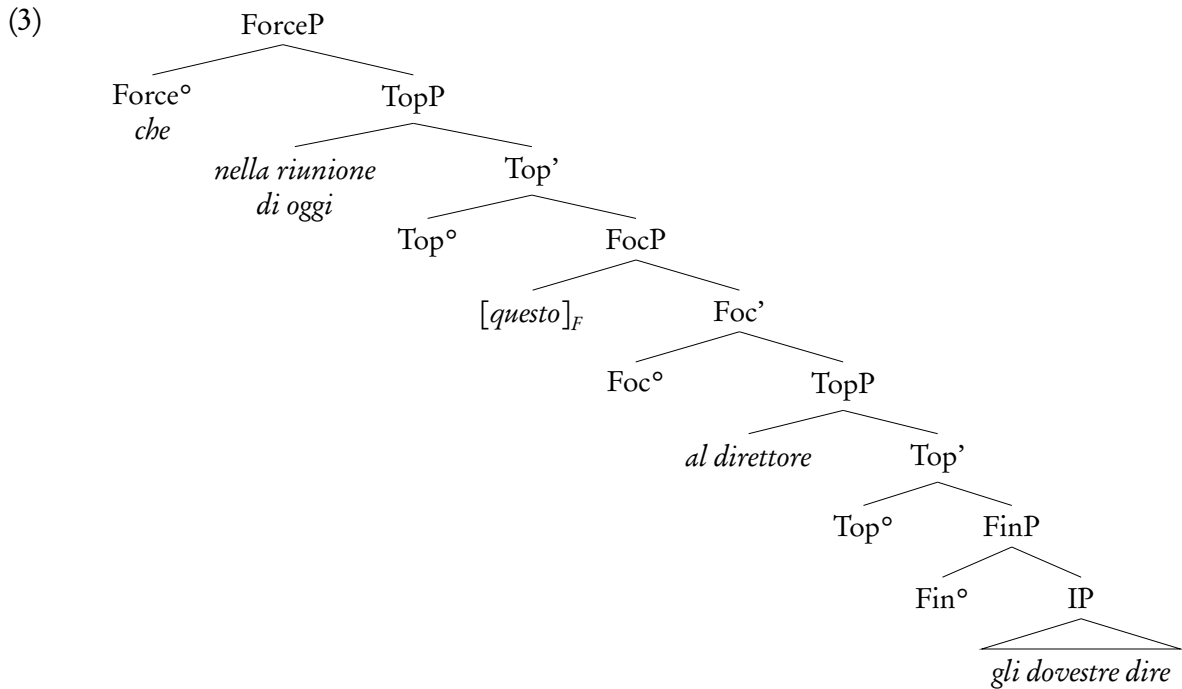## 2   The cartographic approach and the architecture of grammar

The classical approach stemming from the Principles and Parameters model conceives focus as a syntactic feature that has to be checked derivationally in the specifier of a dedicated left-peripheric position. This checking has been taken to be done in a Spec-Head configuration with the verb in languages such as Hungarian or Basque, which accounts for the movement of the verb to the postfocal position in these languages (see *e.g.* Horvath (1981, 1986), or Ortiz de Urbina (1989) among others). The cartographic approach is an extension and refinement of this conception. It analyzes the 'fine structure' of the complementizer system studying its sub-atomic composition and providing detailed 'maps' of the different positions available in the left periphery of the clause (Force, Topics, Foci,...) and their relative order across languages (see, among many others Rizzi, 1997, 2001). As an example, the finely structured complementizer structure of Italian, where the focus position is located below Force and above Finiteness (and sandwiched between two optional topics) is given in (1), adapted from Rizzi (2001):[1]

(1)   Force > (Top*) > Int > (Top*) > Foc > Mod* > (Top*) > Fin > IP

Therefore, the Italian sentence in (2) with focus on *questo* 'this', receives the structural analysis in (3), adapted from Rizzi (2013):

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[1]See also Rizzi and Bocci (2017) for a more recent ellaboration.

(2) Credo   che, nella   riunione di oggi, [questo]$_F$, al   direttore, gli   dovreste
believe.I that in.the meeting of today this   to.the director   CL.DAT should
dire, non qualcos'altro.   [Italian]
say   not something.else
I believe that in todays meeting, to the director, you should say [this]$_F$, not something
else.

(3)

As an eminently syntactic framework, the cartographic approach takes as a point of departure the 'classical' (inverted-Y) model of the architecture of grammar whereby the syntactic component generates phrase structures (*via* external and internal Merge), and then these structures are shifted to the interface components for interpretation (Chomsky, 1995):
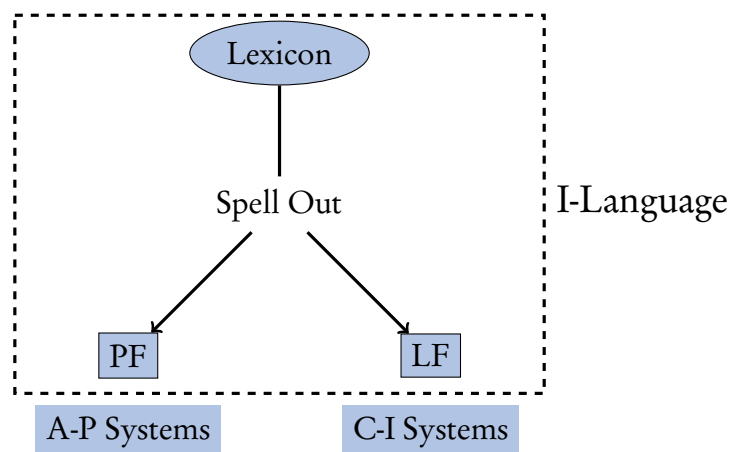
Figure 1: The inverted-Y model of the architecture of grammar.

In a nutshell, the main points of the cartographic approach regarding focalization are the following:

(4)   a.   It assumes a F(ocus)-Structure (*i.e.*, it does not seek to explain why element X is the focus in a clause).

b.   It provides an empirically adequate syntactic analysis of movements, their restrictions, and landing positions.

c.   It does not provide an analysis of the syntax-phonology interface.

d.   It does not provide an analysis of the syntax-semantics interface.

The last two points require an elaboration: even if the cartographic approach in and of itself does not provide any specific analysis of the interfaces, it is fully compatible with any viable analysis that maps syntax to phonology and to semantics (that is, any analysis that assumes an inverted-Y model of the architecture of grammar (Fig. 1)). It is thus compatible with different approaches to the semantics of focus, such as alternative semantics (Rooth, 1985), structured meanings (Krifka, 2001), or quantificational event semantics (Herburger, 2000); if there is a syntactic element marked as focus, then it can be subject to whichever operations take place in the way to LF. Likewise, it is compatible with any approach to the prosody of focus; since the focus structure is represented in the syntax, then it can be subject to whichever processes take place in PF for phonological phrasing or nuclear stress placement (see *e.g.* Irurtzun, 2013)).

The first point in (4) is also worth commenting: even if generally cartographic approaches take for granted a F-structure (unlike *e.g.*, the prosody-based approaches such as Zubizarreta's (1998), Schwarzschild's (1999) or Reinhart's (2006), which seek to infer what the focus of a clause is or can be, from the position of the nuclear stress), they are certainly compatible with a derivational analysis of the focus structure, provided that it is essentially syntactic (see Irurtzun (2006, 2008) for my own proposal in *Bare Phrase Structure* terms).

Next section provides a brief overview of the major architectural tenets of two recent proposals that seek to account for focus constructions in extra-syntactic terms.

3   Alternative conceptions: interaction between syntax and the interface components

Some conceptions of focus and focalization strategies are skeptical of a syntactic nature of focus. Probably the most famous ones are those based on prosody, which aim at accounting for the displacements observed in focalizations in terms of the *Nuclear Stress Rule*. The idea in these approaches is that focus is intimately tied to nuclear stress and that displacements take place in order to leave the element to be interpreted as focus in the position where it will get nuclear stress (see *i.a.* Zubizarreta, 1998; Reinhart, 2006). Such approaches face a wide variety of problems that I have discussed elsewhere (see *e.g.* Irurtzun, 2006, 2008, 2009).

In recent years, alternative proposals have been made that seek to disentangle focus both from syntax and from phonology. For instance, the goal of Struckmeier's (2017) relational approach is to overcome the inadecuacies of previous approaches to German scrambling with the proposal of "an interface architecture that licenses word orders on the basis of their syntactic, semantic and prosodic (but not information structural) properties." (Struckmeier, 2017, 1). The approach aims to do away with cartographic target positions, arguing instead for a 'subtractive' grammatical architecture: movement is taken to be free, and hence, all the attested

structures can be generated without postulating *ad hoc* movement features (strong features, edge features, [EPP] features or so), nor dedicated landing positions for movement. Focus marking is taken to be a purely discourse matter, and then, syntax-external systems restrict word order options based on whether they conform to a given prosodic contour, or to an intended semantic interpretation.

More recently Titov (2020) has made an alternative proposal, in an analysis of the optionality of contrastive focus movement in Russian. Her point of departure is that a syntactic feature cannot be optional, and hence the optionality of contrastive focus movement has to be explained away at the interface components *via* mappings of syntactic representations onto predefined information-structure templates. Movement is taken to be essentially free, but movement constructions only converge if they gain an interpretive feature with respect to a movementless construction. These interpretive effects are conceived as Jackendoff's (1997) 'interface rules', which, in Titov's (2020) account, have a language-particular nature.

Both studies have the merit of insightfully identifying several shortcomings of previous approaches and both propose ingenuous novel analyses for the specific constructions they study with models where extra-syntactic representations directly interact with syntax. An in-depth analysis of them would take too long for my purposes here, as many of the details are tangential for the main idea in this paper. However, I believe that the architectural implications they bring about are paradoxical, as I discuss below.

Next section provides an overview of the grammatical manifestations of focus across different languages and modules. With this, I will argue for the syntactic nature of focus, that is, the necessity of having focus represented from the outset of a derivation in the syntactic component, and which will be later on interpreted as such at the interfaces.

4   The many faces of focus

There is substantive variation in the expression of focus across languages and constructions. What is more, often times it is not encoded by just one mean (say, word order, or nuclear stress assignment) but by the convergence of different means (say, word order + nuclear stress assignment). This section offers a brief comparative analysis of the grammatical means attested cross-linguistically to mark focus. With this, I want to offer a panoramic view of the empirical ground that any theory of focus and its place in the architecture of language should aim to cover, with the assumption that the architecture of language is not subject to parametrization. First, in Section 4.1 I review the phonetico-phonological correlates of focus; then in Section 4.2 I review the morpho-syntactic evidence.

