Focus movement

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For 2nd edition

Word count: 27,231

Contents

0 Abstract .......................................................................................................................... 2
1 Introduction .................................................................................................................. 3
  1.1 Focus movement in generative syntax: an overview .............................................. 3
  1.2 Preliminaries .......................................................................................................... 4
    1.2.1 Definition of focus and the wh-test ................................................................. 5
    1.2.2 Different types of focus: semantic and pragmatic differences ....................... 5
    1.2.3 Ways of encoding focus in the grammar ......................................................... 6
    1.2.4 The focus construction ................................................................................... 8
  1.3 Focus movement in Hungarian: basic data ............................................................. 10
    1.3.1 Preverbal focus in Hungarian ......................................................................... 10
    1.3.2 Scrambling or movement? ............................................................................... 11
    1.3.3 The syntactic position of the focus: adjacency with the verb and complementarity with wh ................................................................. 12
    1.3.4 The semantics of Hungarian preverbal focus ............................................... 14
  1.4 Summary ................................................................................................................. 16
2 Focus assignment under government ......................................................................... 16
  2.1 Focus parameter .................................................................................................... 16
  2.2 Preverbal focus languages: Hungarian ................................................................. 17
  2.3 Postverbal Focus languages: Chadic languages ..................................................... 18
  2.4 D-structure or S-structure? .................................................................................... 20
  2.5 Evaluation of government-based approaches to focus movement ....................... 21
3 The cartographic approach to focus movement ......................................................... 21
  3.1 Precursors: focus movement is like wh-movement ................................................ 21
    3.1.1 Focus is quantificational .................................................................................. 22
    3.1.2 Weak crossover .............................................................................................. 22
    3.1.3 Focus and wh ................................................................................................... 23
      3.1.3.1 Semantic parallelism .................................................................................. 23
      3.1.3.2 Syntactic parallelism .................................................................................. 23
    3.1.4 Focus criterion: Basque ................................................................................... 24
  3.2 Development of the cartographic approach ............................................................. 26
    3.2.1 Focus as a functional head .............................................................................. 26
    3.2.2 Five characteristics of focus in Italian (Rizzi 1997) ....................................... 27
    3.2.3 Identificational focus versus information focus (É. Kiss 1998) ...................... 30
    3.2.4 Proliferation of focus heads ............................................................................. 31
      3.2.4.1 A right-peripheral Focus position in Italian .............................................. 31
      3.2.4.2 IFoc and CIfoc (Cruschina 2011) .............................................................. 32
      3.2.4.3 Kontrast (Valduví & Vilkuna 1998, Molnár 2002, 2006 and others) .......... 34
      3.2.4.4 Exclusive Identification Phrase and other information structure bearing heads (Horváth 2000) ................................................................. 34
      3.2.4.5 A-bar movement to the C-field is for ‘emphasis’ (Frey 2010) .................... 35
3.3 Advantages of the cartographic approach ................................................................. 36
  3.3.1 Functional heads provide interpretation ............................................................... 36
  3.3.2 Syntax-prosody mapping ......................................................................................... 36
  3.3.3 Overt realisation of the Focus head ....................................................................... 37
  3.3.4 Cross-categorial syntactic generalisations ............................................................ 37
3.4 Problematic issues for the cartographic approach ......................................................... 37
  3.4.1 No language has focus movement at LF only ....................................................... 37
  3.4.2 Extreme proliferation of positions: Dutch ............................................................ 40
  3.4.3 The semantics/pragmatics and prosody connection ............................................. 41
4 Interface approaches ..................................................................................................... 42
  4.1 Stress-focus correspondence ..................................................................................... 42
    4.1.1 Reinhart’s (1995, 2006) focus-to-accent view ..................................................... 42
    4.1.2 Focus movement in the focus-to-accent view ..................................................... 44
      4.1.2.1 Zubizarreta (1998): p-movement ................................................................. 45
      4.1.2.2 Stress-driven focus movement ................................................................. 46
  4.2 Focus movement at the syntax-semantics/pragmatics interface ................................ 48
    4.2.1 Flexible approach to topic and focus movement (Neeleman & Vermeulen 2012) ..................................................................................................................... 48
    4.2.2 Movement to the edge (Fanselow & Lenertová 2011) ...................................... 49
  4.3 Evaluation of the interface approaches ...................................................................... 50
5. Conclusion ..................................................................................................................... 51

0 Abstract

A language has a focus construction if a focused constituent (at least optionally) appears in a non-canonical syntactic position. Jackendoff’s (1972) invention, the [focus] feature, and Chomsky’s (1976) observation that focus gives rise to weak crossover effects paved the way for an analysis of focus constructions as instances of focus movement. For presentational purposes the analyses can be divided into three groups, which also by-and-large corresponds to their order of appearance.

The first group of analyses, which includes for instance Horvath (1986), regard the often-attested adjacency requirement between the focus and the V (or other functional head, like I or C) as the crucial characteristic of focus constructions. Characteristics of focus movement in this approach are explained by the notion of government. One of the main advantages of this view is that it is able to accommodate both pre-verbal and post-verbal focus positions with some degree of explanatory adequacy.

The second group of analyses, starting from Rizzi’s (1997) influential paper on Italian focus, comprises the cartographic approach to focus movement. The approach stems from the close proximity between focus movement and wh-movement. Its main tenet is that focus movement is triggered by a syntactic [focus] feature, and it targets a designated unique, pre-determined syntactic position: the Specifier of a functional Focus head. One immediate advantage of such a view is that it easily accounts for the quantificational properties of focus constructions.

The third set of analyses can be grouped under the umbrella term, interface approaches. These approaches stem from recognising the fact that a syntactic [focus] feature is a direct violation of Chomsky’s (1995) Inclusiveness Principle, and that if focus movement triggered by such a feature then the autonomy of syntax cannot be maintained. One set of interface analyses
concentrate on the syntax-prosody interface and seek to explain focus movement by making reference to the seemingly universal property of focus that if a language has a stress system, focus always bears main stress. The second set of analyses concentrate on the syntax-semantics/pragmatics interface and either seek to explain focus movement in terms of mapping principles between syntax and semantics/pragmatics, or give up the idea of information structurally-motivated movement altogether.

1 Introduction

1.1 Focus movement in generative syntax: an overview

This paper is concerned with the way focus movement has been analysed in generative syntax. In languages like Hungarian, discourse functions such as topic or focus are associated with a particular syntactic position. In other words, constituents that serve as the focus or topic of the utterance are displaced from their canonical position in the sentence.

All the analyses in the generative syntax literature agree that the displacement of focus in these languages is an instance of movement. The analyses diverge with respect to the nature of the movement and its trigger. During the history of generative linguistics focus movement has been treated by three major approaches. Let us take these in turn.

Historically the first group of analyses argued that focus assignment is similar to case assignment as both are assigned under government in S-structure. The earliest analysis of Hungarian focus movement is due to Horvath (1986). She proposed that a constituent has to appear in the governing domain of the verb in order to be focused. This is what triggers focus movement. Since focus assignment is argued to be under government at S-structure, there is an obvious parallel with case assignment in languages like English. One of the main advantages of this proposal is that it predicts a directionality effect: languages that govern to the left have focus movement targeting a left-adjacent position to the verb, while languages with rightward oriented government have immediately postverbal focus positions. It turns out that this directionality effect shows up in many languages. What prompted a move away from this approach, apart from a general move away from syntactic analyses based on the notion of government, was that it does not readily provide an explanation to the wide-spread similarities between focus constituents and wh-elements. Focus movement has been shown to exhibit quantificational properties, and several syntactic and semantic properties of operator-variable dependencies, such as weak crossover and parasitic gap licensing.

The second approach to focus movement is the cartographic approach, whose main tenet is that focus movement targets the specifier of a designated functional head, which is responsible for its interpretation as the focus of the utterance. This approach is more successful in explaining those syntactic and semantic properties of focus movement that are parallel to those of operator-variable dependencies. The cartographic approach has been successfully applied to many languages. Over the past decade, a certain proliferation of focus categories ensued. The idea that languages like English would have covert movement targeting a left-peripheral functional Focus head, similarly to their overt counterparts in Hungarian and Italian, was eventually abandoned in the face of evidence that alleged covert focus movement in English is not island-sensitive and that what appear to be weak crossover violations can be explained in other ways. With the advent of Minimalism (Chomsky 1995), research turned to the interfaces, and it was recognized that a syntactic [focus] feature would
violates the Minimalist ideal of an autonomous syntax, free of direct influence from semantics/pragmatics.

This brings us to a heterogeneous group of analyses that we can group under the term interface approaches to focus movement. The common thread connecting these proposals is that focus movement is not directly triggered by the [focus] feature and it does not target a unique, pre-determined syntactic position, i.e. Spec, FocP. The first group of analyses capitalises on the well-known generalisation that the focus constituent always bears main prosodic prominence (Chomsky 1971). In the cartographic approach, the fact that, at least in languages like English, the focus constituent bears main stress was regarded as irrelevant for the syntax of focus. All the analyses before had regarded focus as the primary property of syntax; prosody was secondary. In other words, in order to ensure that the focal constituent receives main stress, it was assumed that main stress gets assigned to the constituent that was marked focus in syntax. Thus, cartographic analyses conform to what Ladd (1996) called the accent-to-focus view. In contrast, this group of proposals under the interface approach takes just the opposite perspective. It is not accent that matches focus, but rather focal interpretation is attached to the constituent that bears accent: the focus-to-accent view. One of the main advantages of this view is that it provides a natural account for certain empirical facts, for instance, for the existence of focus projection. Another, more conceptual, advantage is that it provides a way to conform to Chomsky's (1995) inclusiveness condition, which all accent-to-focus views violate. The focus-to-accent view faces different empirical and conceptual issues. For instance, arguably, it assumes a certain kind of look-ahead property, often formulated in the form of economy considerations, and it is incompatible with the T-model as the architecture of the grammar.

Other interface approaches concentrate on the syntax-semantics/pragmatics interface. Some propose that certain interface mapping rules give rise to movement involving topics and foci. Others take Chomsky’s (2008) proposal of edge features as their starting point, and propose to give up the notion of information structurally motivated movement altogether.

This paper is organized in the following way. Section 1 provides an introduction. First, some preliminary discussion is put forth (section 1.2). The basic concepts such as focus and focus movement are defined and the scope of the paper is determined. The notion focus is examined briefly, both from a discourse-pragmatic and a semantic perspective, and a brief review is provided of positions available in the wider linguistic literature on the grammatical encoding of focus. Then, the basic syntactic and semantic characteristics of focus movement are described with the help of Hungarian data (section 1.3). The bulk of the paper is in sections 2-4. Here, one by one, the major lines of analyses concerning focus movement are reviewed. In particular, section 2 concerns analyses that argue that focus assignment is under government and thus liken focus to case; section 3 describes the cartographic approach; and section 4 discusses the interface approaches, starting with approaches that are concerned with the syntax-prosody interface (i.e. the focus-to-accent view), and then moving onto approaches that are based on a certain conception of the syntax-semantics/pragmatics interface. In all of these sections, the last subsection(s) (i.e. section 2.5, sections 3.3 and 3.4, and section 4.3) contain a discussion of the main advantages and disadvantages of the approach under consideration. These subsections are inevitably more speculative than the rest of the section, as their aim is to provide an evaluation of the proposals in both empirical and theoretical terms. Section 5 concludes the paper.

1.2 Preliminaries

This introduction has three aims. First, the notions focus and focus construction are defined in a way that is as theory-neutral as possible but nevertheless restrictive enough to determine the
set of phenomena under consideration. This will allow for the conclusion that cleft-constructions and constructions like English Heavy NP Shift are outside the scope of this work (section 1.2). Second, the basic syntactic and semantic characteristics of focus constructions are exemplified with Hungarian data. Two syntactic characteristics that are crucial for further discussion are identified: (i) focus is immediately adjacent to the verb; (ii) focus and wh-elements are in complementary distribution (section 1.3). Third, Horvath's (1986) arguments in favour of a movement analysis of the Hungarian focus construction are summarised (section 1.3.2).

1.2.1 Definition of focus and the wh-test

A well-formed sentence satisfies all the syntactic, semantic, morphological and phonological principles of the grammar. If so, the utterance is an expression of the given language. This does not imply, however, that the utterance of such a sentence can be used appropriately in any discourse context. Discourse is organized by information packaging devices, such as topic, focus etc. If the information structure of a particular expression does not match the information packaging required by the context, the expression is infelicitous in that context, albeit grammatically well-formed. For instance, the utterance in (1b) is not felicitous in the context of (1a), even though it is a well-formed expression of English. Throughout the text, infelicity is marked by #. Underlining indicates focus; capitals show the position of main stress.

(1)

a. What did John eat?

b. #John ate the pizza.

It is a well-known characteristic of wh-questions that they require an answer whose focus is the constituent corresponding to the wh-phrase. In (1b), the focus of the utterance is on the subject, John. In contrast, the wh-question in (1a) requires an answer whose focus is the direct object. As a result of this incompatibility of information structure, (1b) is not appropriate in the context of (1a). The incompatibility of the question-answer pair in (1) indicates that certain aspects of information structure are grammatically encoded: the utterance in (1b) has some grammatical properties that disallow it in the context of the wh-question in (1a), requiring focus on the object.

In this work, focus is taken to be the part of an utterance that is new or asserted. The rest of the utterance is the background (or in some cases the presupposed part). In particular, a diagnostic test to identify the focal part of an utterance is the wh-test. As was mentioned above, the part of the utterance that provides the answer to a wh-question is the focus. So, the focus of the answer in (2) is the DP_{DO}.

(2)

Q: What did John eat?
A: John ate the pizza.

1.2.2 Different types of focus: semantic and pragmatic differences

Different types of focus have been identified in the literature. These include semantico-pragmatic distinctions such as contrastive focus (Rochemont 1986) (3a), identificational focus (É. Kiss 1998) (3b), or new information focus (3c). Also, focus can be wide (or broad), as in (3c), or narrow, as in (3a) (Chomsky 1971). In this work, all these are taken to be part of the (general) notion focus.

(3)

a. I hate broccoli, not zucchini.
b. A brokkolit utálom.  
the broccoli-acc hate-I  
It's broccoli that I hate.

c. A: Do you have any special requirements for food?  
B: I hate broccoli.

Szabolcsi (1981, 1994) argued that the preverbal focus position in Hungarian is associated with exhaustive listing in a way that is directly reflected in the truth conditions of the utterance. Thus a sentence like (4a) means something like (4b).

(4) a. A tanár, Jánosnak adott jehlet t, tj  
the teacher John-dat gave A+-acc  
'The teacher gave an A+ to John.' (É. Kiss 1994: 27 ex. 55)
b. John is the only person amongst the members of the class (or some other set of people who could have gotten A+) that the teacher gave an A+ to.

In other words, there is a focus operator that checks every member of the contextually given relevant set for the property in question (here the property of receiving A+ from the teacher) and identifies John as the single member of that set of whom the property is true. Similar semantics has been proposed for the English cleft construction and for the focus-sensitive operator only (e.g. Rooth 1992). (See Rooth 1996 for an overview of the semantics of focus.)

In general, pragmatico-semantic distinctions such as exhaustivity will only be mentioned below where they are directly relevant for the analyses of certain focus constructions (see e.g. section 1.3.4., 3.2.3 or 3.2.4.3 ). More often than not, such distinctions will be ignored and focus will be treated as a unified phenomenon. This is based on the fact that all types of foci satisfy the wh-test, which was argued above to be a characteristic test for focus; all types of foci share a distinctive prosodic marking (main stress or pitch accent); and all types of focus have the discourse status of new or asserted information.

1.2.3 Ways of encoding focus in the grammar


Let us briefly review the literature on focus in light of some questions related to the nature of the interface between the grammar and discourse: Does the grammar (in its wide sense; i.e. including phonology but not pragmatics) determine the focus of an utterance? If so, does the grammar encode focus unambiguously? As we shall see these questions help us dividing the positions available in the literature in two classes: those that argue for encoding focus in the grammar directly; and those that argue for underdeterminacy with respect to grammatical encoding of focus.

There is a wide range of views on the issue of the grammatical representation of focus. The spectrum ranges from the functional sentence perspective (i.e. the Prague School) through the discourse theoretically motivated works (e.g. Gundel 1974; Prince 1979, 1981; Lambrecht
1994; Vallduví 1995; Vallduví & Engdahl 1996 and Erteschik-Shir 1997) to the strict 'encoding'-view of the GB/Minimalist literature.

The Prague School, at least in its original form (e.g. Dezso 1974; Hajicova & Szall 1988, Hajicova, Partee & Szall 1998 and others), proposed to represent information structural notions, such as topic and focus directly in the grammar in the sense that syntactic rules could make direct reference to these notions. They did not perceive the representation of such notions directly in the grammar as an issue, due to their holistic nonmodular view of the grammar. Their functionalist and to a large extent descriptivist point of view enabled them to make certain far-reaching generalisations (e.g. the fact that the topic usually precedes the focus; or the tendency for topics to be left-peripheral), and they intended to go no further.

