## **Chapter 5 Exercises Solutions**

1. Hungarian is often described as a 'free word order' language because of examples like (1), from É. Kiss (1987). Assuming these permutations are all core-internal, what can one conclude about how focus structure and syntax interact in Hungarian, based on (2)-(5)? In particular, is there a special focus position in the clause? How do focus structure constraints on syntax explain the ungrammatical examples in (3)-(5)? Keep in mind that the Hungarian examples are simple clauses, unlike the English translations in (2).

The translations in (2) indicate that the initial position is a topic position while the immediately preverbal position is a focus position. In (3) a WH-word, which is always narrow focus, must be in the immediately preverbal focus position, regardless of the position of the other elements. In (4), the element in the scope of the negative element *nem* follows it and is always in the preverbal focus position; this correlates with the point made in §5.5 that the scope of negation is the actual focus domain. The trickiest examples are those involving the quantified NP *minden könyvet* 'every book'. Consider the following examples:

- (1) What did John put on the table? ??He put *every book* on the table.
- (2) ??It was *every book* that John put on the table.

Both of these sentences with a quantified NP in focus are very odd, and this suggests that quantified NPs are unacceptable as focal NPs; this would explain the ungrammaticality of (5c-d). (In §5.5 it was pointed out that wide scope tends strongly to correlate with topicality, and on Ioup's quantifier hierarchy in Table 5.2 quantifiers like *every* are very high and tend to get wide scope. This also suggests that quantified NPs are potentially poor candidates as focal NPs.)

2. Consider the following data from Turkish (Erguvanh 1984). How does focus structure interact with Turkish clause structure? In particular, is there any evidence for special topic and/or focus positions? (Some of the starred questions are acceptable if interpreted as an echo, rhetorical or exam question; however, they are not acceptable as simple WH-questions.) In the question-answer pairs in (3), '#' indicates that an answer is not appropriate for the question.

Turkish is a typical verb-final language in having an immediately preverbal focus position. As the sentences in (1) show, an indefinite NP must occur in this position. A definite NP, on the other hand, has greater freedom of position. The sentences in (2) involve WH-questions, and, as in the Hungarian data, the WH-word must occur in the preverbal focus position. An interesting situation arises when there is both an indefinite NP and a WH-word in the same sentence; which one occurs in the focus position? As (2d, d') show, the indefinite NP has priority over the WH-word for the immediately preverbal position. The question-answer pairs in (3) show that the immediately preverbal NP is taken to be the focus of a yes-no question, as indicated by the felicitousness of the possible responses. Finally in (4), it is possible to have a topic expression marked by *ise*; this topic expression appears to be in the LDP, because it must be initial in the sentence. Thus, it appears that Turkish has a well-defined focus position (immediate preverbal position) and a leftdetached position in which topic expressions can occur.

3. Consider the following data from Toba Batak, an Austronesian language spoken in Indonesia

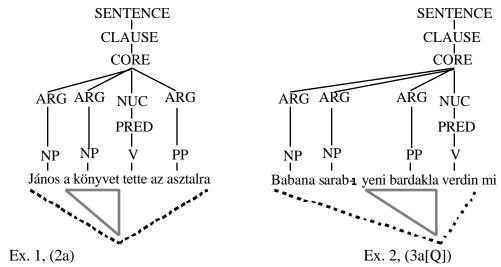
(Schachter 1984a). How does focus structure interact with Toba Batak clause structure? In particular, is there any evidence for special topic and/or focus positions?

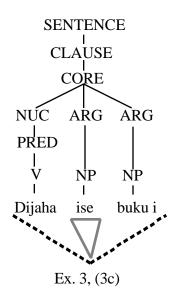
Toba Batak is verb-initial and is the mirror-image of Turkish with respect to the basic information-structure pattern. The focus position is the immediately postverbal position, and the final NP in the clause is interpreted as topical. This can be seen in (1) in the interaction between the definiteness of an NP and its position in the clause. The least marked pattern is for the immediately postverbal NP to be indefinite and the clause-final NP to be definite, as in (a) and (b); the immediately postverbal NP is normally construed as non-specific, whereas an indefinite NP in final position, as in (a', a''') and (b', b'''), must be interpreted as specific. The occurrence of a definite NP in the immediately postverbal position results in degraded acceptability, as in (a') and (b'), and the least acceptable sentences result from a definite NP in the immediately postverbal position and an indefinite NP in the clause-final position. All of this is to be expected if the immediately postverbal position is the focus position and the clause-final position is a topic position (but not clause-external like LDP or RDP).

Evidence that the clause-final position is not a special position for topics, as opposed to a position with a default interpretation as a topic, comes from the sentences in (2) and (3) involving WH-questions. If the clause-final position were a special topic position, then it should be impossible for WH-words to occur there, since they are always focal. Yet as (2a) and (3a) show, it is possible for a WH-word to occur in the clause-final position in a WH-question. It is also possible for a WH-word which would otherwise occur clause-finally to occur preverbally, presumably in the PrCS. A WH-word may occur in the immediately postverbal position, which is not surprising, given that it is the focus position. But what is perhaps surprising is that this same WH-word may not occur preverbally, unlike a WH-word which would otherwise occur clause-finally. However, since it occurs in the unmarked focus position, it is already in a pragmatically appropriate position in the clause, unlike a clause-final WH-word.