4.1   Phonological effects of focus

4.1.1   Effects of accentuation

In some languages, focus does not seem to generate any phonological effect. This is the case for instance of Wolof (Rialland and Robert, 2001), Tumbuka (Downing, 2012), Northern Sotho (Zerbian, 2006); Hausa (Hartmann and Zimmermann, 2007), Ambonese Malay (Maskikit-Essed and Gussenhoven, 2016), or Yucatec Mayan (Kügler and Skopeteas, 2007; Gussenhoven and Teeuw, 2008), among others. These patterns fit nicely with a view where focus is just a

mere discursive notion not encoded in the grammar. If focus is not represented as a grammatical category, then we should not expect any externalization effect. However, this is not representative of what can be observed cross-linguistically.

It is widely known that focus in English tends to be associated to 'strong' accents (nuclear stress). Such prominence is generally expressed by greater intensity values (*Db.*), longer duration (*ms.*), and higher mean and maximum F0 (*Hertz*).[2] This can be seen in Figures 2 and 3 (taken from Breen et al. (2010)), where the object *vs.* the subject are (non-contrastively) focused:
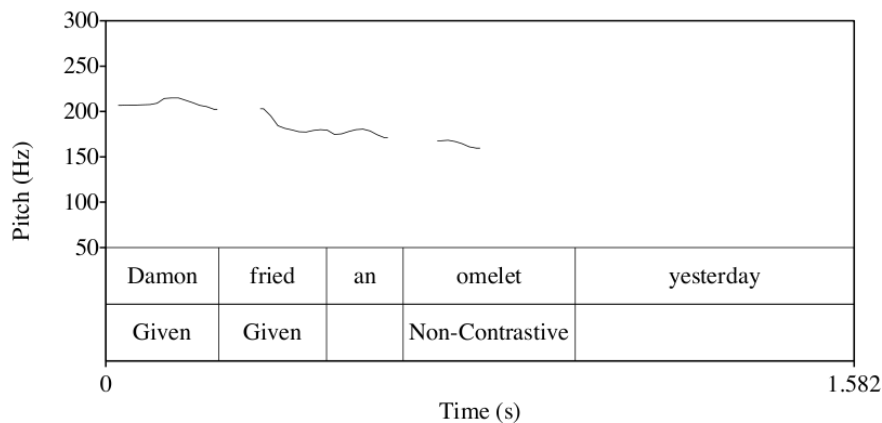

Figure 2: Pitch-track of an object focus sentence in English (from Breen et al. (2010)).
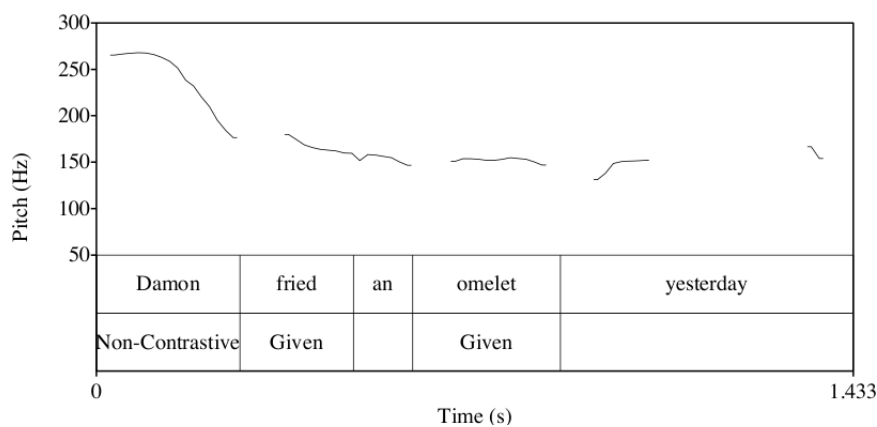
Figure 3: Pitch-track of a subject focus sentence in English (from Breen et al. (2010)).

The subject *Damon* is longer and has higher F0 values under the focus condition (Fig. 3) than under the non-focus condition (Fig. 2). The same happens to the object *omelet* in Fig. 2 *vs.* Fig 3. What is more, the higher F0 values of the focal element contrast with the lower F0 values of the elements following it in what is known as the effect of 'postfocal pitch compression'. As a result of this compression, the acoustic properties of the focus are enhanced with respect to those of the background, which amounts to a highly effective perceptual cue (*cf.* Botinis et al., 1999; Liu and Xu, 2005; Rump and Collier, 1996; Xu et al., 2004).

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[2]Besides, spectral tilt can also be employed as a correlate of nuclear accent in English (Campbell and Beckman, 1997).

A cross-linguistic observation of similar patterns lead some researchers to propose that the expression of focus is intimately related to Gussenhoven's (2004) 'effort code'. The underlying idea is that an increased articulatory effort generates higher acoustic values, which are associated to distinctive phonological features, which are then interpreted as contrastive/emphatic semantics. The etiology of focus under this vision could thus be represented as in Fig. 4:
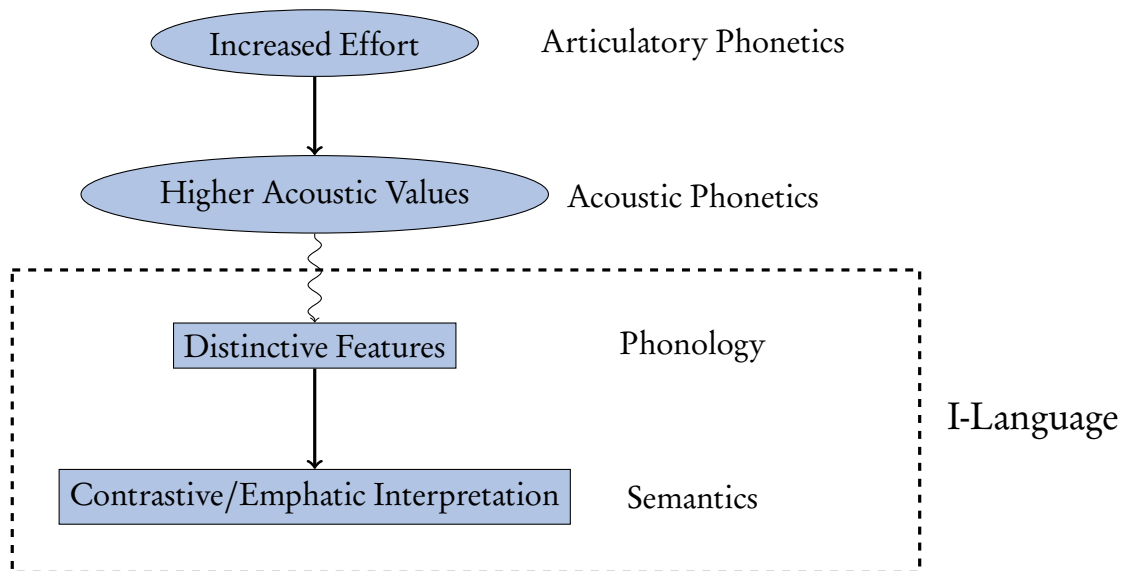

Figure 4: An embodied cognition conception of the association between stress and focus.

The 'natural' association between articulatory motor gestures and focus semantics would then be grammaticalized as some sort of *Bare Output Condition* (Chomsky, 1995) requiring focal elements to bear nuclear stress (*i.a.* Reinhart, 2006). Thus, rather than a substantive statement regarding higher *Hertz*, *ms.* and *dB.* values, this should be seen as an abstract statement regarding a categorial representation (that is, a phonological restriction). In fact, in languages employing other modalities for externalization such as sign languages there are no *Hertz* and no *dBs*. The abstract category of stress tends to correlate with higher movement velocity, longer duration, and longer movement path (Wilbur, 1994, 1999; van der Kooij et al., 2006; Crasborn and van der Kooij, 2013), and in these languages, focus marking seems to be accompanied by nonmanual gestures such as eyebrow movements, head tilts, mouth actions, eye contact, body leaning, etc. (Kimmelman and Pfau, 2016).

Nonetheless, the pattern observed in English is far from being universal. In other languages, a range of different patterns is observed in the externalization of focus. For instance, Mandarin has differential behaviors depending on the tonal specification associated to the element bearing focus (Lee et al., 2016). Mandarin has four basic tones; Tone 1, Tone 2, and Tone 4 are rising tones, but Tone 3 is a falling one. What Lee et al. (2016) observe in the expression of focus is that all the rising tones are associated to higher F0 values when produced with contrastive focus (CF), in comparison to when produced with broad focus (BF). However, with Tone 3, rather than higher F0 values it is lower F0 values that are associated to CF. This is shown in Fig. 5:
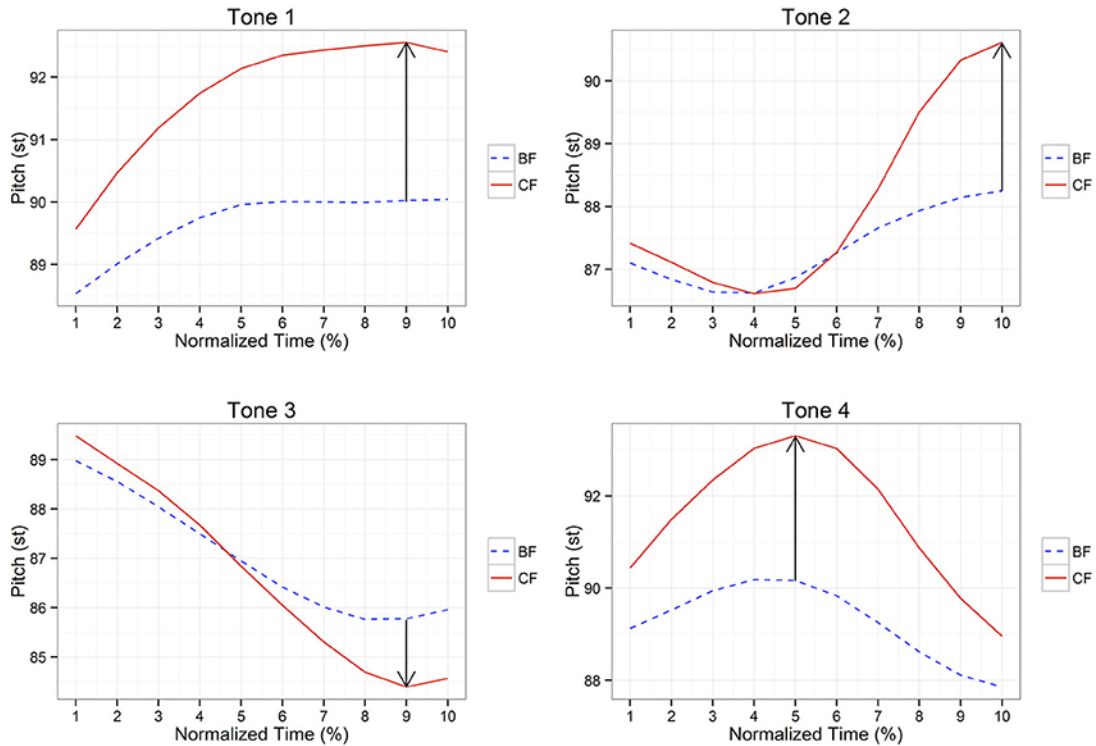
Figure 5: Broad Focus (BF) and Contrastive Focus (CF) in Mandarin tones (from Lee et al. (2016)).