The pragmatic approaches to focus, in particular the different works based on Relevance Theory (Sperber & Wilson 1995; Kempson et al. 2004; Breheny 1998), advocate a certain underdeterminacy of the grammar with respect to focus. They argue that the focus of an utterance is not fully determined by the syntactic and prosodic make-up of the utterance, although no doubt these contribute to the actual focus. In particular, Sperber & Wilson (1995) and Breheny (1998) emphasize the important role stress assignment plays in determining the focus of the utterance. In addition, they argue, pragmatic principles, knowledge of previous discourse and other kinds of world knowledge may be required to determine the focus of an utterance at the interface.

The GB/ minimalistic approaches are the strictest in the sense that they advocate a direct and unambiguous mapping between the grammatical representation of an utterance and its focus. From now on, we will concentrate on these. This is not to say that these approaches would be the only ones that advocate a deterministic encoding of focus in the grammar. There are many similar proposals outside the GB/ minimalistic framework that are not considered here for lack of space. These include King (1993, 1997); Butt & King (1996), Kempson et al. (2004), and Steedman (2000) among many others.

In the generative literature the standard view of the late eighties and early nineties was and to a large extent still is that focus is directly and unambiguously represented in the syntactic representation (cf. Antinucci & Cinque 1977; Calabrese 1982, 1992; Abraham et al. 1986; Horvath 1986; Rochemont 1986; Rochemont & Culicover 1989; Brody 1990, 1995; É. Kiss 1995, 1998; Rizzi 1997; Vallduví & Vilkuna 1998; Zubizarreta 1998). In other words, the syntactic representation of a sentence would provide the necessary information to identify the focus.

In particular, since Jackendoff’s (1972) seminal work, the standard way to encode focus in the syntactic representation is by the syntactic (and semantic) feature [+Focus], or [+F] for short:

'I suggest the following way, which does minimal violence to the theory as a whole. One artificial construct is required: a syntactic marker F which can be associated with any node in the surface structure.'

Jackendoff (1972: 240)

[+F] is freely assigned to a constituent, (5), and the F-marked constituent is taken to be the semantic focus of the utterance, by his focus assignment principle, (6).

(5)  [+F] marking
     Mark any constituent as [+F].

(6)  Focus assignment
The semantic material associated with surface structure nodes dominated by F is the Focus of the sentence. To derive the Presupposition, substitute appropriate semantic variables for the focused material.

(Jackendoff, 1972: 240)

Let us illustrate Jackendoff’s proposal. In the answer in (2) above, [+F] is assigned to the direct object pizza, which is interpreted as the focal part of the utterance. The presupposition of the utterance can be obtained by replacing the focus with a variable. This is shown in (7).

(7) a. John ate [t the pizza].
   b. Presupposition: John ate x.

As it will become clear in the course of this paper, the idea that focus is encoded in the syntactic representation by means of a syntactic feature, [+Focus], has been fundamental to all GB/minimalist theories of focus until very recently. It is therefore the most important theoretical assumption in these theories.

1.2.4 The focus construction

Focus as a grammatical notion is universal. There are no known languages that would not have a way to signal that a particular constituent is focused. Predominantly, focus is marked by prosodic prominence, more precisely by main stress or pitch accent or (boundary) tones. Morphological focus marking is also available in many languages. Finally, many languages use specific syntactic constructions to indicate discourse functions such as focus. In what follows, the discussion will centre on this group. An informal definition of languages that have syntactic focus constructions is given by É. Kiss (1995):

(8) The (discourse-)semantic function ‘focus’, expressing identification, is realised through a particular structural relation (in other words, it is associated with a particular structural position).

   É. Kiss (1995: 6)

There are two constructions that arguably fall under this definition, but that are not discussed here: clefts and heavy NP shift. Apart from space-limitations, the main reason for the omission is that they do not always carry a focus interpretation, although it is true that they often or even predominantly do. The fact that they do not necessarily carry focus interpretation is enough to claim that they are not really ‘focus constructions’.

This fact is illustrated for clefts first. It is often claimed that the fronted part in a cleft is the focus of the utterance (e.g. É. Kiss 1998). This is true in the exchange in (9a), but not in the exchange in (9b).

(9) a. A: I thought you ate the pizza.
   B: No, it was the spaghetti I ate.
   b. A: I thought it was Peter who ate the pizza.
   B: No, it was Peter who ate the spaghetti.

Admittedly, the non-focal clefted phrase is well-formed, because the example in (9b) is echoic. But other cases exist where the clefted phrase does not correspond to the focus of the utterance. In French, as Doetjes et al. (2004) showed, the clefted constituent may form only a
part of the focus, rather than be the focus itself. Their examples are given below. In (10), *avec plaisir* 'with pleasure' is not the focus itself. The sentence does not mean that the speaker means to refute a belief that it is not with pleasure that he invites the other one to the seminar. Similarly, (11) does not mean that the person only thanks Nicolas Ruwet and Maurice Gross, but noone else. Rather, as Doetjes et al. argue, these sentences are broad (or wide) focus utterances. So, clefting does not serve the need to focus the fronted constituent.

(10)  C'est avec plaisir que je vous invite à participer à ce séminaire.  
'It is with pleasure that I invite you to this seminar.'

(11)  C'est à Nicolas Ruwet et à Maurice Gross que je dois l'essentiel de ma formation dans cette discipline.  
'It's to Nicolas Ruwet and to Maurice Gross that I owe the essential part of my training in this discipline.'

Heavy NP Shift has similar characteristics. As (12a) illustrates, the rightmost constituent is often the focus of the utterance. However, this is not always the case. First, according to Williams (2003), heavy NP shift is also felicitous as an answer to a question that requires VP focus. See (12b). Second, the same echoic pattern as above can be also illustrated for HNPS, (12c). Finally, as (12d) shows, discourse-linked phrases may also undergo heavy NP shift, (12d) (Fritz Newmeyer p.c.).

(12)  a.  A: What did John give to Mary?  
    B: John gave to Mary all the money in the SATCHEL.

    b.  A: What did John do?  
    B: John gave to Mary all the money in the SATCHEL.

    c.  A: John gave to Joe all the money in the satchel.  
    B: No, John gave to MARY all the money in the satchel.

    d.  A: To whom did you give all your books on the phonetic foundations of conventional implicature?  
    B: I gave to MARY all of those unbelievably ridiculous publications.

In what follows, the discussion will be limited to the cases that fall under a somewhat more restrictive characterisation of focus constructions that is given in intuitive terms in (13).

(13)  **Focus construction:**

A particular structural relation (in other words, a particular structural position) that is associated with the (discourse-)semantic function 'focus'.

For this reason, we will also not be discussing *wh*-questions as instances of focus movement, except for a brief discussion in section 3.1.3. It has been argued that at least in some languages *wh*-words are in fact foci and *wh*-movement in these languages would be really focus movement (Haida 2007: 167). At the same time, it is not the case that in terms of meaning, the *wh*-word in these languages would come with a special pragmatic or information structural import of being focused (Haida 2007: 168). Since this paper is concerned with those instances of focus movement that have a pragmatic focussing effect, I will not discuss *wh*-questions here.

In the next section a description is given of the basic facts concerning the Hungarian focus construction. At the same time, some basic arguments are put forward based on Horvath's (1986) analysis that the Hungarian focus construction is the result of syntactic movement.
1.3 Focus movement in Hungarian: basic data

This section introduces the basic data concerning focus constructions. The facts enumerated here are exemplified by Hungarian, but most of the properties hold in other languages as well. Further characteristics and facts from other languages are introduced in the following sections as they become relevant for the discussion of the various analyses.

1.3.1 Preverbal focus in Hungarian

Horvath (1986) gives the following generalisation for focus in Hungarian:

(14) A constituent (other than V or a projection of V) can be interpreted as the FOCUS of its clause in Hungarian if, and only if, it itself occupies an immediately pre-verbal position, or is contained in a phrase that does so.

(Horvath 1986: 91)

In (15b-c) and (16b-c) it is shown that a focused constituent in Hungarian must appear preverbally. At the same time, as (15a) and (16a) illustrate, the most natural position of both arguments (see 16a) and adjuncts (see 15a) is postverbal, if the constituent is not focused.

(15)  
a. Attila félt a földrengéstől
   Attila feared the earthquake-loc
   'Attila was afraid of the earthquake.'

b. Attila a földrengéstől félt
   Attila the earthquake-loc feared
   'It was the earthquake that Attila was afraid of.' (Horvath 1986: 91 ex. 1)

c. *Attila félt a földrengéstől
   Attila feared the earthquake-loc
   'It was the earthquake that Attila was afraid of.' (Horvath 1986: 92 ex. 3)

(16)  
a. Mari az asztalra tette az edényeket
   Mari table-loc put the dishes-acc
   'Mari put the dishes on the table.'

b. Mari az edényeket tette az asztalra
   Mari the dishes-acc put table-loc
   'It was the dishes that Mari put on the table.' (Horvath 1986: 91 ex. 2)

c. *Mari az asztalra tette az edényeket
   Mari table-loc put the dishes-acc
   'It was the dishes that Mari put on the table.' (Horvath 1986: 92 ex. 4)

This is also true if a subpart of a DP is focused, as shown in (17).

(17)  
a. Attila Mari kutyájától félt
   Attila Mari dog-loc feared
   'It was Mary's dog that Attila was afraid of.' (Horvath 1986:143, Fn2, ex. i,ii)
1.3.2 Scrambling or movement?

Horvath (1986) shows that the focus of an utterance that surfaces in the matrix clause may originate from an embedded clause, even if the embedded clause is finite. This is illustrated for arguments in (18a), and for adjuncts in (18b). (Note that long focus movement is unacceptable for many speakers.)

(18) a. **Annát, mondtad hogy t_jön**
   Anna-acc said that comes
   ’((S)he) said that Anna was coming.’ (Lipták 1998: 91)

   b. **Londonba, mondtad hogy mész t_i**
   London-loc said-you that go-you
   ’You said you were going to London’ (Lipták 1998: 92)

As (19) shows, there is no restriction to the number of clauses a focus can cross.

(19) **Annát, mondtad hogy a szomszédok látták hogy t_jön**
    Anna-acc said-you that the neighbours saw that comes
    ’You said that the neighbours saw that Anna was coming’ (modified from Lipták 1998: 92)

This indicates that the focus construction is not clause-bound, which led to the general conclusion that the preverbal focus in Hungarian is the result of movement rather than a case of scrambling. Such so-called long focus movement cases are discussed in Horvath (1986), É. Kiss (1987, 1998), Lipták (1998), and Gervain (2002).

As Horvath shows, an analysis of the preverbal focus as scrambling is independently ruled out as scrambling into the higher clause is not well-formed even though the matrix predicate may case mark and/ or agree with the moved element. In other words, long focus movement may only target the preverbal position. This is shown in (20).

(20) *A gyerekek mondták a földrengéstől hogy Attila félt t_i*
    the kids said the earthquake-loc that Attila feared
    ’The kids said that Attila was afraid of the earthquake.’ (Horvath 1986: 100 ex. 19)

As a further indication that focus constructions involve movement, Horvath (1986) showed that long focus movement observes complex NP islands.

(21) *Az elnököt mondtad hogy hallottad [dp a hírt [cp hogy megérkezett e_i]]
    the president-acc said-you that heard-you the news-acc that prt-arrived
    ’You said you heard the news that the president had arrived.’ (Gervain 2002: 39 ex. 25)

Focus movement observes adjunct islands as well. So, focus movement out of an adjunct clause is blocked.

(22) *Az elnök(öt) figyelmeztettek minket [cp hogy meg érkezett e_i]]
    the president(-acc) warned-they us-acc that prt arrived
    ’They warned us that the president arrived.’ (Gervain 2002: 39 ex.
Wh-elements in Hungarian do not occupy the [Spec, CP] position, rather, if they appear in an embedded clause, they follow the complementizer hogy 'that'. Thus, an intervening wh-element is not expected to block long focus movement. In other words, focus movement is not sensitive to wh-islands.  

(23) Az elnököt, mondtad hogy hallottad [CP hogy mikor érkezett meg t.]  
the president.acc said-you that heard-you that when arrived prt  
‘You said you heard when the president had arrived.’  

On the basis of the above data, the Hungarian preverbal focus construction is taken to be a case of focus movement, in the sense that it is a movement operation into a position where the moved element is interpreted as focus.

1.3.3 The syntactic position of the focus: adjacency with the verb and complementarity with wh

The two syntactic characteristics that proved to be essential in GB and minimalist analyses of the Hungarian focus construction are the following (i) the focused constituent is immediately preverbal; (ii) a wh-element and a focus are in complementary distribution. As we shall now see, the two properties are in fact closely related.

As Horvath (1986) shows the distribution of adverbs can be used to demonstrate that focus and verb must be adjacent in Hungarian. Sentence adverbs can precede the focus, or follow the verb, but they cannot intervene between focus and verb:

(24) Mari valószínűleg/ hirtelen egy kanál *valószínűleg/ hirtelen tett valószínűleg/ hirtelen a kávéjába  
Mary probably/ suddenly a spoonful probably/ suddenly put probably/ the coffee-her-loc  
‘Mary probably/ suddenly put a spoonful of salt in her coffee.’ (Horvath 1986: 102 ex. 23)

The same adjacency requirement is also observed with wh-elements. As (25) illustrates every wh-element (except for miért 'why') has to be immediately preverbal. So, sentence adverbs can precede the wh-element, or follow the verb, but they cannot intervene between the two.

(25) Mari *valószínűleg/ hirtelen mit *valószínűleg/ hirtelen tett *valószínűleg/ hirtelen a kávéjába  
Mary probably/ suddenly what-acc suddenly put probably/ the coffee-her-loc  
‘What did Mary probably/ suddenly put in her coffee?’ (based on Horvath 1986: 102 ex. 23)

The fact that focus and wh both need to occupy an immediately preverbal position, explains the complementary distribution between the two. This is illustrated in (26). Ritkán 'rarely' requires obligatory focusing, so it cannot appear postverbally (26a-b). This restriction is absent if it appears in a wh-question. In this case the adverb must occur postverbally and the wh-element occupies the immediately preverbal position (26c-f). This is presumably because
the requirement that the *wh*-word is sentence initial is stronger than that the focus is (see Lipták 2001 for discussion.)

(26)  
   a. Ritkán jár ide.  
      Rarely comes *prt-to  
   b. *Ide jár ritkán.  
   c. Ki jár Ritkán ide?  
      who comes rarely here-to  
      'Who comes here rarely?'  
   d. *Ki ritkán jár ide?  
   e. *Ritkán ki jár ide?  
   f. *Ritkán jár ki ide?  

In Hungarian there is a class of elements that are called verbal modifiers, which also appear immediately preverbally. This group includes verbal particles, resultatives, depictives and incorporated prototypical objects that often lack a determiner layer. The immediately preverbal positioning of these is illustrated in (27a) through (27d) respectively.

(27)  
   a. Mari valószínűleg/ hirtelen bele *valószínűleg/ hirtelen tett valószínűleg/ a kávéjába egy kanál sót  
      Mary probably/ suddenly Prt probably/ suddenly put probably/ suddenly the coffee-her-loc a spoonful salt-acc  
      'Mary probably/ suddenly put a spoonful of salt into her coffee.'  
   b. Mari valószínűleg/ hirtelen tönkre *valószínűleg/ hirtelen tette *valószínűleg/ a kávéját egy kanál sóval  
      Mary probably/ suddenly loc probably/ suddenly def probably/ suddenly the coffee-her-acc salt-inst  
      'Mary probably/ suddenly spoilt her coffee with a spoonful of salt.'  
   c. Mari valószínűleg hidegen *valószínűleg itta valószínűleg a kávéját  
      Mary probably cold-loc probably/ def probably/ the coffee-her-acc  
      'Mary probably drank her coffee cold.'  
   d. Mari valószínűleg kávét *valószínűleg ivott valószínűleg reggel  
      Mary probably coffee-acc probably drank probably morning  
      'Mary probably drank coffee this morning.' (based on Horvath 1986: 102 ex. 23)  

As expected, verbal modifiers are in complementary distribution with foci (and also with *wh*). This illustrated for particles in (28).

(28)  
   Mari *bele egy kanál sót bele tett bele a kávéjába  
      Mary Prt a spoonful salt-acc prt put prt the coffee-her-loc  
      'Mary put a spoonful of salt into her coffee.' (based on Horvath 1986: 102 ex. 23)
As a final characteristic of preverbal focus, Horvath notes that the immediately preverbal position does not admit free right-branching recursion. This is a characteristic left-branch effect in an otherwise right-branching language (see Emonds 1976: 19), which might be indicating that the focus occupies a left-branch position. As (29) shows the focus position only admits the head of the relative clause, but not the clause itself. Vogel & Kenesei (1990) argued that the reason for this restriction is in fact prosodic. It is due to the requirement that the focus and the verb form one phonological phrase. Thus, material that is itself the size of an intonational phrase, such as a relative clause, cannot intervene between the focus and the verb.

(29) a. *A tanár AZT a gyereket [CP aki túl sokat beszélt] küldte ki a szobából
the teacher that-acc the kid-acc who too much-acc talked sent prt the room-loc
b. A tanár AZT a gyereket küldte ki a szobából [CP aki túl sokat beszélt] the teacher that-acc the kid-acc sent prt the room-loc who too much-acc talked

'The teacher sent out of the room the kid that was talking too much.' (Horvath 1986: 103-4 ex. 24)

1.3.4 The semantics of Hungarian preverbal focus

Following and extending a proposal by Kenesei (1986), Szabolcsi (1994) argued that the interpretation of the preverbal focus position is exclusion by identification. So an example like (30a) means (30b).