The final two sets of sentences illustrate omission of a topical element in context, and they confirm the interpretations given above. Only the immediately postverbal NP may be interpreted as the focus of the yes-no question, and only the clause-final NP may be omitted in the answer.

4. Draw the constituent and focus structure projections for the following sentences: (2a) in Exercise 1, (3a[Q]) in Exercise 2, and (3c) in Exercise 3. Be sure to specify both the potential and actual focus domains in each representation.





5. Based on the discussion of focus structure in Italian and Japanese in this chapter, how would you explain the following facts regarding quantifier scope interpretation in the two languages? (' ' means 'has wider scope than'.)

In §5.3 we discussed how some verb-medial languages restrict the potential focus domain to the verb and postverbal material in the clause, excluding (core-internal) preverbal elements from it. Italian is one such language, as we saw in (5.3) and (5.5). This means that preverbal, core-internal NPs must be topical, while postverbal elements are focal (default). The principle regarding quantifier scope in (5.20) states that topical quantified phrases have scope over focal (non-topical) quantified phrases. This principle, together with the restriction on the potential focus domain in Italian, correctly predicts the interpretations in (1). In (1a) the preverbal quantified NP must be topical and therefore have scope over the postverbal quantified NP, and the same is true in (1b). The reason the sentences are not ambiguous is that in order for the postverbal quantified NP to have wide scope, it must be possible to give the sentence a marked-narrow-focus interpretation with narrow focus on the preverbal NP; this, however, is impossible, given the restriction on the potential focus domain in Italian stated above. Accordingly, both sentences are unambiguous.

The situation in Japanese is rather different. As noted in 5.3, NPs marked by *wa* are highly topical, whereas NPs marked by *ga* can be either topical or focal. Hence a quantified NP marked by *wa* should always have wide scope, whereas a quantified NP marked by *ga* may or may not have wide scope, depending on whether it is topical or focal, as predicted by the principle in (5.20).

6. Based on the analysis of focus structure in Toba Batak in exercise 3, how would you explain the following facts regarding quantifier scope interpretation in the language? The data are from Clark (1985). How do the factors discussed by Ioup and Kuno interact with focus structure in these examples? Why is (1c) ungrammatical?

We found in exercise 3 that the immediately postverbal position is the focus position in Toba Batak and that the clause-final position is normally but not necessarily topical. There are three quantifiers in the data: *ganup* 'each', which is at the top of Ioup's hierarchy, *angka* 'every' which is below *ganup* but high on the hierarchy, and *tolu* 'three', which would fall around the middle of the hierarchy, below *ganup* and *angka*. Recall further that Ioup speculated that quantifiers meaning 'each' would normally get wide scope.

The sentences in (1) involve core-internal arguments. In (a), the NP containing *ganup* 'each' is in final position, which has a default interpretation as topical; hence it has wide scope. In (b), on the other hand, the final NP contains *angka* 'every', and the NP containing *tolu* 'three' is not in the immediately postverbal focus position. Neither NP is necessarily focal, and *angka* is higher on the quantifier hierarchy than *tolu* but is not as high as *ganup*. The default interpretation should therefore be *angka tolu*, but since neither NP must be interpreted as focal, it is possible to give *tolu* wide scope over *angka*. In (d), the higher ranking quantifier (*angka*) is in the focus position, while the lower ranking quantifier (*tolu*) is in the default topic position. Each quantifier has one 'wide-scope factor' in its favor, and the result is scope ambiguity. In (c), on the other hand, the highest ranking quantifier, *ganup* 'each', occurs in the focus position after the verb; the result is ungrammatical. We argued in §5.3 that there was a link between Ioup's quantifier hierarchy and our topicality principle:

The quantifiers at the top of the hierarchy involve greater individuation and specificity of the NP... The more specific the reference of an NP is, the better it is as a potential topic, and accordingly, the quantifiers at the top of the hierarchy would yield quantified NPs which would make better topics than those at the bottom.(p.222)

Moreover, loup speculates that *each* always has wide scope, and this suggests that quantified NPs with *each* are inherently topical. If so, then this would explain why (c) is ungrammatical; there is a conflict between the inherently topical nature of *ganup jeneral* 'each general' and it occurrence in focus position. This is analogous to the situation in Hungarian in exercise 1.

The two examples in (2) involve a quantified NP in the LDP, and both Kuno and Ioup claim that occuring in a special topic position is a strong factor in favor of wide scope. In (a) the quantifier *tolu* is in the LDP and *ganup* is in final position, also a topical position. It appears that occuring in the LDP is such a strong factor in favor of wide scope that it balances the fact that the clause-internal quantifier is *ganup*, yielding an ambiguous sentence. When the clause-internal quantifier is lower on the quantifier hierarchy than *ganup*, as in (b), the result is an unambiguous sentence, with the quantifier in the LDP having wide scope.

The data from Toba Batak show clearly that information structure, Ioup's quantifier hierarchy and syntactic position interact in determining the relative scopes of quantifiers in multiple quantifier sentences.

7. Explain why coreference is or is not possible in the following sentences. The asterisk means that the sentence is impossible on the coreference reading; it is of course grammatical if non-coreference is assumed. Focal stress is indicated by small capitals.

The coreference possibilities in these sentences follow the predictions of the principle in (5.29). In all of the acceptable examples, the lexical NP is not part of the actual focus domain, and if the pronoun precedes the lexical NP, there is always a clause boundary between them. In the three sentences in which coreference is impossible, in each case the lexical NP is within the actual focus domain, i.e. is focal in the sentence.