

Focus Structure or Abstract Syntax? A Role and Reference Grammar Account of some Abstract Syntactic Phenomena

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1. Introduction

Arguments regarding the reality of abstract syntactic representations have typically revolved around phenomena in which there is a striking discrepancy between the overt structure of the sentences involved and how they are interpreted. In principles & parameters approaches like Government-Binding [GB] theory and its descendent, the Minimalist Program (Chomsky 1981, 1995), many syntactic phenomena have been dealt with at the level of Logical Form [LF], either in terms of covert movement or constraints applying to abstract LF representations, e.g. issues of quantifier scope and WH-movement in languages in which WH-words appear overtly *in situ*. Consider, as an example, the problem of quantifier scope, as in (1).

- (1) Quantifier scope: the basic data from English
 - a. Every girl kissed a boy.
 - b. (i) Each girl kissed a different boy ('for each girl there is a boy such that the girl kissed the boy', i.e. [x, y (**kiss** x,y), where x = girl and y = boy])
 - (ii) Each girl kissed the same boy ('there is a boy such that for each girl, the girl kissed the boy', i.e. [y, x (**kiss** x,y), where x = girl and y = boy])
 - c. A boy was kissed by every girl. (=b(ii), (bi))

Sentence (1a) is ambiguous in English, and the two interpretations are given in (1b). In principles & parameters theories, it is assumed that the two interpretations derive from different syntactic relationships between the two quantifiers, with the one having wider scope being higher in the tree (i.e. c-commanding) the other. Such an analysis requires that there be an abstract level of representation in which the existential quantifier occurs higher in the tree than the universal quantifier, in order account for the reading in (1b(ii)). The same is true for (1c), which is also ambiguous, but in this sentence the preferred reading is (1b(ii)) rather than (1b(i)), since the existential quantifier occurs overtly higher in the tree than the universal quantifier. In order to account for the (1b(i)) reading with (1c), the same kind of abstract analysis would be required. Hence such theories posit covert movement of the existential quantifier to the appropriate position in the tree at LF, and the existence of ambiguity in sentences like (1a) is taken as evidence that abstract representations like LF must exist. Thus in this paper abstract syntax is understood to include the elements in (2), and the phenomena to be discussed are given in (3).

- (2) What is 'abstract syntax'?
 - a. Abstract levels of syntactic representation (e.g. D-structure, Logical Form)
 - b. Covert movement
- (3) Phenomena handled in terms of abstract syntax:
 - a. Quantifier scope
 - b. Extraction restrictions

Phenomena such as these provide a challenge for theories which do not posit abstract levels of syntactic representation of any kind; how can the two interpretations of (1a) be accounted for? Role and Reference Grammar [RRG] (Van Valin 1993, Van Valin & LaPolla 1997) is such a theory; it posits only a single syntactic representation for every sentence, namely, the overt form. The contrasting organizations of principles & parameters theories and RRG are presented in Figure 1.

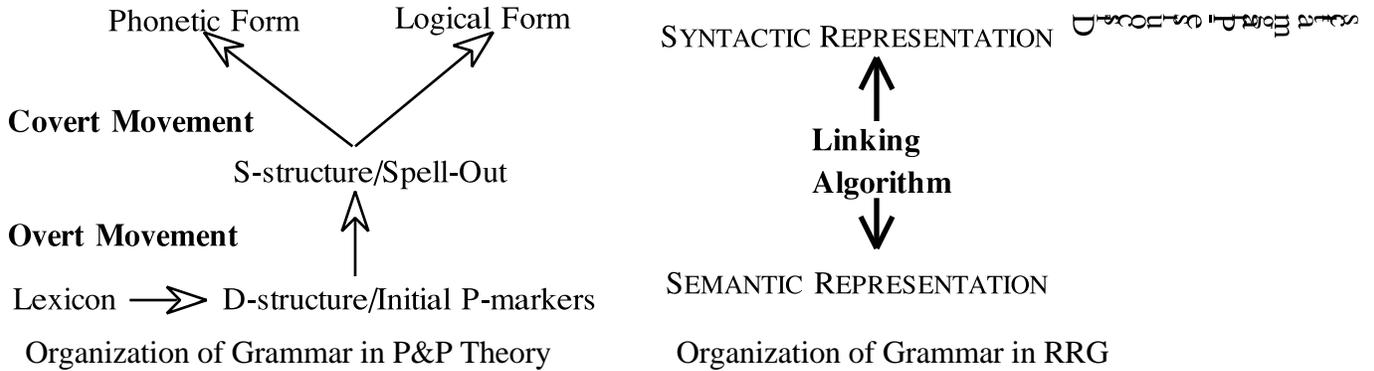


Figure 1: Organization of P&P and RRG

Because RRG recognizes only one level of syntactic representation, it cannot explain the two interpretations of (1a) in terms of different syntactic structures. It must take a rather different, non-syntactic approach. A distinctive feature of RRG is the role that discourse-pragmatics plays in the linking between syntax and semantics. It will be shown that with respect to the phenomena in (3) the interaction of syntax and discourse-pragmatics is crucially involved, and therefore that it is possible to give an account of these phenomena which does not involve positing abstract representations or covert movement.

It would be impossible in the scope of this paper to give a full account of the linking between syntax and semantics in RRG (see Van Valin 1996, Van Valin & LaPolla 1997 for the most recent presentations of the theory). An example of the linking in a simple sentence from Spanish (*Juan dio un libro a una chica* 'Juan gave a book to a girl') is given in Figure 2.