(30) a. MARI alszik
Mary sleeps
'MARY sleeps.' (É. Kiss 1994: 27 ex. 55)
b. \( \alpha (\text{sleep}(x)) = \text{Mari} \)
The person that sleeps is MARY.

As strong support for the semantic nature of focus, Szabolcsi (1981) demonstrated that focusing has an effect on the truth conditions of the sentence. For instance, compare (31) and (32). (31b) is a logical consequence of (31a), while this is not true of (32b) and (32a). Consequently, conjoining either (32a) or (32b) with the negation of the other one does not yield a contradiction. This is shown in (33).

(31) a. János, magával vitte Marit és Évát t_j
John self-com took Mary-acc and Eva-acc
'John took Mary and Eva with him'
b. János, magával vitte Marit t_j
John self-com took Mary-acc
'John took Mary with him' (É. Kiss 1994: 28 ex. 59)
(32) a. János, [Marit és Évát], vitte magával t_j, t_j
John Mary-acc and Eva-acc took self-com
'It was Mary and Eva that John took with himself'
b. János, Marit, vitte magával t₁ t₂
   John Mary-acc took self-com
   'It was Mary that John took with himself.' (É. Kiss 1994: 29 ex. 60)

(33) János, nem [Marit és Évát] j vitte magával t₁ t₂
    John not Mary-acc and Eva-acc took self-com
    But Mary-acc took self-com
    'It was not Mary and Eva but Mary that John took with himself.' (É. Kiss 1994: 29 ex. 61)

The same is true for sentences involving only and clefts in English:

(34) a. John invited only Mary and Eve. He didn't invite only Mary.
b. It was Mary and Eve that John invited, not Mary.
c. *John invited Mary and Eve. He didn't invite Mary.

However, there is evidence that exclusion may sometimes be absent from the meaning of preverbal focus in Hungarian (É. Kiss 1987). In these cases, only identification is present. Indefinites often have this property. So, for instance (35) does not presuppose the existence of a set of groups of people identifying the set of actors as the only relevant one for which it is true that they are reading in the garden. It simply identifies the set of people that are reading in the garden as actors.

(35) A keretben színészek olvasnak fel t₁ t₂
    the garden-loc actors read prt
    'In the garden, actors are reading out loud.' (based on É. Kiss 1994: 28 ex. 56)

Similarly, numerals also only express identification and not exclusion. Even though, (36b) means that it is exactly 30,000 forints that John spends a month, this is not the result of an operation where 30,000 would be identified as the only member of the set of natural numbers such that John spends that many forints in a month. Rather, as (36b) indicates focusing the numeral has the effect that an 'exactly' rather than an 'at least' reading is associated with the numeral (Szabolcsi 1981).

(36) a. János, elkölt 30 000 forintot egy hónapban t₁ t₂
    John prt-spends 30,000 forints-acc a month-loc
    'John spends (at least) 30,000 forints a month.'
b. János, 30 000 forintot költ el egy hónapban t₁ t₂
    John 30,000 forints-acc spends prt a month-loc
    'John spends exactly 30,000 forints a month.' (É. Kiss 1994: 28 ex. 58)

The fact that exhaustivity disappears in these cases suggests that a sufficiently refined semantic analysis of focus is required that is capable of taking such cases into consideration. Alternatively, it could be argued that such cases make it less clear that the specific focus interpretations can be systematically paired with certain construction types (e.g. exhaustivity with preverbal focus in Hungarian). This work does not intend to take a stand on this issue.
Whether the ultimate analysis would account for exhaustivity in the semantics or pragmatics, it is important to note that the existential presupposition cannot be cancelled (37a), and the uniqueness presupposition cannot be cancelled either (37b):

(37)  
a. Nem Mari jött el. #Senki nem jött el.  
Not Mary came prt noone not came prt  
‘The person who came was not Mary. Noone came.’
b. Nem Mari jött el. #Péter is eljött.  
Not Mary came prt Peter too came.  
‘The person who came was not Mary. Peter came too.’

Finally, a further interesting property of Hungarian preverbal focus is that in addition to its exclusive identification interpretation, it also has a contrastive aspect to its meaning in the sense that there has to be at least one salient entity for which the predicate does not hold. For this reason universal quantifiers are excluded from this position (38a) and not all members of a given set can be present (38b).

(38)  
a. *Mindenki jött el.  
Everyone came prt  
‘The person who came was everybody.’
b. *A három nővér közül Olja, Mása és Irina jött el.  
The three sisters from Olja, Masha and Irina came prt  
‘Among the three sisters, the ones who came were Olga, Masha and Irina.’

1.4 Summary

This introduction had three aims: (i) to give a working definition of focus and focus construction that is precise enough to delimit the range of phenomena that are under discussion; (ii) to introduce basic data and identify some syntactic and semantic characteristics of the Hungarian focus construction; and (iii) to argue that this construction involves syntactic movement rather than scrambling (or PF movement).

2 Focus assignment under government

Armed with the definitions and basic data, we can now turn to the first group of analyses of focus movement: the proposal that focus is assigned under government, like case. First, the original proposal of Horvath (1986) is spelt out (Section 2.1). Given that government is known to display directionality effects across languages, both preverbal (Section 2.2) and postverbal (Section 2.3) focus constructions are analysed. Section 2.4 establishes that this proposal is committed to the idea that focus, like case, is an S-structure phenomenon (section 2.4). Section 2.5 evaluates the merits of the proposal and identifies some shortcomings.

2.1 Focus parameter

Horvath (1986) observes that the adjacency requirement on focus and the verb spelt out in section 1.3.3 above is not restricted to Hungarian. Rather, in other languages such as Basque and Aghem there is also an adjacency requirement on focus and verb, (39a) and (39b).

(39)  
a. Jon aurten etorri da herri honetara BASQUE  
john this year come has this town
'It is this year that John came to this town'
(Ortiz de Urbina 1989:214-5)

b. à mɔ zí  ámb-fíñ bɛ-kɔ AGHEM
sub P eat friends fufu
'The friends ate fufu.'
(Horvath 1986: 124)

Another grammatical phenomenon that typically requires adjacency with the verb is case. Thus in English, which is a VO language, the object appears immediately postverbally, while in Turkish, an OV language, indefinites, which lack morphological case marking, appear immediately preverbally, (40a) and (40b).

(40)

a. John ate (*pensively) the sandwich.
b. Üc cocuk üçü yeni bir araba (*din) almiş. TURKISH
three child three new a car yesterday bought
'Three children bought three new cars.'

Moreover, it turns out that the order of the verb and the focus follows the directionality of government for case in the language. Thus in Basque, which is an OV language, the focus appears immediately to the left of the V, while in Aghem, which is a VO language, the focus is immediately postverbal. For this reason Horvath proposed that in languages with syntactic focus constructions the syntactic feature FOCUS is assigned by the verb under government, while languages where syntactic focus constructions are missing FOCUS is assigned freely at S-structure. Thus she formulated the Focus parameter:

(41)  
FOCUS-parameter:
  i. FOCUS can be freely assigned to categories in S-structure.
  ii. FOCUS is a syntactic feature inherent to the lexical category V. It can be assigned to other categories by the V under government and adjacency.

(modified from Horvath 1986: 132)

It is hard to over emphasise the importance of this proposal. By establishing a parallel between case and syntactic focus constructions, Horvath (1986) provided a way to handle the phenomenon of syntactic focus marking. The similarities of case and focus were compelling. Both are subject to the same government under adjacency requirement that was fundamental to GB theory. Consequently, languages with focus constructions received a convincing analysis: focus can be treated similarly to case.

The consequences of Horvath's work, both empirical and theoretical are far-reaching. For instance, it is at least partially responsible for the birth of a whole enterprise of analyses of focus constructions in different languages, culminating in the collection of papers edited by É. Kiss (1995) and Rebuschi & Tuller (1999). The details of two of these will be fleshed out here: Horvath's own analysis of Hungarian (section 2.2) and Tuller's (1992) analysis of the Chadic languages (section 2.3). The choice is motivated by the fact that Hungarian has preverbal focus, while the Chadic languages discussed here have postverbal focus constructions.

2.2 Preverbal focus languages: Hungarian
Recall from section 1.3.3 that Horvath (1986) showed that in Hungarian focused constituents, *wh*-elements and verbal modifiers are in complementary distribution. The relevant data is repeated here for convenience. If a focused constituent or a *wh*-element is present in the clause, they appear immediately preverbally. The verbal modifier is postverbal in this case. If there is no *wh*-element or focused constituent in the clause, the verbal modifier is immediately preverbal.

(42) Mari hirtelen egy kanál sót/mít/ bele *hirtelen tett hirtelen (bele) a kávéjába
Mary suddenly a spoonful salt-acc/what/ suddenly put suddenly prt the coffee-acc/prt
'Mary suddenly put a spoonful of salt/what/ in(to) her coffee.'

To put it differently *wh*-elements, focused constituents and verbal modifiers all appear in the immediately preverbal position. Thus, they are in complementary distribution (see section 1.3.3 for precise data). Horvath argues that this is due to the fact that they literally appear in the same syntactic position. If one occupies this position neither of the others can appear there. In other words, she proposes that focused constituents (as well as verbal modifiers and *wh*-elements) move to an immediately preverbal position.

(43) \[ [\text{VP} \text{wh/ focus/ verbal modifier V ...}] \]

This allows the verb to govern the preposed constituents, which she claims is necessary for foci according to the proposed Focus parameter (see 41 above). She proposes that *wh*-elements target the same position because they are subject to a universal constraint regarding their distribution:

(44) The syntactic position(s) in which non-echo interrogative *wh*-phrases can appear in a language L will be identical to or be a proper subset of the positions in which FOCUS-constituents can appear in a language L.

(Horvath 1986: 122)

2.3 Postverbal Focus languages: Chadic languages

Horvath's (1986) idea that the adjacency requirement between the V and the focus is the result of the requirement that the V governs the focus makes strong predictions for cross-linguistic variation. Languages like Basque, Turkish, Hindi, Urdu are strict SOV languages, so presumably the direction of government in these languages is to the left. Thus, the prediction is that if these languages have focus constructions, then focus will be immediately preverbal. This is indeed the case, as has been argued among others by Ortiz de Urbina (1995) for Basque; by Kural (1992) for Turkish; by Butt and King 1996, Kidwai 1999 for Hindi-Urdu. On the other hand, typical VO languages, where the direction of government is to the right, are expected to have focus constituents in an immediately postverbal position. There are a number of languages that show this pattern. This possibility will be illustrated here by reproducing Tuller's (1992) analysis of Chadic languages.

Tuller (1992) presents an analysis of focus constructions in Chadic languages, which is very close to Horvath's (1986) analysis in spirit. She argues that [+FOCUS] is a feature of Infl and that the focused constituent needs to be in the governing domain of Infl. In the languages she discusses, Western Bade, Podoko, Tangale, Kanakuru and Ngizim, the direction of government is to the right, as in English. She argues that in these languages, the V moves to Infl, while the focused constituent adjoins to the VP from the left. As a result, we get a
configuration where focus is postverbal and adjacent to the verb and is in the governing domain of the verb in an ECM fashion. This is illustrated schematically in (45).

(45) \[ I' \rightarrow [I + V_i [VP X_P \text{focus} [VP t_i \ldots]]] \]

The languages under discussion fall into two groups depending on a more precise characterisation of their focus constructions. In Type A languages, the focus is directly adjacent to the V from the right. Western Bade and Podoko are languages of this kind. In Type B languages, the head of the direct object or the entire direct object intervenes between the V and the focus on its right. This group includes languages like Tangale, Ngizim and Kanakuru. Tuller notes that all the Type B languages are SVO and that Type A languages are either SVO or VSO. She argues that this is not an accident, rather, what distinguishes Type A languages from Type B languages is that the trace of the V that undergoes V-movement to I is able to govern (for case purposes) a VP-internal direct object in Type A languages, but not in Type B.

Given the schema in (45), Type B languages face a difficulty. V-to-I movement is necessary to licence the focus in the governing domain of Infl. At the same time, since the trace of the verb is unable to govern a VP-internal object, V-to-I movement is not possible as the direct object would remain caseless. Tuller argues that the head of the direct object incorporates into the V prior to V-to-I, thus bypassing the case problem. Indeed, as the following example shows, in Kanakuru, the head of a complex NP intervenes between the V and the focus, but the relative clause has to follow the focus. This phenomenon is called direct object splitting.

(46) aďe [shiruwoi] ngadlai [mo shee wura] ane KANAKURU
    ate fish-the cat-the RM she fried up
    'The cat ate up the fish that she fried.'
    (Tuller 1992: 309, ex 9a)

But in Tangale and Ngizim, there seems to be optionality with respect to the size of the intervening object. Both the head or the entire object may intervene. See (47) for a Tangale example. This is unexpected: how could the whole complex NP incorporate into the V? Incorporation usually only effects heads, not complex phrases.

(47) Shag [wamunjaanan] non [nam Aisha ḏikọ] TANGALE
    Ate food-RM who RM Aisha prepared
    'Who ate the food that Aisha prepared?'
    b. shag [wamunjaanan Aisha ḏikọ] non
    (Tuller 1992: 310, ex 10)

Tuller offers an elegant solution to the problem. She observes that in all the examples where an entire object intervenes between the V and the focus, the focus is in fact clause-final. So, she argues, Tangale and Ngizim have a separate focus construction, one that places the focused constituent in a right peripheral specifier in the complementizer domain. So, the optionality of direct object splitting is merely epiphenomenal. What really happens is that direct object splitting (i.e. incorporation of the head of the direct object into the V) is obligatory in these languages as well, but this can be masked by the presence of an alternative construction that places focus in a right-peripheral, clause-final position.
As a final point, she explains why Kanakuru, the language where the obligatoriness of object splitting is transparent, lacks the clause-final focus position. The answer is simple, it has a clause-initial focus position instead. See (48).

(48)  
\[
\begin{array}{lllll}
Basha & shee & tupa \ ya & KANAKURU & \\
Foc & 2perf & V & DO & \\
\end{array}
\]

'Basha sent him.'

(Tuller 1992: 324, ex 28a)

2.4 D-structure or S-structure?

Horvath's theory provides further support for the position argued for by Chomsky (1971) that focus is established at S-structure, rather than at D-structure or at PF. Case is the prototypical example of an S-structure phenomenon in GB theory. So, by drawing a parallel between case and focus, Horvath emphasises the S-structure characteristics of focus. Chomsky (1971) and Jackendoff (1972) argued that focus cannot be a D-structure phenomenon as Postal and others had proposed, since focused constituents can be created at S-structure that were not available at D-structure. An examples is given in (49). Here the underlining D-structure of (49a) is given in (49b). If focus was determined at D-structure, then we would expect that the focus of the utterance is as in (49c). So (49d) would be a possible answer to (49a). However, as (49e) indicates, (49d) is not the only possible answer that can be given, and thus (49c) is not the only possible focus of the utterance in (49a); (49f) is also a possible focus.

(49)  
\[
\begin{array}{llllll}
a. & \text{Was it a red-shirted EX-CONVICT that he was warned to look out for?} \\
b. & \text{the one he was warned to look out for was X} \\
c. & \text{a red-shirted ex-convict} \\
d. & \text{No, he was warned to look out for an AUTOMOBILE SALESMAN.} \\
e. & \text{No, he was warned to look out for a red-shirted AUTOMOBILE SALESMAN.} \\
f. & \text{ex-convict} \\
\end{array}
\]

Chomsky argues that the potential foci of the utterance in (49a), which are \( [x, \text{ex-convict}] \) and \( [sp, \text{a red-shirted ex-convict}] \), are not available at the D-structure representation, rather they are distinguished by the prosody of the utterance: any constituent at S-structure that contains the main stress of the utterance are a potential focus of the utterance.

In another example, Chomsky shows that in certain cases, the S-structure focus of an utterance does not even correspond to a constituent in D-structure. The utterance in (50a) can be felicitously answered by any of the utterances in (50b) through (50d). Presumably the D-structure representation of (50a) is (50e). If so, then the focus indicated in (50c), \( [sp \text{ likely not even to be nominated}] \), corresponds to the string certain to lose, which is not a constituent at D-structure in (50e).

(50)  
\[
\begin{array}{llllll}
a. & \text{Is John certain to WIN?} \\
b. & \text{No, John is certain to LOSE.} \\
c. & \text{No, John is likely not even to be NOMINATED.} \\
d. & \text{No, the election will never take PLACE.} \\
e. & [John win] is certain \\
\end{array}
\]
So, focus in English is an S-structure phenomenon. Then, an analysis, such as Horvath's, that argues that the syntax of focus constructions is similar to the syntax of case is a welcome one, given that case is an S-structure phenomenon as well.