A possible (functionalist) interpretation of these facts could be that the expression of focus is associated to hyperarticulation of the articulatory gestures associated to the underlying features of the element bearing focus (or the tonic syllable thereof) which in the case of a rising accent/tone would amount to hyperarticulation of the rise, whereas in the case of a falling tone it would amount to a 'hyperarticulation' of the fall. In other words, the articulation and acoustic features would be maximized in order to express emphasis.

However, and again, such a tendency is not universal. In Akan, for instance, regardless of whether the underlying tone is rising or falling, focus is associated to lower register (Kügler and Genzel, 2012). And the more emphatic the associated meaning, the lower the F0 values are. This is observed for L tones (Fig. 6), which would be a similar situation to the case of Tone 3 in Mandarin (Fig. 5), but crucially, it is also observed for H tones (Fig. 7), where rather than hyperarticulated, the H is hypoarticulated in focal environments:
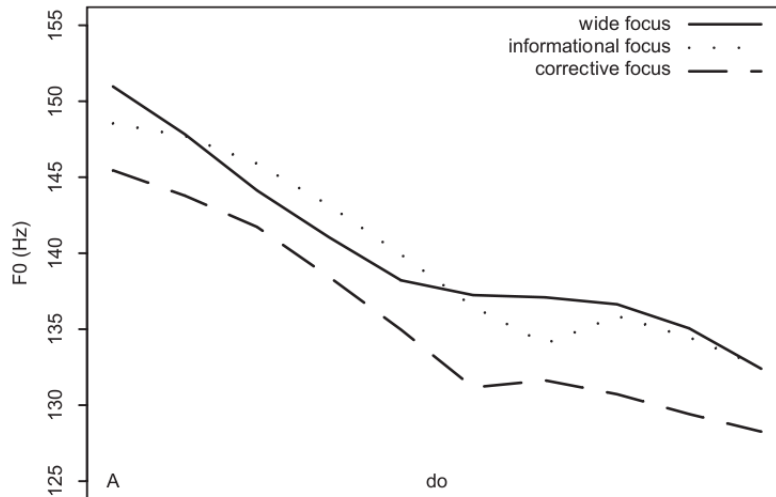
Figure 6: Wide, informational and corrective focus associated to an L tone in Akan (from Kügler and Genzel (2012)).
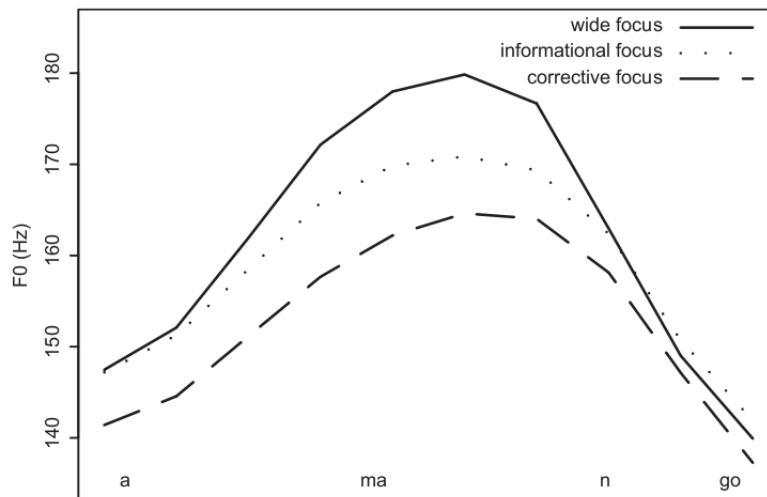
Figure 7: Wide, informational and corrective focus associated to a H tone in Akan (from Kügler and Genzel (2012)).

Besides, postfocal pitch compression isn't a universal either, as several languages like Taiwanese, Wolof, Buli, Wa, Deang or Yi have been shown not to display any such effect (*cf.* Pan, 2007; Zerbian et al., 2010; Wang et al., 2011; Xu et al., 2012).

4.1.2 Effects of phonological phrasing

Then, a large variety of languages employ phonological phrasing to mark focus (exclusively, or in combination with nuclear stress assignment and postfocal pitch compression). In these languages, focus on an element induces its alignment with phrase boundaries and/or the dephrasing of post-focal constituents. This has been observed for a wide array of languages, including Japanese (Pierrehumbert and Beckman, 1988), Bengali (Hayes and Lahiri, 1991; Selkirk, 2007),

Korean (Jun, 1993), Greek (Condoravdi, 1990), Northern Bizkaian Basque (Elordieta, 1997, 2007), Nɬeʔkepmxcin (Koch, 2008, 2011), and Georgian (Skopeteas et al., 2009; Skopeteas and Féry, 2010), which show left alignment of the focus with a prosodic phrase; as well as Swedish (Bruce, 1977), Italian (Ghini, 1993; Samek-Lodovoci, 2005), Chiche-ŵa (Kannerva, 1990; Truckenbrodt, 1995, 1999), French (Hamlaoui, 2009; Féry, 2013), English (Beckman and Pierrehumbert, 1986; Selkirk, 2000), Portuguese (Sandalo and Truckenbrodt, 2002), and West Greenlandic (Arnhold, 2014), which insert a prosodic phrase boundary to the right of the focused constituent.

The conclusion so far is that there are well-attested phonological effects of focus across languages. Thus, having focus represented in PF seems unavoidable; it cannot be a mere discursive notion. On the other hand, there seems to be not a single PF exponence of focus having any etiological character; the PF expression of focus seems to be arbitrarily encoded. In other words, there is no (causal) correlation between its nature and its phonological externalization: different languages employ different grammatical means to phonologically express focus (if they do it at all), which should not be surprising from an I-language perspective where phonology is *substance-free* (see Hale and Reiss (2008); Reiss (2018) for discussion).

In the next section I review syntactic evidence for the grammatical nature of focus.

4.2 Morpho-syntactic effects of focus

As is well known, in languages like English focus may not affect the word order of a sentence. Thus, the same SVO word order of informationally unmarked clauses can be employed with different focus structures, as represented in (5), where the word order in (5B) can provide an appropriate answer to –among others– any of the questions in (5A), either with focus on the object (as an answer to 5A-a), the VP (answer to 5A-b), the whole clause (answer to 5A-c), or the subject (answer to 5A-d):

(5) A. a. What did John buy?
         b. What did John do?
         c. What happened?
         d. Who bought cider?
     B. John bought cider.

Of course, the prosodic contour of the different utterances with the word order in (5B) would change with the nature of the focus, but the word order could be kept constantly SVO. This syntactic fact could in principle be captured with a conception of focus whereby it is a mere discursive notion which is not represented in the syntactic component. However, there is ample cross-linguistic evidence suggesting that such a conception cannot be maintained. In fact, focus is expressed by morpho-syntactic means in a wide variety of languages of different types and families (including English; see below).

4.2.1 Displacements

Some languages display local movements for focalization, as is the case of Russian 'scrambling' to the left periphery of DPs (Bailyn, 2002; Irurtzun and Madariaga, 2010). This is represented in the examples in (6), where the basic adjective+noun word order of (6a) can be altered as in (6b) with a focal nominal (which is the one that gets nuclear stress):

(6)   a.   Ja postiral [$_{DP}$ krasnye noski].   [Russian]
                I washed   red   socks
                I washed the red socks.

        b.   Ja postiral [$_{DP}$ noski krasnye].
                I washed   socks red
                I washed the red [socks]$_F$.

Other languages show overt focus movements to higher phrases. For example, Italian has been argued to display a focus position at the edge of vP (Belletti, 2004). Italian is a SVO language, but as an answer to a *Wh*-question on the subject, only the VS order of (7b) is appropriate. Belletti (2004) argues that such a configuration is obtained *via* movement of the subject to a vP peripheral focus position, where it surfaces immediately following the Aux-V complex in T:[3]

(7)   a.   Gianni ha   parlato.   [Italian]
                Gianni AUX spoken
                Gianni spoke.

        b.   Ha   parlato Gianni.
                AUX spoken Gianni
                [Gianni]$_F$ spoke.

Likewise, Spanish too has a postverbal focus construction, as illustrated in (8b) (Zubizarreta, 1998; López, 2009; Ortega Santos, 2016; Etxepare, 2021).

(8)   a.   Juan ha   hablado.   [Spanish]
                Juan AUX spoken
                Juan spoke.

        b.   Ha   hablado Juan.
                AUX spoken Juan
                [Juan]$_F$ spoke.

In cartographic terms this could be analyzed along the same lines, proposing focus movement to a designated position, followed by movement of the rest of constituents above it, which masks the movement of the focus.[4]

However, the clearest cases for focus movement involve the complementizer area. As a matter of fact, many languages display focus movements up to the left periphery of the clause, which in the literature has been linked to the generation of focus semantics, just like interrogative syntax has been linked to interrogative semantics. Furthermore, focus movement to the left periphery is attested in languages of all regions and families, and with all types of neutral word order:

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[3]The immediately postverbal position (*aka* "IAV" for "Immediate After the Verb", after Watters (1979)) for focus is also well known in Bantu languages such as Aghem (Watters, 1979; Aboh, 2007; Hyman, 2010), Makhuwa (van der Wal, 2009), or Basàá (Bassong, 2014).

[4]This is, actually, the analysis proposed by Etxepare and Uribe-Etxebarria (2005, 2012) sentence-final *wh*-constructions in the language. See also Ortiz de Urbina (2002) for a similar analysis of sentence-final 'corrective' focus constructions in Basque; *cf.* also Tuller (1992) for related evidence from Chadic, or the IAV phenomena just mentioned in footnote 3.

- SVO: *e.g.* Italian (Romance; Rizzi, 1997) or Gungbe (Kwa; Aboh, 2004).

- SOV: *e.g.* Skolt Saami (Uralic; Feist, 2010) or Basque (isolate; Irurtzun, 2016).

- VSO: *e.g.* Chamorro (Malayo-Polynesian; Chung, 2020) or Copala Trique (Mixtecan; Hollenbach, 1992).

- VOS: *e.g.* Tzotzil (Mayan; Aissen, 1987) or Seediq (Atayalic; Holmer, 1996).

- OVS: *e.g.* Hixkaryana (Cariban; Derbyshire, 1985) or Tuvaluan (Oceanic; Besnier, 2000).

- OSV: *e.g.* Warao (isolate; Romero-Figueroa, 1997) or Nadëb (Nadahup; Weir, 1984).

A famous case is Hungarian (Horvath, 1981, 1986; Brody, 1990; Puskás, 2000). As illustrated in (9), the neutral word order is SVO (9a), but when the object is focused, that word order cannot be maintained (9b): the focus has to be displaced to the left periphery and surface left-adjacent to the verb (9c), otherwise, the sentence is ungrammatical (9d):

(9) a. Emöke   szereti   Attilát.   [Hungarian]
         Emöke.NOM love.PRES.3SG Attila.ACC
         Emöke loves Attila.

     b. *Emöke   szereti   Attilát.
         Emöke.NOM love.PRES.3SG Attila.ACC
         Emöke loves [Attila]$_F$.

     c. Attilát   szereti   Emöke.
         Attila.ACC love.PRES.3SG Emöke.NOM
         Emöke loves [Attila]$_F$.

     d. *Attilát Emöke   szereti.
         Attila.ACC Emöke.NOM love.PRES.3SG
         Emöke loves [Attila]$_F$.