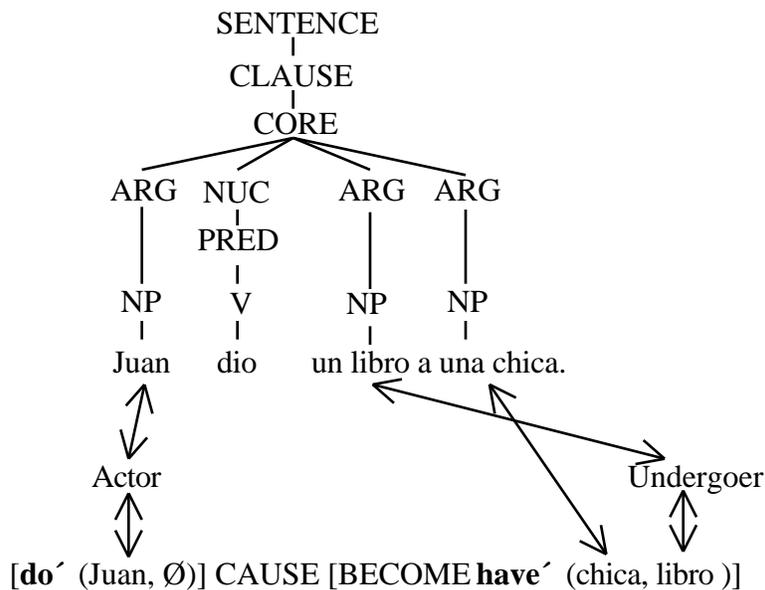


Figure 2: Linking between syntax and semantics in RRG

The syntactic representation divides the clause into three main layers: the nucleus, which contains the predicating element, the core, which contains the nucleus and the arguments of the predicate, and the clause, which contains the core plus a number of optional constituents which are not illustrated as they are not relevant to the discussion. The semantic representation is based on the lexical representation of the predicate, which is expressed in terms of an *Aktionsart*-based system of lexical decomposition. The arrows are double-headed, because the linking goes both from semantics to syntax and from syntax to semantics.

2. A theory of focus structure

The morphosyntactic means for expressing the discourse-pragmatic status of elements in a sentence is called ‘focus structure’, and the approach to focus structure used in RRG is based on Lambrecht (1994). Lambrecht proposes that there are recurring patterns of the organization of information across languages, which he calls ‘focus types’. The three types relevant to this discussion are presented in (4), with data from English, Italian and Japanese; focal stress is indicated by small caps.

(4) Focus structure in English, Italian and Japanese (Lambrecht 1994)

a. Q:What happened to your car?	Predicate Focus
A: i. My car/It broke DOWN.	English
ii. (La mia macchina) si è ROTTA.	Italian
iii. (Kuruma wa) KOSHOO-si-ta.	Japanese
b. Q:What happened?	Sentence Focus
A: i. My CAR broke down.	English
ii. Mi si è rotta la MACCHINA.	Italian
iii. KURUMA ga KOSHOO-si-ta.	Japanese
c. Q: I heard your your motorcycle broke down.	Narrow Focus
A: i. My CAR broke down.	English
ii. Si è rotta la mia MACCHINA./	Italian (Lit: ‘broke down
È la mia MACCHINA che si è rotta.	my car’/‘it’s my car which
iii. KURUMA ga koshoo-si-ta.	broke down’)
	Japanese

Predicate focus corresponds to the traditional topic-comment distinction, with a topical subject NP and a focal predicate phrase which receives the focal stress.¹ It is universally the least marked or default focus structure. In English, the subject would most likely be an unstressed pronoun, while in both Japanese and Italian it would most likely not occur at all; if it were overt, it would be preverbal in Italian and marked by the topic-marker *wa* in Japanese. Sentence focus is a topicless construction in which the entire sentence is focal. In English, the subject receives the focal stress, while in Italian the subject appears postverbally and with focal stress; in Japanese both the subject NP and predicate are stressed, and the subject is marked by *ga* rather than *wa*. Narrow focus

¹RRG does not use the traditional grammatical relations of subject and direct object, but since the status of grammatical relations is not at issue in this paper, the traditional terms will be employed.

involves focus on a single constituent, in these examples, the subject. In English this is signalled by focal stress on the subject or by a cleft, e.g. *It was my CAR that broke down*. Italian likewise has two options: postposing the subject or a cleft. In Japanese narrow focus is indicated by focal stress on the subject, which is marked by *ga*.

RRG makes an additional distinction between the *potential focus domain* [PFD] and the *actual focus domain* [AFD] (Van Valin 1993). The AFD is the part of the sentence which is in focus; Lambrecht refers to it simply as the ‘focus domain’. The PFD is the part of the sentence in which a focal element may potentially be found. In English, for example, the entire main clause is the PFD; in (4a) the AFD is *broke down*, in (4b) it is the whole clause *my car broke down*, and in (4c) it is the subject NP *my car*. In Italian, on the other hand, a focal subject cannot occur preverbally, as (4b,c) show; rather, it must appear postverbally, either after the main verb or after the copula in a cleft. There is a restriction on the PFD in Italian that English lacks: focal core arguments must occur postverbally. This contrast between Italian and English is represented in Figure 3.