2.5 Evaluation of government-based approaches to focus movement

The main advantage of the government approach to focus movement is that it provides a syntactic explanation for the directionality effects found in focus movement by relating it to the direction of government in any given language. As we will see in the subsequent sections directionality issues are not discussed in more recent approaches, with the exception of the stress-driven approach (section 4.1.2). This approach also goes some way towards explaining why verb movement often accompanies focus movement: government by the verb is necessary, so the verb must move to a position local to the focus. At the same time, note that our improved understanding of Hungarian syntax has made an analysis that places verbal particles and foci in a complementary distribution as sitting in the same syntactic position untenable. So, an alternative syntactic analysis must be sought that accounts for the apparent complementary distribution in another way. In addition, cross-linguistically, verb movement and focus movement do not always go hand in hand. For instance, Italian focus movement is not necessarily accompanied by verb movement (Rizzi 1997) (see further discussion in section 3.1.3).

The government-based approach does not address certain important properties of focus movement, including its affinity to wh-movement. This is the starting point of the next group of analyses that we discuss here.

3 The cartographic approach to focus movement

The idea that focus is similar to wh rests on both syntactic and semantic considerations that draw a parallel between the two. These considerations gave rise to analyses arguing for the Focus criterion, alongside the Wh-criterion, which state that a focus or wh-element has to be licensed in a specifier-head relationship with its licensing head. This proposal is exemplified by the discussion of Ortiz de Urbina's (1995) analysis of focus movement in Basque (section 3.1.4). Rizzi (1997)’s analysis of Italian focus movement is presented next. He established the basis of the cartographic approach to focus movement by proposing that a designated functional head, the Focus-head is responsible for focus movement. Then, several cartographic proposals are presented for different languages and different constructions. Our enumeration is naturally non-exhaustive. We concentrate on proposals that have been important in the development of the cartographic approach from a theoretical perspective. The merits of the cartographic approach are discussed in section 3.3 and certain issues that are problematic for this approach are discussed in section 3.4.

3.1 Precursors: focus movement is like wh-movement

Before we embark on a trip to discover the characteristics of focus movement that assimilate it to wh-movement, let us take a step back and investigate the origins of a movement approach to focus. The idea that focus would be associated with movement stems from two independent factors: (i) the fact that focus is quantificational (ii) the assumption that quantificational elements are assumed to take their respective scopes via quantifier raising (May 1977). Let us take these in turn.
3.1.1 Focus is quantificational

The fact that focus is quantificational can be illustrated by the examples in (51) where (51a) is true while (51b) is false in the given discourse context even though (51a) and (51b) differ only in focus. In other words, two sentences may differ in truth value if they only differ in focus.

(51) Context: John gave a book and a pen to Sue. He gave nothing else to anybody.
   a. John only gave a book to SUE. TRUE
   b. John only gave a BOOK to Sue. FALSE

As Szabolcsi (1981, 1994) argued, in Hungarian, where overt focus movement happens, the effect on the truth value can be observed even without the presence of a focus sensitive operator such as only. So it is really the focal interpretation that is responsible for the truth conditional effect. The Hungarian version of (51) using left-peripheral focus are given in (52).

See also the discussion in section 1.3.4.)

(52) Context: John gave a book and a pen to Sue. He gave nothing else to anybody.
   a. János ZSUZSINAK adott egy könyvet. TRUE
      John Sue-to gave a book-acc
      ‘It was to SUE that John gave a book.’
   b. János egy KÖNYVET adott Zsuzsinak. FALSE
      John a book-acc gave Sue-to
      ‘It was a BOOK that John gave to Sue.’

3.1.2 Weak crossover

The treatment of focus in terms of ‘quantifier raising’ was first suggested by Chomsky (1976), who noted that backward coreference is ruled out if the full DP is focused, while allowed, if not. Thus (53b), as opposed to (53a), is ungrammatical.

(53) a. The man that she, met LIKED Mary,.
   b. *The man that she, met liked MARY,.
   LF: MARY, [the man that she, met liked t,]

Chomsky (1976) argued that the ungrammaticality of (53b) can be explained if one assumes that the focal element undergoes fronting at LF. (53b) is a weak crossover violation resulting from the LF movement of the focused element over the coindexed pronoun. Thus (53b) is similar to (54a), where the movement of the wh-element across a coindexed pronoun is ruled out as a weak crossover violation.

(54) a. *Who, does the man that she, met like t,?
   b. Sam only saw a [NP man [CP who was wearing a RED hat]]

Note that this argument is considerably weakened by the observation, already made by Jackendoff (1972), that focus disregards syntactic islands. This is illustrated in (54b) for a complex NP island. This would mean that focus movement (or maybe LF movement in general) is different from overt movement in that it is not sensitive to islands. This would be an undesirable outcome, especially in the light of the facts given in 1.3.3 that showed that islands are observed by focus movement in languages with focus constructions, like
Hungarian. Nevertheless, at least until the early nineties the alleged weak crossover violation exemplified in (53) was taken to be the strongest argument for the treatment of focus in terms of movement. An evaluation of the strength of this argument will be given in section 3.4.1, where it is shown that (53b) can be analysed as a discourse violation rather than a violation of the conditions on variable binding.

3.1.3 Focus and \textit{wh}

3.1.3.1 Semantic parallelism

An immediate advantage of treating the syntax of focus and \textit{wh} in a similar fashion is the following. While it is unclear what would constitute semantic parallelism between focus and case, focus and \textit{wh} appear to behave in a similar way semantically. Following Jackendoff (1972), we may represent the non-focal part of an utterance by replacing the focus by an appropriate semantic variable, which is existentially bound, as in (55b). Arguably, the \textit{wh}-question in (55c) carries the same presupposition. In a negative answer to a \textit{wh}-question, such as (55d), the presupposition is denied. In other words, what we see is that both focal and \textit{wh} utterances contain a presupposition. This explains partly why a \textit{wh}-test is so appropriate for identifying foci. The \textit{wh}-question provides the necessary presupposition for us, and thus, it is easy to identify the focus of the answer: it is the part of the answer that is not contained in the presupposition.

(55)  
\begin{enumerate} 
\item \textit{It is the man in the red HAT that John saw.} 
\item \(\exists x\) (John saw \(x\)) 
\item Who did John see?  
\item Noone.\(\neg\exists x\) (John saw \(x\)) 
\end{enumerate}

3.1.3.2 Syntactic parallelism

It has long been noted that focus in languages like Hungarian behaves similarly to \textit{wh}-elements (Haida 2007). In particular, recall from section 1.3.3 (and also section 2.2) that Hungarian focus movement is in complementary distribution with \textit{wh}-movement in simple clauses, suggesting that the focus element and the \textit{wh}-constituent occupy the same surface syntactic position (e.g. Horvath 1986).

Another similarity between focus movement and \textit{wh}-movement is that both may apply successive cyclically and thus across finite clauses. As it was shown in section 1.3.3, Hungarian has long focus movement of the relevant sort. (In section 3.1.4 we will see examples of long focus movement in Basque.)

A final property of focus movement that is also displayed by \textit{wh}-movement is that it licenses parasitic gaps. This is illustrated for Hungarian in (56): (56a and 56b) show that \textit{wh}-movement and focus movement license parasitic gaps, while (56c and 56d) show that scrambling or topic movement do not.

(56)  
\begin{enumerate} 
\item Mit, dobott ki Péter t, anélkül hogy elolvasott volna t,? 
\text{what-acc threw prt Peter without that prt-read be-irreal} 
\text{"What did Peter file without reading?"} 
\item Fontos iratokat, dobott ki Péter t, anélkül Hogy elolvasott volna t, 
\text{important documents-acc threw prt Peter without That prt-read be-irreal} 
\end{enumerate}
'It was important documents that Peter file without reading.'

c. Kidobott fontos iratokat Péter től anélkül Hogy elolvasott volna tőle.
   'Peter threw important documents without reading (them).'

d. *Fontos iratokat Péter dobott ki anélkül hogy elolvasott volna tőle.
   'Peter filed important documents without reading (them).'

3.1.4 Focus criterion: Basque

The analysis of focus as an instance of A-bar movement similar to *wh*-movement will be illustrated by Basque. Basque is an OV language (Ortiz de Urbina 1989). It is (split) ergative and has morphological case. It has no morphological focus markers, but just like in Hungarian, focused constituents appear in the immediately preverbal position.

(57) a. Jon herri honetara aurten etorri da
   'John came this year to this town.'

   'It is this year that John came to this town'
   (Ortiz de Urbina 1989:214-5)

Ortiz de Urbina (1989, 1995) argues that clauses that have a focused constituent instantiate residual V2 effects. Thus in these cases the focused constituent is clause-initial and the V follows immediately. In this respect focus constituents are parallel to *wh*-words. For this reason, Ortiz de Urbina (1995) proposes an analysis following Rizzi's *Wh*-criterion, given in (58).

(58) *Wh*-criterion:
   A. A *wh*-operator must be in a spec-head configuration with an \(X^0_{[+wh]}\)
   B. An \(X^0_{[+wh]}\) must be in a spec-head configuration with an *wh*-operator
   (Rizzi 1996)

Rizzi’s proposal was meant to capture the fact that (i) *wh*-questions in English are residual cases of V2; (ii) in multiple *wh*-questions only one *wh*-element moves overtly. (i) is ensured if it assumed that (A) applies at S-structure in English. Languages are parametrised with respect to the level of representation where (B) applies. In English multiple *wh*-questions only one *wh*-element moves to [Spec, CP] overtly, the remaining *wh*-elements move there at LF. So, in English, clause A applies at S-structure, while clause B applies at LF.\(^7\)

In Basque, just like in Hungarian, a focused phrase appears in the specifier of a head bearing a focus feature at S-structure. Any further focused phrases move there at LF. Brody (1990) and Ortiz de Urbina (1995) proposed the analysis in (59a). What happens in clauses containing a focused constituent and in *wh*-questions in Basque is that the focus or the *wh*-element moves to the specifier of C to check the [+wh] or the [+F] feature of C. (So in Basque, the focus/*wh* criterion applies for both *wh*-words and for focus constituents.) Since C itself does not contain a matching feature, Infl has to raise to C to provide the necessary [+wh] or [+F] feature. This is illustrated schematically in (59b).
(59)  
   a. **Focus criterion:**
      At S-structure and LF the specifier of a X\(^0\)[+F] must contain a [+F] phrase.
      At LF all [+F] phrases must be in the X\(^0\)[+wh] must be in a spec-head configuration with an \(\text{wh}\)-operator
      (modified from Brody 1990:208)
   b. \([CP\text{wh}_{[+wh]} / \text{focus}_{[+F]}[C \text{Infl}_{[+wh]}][+F] C]_{[+wh]} [+F] [\# \text{InflVP}]\)

To be precise, the picture is slightly more complicated. Although in the Northern dialects of Basque the focused constituent may optionally be followed by the inflected auxiliary, with the V remaining in clause-final position, this is not the case in the southern dialects (compare 60b and 60c). In the Southern dialects, the V-Aux complex follows the focused constituent, even in the case of periphrastic forms and, unlike in Italian, nothing can intervene between the auxiliary and a verb. The pattern in the Northern dialects is similar to the pattern found in V2 constructions for instance in Dutch, so it is explained by the **Focus criterion**. As Ortiz de Urbina (1995) proposed, the pattern in the Southern dialects can be accounted for if it is assumed that in addition to I to C movement the V moves to I and the whole V-I complex moves to C.

(60)  
   a. Jonek liburua irakurri du
   "John has read the book"
   b. JONEK irakurri du liburura
   c. JONEK du liburua irakurri
   "It is John that has read this book"

Ortiz de Urbina (1995:200)

(61)  
   a. Irakurri du Jonek liburua
      "Has John read the book?"
   b. Hil da gure ata
      "Our father has died."

Ortiz de Urbina claims that this is an instance of movement of the Aux-V complex to C triggered by the [+Q]-feature of C in (61a) and triggered by [+F]-feature on C in (61b).

Note that the Northern dialects present a partial problem in the V1 case. In these dialects, the Auxiliary does not have to cliticise onto the V, so it is expected that it is the Auxiliary alone that moves to C in yes/no questions or cases of verb focalisation. However, as illustrated in (62a) and (62b) respectively, Aux focalisation is grammatical, but yes/no questions are deviant.

(62)  
   a. **ba-dut... ikusi**
To conclude, Ortiz de Urbina (1995) argued that the focus construction in Basque is similar to the *wh*-construction. They both involve A-bar movement to [Spec, CP], therefore they both instantiate residual V2 (and V1) effects.

Similar proposals have been put forward for many languages. Svolacchia et al. (1995) argue that in Somali, [+F] is a feature of C (cf. Frascarelli and Puglielli 2007 and section 3.3.3 for discussion). The same was proposed by Vilkuna (1994) for Finnish and by King (1993) for Russian. There are also proposals to the effect that [+F] is on I and that therefore [Spec, IP] is the position targeted by focus movement. Aissen (1992) argued that this is the case in some Mayan languages, for example Tzotzil. A review of the syntactic options available for focus constructions is given by Kenesei (1998).

### 3.2 Development of the cartographic approach

#### 3.2.1 Focus as a functional head

In the spirit of Pollock’s (1989) proposal, in the course of the nineties, it has become more and more generally assumed that a separate functional head, Focus, is projected in the left-periphery of the clause. The focused element moves to the specifier of the Focus head to check features in a spec-head configuration. An abstract schema is given in (63).


\[
\begin{array}{c}
[FP \, XP_{\text{focus}} \, F \, ... \, [VP \, V_{\text{XP}}]] \\
\end{array}
\]

\(\text{[+F]}\) \hspace{1cm} \(\text{[+F]}\)

This was proposed for many languages with the only difference being the location of Focus with respect to other heads, and whether the movement of the focused constituent (and of the V) is overt or covert. To mention a few: Brody (1995) on Hungarian; Laka (1990) on Basque; Ouhalla (1994) on Standard Arabic; and many works in É. Kiss (1995) and Rebuschi & Tuller (1999) including accounts for Greek (Tsimplí 1995), Korean (Choe 1995), Western Romance languages (Uriagereka 1995), Portuguese (Ambar 1999).

In Hungarian, the Focus head is located in the left-periphery of the clause (Brody 1995 among many others). If the Focus head is strong, as it is in Hungarian, it will trigger overt movement of the constituent bearing [+F]. In a tensed sentence, this is accompanied by V movement to F, thus the focused constituent and the V are adjacent. As already mentioned in section 2.2, the main data supporting V-movement are sentences that contain verbal particles. In Hungarian the default position for particles is preverbal; it is immediately in front of the V. In sentences that have a focused element, the particle follows the verb. Brody (1995) takes this to be an indication of V-movement. This is illustrated in (64).
If the Focus head is weak, as it is in the English, the focused constituent will remain in situ (at least in the overt syntax). This is illustrated in (65).

Rizzi (1997) proposed a similar analysis for the so-called left-peripheral focus in Italian. He argued that the complementizer field in Italian is split in a way that is similar to the proposal about the tense field by Pollock (1989). The topmost complementizer-like head is Force and the lowermost is Finiteness. Topic positions and a unique Focus position are sandwiched between the two. This is shown in the schema in (66).

Movement into the specifier of the Focus head is subject to the Focus criterion, which says that movement is 'last resort' and that it only happens to satisfy LF requirements of the element. In particular, a focal element needs to be in a specifier-head configuration with the Focus head at LF (Rizzi 1997: 6).

3.2.2 Five characteristics of focus in Italian (Rizzi 1997)
Rizzi (1997:8-9) enumerates a number of properties that characterise foci, as opposed to topics. First, topics, but not foci, allow the presence of resumptive clitics. See (67).

(67)   a. Il tuo libro, lo ho comprato.
       'Your book, I bought it.'
   b. Il tuo libro ho comprato(, non il suo).
   c. *Il tuo libro lo ho comprato(, non il suo).

Focus gives rise to weak crossover violations, while topics do not. See (68).

(68)   a. Gianni, sua madre lo sempre apprezzato.
   b. *'Gianni sua madre ha sempre apprezzato.
      'Gianni his mother always appreciated, not Pietro.'
      (Rizzi 1997 ex 17, 18)

Bare quantificational elements are felicitous foci, but they cannot be topics.

(69)   a. *Nessuno, lo ho visto.
       'Noone, I saw him.'
   b. Nessuno ho visto t.
       'I saw noone.'
       (Rizzi 1997 ex 19a, 20a)

There is no restriction on the number of topics that can appear in a clause, while each clause allows only one focus.

(70)   a. Il libro, a Gianni, domani, glielo daro senza'ltro
       'The book, to John, tomorrow, I'll give it to him for sure.'
   b. Il libro a Gianni daro senza'ltro (non a Piero, l'articolo)
       'The book to John I'll give, not to Piero, the article.'
       (Rizzi 1997 ex 21, 22)

Finally, topics, but not foci are compatible with a clause-mate wh-word.

(71)   a. A Gianni, che cosa gli hai detto?
       'To John, what did you tell him?'
   b. A Gianni che cosa hai detto (non a Piero)?
       'To John what did you say, not to Piero?'
       (Rizzi 1997 ex 24a, 25a)

Let us start by the last property of focus, i.e. that they are incompatible with wh-elements. Similarly to Horvath (1986) and Brody (1990), Rizzi (1997) suggests that focus and wh are incompatible because they are in complementary distribution. In other words, they target the same position.