In the same vein, in Basque the focus phrase is moved to the left periphery of the clause, followed by movement of the verb+auxiliary to its immediate right position, just like in *wh*-questions (Ortiz de Urbina, 1989; Irurtzun, 2016). Thus, the neutral SOV word order of informationally neutral sentences such as (10B) is altered according to the question under discussion: for instance, in subject-focus constructions it changes to SVO (11B)[5], the neutral word order being ungrammatical for subject-focus (11C). Thus, we observe a similar situation to what we can see in Hungarian:

(10) A. Zer gertatu da?   [Basque]
         what happen AUX
         What happened?

     B. Peiok ura   edan du.
         Peio water drink AUX
         Peio drank water.

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[5]Or OSV *via* topicalization of the object.

(11) A. Nork edan du ura?
   who drink AUX water
   Who drank water?

  B. [Peiok]$_F$ edan du ura.
   Peio drink AUX water
   [Peio]$_F$ drank water.

  C. *[Peiok]$_F$ ura edan du.
   Peio water drink AUX
   [Peio]$_F$ drank water.

Furthermore, in Basque such displacements are replicated successive-cyclically, displaying locality effects. Comparing to a complex S [SOV]$_O$ V phrase with a neutral information structure (12a), when an element of the embedded clause (say, the subject) is the focus, it is displaced to the left periphery of the embedded clause first, triggering O-V inversion there (*edan duela t_{subj} ura <edan duela>*), and then it is displaced to the left periphery of the matrix clause, triggering again movement of the matrix verb (which renders S-V inversion in this case: *esan du Jonek … <esan du>*). This is illustrated by the long-distance focalization of the subject in (12b):[6]

(12) a. Jonek [$_{CP}$ Peiok ura edan duela] esan du.   [Basque]
   Jon Peio water drink AUX.C say AUX
   Jon said that Peio drank water.

  b. [Peiok]$_F$ esan du Jonek [$_{CP}$ edan duela ura].
   Peio say AUX Jon drink AUX.C water
   Jon said that [Peio]$_F$ drank water.

It has to be noted that such movements observe the same island restrictions as *wh*-question movements (see Irurtzun (2016) for an overview).

In certain languages the syntactic displacements of foci to the left periphery can produce 'Operator-C' agreement patterns, which supersede the normal forms of complementizers. One such language is Chamorro (Chung, 1998, 2010, 2020).[7] In this VSO language, foci can undergo the same left peripheric movement as *wh*-questions. And just like *wh*-questions, this movement can be accompanied by complementizer agreement, whereby the complementizer registers information about the syntactic category and meaning of the focal phrase. This complementizer (*na*, *nai*, or *ni*, depending on the dialect and idiolect of the speaker) is employed with focal PPs, NPs denoting location in place or time, or adverbs (13). Otherwise, the complementizer is null (14):

(13) a. Alas sais ni para u fanmåttu i bisita.   [Chamorro]
   six.o'clock COMP FUT AGR AGR.arrive the visitor
   The visitors are going to arrive [at six]$_F$.

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[6]There is also an alternative construction to the long-distance extraction that involves clausal pied-piping.

[7]See Reintges et al. (2006); Reintges (2007) for similar evidence and discussion of Coptic data. Celtic languages such as Irish (Noonan, 1997; McCloskey, 2001) or Welsh (Tallerman, 1996; Borsley et al., 2007) also display similar evidence, and related constructions can also be found in other types of languages, such as Shunghni (Barie, 2009) or Dàgáárè (Bodomo, 2000).

b. Pues gi tattin   atyu na dos åmku' na   dumimu i dos.
   then LCL behind.L that L two old   COMP AGR.kneel the two
   So [behind those two old people]$_F$ the two knelt.

c. Meggai na biåhi na   ha atan i kahun gi halum gumå'-ña…
   many L times COMP AGR look.at the box   LCL inside.L house-AGR
   [Many times]$_F$ he looked at the box in his house…

(14) a. …Kada unu giya hita   gai   abilidåt.
         each one LCL us.INCL AGR.have ability
         [Each one of us]$_F$ (incl.) has a natural talent.

      b. I guella   ha' gi bandan nanå-hu   hu fakcha'i.
         the grandmother EMP LCL side.L mother-AGR AGR find
         I saw [my grandmother from my mom's side]$_F$.

When extracted long-distance, the same pattern is repeated with respect to the phrases that do not display complementizer agreement with the focus (15), and those that do display it (16):[8]

(15) Ti todu kåtni ya-hu   kumånnu'.   [Chamorro]
      not all   meat like-AGR INF.eat
      [Not all meat]$_F$ I like to eat.

(16) I kunfesiunåriu na   propiu   para un   sangåni si   Påli' nu i
      the confessional COMP AGR.proper FUT AGR.say.to UNM   priest OBL the sin-AGR
      isåo-mu siha.
      PL
      It's proper for you to tell the priest your sins [in the confessional]$_F$.

4.2.2 Focus markers

Other languages employ dedicated vocabulary items that surface adjacent to the focal constituent. This is a common feature cross-linguistically, well-known in particular in African languages. In Fyem for instance, focus marking with a particle is pervasive; when an element is focal, it is attached enclitic -i, as illustrated in (17), from Nettle (1998):

(17) a. náá   má rándan-i   [Fyem]
         1s.PERF do work-FOC
         It's working that I did (rather than sleeping).

      b. mí-í   náá   má rándan.
         me.FOC 1s.PERF do work
         It's me that worked (rather than someone else).

But this strategy is not restricted to Africa. For instance in Persian (an SOV language) focus marker -ke surfaces encliticised to the focus of the sentence in its *in situ* position (Oroji and Rezaei, 2013). Compare the informationally neutral (18a) with the focus variants in (18b) to (18e):

---

[8]Chamorro also has a special form of *wh-* or focus-agreement with the verb that I review below.

(18) a. mæn ketab-o be Ali ne-midœm. [Persian]
        I   book-OM to Ali won't-give.1sg
        I won't give the book to Ali.

    b. mæn-ke ketab-o be Ali ne-midœm.
        I-FOC   book-OM to Ali won't-give.1sg
        [I]$_F$ won't give the book to Ali.

    c. mæn ketab-o-ke   be Ali ne-midœm.
        I   book-OM-FOC to Ali won't-give.1sg
        I won't give [the book]$_F$ to Ali.

    d. mæn ketab-o be Ali-ke   ne-midœm.
        I   book-OM to Ali-FOC won't-give.1sg
        I won't give the book [to Ali]$_F$.

    e. mæn ketab-o be Ali ne-midœm-ke.
        I   book-OM to Ali won't-give.1sg-FOC
        I won't [give]$_F$ the book to Ali.

In other languages the focal particle is not necessarily directly adjacent to the focal element. This is the case of Vietnamese, where material can intervene between the focal particle and the focal element. As illustrated in (19), focus marker *cái* is placed before the classifier and the nominal *ngựa* 'horse', while the focal element is the postnominal adjective *đen* 'black'. The same happens in the measure phrase in (20), with material intervening between *cái* and the focal element *sen* 'lotus' (Nguyen, 2004):

(19) Tôi thích cái con ngựa [đen]$_F$. [Vietnamese]
      I   like   FOC CL horse black
      I like the [black]$_F$ horses.

(20) Hai cái ấm trà [sen]$_F$ thiu rồi!
      two FOC pot tea lotus   stale already
      The two potfuls of [lotus]$_F$ tea are already stale.

Other languages such as Yorùbá combine the employment of focus particles with focus movements to the left periphery (Awobuluyi, 1992; Jones, 2006). The neutral word order in Yorùbá is SVO (21a), and as shown in examples (21b) to (21e), the focal element is fronted from its base position and accompanied by the particle *ni*:[9]

(21) a. dàda á   ji   owó   òjó. [Yorùbá]
        Dada INFL steal money Ojo
        Dada stole Ojo's money.

    b. dàda ni ó   jí   owó   òjó.
        Dada FOC INFL steal money Ojo
        [Dada]$_F$ stole Ojo's money.

---

[9]In other languages such as Ngandi, a mixed pattern is observed with focus fronting being followed by the verb (similarly to Basque) but also accompanied by a focus marker. This marker *-ga-* is not directly left adjacent to the focus itself, but is a "noninitial verbal prefix" which appears sandwitched within verbal morphology (Heath, 1978).

c. owó òjó ni dàda á jí.
money Ojo FOC Dada INFL steal
Dada stole [Ojo's money]$_F$.

d. òjó ni dàda á jí owó ré̩.
Ojo FOC Dada INFL steal money PRO
Dada stole [Ojo's]$_F$ money.

e. jíjí ni dàda á jí owó òjó.
stealing FOC Dada INFL steal money Ojo
Dada [stole]$_F$ Ojo's money.

A slightly different pattern is observed in Esahie (an SVO language). Here, the left peripheric focus is immediately followed by the focus marker *yéyέ* but the focus is doubled by a resumptive pronoun in its base position when the focus is [+human] (Broohm, 2014). This can be observed in examples (22b) for subject focus and (23b) for object focus (compare with informationally neutral (22a) and (23a) respectively):[10]

(22) a. Kofi li-le aleε-n.   [Esahie]
Kofi eat-COMPL food-DET
Kofi ate the fufu.

b. Kofi yéyέ o-li-le aleε-ne-ɔ.
Kofi FOC 3SG-eat-COMPL food-DET-CD
[Kofi]$_F$ ate the fufu.

(23) a. Kobiri gya-le Dufie.
Kobiri marry-COMPL Dufie
Kobiri married Dufie.

b. Dufie yéyέ Kobiri gya-le ye-ɔ.
Dufie FOC Kobiri marry-COMPL 3SG-CD
Kobiri married [Dufie]$_F$.

c. *Dufie yéyέ Kobiri gya-le-ɔ.
Dufie FOC Kobiri marry-COMPL-CD
Kobiri married [Dufie]$_F$.

The fact that only [+human] DPs require the presence of the resumptive pronoun can be observed in the grammaticality of (24b), which contrasts with (23b)-(23c):[11]

(24) a. Asante hu-ne abɔŋgye.   [Esahie]
Asante kill-COMPL goat
Asante killed a goat.

b. Abɔŋgye yéyέ Asante hu-ne-ɔ.
goat   FOC Asante kill-COMPL-CD
Asante killed [a goat]$_F$.

---

[10]The clause-final -ɔ is a clausal determiner that appears in focused constructions and "is used to "express event deixis" and its presence is assumed to indicate old or known information" (Broohm, 2014, 52).