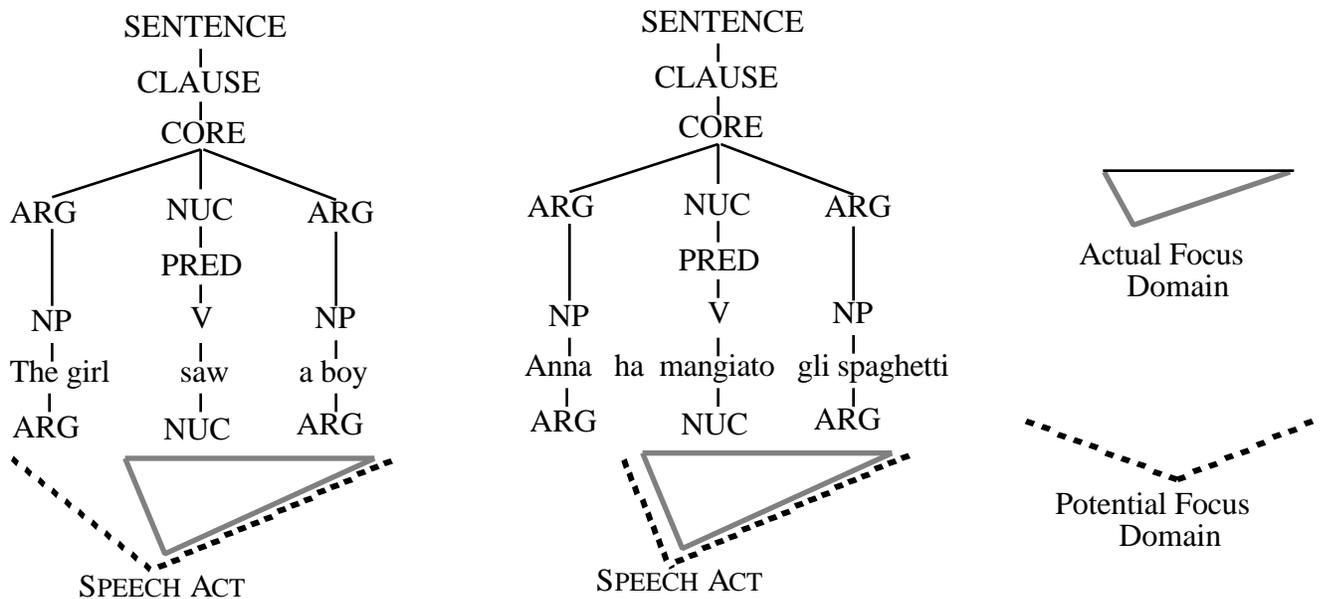


Figure 3: Predicate Focus in English and Italian

These are representations of predicate-focus constructions in English and Italian, and note that the AFD is the same in both. Where they differ is in the PFD: in English it encompasses the entire clause, while in Italian it is limited to the verb and elements following it. Japanese is like English in having the whole clause within the PFD.

3. Quantifier scope

We are now in a position to account for the different interpretations of the English sentence in (1a). A number of linguists (e.g. Sgall, Hajičová & Panevová 1986, Kuno 1991, Van Valin & LaPolla 1997) have proposed that focus structure strongly affects the interpretation of quantifiers. The principle they propose can be stated as in (5).

(5) Principle affecting quantifier scope interpretation: topical Q > focal Q²

- a. Every girl KISSED A BOY. = (1b(i))
 b. EVERY GIRL kissed a boy. = (1b(ii))

This principle states that (everything else being equal) a topical quantifier will have wide scope over a focal quantifier. This predicts that in a sentence like (1a), the default interpretation should correlate with the default focus structure, predicate focus, depicted in (5a). Since the universal quantifier is topical and the existential quantifier focal in (5a), the preferred reading should be that in (1b(i)), which is correct. In order to get the secondary reading in (1b(ii)), it is necessary to interpret (1a) as if it were a narrow focus construction, as in (5b). In this case, the existential quantifier is topical and the universal quantifier focal, and consequently the former will have wide scope, yielding the interpretation in (1b(ii)). This contrast is represented in Figure 4.

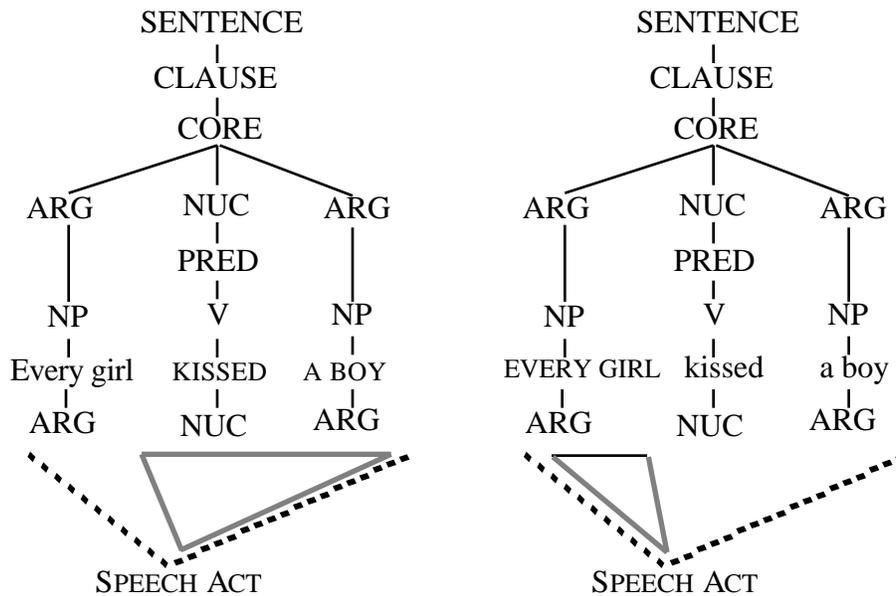


Figure 4: Predicate focus vs. narrow focus in the interpretation of quantifiers

While this analysis can account for (1), is there any reason to prefer it over a purely syntactic analysis? Does it make any significant predictions? The principle in (5), together with the theory of focus structure in section 2, makes interesting predictions about the interpretation of quantifiers in both Italian and Japanese. Consider the Italian equivalents of (1a,c) in (6), taken from Melinger (1996).