Rizzi (1997) argues that the first three properties follow from the assumption that focus is quantificational, while topic is not. In particular, he suggests that the LF representation of
focus movement results in a configuration where a quantifier binds a variable, while the LF representation of the topic construction is different. Here there is A-bar binding of a null constant, by a null operator.

(72)  a.  ?i Who, does his, mother really like ti (=vbl)?
       b.  John, who, his, mother really likes ti (=nc) ...
       (Rizzi 1997 ex 26)

This characterisation of the data would explain why focus gives rise to weak crossover violations, as these are due to semantic variable chains, absent in the case of topics. It would also explain why bare quantificational elements are not possible topics. This is because topic constructions do not provide a variable for the bare quantificational element to bind. Finally, the presence of an overt clitic in the topic constructions disallows the formation of a quantificational chain on the assumptions that quantificational chains bind variables and that overt pronominal clitics are different from traces in this respect: unlike traces, clitics do not license the presence of a variable in the LF representation.

So three seemingly independent generalisations receive a unified explanation. But there is reasons to doubt that all three characteristics are a consequence of the proposed quantificational vs. non-quantificational distinction between focus- and topic-chains. The fact that quantificational elements are unlikely topics, the third characteristic difference between focus and topics, also follows from discourse-oriented considerations. Topics, by definition, are referential expressions (Reinhart 1981). So quantificational elements are unlikely topics. To be precise, they are possible topics if and only if they 'can be interpreted (pragmatically) as denoting sets' (Reinhart 1981:65). This possibility is obviously not available for bare quantifiers, but a set denotation can be facilitated by the presence of a lexical restriction. As Rizzi himself notes, quantificational elements with lexical restrictions are much better as topics.

(73)  a.  Tutto, lo conosco veramente bene.
       'Everything, I know it really well.'
       b.  Tutti i tuoi libri, li ho rimessi a posto.
       'all your books, I put them back.'
       (Rizzi 1997 ex 34c)

Let us now turn to the explanation Rizzi offers for the fourth characteristic property of focus in Italian: uniqueness. There can be any number of topics in a clause, but each clause allows a unique focus. He offers an analysis based on the idea going back to Jackendoff (1972) that the focus of an utterance partitions the utterance in the focal part and the presupposition. Thus he assumes that just as the specifier of the Focus head identifies the focus, the complement of the Focus head is the presupposition. Since the nonfocal part of the utterance is the presupposition, a second (or third etc.) focus would be part of the presupposition, and thus by definition would not be focal (Rizzi 1997:14).\textsuperscript{11}

But the idea that the postfocal constituent is the presupposition is called into question by Hungarian, where multiple foci are grammatical, see (74).

(74)  Csak két lány választott csak egy könyvet.  HUNGARIAN
       only two girls chose only one book
       'It was only two girls who chose only one book.'
       (É. Kiss 1998: 16)
3.2.3 Identificational focus versus information focus (É. Kiss 1998)

Following on from Brody’s (1990) and Rizzi’s (1997) proposal about the presence of a functional head Focus in the left-periphery of the clause, É. Kiss (1998) proposed that a pragmatic distinction between what she called identificational focus and new information focus has syntactic relevance in the sense that only the former undergoes movement targetting the left-peripheral Focus position. She proposed that the pragmatic distinction is that identificational focus expresses exhaustive identification, while information focus merely marks the non-presupposed nature of the information it carries (É. Kiss 1998:248). She identified a set of characteristic differences between the two types of foci: (i) ‘Certain types of constituents, universal quantifiers, also-phrases, and even-phrases, for example, cannot function as identificational focis but the type of constituents that can function as information focus is not restricted; (ii) The identificational focus does, information focus does not, take scope; […] (iii) The identificational focus can be iterated, but information focus can project.’

The proposed identificational vs new information focus distinction has had a major impact on subsequent work, although it has become gradually clear that in this strong formulation it does not stand up to wider cross-linguistic testing. First, as already noted by É. Kiss (1998) many languages, such as Finnish or Italian, do not assign an exhaustive interpretation to fronted constituents. But if we admit contrastive interpretation as a possible trigger for left-peripheral movement, then we essentially lose the generalisation in (i), because a contrastive interpretation is perfectly compatible with such elements. So, (i) should not be taken as a characteristic property of identificational focus in general, but of only those that are exhaustive, like Hungarian.

Second, Szendrői (2001, 2003) noted that in Hungarian a response to a wh-question most naturally involves fronted focus. This goes counter to É. Kiss’ generalisation according to which new information foci should stay in situ. Judgments differ somewhat but for most speakers an in situ focus is only possible if it is antiexhaustive, for some speakers (including the author of this paper) this needs to be explicitly noted, as in (75).

(75) A: Kit hívtál fel?
   Who called-you prt
   ‘Who did you call?’
B: Felhívtam (%péládál) MARIT.
   PRT-called-I for.example Mary-acc
   ‘I called, for instance, MARY.’

A similar, but more pervasive, situation was described by Green & Jaggar (2003) for Hausa, where, they claim, both ex situ and in situ foci are possible with either exhaustive identificational or new information focus meaning.

Note also that the first half of (ii), namely that ex situ focus takes scope, is the same as the quantificational nature of focus noted by Rizzi (1997). It is a simple consequence of focus movement being an instance of A-bar movement. A stronger sense of (ii) comes from the second half, namely that in situ foci do not take scope. But that is clearly false, as this position allows quantifiers in Italian or Hausa or English.

Finally, the left-peripheral focus position might arguably be iterable in Hungarian, but many languages such as Italian (Rizzi 1997) and Hausa (Green & Jaggar 2003) only allow one constituent to undergo fronting. In addition, Szendrői (2001, 2003) presented some data that indicated the possibility of focus projection for the ex situ focus in Hungarian. So, overall, it
seems that such a clear-cut generalization, as intended by É. Kiss (1998), is empirically untenable.

### 3.2.4 Proliferation of focus heads

In addition to the various proposals identifying a Focus head in different languages, proposals started to emerge providing evidence for different Focus heads in the functional hierarchy. Thus, a proliferation of Focus heads started taking place. We will now discuss the empirical basis of this proliferation. On the theoretical level, it is important to note that if more than one Focus head is present in the functional hierarchy, then Rizzi’s argument for the uniqueness of moved foci in Italian no longer holds. If there are more than one Focus positions, presumably there could be more than one focus movement operations.

#### 3.2.4.1 A right-peripheral Focus position in Italian

Rizzi claims that the left-peripheral focus can be distinguished from a lower, right-peripheral focus position described in detail by Belletti & Shlonsky (1995), Calabrese (1982), Cinque (1993) and Samek-Lodovici (2006), Belletti (2001, 2004).

One of the characteristics of Italian left-peripheral focus is that it is not appropriate as an answer to a question indicating non-contrastive new information. Rather, it is allowed as a correction, as in (76) (Rizzi 1997: 5).

(76)  a. A: Che cosa hai letto?
    What thing have-you read
    'What did you read?'
    B: Il tuo libro ho letto.
    the his book have-I read
    'I read your book.'

   b. A: Gianni Ma dice che hai letto il suo libro.
    John to-me said that have-you read the his book
    'John told me that you read his book.'
    B: Il tuo libro ho letto (, non il suo)
    the his book have-I read not the his
    'I read your book, not his.'

Although Rizzi (1997: 6) claims that the right-peripheral focus is in situ, Samek-Lodovici (2006) showed that it can be targeted by movement. For instance, the example in (77) illustrates this. The canonical order of two internal arguments in Italian is direct object preceding dative PP (see 77A). This order can be altered, as in the answer in (77B), in such a way that main stress falls on the direct object, which is therefore focused.

(77) Piero ha presentato Giorgio a Maria.
    Piero has introduced Giorgio to Maria
    A: Chi non hai presentato a nessuno?
    who not have-you Introduced to noone
    B: Non ho presentato a nessuno Gianni.
not have-I introduced to noone Gianni

(Samek-Lodovici 2006)

Thus, we must assume that there are more than one possible licensing positions for foci, a right-peripheral one and a left-peripheral one, or as in Belletti’s (2001, 2004) analysis, one at the left-periphery of the CP and one at the left-periphery of the vP. Presumably, movement into either of these would satisfy the Focus criterion. Alternatively, there must be separate criteria: the New Information Focus Criterion and the Contrastive Focus Criterion.

### 3.2.4.2 IFoc and CFoc (Cruschina 2011)

In a series of papers culminating in a book, Cruschina (2011) proposes a split between two different types of focus heads. He shows that, as already noted by Bentley (2007) in Sicilian and also in Sardinian, the fronted focal constituent must be adjacent to the verb when it receives a new information focus interpretation, as in (78). However, when it is contrastive, it need not be adjacent to the verb, as in (79). (Capitals and underlining was adapted to fit this chapter.)

(78) A: Chi cci ricisti a tò niputi?
    what to-him.cl say.past.2sg to your nephew
    ‘What did you say to your nephew?’

        B: A virità (*a mè niputi) cci rissi.
    The truth to my nephew to-him.cl say.past.1sg
    ‘I told the truth (to my nephew.)’

Cruschina (2011:107 ex 41)

(79) Na littra, a Pina, cci scrissi
    a letter to Pina to-her.cl write.pres.1sg
    (no un pizzinu)
    not a note
    ‘I wrote a LETTER to Pina, not a note.’

Cruschina (2011:107 ex 42)

Enumerating a series of cross-linguistic and intra-language arguments, he concludes that the best analysis of this state of affairs, is if it is assumed that the universal functional hierarchy comprises two separate focus heads: IFoc and CFoc. The former is endowed with a more neutral new information focus interpretation. This head is inert in most Romance languages. However, in those dialects where it is active such as Sardinian and Sicilian, it also attracts the verb. In contrast, the CFoc head is active in most Romance languages, most notably in Standard Italian (Rizzi 1997). It comprises foci that are identifying an entity for which the predicate holds in exclusion of at least one salient alternative, for which the predicate does not hold. CFoc movement cannot answer a simple wh-question and it is not accompanied by verb movement.

In agreement with Molnár’s (2002: 104) observation, Cruschina goes on to propose that the observed association of IFoc with verb movement and the lack of such association between CFoc and verb movement is cross-linguistically widely supported, citing Hungarian and Somali as examples of IFoc fronting. Although this would suggest that the phenomenon should be explained on the basis of the different interpretative properties of the two functional heads, Cruschina (2011: 154) proposes instead a syntactic solution by proposing that the feature [contrast] is an inherent feature of the CFoc head available in the lexicon, while [focus], must be licenced under Spec-head agreement with the matrix verb.
The specific reason for involving the matrix verb, rather than just any verb, is based on the fact that Sicilian IFoc movement cannot target an embedded IFoc position. Rather, it must undergo long focus movement to the matrix clause. Marginaliy, embedded focus fronting is possible, but it necessarily involves contrastive interpretation and thus presumably movement to CFoc. For cross-linguistic validity he cites alleges a similar restriction to root context for focus movement in Somali and Hungarian (See Frascarelli and Puglielli 2007:175 for the Somali data). However, the cited Hungarian data is in fact ungrammatical for an independent reason. Embedded focus movement is perfectly acceptable in Hungarian, in fact it is the preferred option to long focus movement for many speakers for most matrix predicates except so-called bridge verbs like *mond ‘say’:

(80) PÉTER mondta, hogy MARI jött el, nem fordítva.
    Peter said that Mary came prt not turned
    ‘PETER said that MARY came, not the other way around.’

In Somali, focus fronting is banned from complement clauses, adjunct clauses and relative clauses (Frascarelli and Puglielli 2007:174-175). But, in my view, it is possible that this ban is due to an independent syntactic factor, namely that focus fronting in Somali involves a small clause structure. Lack of focus movement in adjunct and relative clauses would simply be due to the fact that such clauses do not allow embedded clausal structures. Although it is not immediately obvious why complement clauses would disallow an embedded clausal structure, but this could follow from the polysynthetic nature of the language, where any argument is in fact syntactically an adjunct (Frascarelli and Puglielli 2007:162).

Cruscina also extends his analysis to provide an explanation for the oft-cited syntactic similarities between focus movement and *wh*-movement. He proposes that a closer look at the data reveals that the parallelism stands as far as movement to IFoc is concerned, while it breaks down when *wh*-movement is compared to movement attracted by CFoc.

Accordingly, as Rizzi (1997: 16) already showed, in Standard Italian the parallel breaks down as the adjacency requirement is present for *wh*, but not for preverbal contrastive focus:

(81) Questo Gianni ti dirà (non quello che pensavi)
    This John you-dat say-fut.3 not which that thought.2
    ’This Gianni will say to you, not what you thought.’
    *Che cosa Gianni ti dirà?
    what John you-dat say-fut.3
    ’What will Gianni say to you?’
    (Rizzi 1997: ex 48)

IFoc movement as well as *wh* movement is always accompanied by I-to-C movement, while CFoc fronting is not. Cruschina proposes that in fact IFoc should be understood to host *wh*-fronted constituents and proposes an approach based on multiple feature checking (i.e. *[foc] and *[wh]*) in one and the same functional position, IFoc (cf. a split feature checking mechanism by Lipták 2001).

Regarding the featural make-up of the proposed CFoc and IFoc heads, Cruschina’s proposal is that the former is endowed by [contrast], while the latter by [focus], where [contrast] ‘appears to be a subtype of focus feature’ (2011:156). This assumption allows for movement targeting either IFoc and CFoc to satisfy Focus Criterion, but note that this assumption also means that syntactic features are not assumed to be privative, rather we assume that it is possible to embed syntactic features in each other, or make certain syntactic features
dependent on others. As Neeleman et al. (2009) point out, such interdependence of syntactic features has not been proposed elsewhere, outside the syntax of information structure.

In either scenario, there must be a way to ensure that only one of the focus positions is filled in any one time, given the uniqueness restriction on Italian foci, which no longer follows from the syntactic architecture of the functional sequence if Focus heads proliferate.

3.2.4.3 Kontrast (Vallduví & Vilkuna 1998, Molnár 2002, 2006 and others)

Another trend in the literature is driven by the idea that focus is perhaps not the right information structural notion to characterise movement to the left-peripheral position in some languages. For instance, Vallduví & Vilkuna (1998) and Molnár (2002, 2006) argued that the relevant notion in Finnish is contrast. Accordingly, Molnár (2002, 2006) proposed single a functional head Kontrast, located in the topmost pragmatically oriented position in the Rizzian hierarchy, as in (82).14

(82) ForceP KontrastP Top* FocusP Top* FinP

In Finnish, this position can be targeted by contrastive foci, as in (83a), or contrastive topics, as in (83b), while new information foci and aboutness topics remain in situ.

   Pekka flew Stockholm-to
   ‘Pekka flew to STOCKHOLM.’
   B: [Kontrast Reykjavikin] Pekka lensi.
   Reykjavik-to Pekka flew
   ‘Pekka flew to REYKJAVIK.’

b. [Kontrast Tukholmaan]Pekkalensi[Fokus Finnairilla],
   ‘To STOCKHOLM, Pekka flew by FINNAIR,
   [Kontrast Reykjavikin] (Pekka lensi) [Fokus Icelandairilla],
   to REYKJAVIK, Pekka flew by ICELANDAIR.’
   (Molnár 2006: 29 ex. 35-6)

3.2.4.4 Exclusive Identification Phrase and other information structure bearing heads (Horvath 2000)

Following on in the trend of reinterpreting or sharpening the relevant information structural notions that trigger left-peripheral movement, Horvath (2000) offers a reanalysis of her earlier work on Hungarian focus movement in the light of Reinhart's (1995) proposal that stress determines the focus of an utterance. She notes that in accordance with Reinhart's hypothesis, the fronted focused constituent in Hungarian bears main stress. She accepts Reinhart's view that it is this prosodic property that determines the focal interpretation of the constituent, rather than its position. She proposes that the movement of focused constituents in Hungarian is thus not actually driven by the fact that they are interpreted as foci. Rather, it is another distinctive characteristic of Hungarian focus that motivates the movement to the preverbal position: exhaustive identification.

Recall from section 1.3.4 that a characteristic semantic property of Hungarian focus movement is that it provides an exhaustive listing. Thus preverbal focus in Hungarian 'exhaustively identifies the proper subset of a contextually relevant set of entities as the one for which the predicate holds' (Horvath 2000: 201). This is illustrated by the contrast in (84).
Horvath shows that (84c), which indicates an answer whose focus is not exhaustive, cannot involve focus movement to the preverbal position.

(84) Q: Kit hívtak meg?
   a. A: Jánost hívták meg. John-acc invited prt
      'They invited John (and noone else).'
   b. A’:Meghívták *(például/ többek között) Jánost. invited-they for-example/ others among John-acc
      'They invited John, for example/ among others'
   c. A'';*Jánost például hívták meg. John-acc for-example invited prt
      'They invited John, for example/ among others'

Horvath (2000) concludes that the preverbal position in Hungarian is a grammaticalised position for exhaustive identification. Thus the movement to the preverbal position is in no sense a case of focus movement, rather it is a case of movement for exhaustive identification driven by an Exhaustive Identification Operator (EI Op) into the Specifier of a corresponding empty functional head EI\(^0\). The operator is assumed to be focus-sensitive, like ONLY or EVEN, which explains the illusion that what we are dealing with is focus movement. This account provides a convincing explanation of certain data that are problematic for other approaches, including the fact that Hungarian only-DPs also target the left-peripheral ‘focus’ position. The account also maintains consistency with Reinhart’s (1995, 2006) stress-focus correspondence principle.