[11]In other languages only certain elements show focus markers. This is the case of Tadaksahak, where only subject foci (formed either with lexical subjects or with pronouns) are accompanied by focus marker *nə-*. This marker is proclitic to the postfocal verb and substitutes the regular subject clitic. Focus on objects or other elements is not accompanied by *nə-* (Christiansen-Bolli, 2010).

Other languages show yet other types of behaviors with respect to the distribution of focus markers. In Dagbani for instance (an SVO language), foci can either remain *in situ* with no apparent marking (25), or move to the left periphery, in which case they have to be accompanied by focus marker *kà* (Issah and Smith, 2020):[12]

(25)   Abu dá   búá máá.   [Dagbani]
             Abu buy.PERF goat DEF
             Abu bought [the goat]$_F$.

(26)   Búá máá kà   Abu dá.
             goat DEF FOC Abu buy.PERF
             Abu bought [the goat]$_F$.

Tiv is somewhat similar in that it displays both *in situ* and *ex situ* strategies (Táíwò P. and Angitso, 2016): focus can be expressed in the unmarked SVO word order *in situ* by applying just a tone expansion operation (27a), or alternatively, it can be expressed by movement of the focus phrase to the left periphery, where it surfaces right-adjacent to the clause-initial focus particle *ká*. This is complemented by a clause-final emphasis particle *yé* in non-elliptical constructions (27b):

(27)   a.   Sésùgh béè   mǎkěrǎntà.   [Tiv]
                   Sésùgh finish school
                   Sésùgh has graduated [from school]$_F$.

        b.   Ká   mákérántá M̀yǫ́m á   zé   yé.
                  FOC school   M̀yǫ́m AGR.PRN.PST go.PST EMP
                   M̀yǫ́m went [to school]$_F$.

The mirror image pattern of focus marking can also be observed in languages such as Tseltal (Shklovsky, 2012; Polian, 2013). In Tseltal –a VOS/VSO language– a focus phrase can either be left *in situ* (28a), or fronted to a position preceding the verb (29a). In the *in situ* construction, the presence of clause-initial focus marker *ja'* is mandatory (compare (28a) and (28b)). However, in the movement construction the focus is just optionally preceded by the focus marker, as shown by the grammaticality of both (29a) and (29b):

(28)   a.   ja'   lah s-lo'   alaxax.   [Tseltal]
                   FOC PFV ERG3-eat orange
                   She ate [an orange]$_F$.

        b.   *lah s-lo'   alaxax.
                   PFV ERG3-eat orange
                   She ate [an orange]$_F$.

(29)   a.   ja'   alaxax lah s-lo'.
                   FOC orange PFV ERG3-eat
                   She ate [an orange]$_F$.

        b.   alaxax lah s-lo'.
                   orange PFV ERG3-eat
                   She ate [an orange]$_F$.

---

[12]By contrast, in other languages like Ma'di, the particle indicating that the sentence has a focal phrase is sentence-final (Blackings and Fabb, 2003).

Other manifestations of focus involve the use of alternative verbal patterns, depending on the properties of the focal phrase. In Sinhala, for example (an SOV language), a focal suffix *-e* is attached to the verb in order to mark that there is a focal element in some constituent or other of the clause (Chandralal, 2010). Thus, informationally neutral constructions take no special verb ending (30a), while focused constructions take verb ending *-e*, as shown in (30b) and (30c):[13],[14]

(30) a. Ranjit wiiduruə binda.   [Sinhala]
    ranjit glass break.PAST
    Ranjit broke the glass.

   b. [Ranjit]$_F$ wiiduruə bind-e.
    ranjit   glass break.PAST-FOC
    [Ranjit]$_F$ broke the glass.

   c. Ranjit [wiiduruə]$_F$ bind-e.
    ranjit glass   break.PAST-FOC
    Ranjit broke [the glass]$_F$.

Similarly, Rendille (SOV) has two focus markers (Oomen, 1978): term focus marker *-e* is enclitic to the focal element itself and it is employed when the focus is a participant of the eventuality, like the subject in (31).[15] Focus marker *á-*, on the other hand, surfaces procliticised to the predicate in predicate focus constructions (32), but also in informationally neutral sentences (33):

(31) A. Who came?

   B. ínam-é yimi   [Rendille]
    boy-FOC came
    [The boy]$_F$ came.

(32) A. What did the boy do?

   B. ínam á-yimi
    boy FOC-came
    The boy [came]$_F$.

(33) A. What happened?

   B. ínam á-yimi
    boy FOC-came
    The boy came.

Likewise, a focusing strategy employed in Tuwuli (SVO) is the insertion of a verbal prefix *lV̀*, whose vowel will surface differently according to the regressive ATR and labial harmony active in the language (Harley, 2009). This verbal prefix is only employed when the subject is part of the focus phrase, either alone as in (34B), as a subject-verb split focus (35B)[16], or as part of a larger phrase such as the whole clause (36B):

(34) A. Who ate the rice?

---

[13]*-e* is the past tense focus ending; with the present tense, verb ending *-nne* is employed (Chandralal, 2010).
[14]See Cain and Gair (2000) for related evidence in Dhivehi.
[15]See also Jendraschek (2012) for Iatmul evidence.
[16]See Irurtzun (2005, 2007) for an analysis of split focus constructions.

B. a. Kòfí lὲ-nyá fɔ́fὲ à. [Tuwuli]
Kofi FOC-eat rice ID
[Kofi]$_F$ ate the rice.

b. *Kòfí nyá fɔ́fὲ à.
Kofi eat rice ID
[Kofi]$_F$ ate the rice.

(35) A. What happened to the rice?
B. a. Kòfí lὲ-nyá foὲ.
Kofi FOC-eat it
[Kofi]$_F$ [ate]$_F$ it.

b. *Kòfí nyá foὲ.
Kofi eat it
[Kofi]$_F$ [ate]$_F$ it.

(36) A. What happened?
B. a. Kòfí lὲ-nyá fɔ́fὲ à.
Kofi FOC-eat rice ID
[Kofi ate the rice]$_F$.

b. *Kòfí nyá fɔ́fὲ à.
Kofi eat rice ID
Kofi ate the rice.

However, when the subject is outside the focus phrase, insertion of the focus prefix results in ungrammaticality, as shown in (37) for object focus and (38) for VP focus:

(37) A. What did Kofi eat?
a. *Kòfí lὲ-nyá fɔ́fὲ à. [Tuwuli]
Kofi FOC-eat rice ID
Kofi ate [the rice]$_F$.

b. Kòfí nyá fɔ́fὲ à.
Kofi eat rice ID
Kofi ate [the rice]$_F$.

(38) A. What did Kofi do?
a. *Kòfí lὲ-nyá fɔ́fὲ à.
Kofi FOC-eat rice ID
Kofi [ate the rice]$_F$.

b. Kòfí nyá fɔ́fὲ à.
Kofi eat rice ID
Kofi [ate the rice]$_F$.

Then, there is ample cross-linguistic evidence that focus markers can also interact with agreement. For instance, Lavukaleve (SOV) has a rich set of focus marking devices and it employs different focus marking particles which agree with the focal element, or an element within it (Terrill, 2003). Example (39B) illustrates a VP focus construction, (40B) an object focus construction, and (41B) a subject focus construction:

(39) A. What did the woman do? [Lavukaleve]

    B. Aira   la   fo'sal   na   o-u-m   fin.
       woman(F) SGF.ART fish(M) SGM.ART 3SGS-EAT-SGM 3SGM.FOC
       The woman [ate the fish]$_F$.

(40) A. What did the woman eat?

    B. Aira   la   fo'sal   fin   o-u-m   hin.
       woman(F) SGF.ART fish(M) 3SGM.FOC 3SGS-EAT-SGM 3SGM.EFOC
       The woman ate [a fish]$_F$.

(41) A. Who ate the fish?

    B. Aira   la   feo   fo'sal   na   a-u-a   heo.
       woman(F) SGF.ART 3SG.F.FOC fish(M) SGM.ART 3SGM.O-EAT-SG.F 3SG.F.EFOC
       [The woman]$_F$ ate a fish.

The focus marker of (39B) is sentence-final, and it agrees in masculine with the direct object within the focal VP. (40B) and (41B) display two focus markers each, one right-adjacent to the focal element itself and the other one at the sentence-final position (glossed as EFOC, for 'echo focus particle'). Both agree with the focal phrase in person, gender and number.[17]

Finally, going back to Chamorro, beyond the patterns of complementizer agreement that we saw in (13) and (14), this language also displays special forms of verbal agreement with the interrogative/focal phrases (Chung, 1998, 2010, 2020).[18] This special form of agreement (known in the literature under the name of 'wh-agreement') registers the grammatical relation of the focus with the predicate associated with it. When the focal element is the subject (and the verb is in the realis mood) it takes the infix form *-um-*, here glossed as WH[SUJ] (42a) following the tradition in Chung (1998, 2010, 2020). When it is the object that is focal, the agreement marker is infix *-in-*, here glossed as WH[OBJ] (42b):

(42) a. I   kusturera lumåksi   i   chininå-hu.   [Chamorro]
       the seamstress WH[SUJ].sew the shirt-AGR
       [The seamstress]$_F$ sewed my shirt.

    b. Tres   klåsin floris chuchurika ha'   tiningo'-hu.
       three sort.L flower periwinkle EMPH WH[OBJ].know-AGR
       I know [three kinds of periwinkle flowers]$_F$.

Focus movement can also take place in long-distance. In these constructions the special agreement can also be observed in the higher predicate, which does not agree with the focal element itself, but with the embedded clause from which the focal element was extracted. This is illustrated in (43), where the highest verb 'expect' takes the object agreement marker:

(43) Si   Jose ha'   inikspektåk-ku   para un   chiniku.   [Chamorro]
     UNM Jose EMP WH[OBJ].expect-AGR FUT AGR PASS.kiss.
     I expected [Jose]$_F$ to kiss you.

---

[17]However, in some constructions agreement in person is not necessary (Terrill, 2003).

[18]It also shows up relative clauses.

4.2.3 'Antifocus' markers

The discussion so far has involved examples of exponents of 'focalness' being recruited to express that the sentence involves a focal phrase. But the contrary is also attested. In Kirundi (SVO), for instance, 'antifocus' particle *-ra-* is employed to mark on the verb that the sentence is informationally neutral (44a) (Ndayiragije, 1999). Such a particle renders ungrammaticality when combined with focus on *e.g.* the direct object (44b). However, a verbal form can perfectly be combined with a focal phrase, provided it does not bear the antifocus particle (44c):

(44) a. Abâna   ba-á-ra-nyôye   amatá.   [Kirundi]
          children 3P-PST-AFOC-drink:PERF milk
          Children drank milk.

      b. * Abâna   ba-á-ra-nyôye   amatá.
          children 3P-PST-AFOC-drink:PERF milk
          Children drank [milk]$_F$.

      c. Abâna   ba-á-nyôye   amatá.
          children 3P-PST-drink:PERF milk
          Children drank [milk]$_F$.