- (6) a. Ogni ragazza ha baciato un ragazzo. Italian
 Every girl has kissed a boy
 'Every girl kissed a boy.' = (1b(i)), (1b(ii))
 b. Un ragazzo é stato baciato da ogni ragazza.
 a boy is been kissed by every girl
 'A boy was kissed by every girl.' = (1b(ii)), (1b(i))

²There are additional factors which may play a role (Kuno 1991, Ioup 1975); see Van Valin & LaPolla (1997) for detailed discussion.

The sentence in (6a) is the Italian translation of (1a), and (6b) is the translation of (1c). What is striking about these sentences is that they are unambiguous, unlike their English counterparts: (6a) can only have the meaning of (1b(i)), while (6b) can only have the meaning of (1b(ii)). The lack of ambiguity is predicted by the principle in (5), given the analysis of the PFD in Italian based on the examples in (4). It was pointed out that in Italian, a focal core argument cannot be preverbal; in particular, a focal subject cannot occur preverbally but must be in a postverbal position. This precludes the possibility of narrow focus on a preverbal subject, which, as we argued with respect to (5b), is what is required to derive the (1b(ii)) interpretation from (1a). Hence (6a) must be unambiguous, with the only possible reading being the one with the universal quantifier (*ogni*) having wide scope. For the same reason (6b) must also be unambiguous, and the only possible reading is the one with the existential quantifier (*un*) having wide scope. The RRG representations for (6a) and (6b) are given in Figure 5.

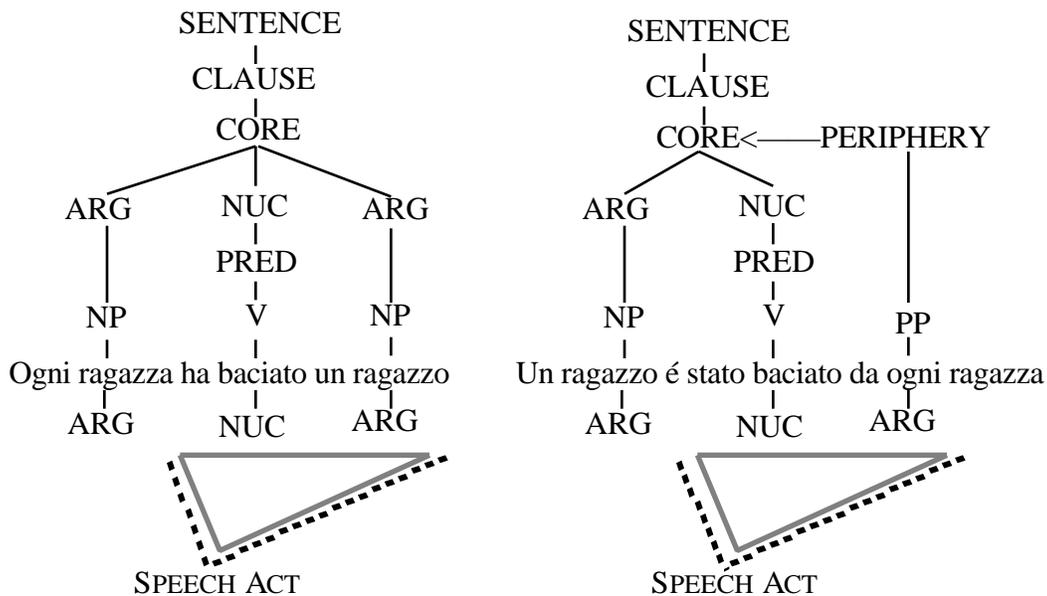


Figure 5: Italian focus structure and the scope of quantifiers

The crucial difference between the English structures in Figure 4 and the Italian ones in Figure 6 is the PFD: it includes the subject in English but not in Italian. This difference, together with the principle in (5), correctly predicts the ambiguity in the English sentences and the unambiguous nature of their Italian counterparts.

The marking of Japanese subjects with *wa* vs. *ga* has implications for the interpretation of quantifiers, following (5). *Wa* marks topics, as in (4a), but *ga* can mark both focal and topical subjects. Its use with focal subjects is illustrated in (4b,c). Shimojo (1995) shows that when both the subject referent and the content of the proposition are established in discourse, i.e. neither is focal, then *ga* is the preferred marker for the subject. Based on the principle in (5), we may predict that the Japanese analogs of sentences like (1a) will be unambiguous, if the subject NP containing a quantifier is marked by *wa*, and will be ambiguous, if the subject NP is marked by *ga*. This is the case, as the sentences in (7) show (Watanabe 1995).

- (7) a. Subete no hito ga dareka wo aishteiru.
 every GEN person SUBJ someone OBJ loves

- ‘Everyone loves someone.’ = (1b(i)), (1b(ii))
 b. Subete no hito wa dareka wo aishteiru.
 every GEN person TOP someone OBJ loves
 ‘Everyone loves someone.’ = (1b(i)), (1b(ii))

When the quantified subject is marked by *ga*, as in (7a), it may be construed as topical or focal, and consequently either quantifier may be interpreted as having wide scope. When it marked by *wa*, as in (7b), it must be topical, and as Shimojo (1995) shows, the remainder of the clause must be focal in the classic topic-comment (predicate focus) structure. Hence (7b) can have only the (1b(i)) reading with the subject quantifier having wide scope. Thus, the differences in the interpretation of the quantifiers in these two Japanese sentence follows from the theory of focus structure and the principle governing the interpretation of quantifier scope in (5).