There are a few issues, nevertheless, that remain open. First, it is not immediately clear what causes the obligatory non-exhaustive interpretation of Hungarian focal answers that do not move to the left-peripheral ‘focus’ position. Compare English clefts, which have comparable semantics. Non-clefted answers do not carry a non-exhaustive implicature, rather exhaustivity for these is simply undecided. Second, positing an EI Operator and especially a corresponding functional head position would place Hungarian in a unique position. The parallel with other focus-movement languages, like Italian, would be completely lost. It remains to be seen whether perhaps other languages can be shown to fit the proposed analysis.

**3.2.4.5 A-bar movement to the C-field is for ‘emphasis’ (Frey 2010)**

Another proposal in very much the same spirit was proposed by Frey (2010), He proposes that one way to fill the first position in German main clauses, the so-called C-field is by A-bar movement of elements with pragmatically marked interpretation. In Frey (2006) he identifies the relevant pragmatic category to be contrast (for similar proposals see Vallduví & Vilkuna (1998) and Molnár (2002, 2006) discussed in section 3.2.3.3 above), but he goes on to redefine it as ‘emphasis’ in Frey (2010).

Let us concentrate of this latter proposal here. According to Frey (2010), A-bar movement can target ‘a phrase \(\alpha\) containing a prosodically prominent sub-constituent \(\beta\’\) (Frey 2010: 1423 ex. 22). As a result of A-bar movement ‘a set \(M\) denoting salient referents becomes part of the interpretation process. \(M\) contains \(\alpha\) and expressions denoting alternatives to the referent of \(\alpha\), varying in the denotation of \(\beta\). The sentence \(S\) containing \(\alpha\) ’is associated with the conventional implicature in (110)’ (Frey 2010: 1423 ex. 23). He defines emphasis as arising from a conventional implicature that ‘the speaker expresses that \(\alpha\) is ranked highest in a partial ordering which holds among the elements of \(M\’\) (Frey 2010: 1423 ex. 24) where
ordering in M can take place ‘according to expectation, relevance, likelihood, mere truth value …’ ‘depending on the context and on the content’ (Frey 2010: 1423 ex. 25). Technically speaking, he assumes the presence of an empty functional head, CI in the C-field whose Spec is targeted by A-bar movement.

He admits that this emphatic meaning can also arise in situ, so long as prosodic prominence is present and alternatives are evoked accordingly. But, the difference is that that is a mere conversational implicature, as opposed to the conventional implicature which is associated with the position in the C-field that A-bar movement targets. The former, but not he latter, is cancellable. So, strictly speaking it is not the position or the presence of A-bar movement that gives rise to the implicature. Rather the function of the position or the A-bar movement operation is to conventionalise that implicature.

But what does emphasis under Frey’s (2010) definition really mean? An element can be fronted if the resulting statement is the most/ least expected in the context, or the most (or least?) relevant or likely or simply the fronted entity is the one in the context for which it can be most truthfully asserted that the proposition holds. In addition, fronting adds to the meaning of the proposition the uncancellable implicature that the statement in question is the most/ least expected statement in the context, or the most relevant one or the most truthful one among the alternatives the speaker could have made. So what is encoded by the position grammatically is not emphasis (I think it is a misnomer to use that term), but rather the speaker’s intention of signaling their commitment to the pragmatic content of the arising implicature, – a rather metalinguistic notion indeed.

### 3.3 Advantages of the cartographic approach

#### 3.3.1 Functional heads provide interpretation

Before we can evaluate its merit, let us enumerate the main tenets of the so-called cartographic approach. First, in the words of one of its two most influential proponents, ‘The cartographic approach assumes […] that the distinct hierarchies of functional projections dominating VP, NP, AP, PP, IP, etc., may be universal in the type of heads and specifiers that they involve, in their number, and in their relative order, even if languages differ in the type of movements that they admit or in the extent to which they overtly realize each head and specifier […]. This is the strongest position one could take; one which implies that if some language provides evidence for the existence of a particular functional head (and projection), then that head (and projection) must be present in every other language, whether the language offers overt evidence for it or not […]. A weaker position would consist in assuming that languages may differ in the type or number of functional projections they select from a universal inventory, or in their order.’ (Cinque and Rizzi 2008:45) But how does one identify an instantiation of a particular functional projection in a language? A tacit assumption in the cartographic approach is, by necessity, the assumption that the different projections determine specific interpretative effects. Thus, we identify a Focus head, if it attracts focal constituents into its specifier, a Topic head, if it attracts topics etc. So, crucially, the interpretative import of the projections must be identifiable for us to be able to recognise it in any given language. This is in fact one of the strongest arguments in favour of this approach to syntax: by determining the syntactic position of a particular constituent, we can immediately ‘read off’ its interpretation from its position: e.g. a focal constituent is interpreted as such because it sits in [Spec, FocP].

#### 3.3.2 Syntax-prosody mapping
A second, related point is that the approach also allows for a simple mapping between semantics/pragmatics and prosody. The syntactic feature associated with a particular functional head can be assumed to be interpreted at the PF interface as well. Specifically, Bocci (2009) develops a system where intonational contours that are characteristic of structures involving fronted topics and foci in Italian are determined by the syntactic features that give rise to these structures, [topic] and [focus]. Thus, semantics/pragmatics – prosody mappings are not expressed directly, rather they arise as a consequence of independent syntax-semantics/pragmatics and syntax-prosody mappings. Rizzi (2010) identifies this aspect of the proposal as a very welcome one, given that it maintains the T-model architecture by maintaining no direct communication between the PF and LF interfaces.

### 3.3.3 Overt realisation of the Focus head

The third advantage of the system concerns languages with overt morphological realisations of particular functional heads. In the case of focus, for instance, it has been proposed that the particle wè in Gungbe is a manifestation of the Focus head (Aboh 2004). This analysis is consistent with its distribution: wè appears obligatorily in a strictly left-adjacent position to any left-peripheral moved focal element. This distribution suggests that wè is not simply a focus marker, but rather the instantiation of the Focus head. Although it is clearly a very attractive feature of the cartographic approach that it provides a straightforward analysis of such morphological focus markers, it is important to note that it the cases that support an analysis of focus markers as the instantiation of a syntactic head are surprisingly few. Many languages that display left-peripheral focus movement lack an overt realisation of the Focus head (e.g. Hungarian, Italian, Coptic (Reintges 2007)). Many languages display morphological marking but only optionally (e.g. Ewe, Ameka 1992). Some languages seem to have obligatory morphological marking in ex situ focus, but the position of the particle is right-adjacent to the focal element, as in Kikuyu (Schwartz 2007). Finally, many languages that have morphological focus markers do not restrict these to ex situ cases; consider for instance the Hausa marker nee that Hartmann and Zimmermann (2007) showed is best analysed as a marker of exhaustivity, rather than focus.

### 3.3.4 Cross-categorial syntactic generalisations

The final advantage of the cartographic approach we will consider here was identified by Cinque and Rizzi (2008:53) as the ability to provide a syntactic explanation for certain cross-categorial generalisations. In particular, they propose that the reason why in many languages Topic-Focus co-occur in a fixed order may be due to the independent (and so far ill-understood) property of Focus to attract the main verb. Since Topic has no such requirement, the presence of a syntactically active Topic head that is lower than Focus would cause a violation of the Head Movement Constraint (Travis 1984). The validity of such an argumentation is further supported, they propose, by the fact that in a language like Italian, where Focus does not attract the verb, Focus-Topic order is possible in the left periphery. But this cannot be the whole story, as wh-elements, which are also assumed to occupy [Spec, FocP] by Rizzi (1997) do attract the verb to Focus, so there must be a way the lower active Topic head can be circumvented.

### 3.4 Problematic issues for the cartographic approach

#### 3.4.1 No language has focus movement at LF only

The first issue we would like to raise considers the strong version of the cartographic proposal, namely that all languages share the same functional tree, and they only differ as to
whether they realise them overtly or not. As far as focus movement is concerned, support for this position would constitute evidence of a language with focus movement at LF. This would show that both languages with overt and covert focus movement have a Focus category. Despite attempts over the 90s, for instance Drubig (1994) or Kayne (1998), who argued for overt focus movement in English with additional remnant movement, the idea never caught on. In particular, there has been two major unsolved issues for proponents of LF (or overt) focus movement in English. First, as is known since Jackendoff (1972), unlike overt focus movement, alleged ‘covert’ focus movement is not island-sensitive. This is illustrated in the repeated example (82) for a complex NP island. If focusing involved LF movement, that would mean that focus movement (or maybe LF movement in general) is different from overt movement in that it does not observe islands,— an undesirable outcome.

(85) Sam only saw a [NP man [CP who was wearing a RED hat]]

The second argument, perhaps less often discussed in detail, concerns the claim dating back to Chomsky (1976) that English focus displays weak crossover effects, and should thus involve LF movement. The argument goes as follows. Backward coreference is ruled out if the full DP is focused, while allowed, if not. Thus (86b), as opposed to (86a), repeated here from section 3.1.2, is ungrammatical.

(86) a. The man that she, met LIKED Mary.
   b. *The man that she, met liked MARY.
   LF: Mary [the man that she, met liked ti]

(87) *Who, does the man that she, met like ti?

As the LF representation of (86b) indicates, Chomsky (1976) argued the focus is preposed at LF. Thus (86b) is similar to (87), where the movement of the wh-element across a coindexed pronoun is ruled out as a weak crossover violation. In a parallel fashion, in (86b), the fronting of the focal element at LF presents a weak crossover violation.

But according to the author of this chapter, there are arguments against a weak crossover analysis of the lack of backward anaphora with a focused constituent. Williams (1997) points out that a weak crossover account is too restrictive, as it incorrectly predicts that ‘backward-and-down’ anaphora cases like (88) are ungrammatical. This is because (88) would yield the LF indicated, which contains a weak crossover violation.

(88) Anyone who has written it, can turn his TERM PAPER, in to me.
   LF: his TERM PAPER [anyone who has written it, can turn ti in to me].
   (Williams 1997: ex. 33a; diacritics added)

Furthermore, an alternative analysis of the relevant data is possible. It is possible to show that (86b) is ungrammatical for a reason that has nothing to do with the status of the bound pronominal. Rather, what renders the utterance ungrammatical is that Mary is an ill-formed focus.

Rochemont (1986) argued for the generalisation of c-construability, according to which any constituent is focus if and only if it is not c-construable from the earlier discourse. In other words, a constituent bears prosodic prominence if and only if it is not accessibly discourse-linked (Neeleman & Reinhart 1998). For this reason, utterances, such as (89) are ungrammatical, as they contain a focus marked element, John, which has just been introduced to the discourse in the previous utterance in a salient way.
John and Mary danced on the floor. *Then JOHN kissed Mary.

This could very well be the reason for the ungrammaticality of (86b) as well. Such examples pose a paradox for discourse. Either the pronoun is not licensed in absence of an antecedent, or focus on Mary is ill-formed. Let us see why this is the case. In (86b) Mary bears prosodic prominence, indicating focus. By c-construability this means that it cannot be linked to an entity mentioned in previous discourse. At the same time, the utterance contains a pronoun she. Unless they are interpreted deictically, pronouns need an accessible entity in the discourse. If the previous discourse contains an accessible entity as the antecedent of the pronoun, which allows the use of the pronoun in (86b), then this same accessible discourse entity renders focus on Mary ill-formed, as it causes a c-construability violation. If the preceding discourse does not contain an earlier mention of Mary, and thus focus on it is allowed by c-construability, then there is no discourse antecedent for the pronoun she to rely on. There cannot be one by c-construability. (If there were an antecedent, Mary could not be focussed and we just assumed it can be.) Note, however, that it is not completely impossible to use a pronoun when an antecedent is not present in earlier discourse: for instance, in cases when the antecedent is in the same utterance as the pronoun. This is known as backward anaphora. It is even possible for such utterances to be discourse-initial. Some examples are given here from Carden (1982), reported in Reinhart (1981):

(90) a. Because they wanted to know more about the ocean's current, students in the science club at Mark Twain Junior High School of Coney Island gave ten bottles with return address card inside to crewmen of the NY city's sludge barges.

             (The NY Times)

b. When she was five years old, a child of my acquaintance announced a theory that she was acquainted with rabbits.

             (The NY Times)

In principle, this means that (86b) could be a case of backward anaphora, where there is no antecedent available for the pronoun in the previous discourse, rather its antecedent is Mary in the same utterance. However, this possibility is ruled out by the generalisation established by Kuno (1972), which says that backward anaphora is restricted to cases where the antecedent is the topic. This is indeed the case in the examples in (89). In contrast, the antecedent is the focus in (86b). Since an element cannot be topic and focus at the same time, (86b) can be ruled out as a discourse violation without any mention of weak crossover.

As a final point, it can be shown that (86b) can be rendered grammatical in certain discourse contexts, indicating that it is not a syntactic (or semantic), rather, a discourse-violation. According to c-construability, an entity cannot bear prosodic prominence if it is not a new entity in the discourse. However, there are exceptions to this generalisation. Contrastively focused constituents may bear focal prominence even if they are not new.

(91) A: Sally and the woman John loves is leaving the country today.
    B: I thought that the woman he loves has BETRAYED Sally.
    A: No, the woman he, loves betrayed JOHN.

             (Rochemont 1986)

In (91), JOHN is contrastively focused. In fact, the second utterance of A is a correction of B's utterance. So, JOHN, even though it is not new to the discourse, it still does not violate c-construability, as it is contrasted with Sally in B's utterance. As we see, coreference between
John and he is allowed. If one pursued an analysis that renders (85b) ungrammatical as a weak crossover violation, one would have to assume that focus fronting does not affect constituents that are contrastively focused, only ones that are new to the discourse. This way it would be possible to exclude cases like (86b) while still permitting cases like (91). However, this assumption would be counterintuitive in the light of the semantics associated with Hungarian focus movement discussed in section 1.3.4. There it was shown that Hungarian focus movement is necessarily contrastive, however, it need not affect foci that are new to the discourse. So, Hungarian would be just the opposite of English.

3.4.2 Extreme proliferation of positions: Dutch

As Neeleman et al. (2009:20) point out, the simple mapping between syntax and information structure that a cartographic approach offers, namely that a constituent sitting in [Spec, FocP] is a focus, a constituent sitting in [Spec, TopP] is a topic etc. faces empirical problems. In Dutch, a contrastive topic or contrastive focal constituent can undergo A-bar movement targeting various positions: it can land in a sentence-initial position in main clauses (see 94), in a position following the complementizer in embedded clauses (see 92), or in a position following the subject (and preceding other arguments), see (93). If adverbs are present the potential landing sites proliferate even further.

(92) a. Ik geloof dat [alleen DIT boek], Jan Marie t₁ gegeven heeft.  
I believe that only this book John Mary given has  
‘I believe that John has given only this book to Mary.’

b. Ik geloof dat [zo’n boek], alleen JAN Marie t₁ gegeven heeft.  
I believe that such-a book only John Mary given has  
‘I believe that only John has given such a book to Mary.’

(Neeleman et al. 2009: 20 ex 6)

(93) a. Ik geloof dat Jan [alleen DIT boek], Marie t₁ gegeven heeft.  
I believe that John only this book Mary given has  
‘I believe that John has given Mary only this book.’

b. Ik geloof dat Jan [zo’n boek], alleen MARIA t₁ gegeven heeft.  
I believe that John such-a book only Mary given has  
‘I believe that John has given such a book only to Mary.’

(Neeleman et al. 2009: 20 ex 7)

(94) a. [Alleen DIT boek]₁ zou Jan Marie t₁ geven.  
only this book would John Mary give  
‘John would give Mary only this book.’

b. [Zo’n boek], zou alleen JAN Marie t₁ geven.  
such-a book would only John Mary give  
‘Only John would give Mary such a book.’ (Neeleman et al. 2009: 20 ex 8)

This state-of-affairs makes it unlikely that the moved element would target a designated position (Topic, Focus or Contrast) as such positions would have to be present, and syntactically active at every level in the tree structure.

In addition, the data illustrates another problem for the cartographic approach. If it is assumed that foci are interpreted as such by virtue of sitting in Spec,FocP, then one would expect that focus interpretation is impossible without movement. In Dutch, however, as in many other languages including Italian, noun phrases can receive a contrastive focal interpretation — in
Dutch even a contrastive topic interpretation— in situ, provided that appropriate intonation applies.

(95) Ik geloof dat alleen JAN Marie [zo’n boek], gegeven heeft.
    I believe that only John Mary such-a book given has
    ‘I believe that only John has given such a book to Mary.’

For this reason, Neeleman et al. (2009) argue, a more promising way to analyse the data seems to be to think of focus and topic fronting as a case of movement that allows for a simple mapping between syntax and information structure. We will discuss their proposal in more detail in Section 4.2.1, where we discuss interface approaches.