4.2.4 Interactions

All in all, the grammatical means of expressing focus (or the focal nature of a sentence) with dedicated markers are well attested across languages of different types and families. However, focus is not expressed morpho-syntactically only *via* dedicated focus markers. There is ample cross-linguistic evidence that focus also interacts with the choice of conjugational systems, morpho-syntactic TAM markers, the determiner system, case-marking, agreement operations, and even class and gender marking on nominals.

For instance, in languages displaying conjoint *vs.* disjoint conjugation systems such as Makhuwa, whereas the disjoint form is employed in neutral contexts (45a), the conjoint form is associated to object focus (45b), while both have the SVO word order (van der Wal, 2009, 2011):

(45) a. nthíyáná o-hoó-cá   nráma.   [Makhuwa]
          1.woman 1SM-PERF.DJ-eat 3.rice
          The woman ate rice.

      b. nthíyáná o-c-aalé   nráma.
          1.woman 1SM-PERF.CJ-eat 3.rice
          The woman ate [rice]$_F$.

A similar pattern can be observed in Daai Chin (SOV) regarding verb stem choice (So-Hartmann, 2009). In this language, around 20 % of the verbs have two different stems (called 'Stem A' and 'Stem B' by So-Hartmann (2009)) which show morphological alternations that are not linked to a unique parameter such as tense or transitivity. In informationally neutral contexts Stem A is employed (46), but in constructions containing focus (as the subject in (47)), Stem B is used:

(46) Ling jah Thang=noh sha:-kki ah-nih   kaah.   [Daai Chin]
      Ling and Thang=ERG deer   S.AGR:DU/PL shoot.A
      Ling and Thang shot a deer.

(47) Ling jah Thang=noh sha:-kki kaa:p=kti=xooi.
      Ling and Thang=ERG deer   shoot.B-NON.FUT=DU
      [Ling and Thang]$_F$ shot a deer.

Turning into TAM, in Hausa for instance, temporal adverbs such as *jiyà* appear preverbally either with or without focus. But if they are focused, the focal nature of the sentence is expressed by the choice of preterite over completive (Newman, 2000; Frajzyngier, 2004):[19]

(48) a. jiyà   sun   sana-r̃   da   mū.   [Hausa]
          yesterday 3PL.COMPL know-CAUS ASCC 1PL
          Yesterday they informed us.

      b. jiyà   suka   sana-r̃   da   mū.
          yesterday 3PL.PRET know-CAUS ASCC 1PL
          [Yesterday]$_F$ they informed us.

Different indirect indicators of focus are employed in other languages. In Mawng, for instance, nominals can surface both with a prenominal article or in bare form quite freely. However, focus interacts with the determiner system and when an object is focus fronted it cannot bear any article (Singer, 2006a,b, 2016). This can be seen in the contrast between neutral (49a), where the postverbal nonfocused object bears the Land gender article *ta*, and (49b), where the preverbal focal object cannot bear it:[20]

(49) a. La k-anga-la-ø   ta wupaj.   [Mawng]
          and PR-3GEN/3LL-drink-NP LL freshwater
          And she drinks freshwater.

      b. kurrula   k-angala-ø.
          saltwater PR-3GEN/3LL-drink-NP
          She drinks [saltwater]$_F$.

Focus also interacts with case-marking. In Tshangla (SOV), subject case markers are optional in informationally neutral sentences (Andvik, 2010). Thus, a question such as (50A) can either be answered with an agentive case-marked subject as in (50B-a), which gets a sort of topical interpretation, or as in the more neutral (50B-b), with no case marking on the subject. However, when in focus as an answer to a question like (51A), only the case-marked sentence is grammatical (see (51B-a)-(51B-b)):[21]

(50) A.   What did you do yesterday?
      B. a. Ji-gi   otha shing cat-pe.   [Tshangla]
              1S-AGT DEM tree   cut-INF
              I cut that tree.

---

[19]See also Schuh (1998) for similar evidence in Miya.

[20]See also the data on Isu below. On the contrary, in Sesotho the opposite is observed: "noun-class prefixes that begin with a coronal consonant can be realized as null when they occur in the c-domain relationship with agreement in a given, nonfocused, noncontrastive discourse context." (Demuth et al., 2009).

[21]See also Lí (2015) for similar observations on Guìqióng, Walters (2016) on Dazaga, or Schultze-Berndt (2017) on Jaminjung among others. In turn, Lamjung Yolmo has a focus marking suffix that appears sandwiched between the nominal and the case marker, and it can even substitute the latter (Gawne, 2016).

b. Jang otha shing cat-pe.
    1S DEM tree cut-INF
    I cut that tree.

(51) A. Who will cut this tree?
      B. a. Ji-gi   cat-pe.
              1S-AGT cut-INF
              [I]$_F$ will cut.
          b. * Jang cat-pe.
              1S   cut-INF
              [I]$_F$ will cut (it).

In other languages, as already advanced, focus interacts with agreement operations and inflectional exponence. In Sanzhi Dargwa (SOV), for instance, agreement markers can appear attached to the focal element in what Forker (2016) calls 'floating agreement' patterns. In the informationally neutral statement in (52a), the 1st person singular enclitic marker =*da* is attached to the clause-final verb. However, (52b) shows that focus on the direct object is expressed by attaching the agreement marker to it. And (53a) and (53b) illustrate the same pattern for object and subject focus:

(52) a. du-l   hana tala ͨħ-ne ic-an=da.   [Sanzhi Dargwa]
          1SG-ERG now dishes-PL wash.IPFV-PTCP=1
          Now I will wash the dishes.
      b. du-l   hana tala ͨħ-ne=da ic-an.
          1SG-ERG now dishes-PL=1 wash.IPFV-PTCP
          Now I will wash [the dishes]$_F$.

(53) a. dam   it   dars=da qum.ert-an
          1SG.DAT DEM lesson=1 forget.IPFV.NEG-PTCP
          I will not forget [this lesson]$_F$.
      b. dam=da   it   dars qum.ert-an
          1SG.DAT=1 DEM lesson forget.IPFV.NEG-PTCP
          [I]$_F$ will not forget this lesson.

A similar phenomenon can be observed in Lak (SOV). Person agreement markers are attached to the verb in informationally neutral contexts (54a), but they surface as enclitics to the focus in clauses with focus (54b), but here the verb takes participial form (Kazenin, 2002):[22]

(54) a. uIr-lul qātri   d-u-r-ni.   [Lak]
          boy-ERG house.NOM 4CL-build.PAST-4CL-3SG
          The boy has built the house.
      b. uIr-lul-li   qātri   d-u-r-sa.
          boy-ERG-3SG house.NOM 4CL-build.PAST-4CL-PART
          [The boy]$_F$ has built the house.

---

[22]A similar pattern is also observed in Godoberi (Testelec, 1998a), Archi, Chamalal (Testelec, 1998b), Icari Dargwa (Sumbatova and Mutalov, 2003), Hinuq (Forker, 2013) or Nasa Yuwe where both 'floating agreement' and displacement operations can be combined (see Rojas Curieux, 1998).

Somali (SOV), like Persian or Yorùbá, is a language where focus markers are employed adjacent to the focus phrase. However, in Somali this construction is accompanied by an anti-agreement pattern, where instead of regular verbal agreement, agreement with the focused element is supplied with a 'restricted paradigm' (Frascarelli and Puglielli, 2007). Thus, a focused subject cannot bear regular nominative case, and the verb cannot show regular agreement with it either (55b)-(55c). Instead, the subject takes absolutive marking and the verb surfaces in the special restricted paradigm (glossed as 'RED') and with a stress of its own (while in the regular extensive paradigm it bears no stress) (55a):[23]

(55) a. Hilib [nimankáas   ayaa]$_F$ cunayá.   [Somali]
          meat men-those.ABS FOC   eat.PRES.PROG.RED
          [Those men]$_F$ are eating meat.
      b. * Hilib [nimankàasu   ayaa]$_F$ cunayá.
            meat men-those.NOM FOC   eat.PRES.PROG.RED
            [Those men]$_F$ are eating meat.
      c. * Hilib [nimankáas   ayaa]$_F$ cunayaan.
            meat men-those.ABS FOC   eat.PRES.PROG.3PL
            [Those men]$_F$ are eating meat.

Alternatively, if the focus is moved long-distance, the anti-agreement pattern disappears and regular case and agreement patterns arise:

(56) [Nimankàasu   baan]$_F$ sheegay inay   hilib cunayaan.
      men-those.NOM FOC.SCL1SG say.PST that.SCL.3PL meat eat.PRES.PROG.3PL
      I said that [those men]$_F$ are eating meat.

(57) * [Nimankáas   baan]$_F$ sheegay in   hilib cunayá.
      men-those.ABS FOC.SCL1SG say.PST that meat eat.PRES.PROG.RED
      I said that [those men]$_F$ are eating meat.

Then, Chalcatongo Mixtec displays even stronger antiagreement patterns (Macaulay, 1996). In this VSO language, nominal subjects can also be placed in the preverbal position when they are topics or foci. Nonetheless, preverbal subjects are not ambiguous between a topic and a focus reading, as they show different agreement patterns in each case: topics are accompanied by agreement doublings enclitic to the verb (58a) whereas foci (as well as postverbal subjects) display no agreement whatsoever (58b):

(58) a. ñãʔã   wáã xínũ=ñá.   [Chalcatongo Mixtec]
          woman the run
          [The woman]$_T$ is running.
      b. ñãʔã   wáã xínũ.
          woman the run
          [The woman]$_F$ is running.

Konjo shows a similar pattern (Friberg, 1996). In this VSO language, the verb agrees both with subjects (proclitic markers) and objects (enclitic markers). Both types of participants can be focus-fronted, but in such constructions their corresponding agreement morphology

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[23]A similar phenomenon can be observed in Berber (Ouhalla, 1993).

disappears (compare the neutral (59a) with the subject-focus construction (59b) and object-focus construction (59c)):[24]

(59) a. Nakanrei   Amir lokaku.   [Konjo]
       3ERG.eat.3ABS Amir banana.1POSS
       Amir ate my banana.

     b. Amir angkanrei   lokaku
       Amir VRd.eat.3ABS banana.1POSS
       [Amir]$_F$ ate my banana.

     c. Lokaku   nakanre Amir.
       banana.1POSS 3ERG.eat Amir
       Amir ate [my banana]$_F$.

In turn, Kobiana has a particular paradigm of agreement markers for expressing focus on the subject (Baier, 2019b). Thus, in informationally neutral contexts enclitic *a-* is employed for 2nd person singular agreement (60a), but in constructions with subject focus, *ée-* is employed (60b), alongside the focus marker *-ən-*:

(60) a. á-ndekk-i.   [Kobiana]
       2SG.walk-PFV
       You walked.

     b. áyì ée-ndekk-ən-i.
       2SG 2SG.FOC.walk-FOC-PFV
       [You]$_F$ walked.