The RRG account also provides an answer to an intriguing puzzle involving quantifier scope in Mandarin Chinese; the relevant examples are given below (Huang 1982, Aoun & Li 1993).

- (8) a. Měi ge rén dōu xǐhuan yī ge nǚrén.
 every CL person all like one CL woman
 ‘Everyone likes a woman.’ (= ‘everyone likes a different woman’, ‘everyone likes the same woman’)
 b. Měi ge rén dōu bèi yī ge nǚrén dǎsǐ-le.
 every CL person all by one CL woman beat.die-ASP
 ‘Everyone was killed by a woman.’ (= ‘everyone was killed by a different woman’, ‘everyone was killed by the same woman’)

In the English active-passive pair in (1a,c), both are ambiguous, and in the Italian active-passive pair in (6), both are unambiguous. The Mandarin sentences in (8) are also an active-passive pair, and curiously, they differ in their readings: the active sentence is unambiguous, with the only possibility being wide scope for the subject quantifier, whereas the passive sentence is ambiguous, with either quantifier having wide scope. Why should this be the case? The answer lies in the PFD in Mandarin and a feature of the Mandarin passive that is quite different from its English and Italian counterparts. It has been argued by a number of scholars (e.g. Chao 1968, Li & Thompson 1981, LaPolla 1988) that Mandarin restricts focal elements to postverbal position; in this respect it is very much like Italian, as the following examples show.

- (9) a. Chē lái le.
 vehicle come ASP
 ‘The car is here.’
 b. Lái chē lái.
 come vehicle ASP
 ‘There is a car coming.’
 c. Yǒu rén xiǎng kàn nǐ.
 exist person want see 2sg
 ‘There is someone (here) who wants to see you.’

A focal subject must be postverbal in Mandarin; this is achieved either through putting the subject after the verb, as in (9b), or by adding a verb at the beginning of the sentence, as in (9c). Hence as in Italian, the PFD is restricted to the verb and postverbal constituents (see Figures 3 and 5).³

In (8a), the active sentence, there is NP-V-NP word order, and given the restriction on the PFD in Mandarin and the principle in (5), we would predict that a preverbal subject quantifier would always have wide scope, and this is in fact the case. In the passive sentence in (8b), on the other hand, the word order is NP-PP-V; crucially, the Mandarin equivalent of the passive ‘*by*-phrase’ occurs *before* the verb, and consequently both quantified NPs are preverbal. This means that there is no inherent topic-focus asymmetry between them, as in SVO sentences; either NP may be considered the main topic, and consequently either can have wide scope.

Thus, the theory of focus structure in section 2 and the principle in (5) together account for the facts regarding quantifier scope interpretation in the English, Italian, Japanese and Mandarin data we have investigated. This has been accomplished without positing any kind of abstract syntactic representations or covert movement rules, as in the principles & parameters accounts. Hence an adequate treatment of quantifier scope requires neither an abstract level of representation like LF nor the postulation of covert movement.

4. Extraction restrictions

Extraction restrictions such as the principle of subjacency have been an important issue in syntactic theory for many years. The problem to be solved is, why are the following sentences ungrammatical?

- (10) a. *What did Mary talk to the man who bought ___?
 b. *Who did Sally believe the report that Bill kissed ___?
 b'. Who did Sally believe that Bill kissed ___?

In languages with ‘overt movement’, e.g. English, the restriction is stated in terms of the structural configurations (‘bounding nodes’, ‘barriers’) crossed in the ‘movement’. The ‘movement’ of the WH-word from the position in the underlying representation where it is interpreted (internal argument of the embedded verb) to the sentence-initial position crosses two ‘bounding nodes’ or ‘barriers’ in (10a,b) but only one in (10c), and consequently the first two are ungrammatical. What about languages in which WH-words occur *in situ* in questions, e.g. Lakhota (Siouan; North America)? Consider the following data from Lakhota (Van Valin 1993, 1995, Van Valin & LaPolla 1997)

- (11) a. Šukmánitu-thąka ob wachí Nąpé nąžǵ-wǵi čąxǵye yelo.
 coyote-big with dance hand stand-FEM love DEC(Male spkr.)
 ‘Dances-with-wolves loves Stands-with-a-fist.’
 b. Šukmánituthąka ob wachí Nąpé nąžǵwǵi čąxǵyą he?
 Dances-with wolves Stands-with-a-fist loves Q
 ‘Does Dances-with-wolves love Stands-with-a-fist?’
 c. Šukmánituthąka ob wachí tuwá čąxǵye yele.
 Dances-with-wolves who/someone loves DEC(Fem. spkr.)
 ‘Dances-with-wolves loves someone.’
 d. Šukmánituthąka ob wachí tuwá čąxǵyą he?
 Dances-with-wolves who/someone loves Q

³It should be noted that both languages make exceptions for WH-words in questions. Wh-words are always focal in questions. In Italian WH-words occur at the beginning of the sentence, just as they do in English. In Mandarin, on the other hand, WH-words occur *in situ*, and subject WH-words appear in the normal subject position before the verb. The restrictions discussed in this paper apply to non-WH-elements in these two languages.