3.4.3 The semantics/ pragmatics and prosody connection

The idea that a syntactic representation of focus allows for indirect communication between semantics/pragmatics and prosody via syntax was considered in detail in Szendrői (2001: 108-128). It was argued there that a syntactic focus feature violates Chomsky’s (1995: 228) Inclusiveness Condition, which states that ‘no new objects are added in the course of the computation apart from rearrangements of lexical properties [already present in the numeration]’. To see this, consider the discourse in (96), with capitals indicating main stress and corresponding pitch accent and underlining indicating focus.

(96)     A: What did John kick?
     B: He kicked the blue BALL.

It would be an obvious violation of Inclusiveness to assume that the DP ‘the blue ball’ can be assigned a +F feature to account for its focal meaning without any of its sister nodes bearing such a feature. So, the only option is to assume that the +F feature originates on the lexical item ‘ball’ and percolates from there all the way up until it reaches the top node of the DP. At the LF interface, one would have to stipulate that the highest instantiation of +F, on the DP ‘the blue ball’ be interpreted as a focus. At the PF interface, in contrast, one would have to assume that it is the lowest instantiation of +F, on the lexical item ‘ball’ that attracts prosodic prominence. So, it is not in fact strictly speaking true that +F is a focus feature. It is a syntactic device whose interpretation (focus or main prominence) changes depending on its position in the syntactic structure. Such structure-dependent interpretation is a clear violation of Inclusiveness.18

Cruşchina (2009:16-17) acknowledges the validity of the above argumentation and proposes to circumvent the Inclusiveness problem by arguing that it is not the constituent in [Spec, FocP], but rather the Foc head itself that bears a [focus] feature. The constituent occupying its specifier position thus acquires focal interpretation by Spec-Head agreement with a head bearing [focus]. The Focus head itself can legitimacy bear such a feature, as it is an independent lexical item. This proposal does indeed provide a partial solution to the Inclusiveness problem. But if one assumes that the Focus head, rather than the constituent in its specifier is the source of the [focus] feature, then one has to give up the idea that at PF prosody can be ‘read off’ the syntactic structure. This is because it is rather far-fetched to assume that at PF the head of the syntactic constituent that is in a Spec-Head relation with a [focus] feature should be assigned main prominence.

This highlights a more general issue with the idea that it is a virtue of the cartographic proposal that no direct link is assumed between semantics/pragmatics and prosody, but rather communication between LF and PF is indirect via a semantics/pragmatics-syntax mapping and a syntax-prosody mapping. First, it is curious how in such a system one would explain that in languages that focus bears main prominence it does so whether the focus is in situ or
ex situ. It can certainly not be done, if the focus feature is assumed to be a lexical property of the left-peripheral Focus head, as Cruschina suggests. Second, it seems to be an exceptionless universal that prosodic prominence marks focus in every language that has a stress system. So, it is rather unattractive that the stress-focus correspondence would arise as a simple coincidence, – an accidental interplay of the semantics/pragmatics-syntax mapping and the syntax-prosody mapping. In other words, a grammar that denies a direct semantics/pragmatics-prosody mapping overgenerates, as it allows for the possibility that the semantics/pragmatics-syntax and the syntax-prosody mappings do not conspire in the required way and no semantics/pragmatics-prosody correspondence arises. In Section 4.1 we will discuss in more detail proposals that capitalise on this universal correspondence between stress and focus.

4 Interface approaches

4.1 Stress-focus correspondence

The fact that focus is marked by stress has been investigated in generative grammar at least since Chomsky’s (1971) work on this issue. Later, work steered away from the prosodic characteristics of focus, concentrating more on its quantificational properties, and to its affinity to wh-movement. Nevertheless, when problems with approaches assuming a focus feature and Focus head started emerging, there has been a renewal of interest in this area. On of the challenges this revival faced, as Reinhart (1995, 2006) notes, was that the idea of relating focus to the prosodic stress, rather than the other way around crucially relies on the distinction between neutral stress and focal stress, which was challenged both empirically and conceptually during the eighties (see Reinhart 2006 for a review). However, Cinque (1993) reopened the issue and argued forcefully that the distinction exists and thus a focus-to-accent view might be tenable. To illustrate how such a proposal would work, we will look at Reinhart's (1995, 2006) proposal in more detail in section 4.1.1. Then we will turn to extensions of this work to languages with focus movement, in section 4.1.2.

4.1.1 Reinhart's (1995, 2006) focus-to-accent view

Reinhart (1995, 2006) and Neeleman & Reinhart (1998) assume that it is the prosodic makeup of the utterance, rather than its syntactic characteristics, that encodes focus in the grammar. In particular, in Reinhart's theory, focus is not encoded by a syntactic feature, rather the prosody of the utterance determines the possible foci in accordance with the stress-focus correspondence generalisation, following Chomsky (1971). The stress-focus correspondence principle is repeated here for convenience.19

(97)  
Stress-focus correspondence: 
The focus of an utterance always contains the main stress of the utterance.

In particular, Reinhart (1995, 2006) argues that the focus of an utterance is determined by its intonation. A particular utterance may have more than one focus interpretations. They define the set of possible foci for a given utterance as follows.

(98)  
The focus set of IP consists of the constituents containing the main stress of IP. 

(Reinhart 1995, 2006)
Thus the utterance in (99), where main stress falls on the object, has the focus set given in (100). Accordingly, it is felicitous in the context of the questions in (99) indicating IP, VP and DP<sub>do</sub> focus, respectively.

(99) a. A: What's this noise?  
   B: My neighbour is building a DESK.  

b. A: What's your neighbour doing?  
   B: My neighbour is building a DESK.  

c. A: What's your neighbour building?  
   B: My neighbour is building a DESK.  

(Neeleman & Reinhart 1998: 333, ex. 5)

(100) Focus set: {IP, VP, DP<sub>do</sub>}

In Reinhart's (1995, 2006) approach, the output of the grammar is an ambiguous utterance with more than one possible focus interpretation. Depending on the discourse conditions, one interpretation is chosen as the actual focus. However, discourse may only select a member of the focus set, and may not select a constituent outside the focus set. Thus the answer in (96a) is inappropriate in the context of the question in (101), as that context requires DP<sub>su</sub> focus, which is not in the focus set of the utterance. It is equally inappropriate in the context of (102), as that requires focus on the V, which is also not in the focus set of the utterance.

(101) A: Who's building a desk?  
   B: #My neighbour is building a DESK.  

(102) A: Has your neighbour bought a desk already?  
   B: #No, my neighbour is BUILDING a desk.  

(Neeleman & Reinhart 1998: 334, ex. 54)

Reinhart (1995, 2006) follows Cinque (1993) in arguing that every language has a neutral, unmarked stress pattern, assigned by the nuclear stress rule (NSR). In English, the result of the NSR is main stress on the rightmost constituent, i.e. on the object in a transitive construction. If the focus set defined by the NSR does not contain the intended focus of the utterance, a special operation may apply to place stress on the constituent in question.

(103) Relocate main stress.  

   (Neeleman & Reinhart 1998: 333, ex. 55)

By (103), in the context of (104a), a marked stress (not the one assigned by NSR) is assigned to the DP<sub>su</sub>, and in (104b) to the V. As a result, the focus set of the utterance, defined by the main stress, contains the relevant constituents, and the utterances are appropriate in their given contexts. In fact, in their contexts, the utterances do not seem marked; they are perfectly natural.

(104) a. A: Who's building a desk?  
   B: My NEIGHBOUR is building a desk.  

b. A: Has your neighbour bought a desk already?  
   B: No, my neighbour is BUILDING a desk.  

   (Neeleman & Reinhart 1998: 334, ex. 56)
Reinhart (1995, 2006) argues that there is a very precise sense in which the utterances in (104) can be viewed as marked. They both involve an optional operation, stress shift. Stress shift is an optional operation in the sense that performing the operation is not necessary to save the derivation from crashing at the interfaces. Stress shift does not turn an otherwise ill-formed expression into a well-formed one, as for instance movement of the object to [Spec, TP] in English passives does. If the object did not front, the derivation with a passive verb would crash, due to lack of available accusative case for the object in situ. Rather, in utterances involving stress shift, the utterance would be well-formed even if stress shift did not apply. (It would just not be felicitous in the discourse context.) Nevertheless, such optional operations are not totally unrestricted. Reinhart argues that operations like stress shift apply if and only if they have an effect on the interpretation. In other words, such operations can be viewed as marked in the sense that they lead to ungrammaticality unless they derive an interpretation that was otherwise unavailable. This intuition is formalised in the following definition.

(105)   Reference set computation at the interface:
        Take fully derived (syntactically and prosodically) structures \( D_i \) and their interpretations \( I_i \) as ordered pairs. \( <D_1, I_1> \) is ruled out at the interface if and only if there exists \( <D_2, I_1> \), and \( D_2 \) involves fewer operations (syntactic or prosodic) than \( D_1 \).


To illustrate how interface economy operates, compare the exchange in (104a) with the infelicitous exchange in (106).

(106)   A: What's this noise?
        B: #My NEIGHBOUR is building a desk.

The same utterance is appropriate as an answer to a question that requires subject focus (cf. 104a), but it is inappropriate as an answer to an all-focus (i.e. IP-focus) question (cf. 106). The stress-shifting operation that places stress on the subject is legitimate under a reading that puts focus on the subject, as subject focus was not available unless stress strengthening applied to the subject. The same operation is, however, illegitimate under a reading such as the all-focus-reading, because there exists an expression, the neutrally stressed utterance (99a), where the optional operation did not apply and where the same all-focus-reading is available. In this way, Reinhart (1995, 2006) accounts for the well-known generalisation that wide focus readings (i.e. focus on a constituent larger than the stress-bearing element) are blocked from certain positions (see Selkirk 1984, 1986 and many others).

To summarise, Reinhart (1995, 2006) argues that the set of possible foci of an utterance is determined by the main stress of the utterance. If focus is required on an element that is not in the focus set of the unmarked utterance, where stress is assigned by the NSR, then an optional stress strengthening operation may assign stress to the element, to make it available in the focus set of the marked utterance. Reinhart's approach is an advocate of the focus-to-accent view. She argues that it is the set of possible foci, rather than the actual focus of the utterance, that is determined by the grammatical representation of the sentence, where grammatical representation is understood in the wider sense of including the prosodic representation as well as syntactic structure.

4.1.2 Focus movement in the focus-to-accent view
Cinque's (1993) and Reinhart's (1995, 2006) revival of the focus-to-accent view has become influential for analyses of focus movement. The idea that the focus of an utterance is determined by the prosodic make-up of the utterance led to the formulation of analyses that take focus movement to be essentially prosodically-driven.\(^{20}\)

4.1.2.1 Zubizarreta (1998): \textit{p}-movement

Zubizarreta's (1998) analysis of certain movement operations in Spanish, which she termed \textit{p}-movement, was one of the first in the literature to be proposed along these lines. She observed that alongside the VSO and SVO orders, VOS order is also grammatical in Spanish. In this order the subject is not right-dislocated. An example is given in (107).

\begin{enumerate}
\item[(107)] a. Quién te regaló la botella de vino? \\
    who you-dat gave the Bottle of wine \\
    'Who gave you the bottle of wine?'
\item[(107)] b. Me regaló la botella de vino \textbf{MARIA} \\
    me-dat Gave the bottle of wine Maria \\
    'Maria gave me the bottle of wine.'
\end{enumerate}

As the question in (107a) indicates, the VOS order in Spanish is felicitous as an answer to a question asking for the identity of the subject. Given that (107b) need not be interpreted contrastively, rather it is felicitous in a question-answer pair, Zubizarreta hypothesises that the stress on the subject is neutral, in other words, it is the nuclear stress rule rather than her proposed additional focal stress rule that assigns stress to the subject in VOS structures. As it is a characteristic property of nuclear stress that it allows for focus projection, it is expected that wide focal interpretations are available in VOS structures, just like in VSO and SVO orders. This is not the case. Zubizarreta (1998: 127) offers the following explanation. The VOS order is not a basic order, rather it is derived from VSO (or SVO) order by preposing the object. The movement operation is a last resort operation, triggered only if the subject needs to be focused. It is not feature-driven movement, rather prosodically-motivated movement. Hence the term \textit{p}-movement.

An important argument in favour of this conclusion comes from the fact that the VOS order is only allowed in contexts that indicate that the subject is focused. No other constituent can be contrastively focused in the VOS order by the focal stress rule. (This possibility is not excluded in SVO and VSO orders.) This is illustrated in (108).

\begin{enumerate}
\item[(108)] *Me regaló \textbf{la botella de VINO} María \\
    me-dat Gave the bottle of wine María \\
    'Maria gave me the bottle of wine.'
\end{enumerate}

This can be understood if the fronting of the object was motivated by allowing the subject to be positioned where nuclear stress falls. If the focal stress rule applied and placed focal stress on another constituent, the fronting of the object would have been a superfluous operation, thus ruled out by last resort.

Zubizarreta shows that \textit{p}-movement is a strictly local process and she concludes that the empirical arguments that are available are insufficient to determine whether it applies prior to Spellout or after Spellout. She assumes that it applies in the final stretch of the overt syntactic
derivation just before the derivation branches to PF and LF. (Her analysis maintains the T-model, although with significant modifications. See Zubizarreta 1998 for discussion.)

4.1.2.2 Stress-driven focus movement

A similar analysis of Hungarian focus movement is put forward in Szendrői (2001, 2003). This analysis takes Reinhart's (1995) proposal as its starting point. In addition, it also relies on the fact that main stress in Hungarian is assigned to the left-most constituent of the clause, rather than the right-most constituent as it is in English or Italian.

Szendrői argues that Brody's (1990, 1995) analysis of Hungarian focus is correct as far as the syntactic configuration is concerned: the focus moves to a specifier of a functional head and the verb adjoins to the head leaving its particle behind (see section 3.1.4 above). However, the motivation for the movement is not that the functional head in question has a [focus]-feature. Rather, the focused element moves in order to be in the position where main stress is assigned. As a result, it can be interpreted as the focus by the Reinhartian assumption that focus is identified as the constituent that contains main stress. Thus Hungarian focus movement is not feature-driven, rather it targets the position where main stress is assigned.

There are at least two important characteristics of Hungarian focus movement that follow from this hypothesis. First, focus movement in Hungarian is unique. In other words, utterances with multiple foci involve only a single instance of focus movement. The other foci remain in situ. This is illustrated in (109).

(109) Q: Mit adtál oda kinek?
   what-acc gave-you prt who-dat
   'What did you give to whom?'
A: A könyvet adtam oda Marinak, és a tollat adtam oda Péternek.
   the book-acc gave-I prt Mary-dat and the pen-acc gave-I prt Peter-dat
A':* A könyvet adtam Marinak oda, és a tollat adtam Péternek oda.
   'I gave the book to Mary and the pen to Peter.'

This follows from the fact that the nuclear stress rule assigns a single main stress, so there is a single position in every clause where main stress falls. If focus movement targets this position, only one focused constituent can be moved. The remaining foci acquire stress by a prosodic operation that assigns extra stresses.

Hungarian allows for multiple instances of focus movement in different clauses. This is consistent with the idea that the delimiting factor on the availability of focus movement is the availability of main stress. Since in the clause is the domain of main stress assignment, each clause can have its own fronted focus.

(110) MARIT kértem, hogy PÉTERT vigye el, nem fordítva.
   Mary-acc asked-I that Peter-acc take-subj prt not turned
   'I asked MARY to take PETER, not the other way around.'

Another characteristic of Hungarian focus that is explained by the proposal that Hungarian focus movement is driven by the need for the focus constituent to get stressed is that verb focusing in Hungarian does not involve the separation of the verbal particle from the verb. Given that verb-movement strands the particle, the fact that the prt-V order is undisturbed in cases of verb focus suggests that the verbal complex is in situ. So verb focusing does not involve movement.
This is explained in the stress-driven analysis of focus movement, as main stress falls on the verbal complex by the nuclear stress rule even if it in situ. Given that the verbal complex occupies a left-peripheral position within the VP, it receives stress by the nuclear stress rule and thus may acquire focus interpretation in situ. As there is no reason for it to move, it stays in situ.

Szendrői (2001, 2002) extended the proposal to Italian. Hungarian focus movement targets a left-peripheral position because the main stress rule in Hungarian is leftward oriented. In contrast, main stress in Italian is rightward oriented, as it is in English. But unlike in English, the prosodic operation of stress shift is not available in Italian. Rather, Italian displays focus movement, just like Hungarian does. However, in contrast to Hungarian focus movement, Italian focus movement targets a right-peripheral position, in accordance with the directionality of the stress rule in the language (Szendrői 2001, 2002). This is the right-peripheral focus position that was mentioned in section 3.4.3 above.

Finally, Szendrői (2001) offered a unified analysis of Hungarian, Italian and English. The main idea is that in all three of these languages the stress-focus correspondence principle holds. If the nuclear stress rule does not provide the necessary focal possibilities, languages differ as to how they resolve this. English performs stress shift, and thus tamperers with the prosodic realisation of the nuclear stress. Hungarian prefers syntactic movement into the position where main stress is assigned by the nuclear stress rule. (Note that Szendrői 2001 also shows that Hungarian has the operation of stress shift, and it arises in those cases where syntactic movement is unavailable, as a last resort.) Italian has rigid prosody like Hungarian and allows rightward-oriented syntactic movement targeting the position nuclear stress is assigned in this language (cf. p-movement in Spanish, Zubizerrata 1998), and in addition, the syntax-prosody mapping principles may also sometimes be violated to ensure that a constituent that is syntactically medial or left-peripheral, nevertheless ends up in the rightmost position in prosodic structure and receive main stress by the nuclear stress rule. (This was the analysis offered for Rizzi’s left-peripheral focus in Italian.) So, overall, English has a preference to tamper with prosody, Hungarian, with syntax, and Italian with the syntax-prosody mapping.