Other languages exploit nominal class or gender to express focus. In Isu, as is common in Bantu, nominals are grammatically divided according to class distinctions, and class marking is exploited in focalizations (KieSSling, 2010). In (61a) focal object *tə-bvʉ́* 'dogs' surfaces with its class 13 prefix *tə-*, but when it appears out of focus, as in (61b), it does not. Likewise, focal *fʉ́* 'rat' retains its class 7 prefix prefix *kə-* in (61b), but it does not in (61a). As subjects in out-of-focus position, however, besides dropping their class prefixes they surface with an enclitic determinier which consists of a stem *iy* preceded by a concord prefix (*k-íy* in (61a); *t-íy* in (61b)):[25]

(61) a. fʉ́ k-íy kɔ́ʔ tə̀-bvʉ́.   [Isu]
       rat 7-OF see 13-dogs
       The rat saw [(the) dogs]$_F$.

     b. bvʉ́ t-íy kɔ́ʔ kə̀-fʉ́.
       dogs 13-OF see 7-rat.
       The dogs saw [a/the rat]$_F$.

Turning into gender, Hamar nominals are gender-fluid in that they can be used in the uninflected form (which is non-specific for gender), or take either masculine of feminine for

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[24]See also Nikolaeva (1999) for evidence on Ostyak where objects can optionally trigger agreement, but when focal, they cannot. Similarly, Finer (1997) and Baier (2019a) report evidence from Selayarese where focus on the absolutive generates anti-agreement patterns, but focus on the ergative does not.

[25]The realization that nominals have under focus is known as the 'A-form' and the realization out of focus as the 'B-form'. See also Hyman (2010) for comparison on Aghem.

different reasons (*e.g.* rɔɔ 'leg' can either take masculine gender marker *tá*, or feminine *-n*). One of these is focalization, which recruits masculine marking as illustrated in (62a) for rɔɔ 'foot, leg' and likewise in (62b) for *ánqasi* 'bee' (Petrollino, 2016):[26]

(62) a. walé-sa   rɔɔ-tâ ai-idí-ne.   [Hamar]
         Walé-GEN leg-M be.broken-PF-COP
         Wale's [leg]*F* is broken.

     b. anqasɛ́ í=sa   kárc'a-n   aʔ-idí-ne.
         bee:M 1SG=GEN cheek-F.OBL bite-PF-COP
         [The bee]*F* bit me on my cheek.

So far we only saw 'canonical' structures for term focus, but a variety of languages also resort to special operations for marking specific types of foci. For example, *verum* focus in English is expressed *via do*-insertion:

(63) I do love you.

In turn, other languages such as Shupamem have directly different sets of [+focus] tenses for these (and other) uses (Nchare, 2012).[27] For instance, the past perfective tense markers of Shupamem are presented in Table 1:

	[-FOCUS]	[+FOCUS]
Immediate Past	Ø	pâ
Recent	pê	pâ
Intermediate Past	pí	pʉ́
Remote Past	kápí	kápʉ́

Table 1: Past Perfective tense markers in Shupamem, adapted from Nchare (2012, 344).

Then, employment of any of the [+FOCUS] tenses instead of the neutral [-FOCUS] ones highlights that the eventuality described the the verb *did* happen.

A *do*-support-like strategy is employed in Southern Basque not for *verum* focus but for verb-focus. As we saw, in this language term foci occupy the immediately preverbal position (see (10)). Such a configuration cannot however be obtained for verb focalization, and verb-focus is expressed with *do*-insertion (Rebuschi, 1983; Haddican, 2007):

(64) A. Azkenean zer   egin duzu   liburuarekin?   [Basque]
         end.in   what.ABS do   AUX.2SGE3SGA book.with
         In the end, what did you do with the book?

     B. Erosi egin dut.
         buy   do   AUX.1SGE3SGA
         I [bought]*F* it.

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[26]These focalizations may be accompanied by a mirative value; as Petrollino (2016, 163) puts it, these examples "were uttered by speakers who believed that the interlocutor had no knowledge of the information provided (i.e. that the leg of Walé was broken, and that the bee had bit the speaker). Focused constituents marked by masculine gender can be prosodically louder than the rest of the sentence."

[27]This and even more intricated systems are amply attested across languages of different families within Niger-Congo (*e.g.* Efik, Aghem, or ChiBemba (Bantu), Wolof (Senegambian) or Kakabe (Mande), see Hyman and Watters (1984); Robert (2010), and Vydrina (2020) for discussion).

In Kana, by contrast, a serial verb construction is employed for verb-focus (Ikoro, 1996). Compare the neutral (65a) with verb-focus (65b):

(65) a. Bàrìlè è-nú   l   kpá.   [Kana]
          Barile PFV.PRES-bring:INS SPEC:SG book
          Barile has brought the book.

     b. Bàrìlè è-sú-   l   kpá   n.
          Barile PFV.PRES-take-PFV SPEC:SG book bring:INS
          Barile has [brought]$_F$ the book.

Last, when talking about the grammar of focus in a language very often we center on the canonical or most widely used constructions for term foci, but when analyzing the architecture of language as a whole it is important to bear in mind that many languages have additional focus constructions implying different semantic nuances. A very common type of focus construction is that of clefts and pseudo-clefts. This is, famously, the case of English (Akmajian, 1970):

(66)   It was Agnew who Nixon chose. (with focus on Agnew)

(67)   The one Nixon chose was Agnew. (with focus on Agnew)

Also, English displays focus-fronting operations such as (68) (Ward, 1988; Casielles, 1998), and a reduplicative focus operation with the first duplicate bearing nuclear stress and a prototypical reading (69) and (70) (Ghomeshi et al., 2004; Bazalguette, 2015):

(68)   Six dollars it costs. (focus on *six dollars*).

(69)   Ill make the tuna salad, and you make the salad-salad. (focus on *salad*).

(70)   I didnt buy a Chihuahua, I bought a dog-dog. (focus on *dog*).

Such 'alternative' strategies have also to be taken into account when analyzing the place of focus within the architecture of grammar, given that the architecture of grammar cannot vary depending on the structure at hand.

4.3   Interim conclusion

The picture that emerges from this (far from exhaustive) overview of focus patterns is that of a wide richness in the grammatical effects of focus expression in all modules, domains, and derivational stages.

The discussion was centered only on phonological and morpho-syntactic evidence, but it should be obvious that focus, but by its very nature, generates a series of nontrivial semantic effects. Cross-linguistically it associates with focus-sensitive operators such as English *too* or *even* (Rooth, 1985; Herburger, 2000), and it can interact with a range of elements and constructions such as quantifiers, adverbs, and counterfactual conditionals, altering the truth-conditions of sentences (Jackendoff, 1972; Dretske, 1972; Partee, 1991; Herburger, 1993, 2000; Büring, 1996, 1997; Geurts and van der Sandt, 2004). So, I take it that focus definitely has to be present in the semantic component.

Then, focus also has to be present in the input to phonology if the focal phrase is to be subject to operations such as nuclear stress assignment, postfocal pitch compression and focal prosodic phrasing. In a nutshell, lacking a representation for focus in the syntax would

amount to its invisibility in the PF component. As a consequence, there should be no manifestation of focus if it is not represented as such during the derivation. Thus, I take it that it also has to be present in the syntactic component, if it is going to play any role in the numeration (*e.g.* for the selection of focus particles or specific verbal forms), case and agreement phenomena, and displacements, at least if we assume some version of the Y-model of the architecture of grammar.[28]

However, as I advanced in Section 3, part of the recent literature is skeptical, and proposes alternative conceptions of focalization whereby focus is not really part of the grammar, but a matter of discourse and/or its effects derive from the interaction of interface components with syntax. In the next section I critically review these alternative proposals, arguing for the syntactic nature of focus.

5   Focus on syntax

There are three main conceivable ways to model focus in the architecture of grammar:

1. A syntactocentric conception of focus like in the cartographic approach. Focus is represented from the outset in the syntactic component, thus it can affect selection (of focus particles, verb affixes, gender markers, etc.), be subject to displacements to the left periphery like any other displacement, and furthermore, such a representation can be read at the interface components and have whichever effect it has in interpretation: it can be assigned nuclear stress, or aligned with prosodic phrases, etc; and it can also be semantically interpreted as focus. This conception could be represented as in Figure 8:
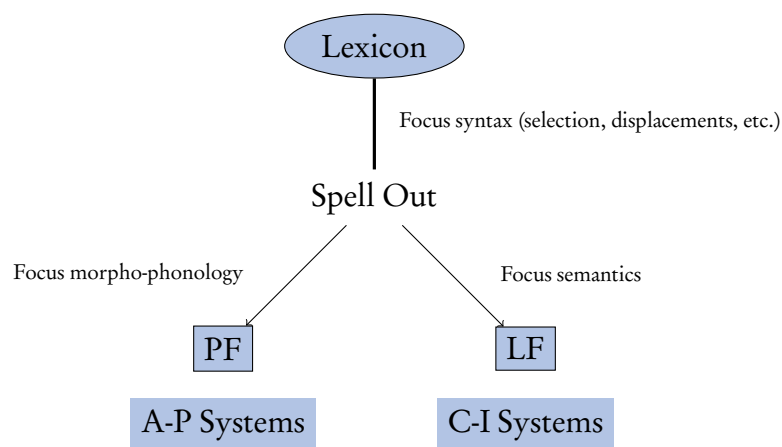

Figure 8: A syntactocentric conception of focus.

2. A second option would be to have no focus representation in the syntax, and conceive of it as a mere discursive notion which is then imposed on derivations, as in Struckmeier (2017).

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[28] As a matter of fact, the cross-linguistic evidence just reviewed shows how focus plays a significant role not only on the CP-layer, but in the three main domains of syntax: the vP (the selectional/thematic domain, the 'Θ-Domain' in Grohmann's (2003) terms), the TP (the inflectional/agreement domain, the 'Φ-Domain') and the CP (the discursive/illocution domain, the 'Ω-Domain'). See Platzack (2000) and Grohmann (2003) for essential analyses of the different syntactic domains.