- ‘Who does Dances-with-wolves love?’, or ‘Does Dances-with-wolves love someone?’
 e. Tuwá Šukmánituthaka ob wachí čaxjya he?
 who/someone Dances-with-wolves loves Q
 ‘Who loves Dances-with-wolves?’, or ‘Does someone love Dances-with-wolves?’
 *‘Who does Dances-with-wolves love?’

Lakhota has SOV word order, as illustrated in (11a). In order to form a question, the interrogative particle *he* is added to the end of the sentence, as in (11b). Question words in this language are ambiguous between WH-word and indefinite-specific pronoun readings; if the T-word (almost all of them begin with /t/, e.g. *tuwá* ‘who/someone’, *táku* ‘what/something’) occurs in a sentence without an interrogative particle, as in (11c), then it must be interpreted as an indefinite-specific pronoun. If, on the other hand, the T-word occurs in a sentence with an interrogative particle, the sentence is ambiguous between a WH-question and a yes-no question. If the focus is on the T-word, then it is interpreted as a WH-word and the sentence is a WH-question; if the focus is on another word in the sentence, then it is interpreted as an indefinite-specific pronoun and the sentence is a yes-no question. The focus structure contrast between these two possibilities is represented in Figure 6.⁴

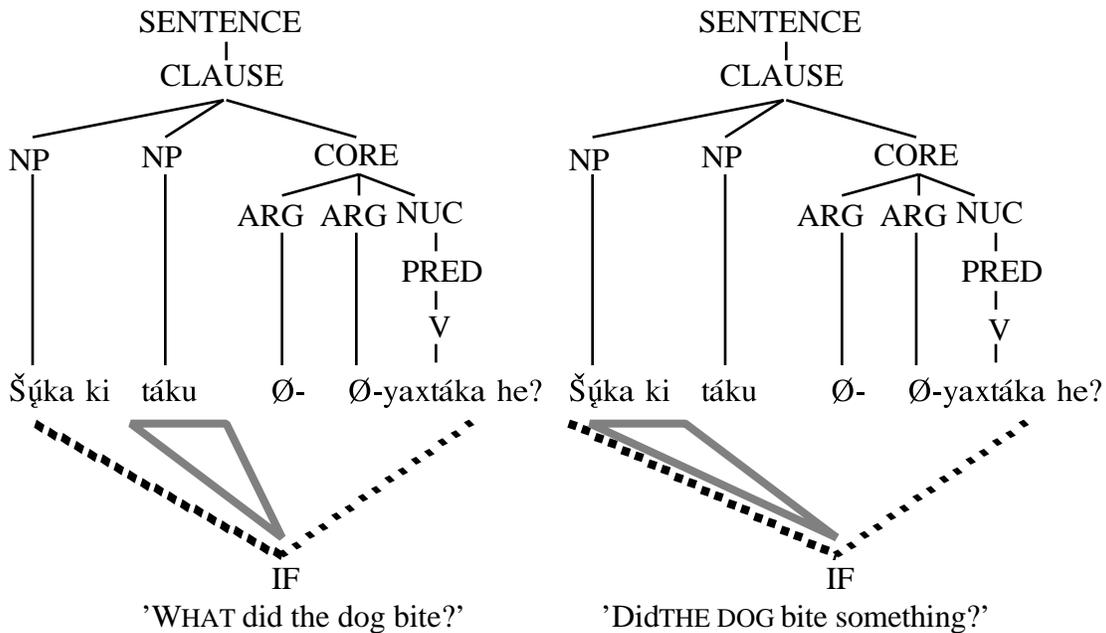


Figure 6: The actual focus domain in Lakhota questions in simple sentences

Thus sentences like (11d) are ambiguous. Note that the T-word in (11d) occurs in the normal object position in the clause, not at the beginning of the sentence. When a T-word does appear in initial position, as in (11e), it must be interpreted as the subject and cannot be construed as a fronted object T-word.

Since T-words appear *in situ* in Lakhota, and subadjacency violations like those in (10) occur when WH-words move across too many bounding nodes, it is reasonable to suppose that the Lakhota equivalents of the sentences in (10) would be perfectly grammatical. The Lakhota analog

⁴The structure of the Lakhota clauses differs from that in English and Italian, because Lakhota is a head-marking language. See Van Valin (1993), Van Valin & LaPolla (1997) for detailed discussion.

of (10a), which involves a WH-word from a relative clause, is given in (12).

- (12) a. Wičháša ki [NP[S šúka wə igmú óta wičháxaxtake] ki le] wəyáke.
 man the[NP[S dog a cat many bite] the this] saw
 ‘The man saw the dog which bit many cats.’
- b. Wičháša ki [NP[S šúka wə táku yaxtáke] ki le] wəyáka he?
 man the [NP[S dog a *what/something bite] the this] saw Q
 ‘*What did the man see the dog which bit ___?’
 ‘Did the man see the dog which bit something?’

The head noun occurs within the relative clause and is obligatorily marked as indefinite; its true definiteness value is signalled by the determiners at the end of the relative clause. In (12a,b), the head is *šúka* ‘dog’. In (12b), the object in the relative clause in (12a), *igmú óta* ‘many cats’, is replaced by *táku* ‘what/something’, and the interrogative particle *he* is added to the end of the sentence. The result is a grammatical question, but it is unambiguous, unlike (11d,e): it can only have the yes-no question reading in which *táku* is an indefinite-specific pronoun meaning ‘something’, and it can never be interpreted as a WH-question; it can only have the yes-no question reading. Thus, in both (10a) and (12b) it is impossible to have a WH-question in which the WH-word functions as part of a definite restrictive relative clause, and therefore Lakhota, like English, shows subjacency restrictions.