The idea of prosodically driven focus movement has been applied to many other languages (See for instance Dominguez 2004 for Spanish, Samek-Lodovici 2005, 2006 for Italian, English, French and Chichewa; Arregi 2002 for Basque, Hamlaoui 2011 for French, Costa and Kula 2008 for Romance and Bantu languages, Gryllia 2009 for Greek). The empirical coverage of the prosodically-driven movement approach is thus considerable. This provides support for the general idea that it is the correspondence between stress and focus, rather than the presence of a syntactic focus feature that provides the motivation for focus movement.

But irrespective of movement, is the stress-focus correspondence principle universal? The universality for the stress-focus correspondence principle is obviously called into question by the existence of languages with tone systems but no stress system. In some languages, such as Chichewa, it has been argued that prosodic phrasing nevertheless interacts with focus in the
expected way. See also Manfredi’s (2007) analysis of Kimatuumbi and related languages. But there are also well-studied cases where this is not the case. Zerbian (2007), for instance, shows that focus is not marked by any prosodic (or in fact morphological or syntactic means) in Northern Sotho. Pending further studies, we can state that no language that has a stress system has been shown not to apply it for marking focus. So, the universal should at least survive as an implicational one: if a language has stress, stress marks focus. Note that the validity of this universal is supported by language acquisition evidence too. As Szendrői et al. (subm) has shown, sensitivity to prosodic focus marking is available already at age 3 in languages like English, German and French.

4.2 Focus movement at the syntax-semantics/pragmatics interface

4.2.1 Flexible approach to topic and focus movement (Neeleman & Vermeulen 2012)

Neeleman & Vermeulen (2012) (see also Neeleman et al. 2009) put forward an alternative theory to cartographic approaches in terms of a flexible theory of syntax, which allows for flexible mapping between syntactic constituents and their information structural interpretation in general, so focal or topical interpretation does not depend on occupying a specific functional specifier position as in the cartographic approach.

They propose that based on a wide range of evidence from many languages topic, focus and contrast seem to be information structural notions that interact in systematic ways with syntax. In particular, contrast is thought of as not an independent notion, but one that is dependent on topic or focus itself. These notions may be targeted by mapping rules between syntax and information structure, and as a result, movement operations may be licensed to facilitate a simpler mapping.

At the same time, movement of topics and foci does not apply freely. Rather, these operations are motivated by allowing for a simpler mapping between syntax and information structure. Specifically, their proposal is that at the level of the interface it is necessary to partition the utterance into a topic-comment bipartition and a focus-background bipartition. Given the flexible nature of the mapping between syntax and information structure, it is not necessary that these notions, in particular background and comment correspond to syntactic constituents. The background associated with a string medial focus for instance, will not be a constituent, given that it will involve material before and after the focus, but not the focus itself. The motivation for topic and focus movement is to create a syntactic constituent that can be identified as the background or the comment at the interface. So, if a focal element is moved to the edge of its clause, its sister constituent can now be identified as the background at the interface between syntax and information structure.

One of the central data they propose to account for concerns a cross-linguistically valid restriction on topic and focus movement, namely, the claim that focus movement cannot target a position higher than a topic. At the same time, their respective position is free (in many languages including Dutch) so long as both are in situ. (See for instance (95) above for an example of topic following focus.) This follows if one assumes that topic cannot be part of the background. They propose to explain this assumption by the fact that topic is an utterance-level notion, while focus is relevant to propositions (Neeleman & Vermeulen 2012: 29). This is because focus movement fixes the background as its sister constituent, so a topic may not be part of that constituent. The analysis gains further support from data presented in Neeleman & van de Koot’s chapter (Chapter 2 of Neeleman & Vermeulen 2012), where it is
shown that focus movement cannot land above a topic, even if its base-position c-commands topic. So, it is not possible to account for the generalisation in terms of intervention effects.

In subsequent chapters, data from various languages are considered in the light of the approach that assumes that the notions of focus, topic and contrast may be subject to displacement to satisfy certain syntax-information structure mapping rules. Specifically, Neeleman & van de Koot (2012) argued that it is contrast that is responsible for the displacement of topics and foci in Dutch. Vermeulen (2012) shows that both topic and contrast are capable of triggering movement in Japanese and Korean. Moreover, these two considerations place conflicting requirements on contrastive topics, which are subject to mapping constraints on both topic and contrast. She shows that the conflict is resolved differently in the two languages: in favour of topic in Japanese and in favour of contrast in Korean.

The claim that contrast is not an independent feature, but one that is dependent on focus (or topic) is supported by data from Russian in Titov (2012). She shows that noncontrastive foci appear in clause-final position in this language, conforming to an information structural constraint that applies to focal elements. Contrastive focal elements, take up a left-peripheral position, in accordance to a specific constraint that applies to contrastive foci in this language. Crucially, she provides arguments in terms of reconstruction and scope to show that the left-peripheral contrastive foci must start out from the clause-final position, so the clause-finality constraint does not only apply to noncontrastive foci, but to all foci.

Overall, in this theory, the movement operations that make reference to topic, focus and contrast are flexible. There are no designated positions for these, unlike in cartography. At the same time, the target positions must be such that they allow for a simpler mapping between syntax and information structure, so movement is not restricted. Clause-initial or final positions are thus naturally targeted, as they allow for an easy bipartitioning of the clause into the moved element and its sister, both mapped onto their respective information structural notions.

4.2.2 Movement to the edge (Fanselow & Lenertová 2011)

Fanselow & Lenertová (2011) take what they call SFF, subpart of focus movement, as their starting point. Sentences like (109) are grammatical in German, Czech and other languages. They are characterised by the fact that the fronted element is part of the focus (or topic), but not the focus (or topic) itself. For this reason, it cannot be a syntactic [focus] (or [topic]) feature that is responsible for triggering the movement. (They also rule out an analysis in terms of remnant movement or scattered deletion.)

(112)  What did he do?
       [Ein BILD], hat er t, zerrissen. (German)
       a picture has he torn
       ‘He tore a picture.’       (Fanselow & Lenertová 2011:175 ex 10)

In addition, they also show that no other pragmatic or information structural notion can plausibly be proposed to account for all instances of this type, and they rule out an analysis in terms of stress-based movement, as SFF is available in languages like Trinidadian English and Haitian Creole, neither of which have obligatory accentuation marking for focus (Fanselow & Lenertová 2001:194).

At the same time, they show that SFF is an instance of syntactic A-bar movement with the
usual properties of such operations. So, they conclude that SFF is simply an ‘altruistic’ A-bar movement operation ‘triggered by an unselective edge feature of C (Chomsky 2008) requiring a filled SpecCP in all root and some embedded clauses.’ (Fanselow & Lenertová 2011: 184) For approaches to focus movement based on Chomsky’s (2008) edge feature, see also López (2009).

It is, however, sensitive to specific locality constraints: the moved element bears prosodic prominence and it cannot move across an element bearing prosodic prominence. Fanselow & Lenertová present an analysis of the prosodic locality effect in terms of syntax, in particular by assuming cyclic linearization (Fox and Pesetsky 2005), and that once linearized a constituent receives structural accent.

In their discussion, Fanselow & Lenertová extend their analysis beyond SFF: ‘If anything can be attracted by the unspecific edge feature of C, so can topics and foci, which makes specific processes for topic or focus movement superfluous.’ (Fanselow & Lenertová 2011: 199). They conclude that since cross-linguistically constituents that are smaller or larger than the focus (or topic) can be fronted just like the focus (or topic) itself it seems unnecessary to try to encode information structural properties of such fronting operations in the syntax directly. The locus of information structural encoding in the grammar should remain prosody, with languages choosing whether they are more or less prone to link accentuation to syntactic structure building.

4.3 Evaluation of the interface approaches

As we have already discussed above from the other perspective, the interface approaches have the benefit over the feature-based approach to focus that they do not violate Inclusiveness. At the same time, this approach accepts a certain level of indeterminacy of syntactic derivations and a level of choice at the (PF or LF) interface. To some extent, such flexibility may be welcome. Empirical data, such as the variable landing site of contrastive elements in Dutch, might force us to abandon a rigid approach, such as the cartographic one. At the same time, it is not clear how much flexibility is necessary, but not too much. Fanselow & Lenertová (2011) argued that the existence of subpart of focus movement forces us to abandon any hope of an information structurally-determined syntax. Rather, movement should be understood as free to target edge of C, and interpretation as determined by the prosodic characteristics of the constituents. It is clear, that there is a continuous tension between empirical coverage and explanatory adequacy here. If one is to treat all information-structurally involved movement as accidental, then subpart of focus movement is easily covered, but no explanation is offered as to why in so many languages topical, focal (at least contrastive ones) are subject to (optional) syntactic displacement. Ultimately, the answer to this question lies in a closer study of more and more languages and constructions. If cross-linguistic generalisations emerge over the landing site(s) or other characteristics of such operations, that would favour a more restrictive approach.

There is one more aspect to interface approaches that we should mention here. Many of the approaches tacitly or explicitly assume that economy considerations at the interface regulate information-structurally related movement (and other) operations in the grammar (see for instance Reinhart 2006). An operation is deemed to be appropriate if it gives rise to an interpretation that is distinct from other interpretations. For instance, interface economy is called upon to explain why stress shift inside the VP is impossible under a wide, VP focal interpretation, while it is licensed under an interpretation that places narrow focus on the element targeted by the stress shift (see discussion in section 4.1.1 above). It is important to understand that allowing global economy considerations into the architecture of the grammar certainly increases its power and has a direct effect on its computability. Specifically, it is no longer the case that the grammaticality of a particular derivation can be determined based on
its own properties. Rather, at least in certain well-defined instances, one must compare derivations and choose the cheapest one. This renders certain derivations ungrammatical or inappropriate in certain contexts not based on their own properties (e.g. that they contain an illicit operation or an unchecked feature) but rather based on the fact that they turn out to be less economical than another derivation (See more on this in Reinhart 2006 on reference set computations).

5. Conclusion

We have seen that focus movement is a cross-linguistically widely attested phenomenon with many overlapping characteristics of the movement operation across languages. We have discussed in detail three major approaches to focus movement: the government based analysis of Horvath 1986, the cartographic approach and the interface approach. We found that all three has major empirical coverage and both advantages and disadvantages in theoretical terms. We would like to speculate that in the next decade continuous advances in psycholinguistics and neurolinguistics will help us with further, new type of evidence for considerations about such theoretically important notions, such as the autonomy of syntax and interface economy, and thus will help us reach a better conclusion as to which theory is the one with the highest degree if explanatory adequacy.

SEE ALSO: Bridge Phenomena, Left Dislocation, Left Periphery of the Clause, Mittelfeld Phenomena: Scrambling in Germanic, Phrasal Stress, Scrambling (Primarily in Russian), Split Topicazation, Stylistic Fronting, Topicazation in Asian Languages, Weak Crossover

References


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**Endnotes**

1 See section 4 for approaches that question the existence of a focus feature.
Horvath claims that (23b) is acceptable as an answer to echo questions or as correction, but the author disagrees with this judgment. According to the author’s judgments (23b) is marginal even as a correction or as echoic.

Consequently, the echoic patterns illustrated in (15) and (18) for English clefts and Heavy NP Shift respectively cannot be constructed for Hungarian preverbal focus, which shows that preverbal focus in Hungarian is a focus construction according to the definition in (19). This is shown in (i):

(i)  
A: János a PÉNZESZACSKÓT adta oda Péternek.  
    John the money-satchel-acc gave prt Peter-dat  
    ‘John gave to Peter the money satchel.’
B: *Nem János a pénzeszacskót adta oda MARINAK.  
    No, John the money-satchel-acc gave prt Mary-dat  
    ‘No, John gave the money satchel to Mary.’
B’: Nem, a pénzeszacskót, JánosMARINAK adta oda.  
    No, the money-satchel-acc John Mary-dat gave prt  
    ‘No, John gave the money satchel to Mary.’

Gervain (2002) showed that speakers who fall into the so-called ‘resumption dialect’ accept such island violations.

Focus movement in Hungarian is not sensitive to subject islands either. É. Kiss (1987) argues that this is the case because clausal subjects are in a postverbal position, and thus not on a left branch like English clausal subjects:

(i)  
Marinak volt kétségeshogy át adják-e a díjat t.  
    Mary-datatype doubtfullthat prt give-they-Q the award-acc  
    ‘It was doubtful whether they would give the award to Mary.’

Note that to obtain the existential presupposition at LF, the wh-element translates into a variable, while the focal element is replaced by one. Thus, semantic considerations establish a parallel between the non-focal part of an utterance and the wh-question. There is no such parallel established between the semantics of a focal element and the wh-element itself. So strictly speaking, there is no semantic argument for the parallel treatment of focus and wh, only for a parallel treatment of the non-focal part of an utterance with focus and a wh-question.

Note, however, that as Lipták (2001) convincingly argues, even in languages like Hungarian, a closer inspection of the parallelism reveals many problems with a fully unified treatment of wh and focus.

Since the appearance of the Wh-criterion a whole body of works has been devoted to the analysis of multiple wh-questions. It is no longer standardly assumed that multiple wh-questions would involve LF movement. See Reinhart (1998), Boškovič (2002), and Dayal (2006) for alternative proposals and an overview of the relevant literature.

Uriagereka (1995) questions the validity of Ortiz de Urbina’s V2-type analysis, mainly on the basis that the affixal Comp attaches to Infl from the right, thus there is no evidence for a leftward C head in the language. Ortiz de Urbina (1999) provides further evidence for the presence of a functional head in the C-domain that is projected on the left, rather than the right. He suggests that the split-CP hypothesis of Rizzi (1997) might be sufficient to solve the puzzle. There is a Focus head on the left and an additional Force head on the right. It is the latter that contains the affixal complementizer morphology in embedded clauses.

Note that more recent syntactic analyses argued for an intermediate vP-like projection PredP between VP and FocP in Hungarian, with [Spec, PredP] being the neutral position of the verbal particle and the verb always moving to Pred0 (É. Kiss 2008).

But see Kayne (1998) for an analysis that takes focus movement in English to be overt as well.
It is precisely this entity, the focus of the presupposition, that Williams (1997) identifies as topic.

On additional property identified by É. Kiss was that ‘The identificational focus is always coextensive with an XP available for operator movement, but information focus can be either smaller or larger.’ (É. Kiss 1998: 248). But this can simply follow from the fact that subparts of XPs cannot undergo movement without pied-piping XP. For instance, modifying adjectives cannot move out of their NPs in Hungarian, so if such an adjective is focus (exhaustively) than the whole NP moves:

(i) János [a PIROS kalapot] választotta tNP.
   John the red hat-acc chose
   ‘John chose the RED hat.’

The inappropriateness of (75a) will be dealt with below.

Note that in subsequent work Molnár & Winkler (2010) reinterpret the status of the Kontrast position and offer a non-cartographic edge-based account.

Note that Cinque and Rizzi (2008:53) speculate that the reason for the verb movement is ‘possibly a property related to the quantificational character of Focus’. But it is unclear why the quantificational character of Focus would in fact require verb movement: Hungarian overt QR for instance makes no verb movement necessary. Also, to the extent that Focus is quantificational in languages like Hungarian (with accompanying verb movement), it would also be quantificational in languages like Italian (with no accompanying verb movement).

As Reinhart (1981) points out, these cases also illustrate that topics can introduce new entities to the discourse.

To be precise, a constituent cannot be a focus and an aboutness topic at the same time. There are many analyses that treat contrastive topics as focal topics (Molnár 2002, 2006) or even secondary foci (Williams 1998). Similarly, Büring’s (2003) semantics of contrastive topics also uses alternative focus semantics. These analyses capture the prosodically prominent character of such topics and their contrastive character in the sense of excluding alternatives. A more detailed discussion of contrastive topics cannot be undertaken here for reasons of space.

Note in addition that as Chomsky (1995 Ch4: Fn10) already notes, prosodic notions including notions like main prominence cannot be conceived of as lexical properties of elements. This is because main prominence is not an absolute notion, but a relative one: There is no absolute pitch value associated with main prominence. Rather, a constituent may simply be more prominent than its sister constituent. As Szendrői (2004) argued, assuming a syntactic [main prominence] feature meaning that the lexical item bearing such a feature should end up in the course of the derivation as the item bearing main prominence, would be akin to assuming a [Spec] feature, meaning that in the course of the syntactic derivation the lexical element should end up in a Specifier position. These are clearly structural, and not lexical notions, in clear violation of Inclusiveness.

Other proposals in the literature that take a focus-to-accent perspective include Williams (1997) and Schwarzschild (1999).


This being so, it would be interesting to investigate whether any implicational universals can be formulated, and if so accounted for, of the type like ‘No language has SFF unless it also has focus fronting.’ This would not follow straightforwardly from Fanselow & Lenertová’s (2011) edge feature-based analysis.