Such a vision is, however, in violation of the 'inclussiveness condition', as formulated in Chomsky (1995):

> Any structure formed by the computation (in particular, π and λ) is constituted of elements already present in the lexical items selected for N; no new objects are added in the course of computation apart than rearrangements of lexical properties…(Chomsky, 1995, 228)

Adding a semantic feature at the end of a derivation (in, say, directly to λ) clearly clashes with this condition (this is also the case of the feature [+contrast] in Titov (2020)). But furthermore, all the morpho-syntactic and phonological effects would still remain unexplained. If there is no element marked as focus in the grammatical component, then it should not be treated as focal, and it should not be subject to targeted movements, it should not be associated to any particular particle, nor should it affect case and agreement operations differently from nonfocused elements (since it is just one of them). Likewise, in PF it should not be read as focus nor treated in specific ways (that is, all languages should be like Yucatec Mayan or Ambonese Malay in this respect). In a nutshell, if there is no focus in the grammar, there should be no grammatical effects of focus (not even semantic ones, but maybe just pragmatic ones), which is contradicted by the evidence we just reviewed in Section 4. This conception is represented in Figure 9:
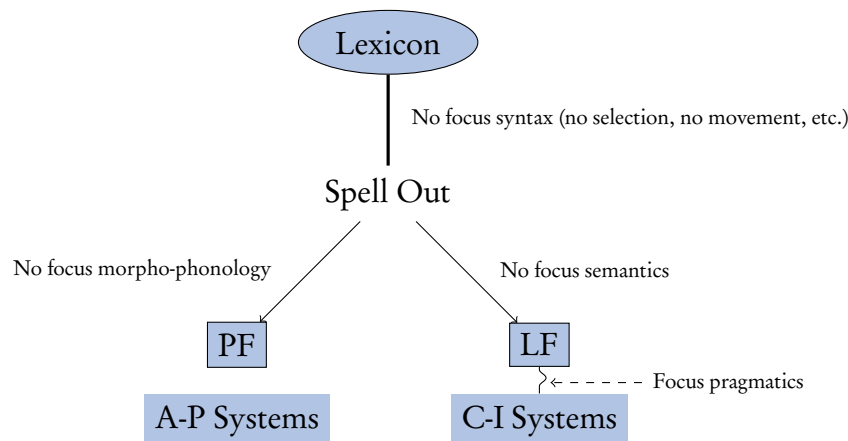

Figure 9: A non-grammatical conception of focus.
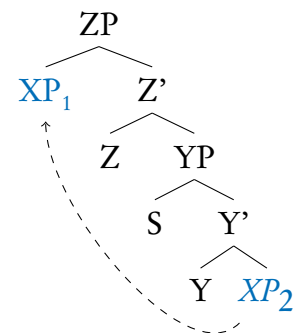
A rather non-explanatory position.

3. A third option would be to have focus represented in a syntax with free merge and no specific focus position. In contrast to the previous one, this vision has the virtue of allowing focus effects at the interfaces, since the focus representation could be taken as the input/structural description of the operations that take place there. Notwithstanding, such a viewpoint is also problematic for a number of reasons. Two main conceptions can be held regarding free merge: the first one is that merge is completely free (*i.e.*, it is not 'trigered'), but it is operationally constrained, in the sense that movement takes place only if it will have an effect later on in semantic interpretation. It is, in essence, a *conditional free merge*. This requires a sort of 'global derivational rule' like the ones

proposed in the Generative Semantics literature (*e.g.* Lakoff, 1970, 1971), involving a teleological look ahead. Let me make this explicit:

(a) *Derivational time Dt_1*: By external merge the syntactic component generates a phrase structure such as ZP, containing XP_2.

```
        ZP
       /  \
      Z    YP
          /  \
         S    Y'
             /  \
            Y   XP₂
```
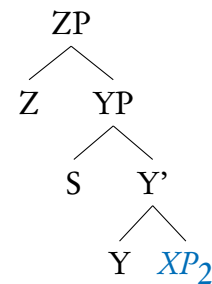
(b) *Derivational time Dt_2*: At this step, there is a conundrum: since under this hypothesis movement is free, XP_2 could in principle remerge with the whole structure, but in order to do that, it has to evaluate whether the displacement will make a difference at a later derivational point (LF), given that by assumption the movement only takes place provided that it will have a semantic effect. So the derivation has to evaluate the logical form not only of the structure generated up to this point, but of the entire derivation to come, in order to check whether at a much later derivational stage the movement will have some effect in the semantic representation (*i.e.* whether, for instance, it will not be overridden by movement of, say, S, or YP).

```
         ZP
        /  \
      XP₁   Z'
       ↑   /  \
          Z    YP
              /  \
             S    Y'
                 /  \
                Y   XP₂
```
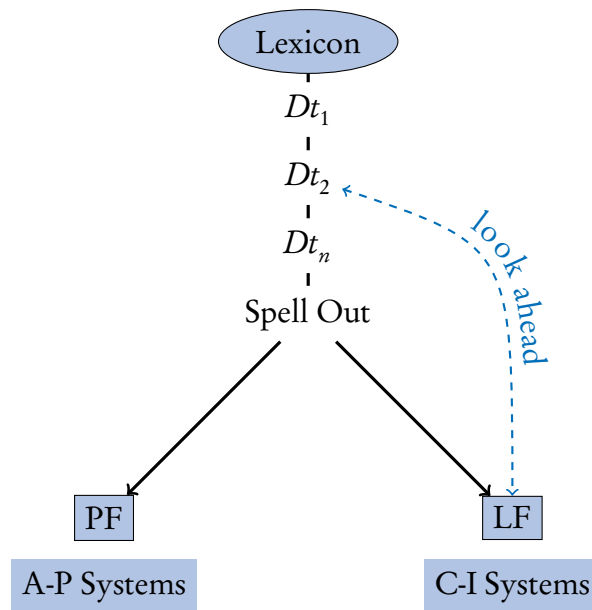
This is represented in Fig. 10:

Figure 10: Look ahead of conditional free merge approaches.

These look ahead operations are reminiscent of those brought about by prosody-based theories of focalization (see *i.a.* Irurtzun (2006, 2009) for a critical assesment of them).

The second possible conception of free merge is that the movement itself (the internal merge operation) is unconstrained, but then illicit representations are filtered out, as in Titov (2020). But this is paradoxical since rather than being economical, it implies a substantive overdoing in the syntactic component, which has to generate an infinite set of different derivations for each numeration. A set of movement and movementless derivations will be produced from a single input which will later on be evaluated in terms of their optimality *vis à vis* output filters. This is represented in Fig. 11:
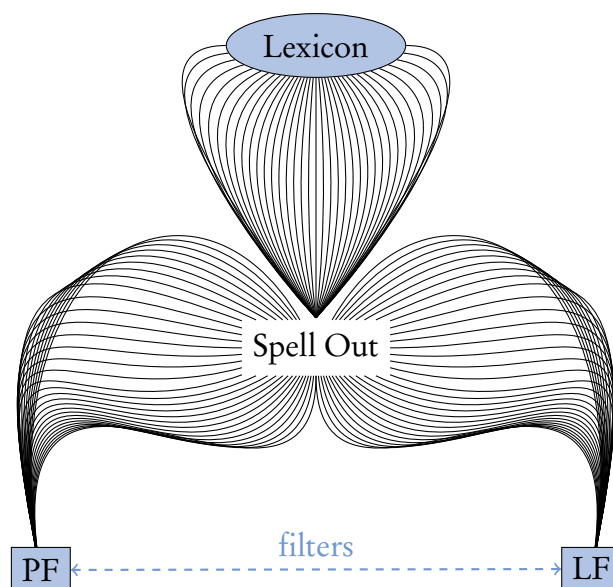
Figure 11: An overgenerating+filtering conception.

It further requires that a wide range of representational filter mechanisms should be postulated, in order to filter out ungrammatical representations (because, *e.g.* they do not gain any semantic effect in comparison to a simpler (movementless) alternative representation). This is actually what the optimality theoretic literature of the nineties and early aughts proposed: a free structure building operation (the function GEN) that generates literally an infinite set of candidate forms given an input; and then another function (EVAL) which will choose the most harmonic candidate, as the one that best satisfies the highest ranked constraint deciding between two candidates from a set of ranked FAITH-FULNESS and MARKEDNESS constraints (*i.a.* Prince and Smolensky, 1993; Legendre et al., 2001; Costa, 2004). I do not believe that such a system provides an explanatory model here; as the technical literature on the formal properties of optimality theory stresses, that is "a theory of constraint interaction, not of representations" (Moreton, 2004, 142) and the very nature of the input and the representational constraints themselves is dubious (Heck et al., 2002; Newmeyer, 2002). The proposals of Struckmeier (2017) and Titov (2020) provide no formalization of the 'candidate' generation and evaluation, nor of the representational constraints that are required. These are just stated as information structure 'templates' or predefined 'prosodic contours'. Instead of seeking to explain/derive the patterns, they are taken as some sort of 'constructions'. Finally, another major puzzle of such approaches is that free merge should bring with it freedom of movement, and hence it predicts the availability of an infinite array of patterns which are not attested cross-linguistically. In short, free scrambling across languages and across structures should be the norm, contrary to fact. Unfortunately, contrary to what was done in the OT literature with the study of factorial typology, no analysis of this issue is offered in the most recent interactive literature. Cross-linguistic differences should derive from differences in the filters, but this clashes with the assumption that the architecture of grammar is universal.

In sum, the first conception seems to me to be the most adequate one in descriptive and explanatory power. It is the most parsimonius one with respect to the rest of the general assumptions on how I-languages work, and it is also the only one that allows focus to have effects in all sub-modules of grammar, and all domains of the syntactic component: for instance, focus can be an optional feature assigned to some item(s) in a numeration, with its corresponding implications with respect to the rest of the items (merger, for instance, with a focus particle in languages allowing/requiring so)[29]. Then, since it is syntactically marked as focal, it can be subject to targeted movement operations to the left periphery, like the ones proposed in the rich cartographic literature. Last, after spell out it can also be subject to the focus-sensitive PF and LF processes (see Figure 8). The second and third conceptions both start out from the goal to avoid syntactification of some movement operations, and militate against optionality of features, but it would seem to me that this is unavoidable. Actually, if there is one point where no analysis can escape optionality it seems to be the Numeration and its corresponding choice and assignment of features. There is, as far as I know, no theory of lexical selection for a numeration that will deterministically decide whether a derivation starts with a [+plural] nominal that will become the direct object or not; likewise for [+strong] pronouns (which, incidentally, are typically employed in focus environements), or any other feature selected for the Numeration. Furthermore, within this syntactocentric conception, cross-linguistic differences in focus are to be framed like any other cross-linguistic variation: availability/activity/strength (or lack thereof) of specific heads/projections in different languages (like, *e.g.* determiners, complementizers, evidential markers, etc.). It is generally accepted that languages choose different syntactic primitives from a universal set; focus markers, displacement-triggers etc. would be just an instance of this. The second and third conceptions, on the other hand have to resort to a range of exceptional claims for variation in the domain of focalization by resorting to parameterized semantics and different architectures of grammar for different languages and constructions (*cf.* English *in situ* focus *vs.* English focus fronting or (pseudo-)clefting). As I pointed out above, their respective architectures of grammar seem either powerless to drive the focus-related operations or either they vastly overgenerate, while they cannot capture the syntactic, morphological, phonological and semantic effects of focus attested cross-linguistically.

6   Conclusions

As I said in the introduction, focus has always been an extremely difficult and elusive aspect of natural languages. But at the same time it seems to be intimately intricated in it as it is pervasive; all languages have grammatical means of expressing it and very often it is expressed by various means at the same time. Given its multi-dimensional nature, the discussion on where to model it is, of course, nothing new and it has alwasy be on the center on discussions on the architecture of grammar (see, *e.g.* Chomsky (1971)). I am convinced that the inverted-Y architecture of grammar and a syntactocentric conception of focus such as the cartographic one is the only coherent way of framing it. Any other interface-based approach seems to me plainly unable to derive its effects, and/or devoid of predictive power.

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[29]See Irurtzun (2006, 2008) for such a proposal.

Acknowledgements

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