Principles & parameters approaches take the existence of subjacency effects in a language as evidence for movement in the language, given their analysis of subjacency, and therefore it is necessary for them to posit WH-movement in Lakhota. Since WH-words do not move overtly, it must be the case that the movement is covert, occurring in the derivation of LF from S-structure /Spell-out (see Figure 1), and it follows, moreover, that subjacency must constrain covert movement of WH-words in languages like Lakhota, in order to explain why (12b) is unambiguous. Chomsky (1995), however, claims that “the LF movement of those expressions [WH-words in WH-questions—RVV] is not constrained by Subjacency”(1995:88). This is clearly incorrect for Lakhota.⁵

RRG does not posit movement rules of any kind, overt or covert; how then can it account for (10a,b) and (12b)? The first question to ask is, is ‘movement’ an essential feature of the phenomenon? English has ‘WH-movement’ (in principles & parameters terms), while Lakhota does not (it has *WH-in situ*). Both languages show subjacency effects. Consequently, ‘movement’ must be irrelevant to the explanation of subjacency effects, since languages with ‘movement’ and languages without it exhibit the phenomenon. An important clue to the analysis of (12) comes from (11d,e): the latter were ambiguous, depending upon whether the focus of the question was on the T-word or not (see Figure 6). What seems to be happening in (12b) is that something is preventing the T-word from being interpreted as focus of the question. WH-questions are narrow focus constructions, and accordingly the WH-word is in the AFD, as in Figure 6. In order for a constituent to be in the AFD in a sentence, it must occur in the PFD. This is captured in the general principle governing questions in (13).

- (13) General restriction on question formation (Van Valin 1993, 1995): The element questioned (the WH-word in a simple, direct WH-question or the focal NP in a simple, direct yes-no

⁵Chomsky does claim (1995:89) that covert movement does obey the Empty Category Principle [ECP], but here again Lakhota is exceptional, as the subject-object extraction asymmetries that the ECP is supposed to explain do not occur in the language (Van Valin 1987).

question) must function in a clause which is within the potential focus domain of the sentence.

If a constituent is outside the PFD, then it cannot be focal; this was the case with the preverbal NPs in Italian and Mandarin in (4), (6), (8) and (9). This suggests that the constituents inside the relative clause in (12) are outside the PFD.

What determines whether an embedded clause is inside the PFD or not? There is a very general principle in RRG governing the PFD in complex sentences; a simplified version of it is given in (14).

- (14) The potential focus domain in complex sentences: A subordinate clause may be within the potential focus domain if it is a direct daughter of (a direct daughter of...) the matrix clause node.

The effect of this principle can be seen in the following two English structures; the internal structure of NPs is not represented in any of these figures.⁶

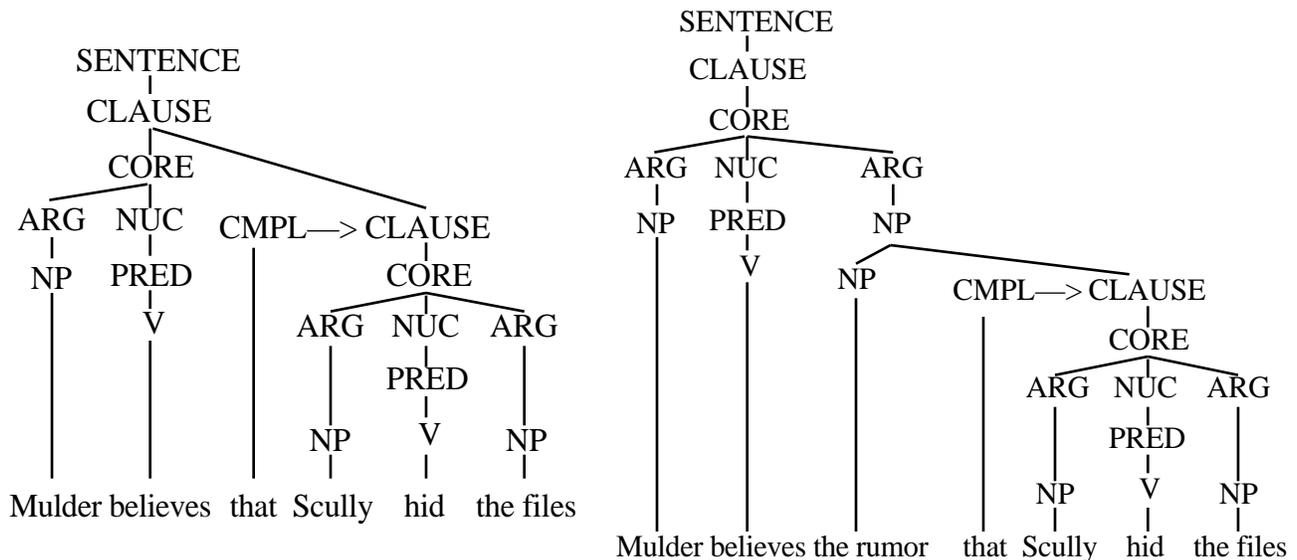


Figure 7: Simplified structures of object complement and complex NP in English

In the left tree, the embedded clause is a direct daughter of the matrix clause node, and consequently it is in the PFD. In the right tree, on the other hand, the embedded clause is within an NP and therefore is not a direct daughter of the matrix clause node; hence it is outside the PFD. We return to these English examples below.

We are now in a position to explain the lack of ambiguity in (12b). Because a relative clause is a clause embedded with an NP, the principle in (14) predicts that embedded clause would not be in the PFD, and because it is not in the PFD, the principle in (13) is not met, meaning that a T-word within a relative clause cannot be in the AFD. Consequently, a sentence like (12b) can only have the yes-no question reading, and the T-word can only be construed as an indefinite-specific pronoun. The structure of (12b) is given in Figure 8.

⁶See Van Valin & LaPolla (1997), section 8.4.1, and Foley & Van Valin (1984), section 6.2.2, for justification for the object complement structure.

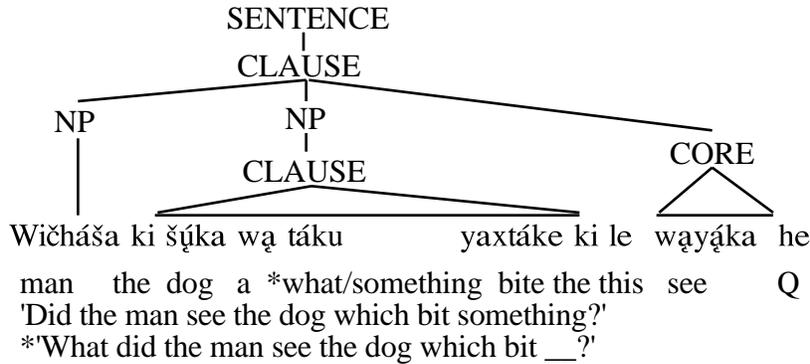


Figure 8: Structure of Lakhota relative clause

In the relative clause, the embedded clause is not a direct daughter of the matrix clause node, and therefore it is outside the PFD; hence the WH-question reading is not available to it.

There are embedded clauses in Lakhota which are within the PFD. Consider the object complement in (15).

- (14) a. [Hokšǐla ki thaló ki manú] iyúkčǎ.
 boy the meat the steal think
 'He thinks the boy stole the meat.'
- b. [Tuwá thaló ki manú] iyúkčǎ he?
 who meat the steal think Q
 'Who does he think stole the meat?', or 'Does he think someone stole the meat?'

When a T-word occurs in the embedded clause, as in (14b), it can be interpreted as a WH-word, if the sentence is a question. This is to be expected, given the structure in Figure 9.

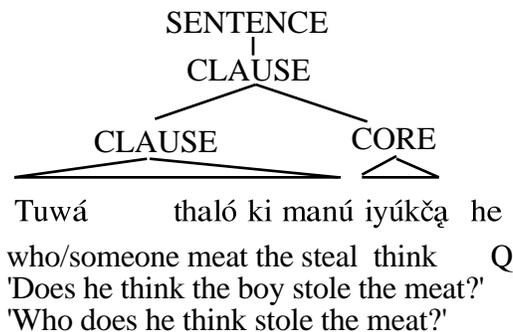


Figure 9: Structure of Lakhota object complement

The embedded clause is a direct daughter of the matrix clause node and accordingly is in the PFD. Consequently, the WH-question reading is possible.

Since WH-words occur *in situ* in Lakhota, the principle in (13) means that the WH-word must be in clause in the PFD. Does this principle apply to languages like English and Spanish with sentence-initial WH-words? In other words, can it account for (10a,b) as well? The answer, not surprisingly, is 'yes'. In languages like English and Spanish with sentence-initial WH-words, the

principle in (13) requires that the displaced WH-word function as an argument or adjunct in a clause within the PFD. The principle in (14) specifies that clauses embedded in NPs, either relative clauses or noun complements (as in Figure 7), will be outside the PFD. Thus, the general restriction on question formation in (13) precludes the possibility of having a WH-question in which the WH-word is interpreted as being an argument or adjunct within a complex NP. The principles in (13) and (14) provide a non-movement analysis of restrictions on question formation in both English and Lakhota.⁷

5. Conclusion

In this paper we have examined two types of what is often considered to be abstract syntactic phenomena, and we have proposed analyses of them which have not involved any kind of abstract syntactic analysis. Rather, it turns out that both of them crucially involve the interaction of focus structure and syntax. Focus structure is not abstract; it is signalled overtly by prosody (most languages), by word order (as in Italian and Mandarin), or by morphological means (as in Japanese). As we saw in section 2, languages use a combination of these ways of indicating focus structure.

The analysis of quantifier scope and extraction restrictions have implications far beyond syntactic theory. The alleged existence of abstract levels of representation and covert movement has been taken as evidence in support of Chomsky's claim that syntax cannot be learned and that language acquisition is possible only on the basis of an innate, autonomous language acquisition device which contains all of the relevant syntactic principles and constructs. It is indeed difficult to imagine how a Lakhota child could learn a constraint on movement like subjacency, when the language gives no overt evidence of even having movement in the first place! There is nothing abstract about the RRG analysis, in contrast, as it involves the interaction of the overt syntactic form of a sentence with focus structure, which is always overtly signalled. It has been argued (Van Valin 1991, 1994, 1998) that the RRG analysis of these phenomena is in fact learnable, based on the evidence available to the child. Consequently, they provide no evidence in support of an autonomous language acquisition device. Thus, the contrast between the principles & parameters and RRG approaches has consequences for the broader cognitive issues that linguists and other cognitive scientists are concerned about.

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⁷The presentation here has been simplified in various respects, due to space limitations. For a full, technical account of the RRG theory of extraction restrictions, see Van Valin (1995) and Van Valin & LaPolla (1997).

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