

ON QUESTION SENTENCES AND THE GRAMMAR OF HUNGARIAN<sup>1</sup>

Sjaak de Mey and Laci Marácz  
(Institute of General Linguistics, Groningen)

1. Introduction.

In Chomsky (1981, p.174) an analysis by Horváth of WH-Movement in Hungarian is cited. Chomsky does not give any actual Hungarian sentence. Instead the discussion is based on

(1) who do you think (<sub>s</sub> t (<sub>s</sub> Bill said (<sub>s</sub> t (<sub>s</sub> t saw John

Observing that in the Hungarian analogue of (1) the wh-phrase in the matrix clause is accusative rather than nominative, Chomsky suggests, following an analysis of that-trace filter violations by Kayne (1980), that the wh-phrase receives case from the matrix verb when it is still in the complementizer position of the clause immediately below the matrix clause.

Of course, it is quite unfortunate to discuss Hungarian on the basis of an English sentence. In the first place, there is no unique Hungarian analogue of (1). Rather there are at least two different ways in which (1) can be expressed in Hungarian. Second, although it is certainly possible to drop the complementizer in that language, there are no that-trace filter effects. This disturbs the parallel. The complementizer of the embedded clause in English, when present, protects the wh-phrase from getting case and the sentence is rule ungrammatical because of a case filter violation. However, presence or absence of the complementizer in Hungarian does not affect grammaticality in this way. Third, and most importantly, it is debatable whether wh-phrases are ever in Comp in Hungarian. In surface structure they are invariably in a position called Focus. This is the position immediately preceding the finite verb. As the position of the finite verb is completely free in Hungarian, wh-phrases can occur sentence initially only when the finite verb happens to be in second position. Horváth (1981) assumes that wh-phrases, when moved, move successive cyclicly via the Comp positions of intermediary clauses. Only when they reach the matrix clause do they move into Focus. It is clear why Horváth wishes to defend this analysis of WH-Movement: it establishes a close relationship between Hungarian and English syntactic structure.

Although the Chomsky-Horváth analysis has obvious defects, as we pointed out, the general idea seems defensible and reasonable. Considerable effort has been spent on the syntactic investigation of English, inspired by the conviction that we can learn more about natural language through a thorough and deep study of one language than through a superficial study of a great number of diverging languages. So, if the analysis of English has taught us something of value about natural language, then what we may expect is that this is to be found back in other languages as well. Such is the main idea behind explanatory linguistics. Explanatory linguistics differs from more descriptively oriented linguistics in that it attempts to gain insight into general principles of universal grammar. A primary example of explanatory linguistics is Lasnik & Saito (1984). Lasnik & Saito present data from a number of languages which have to do with WH-Movement. Their overall concern, however, is a theory of proper government.

What prompted us to write this paper in the first place was the desire to find answers to questions like the following: What are the correct renderings of (1) in Hungarian?, how do we analyze them?, and why is there more than one way to translate (1) into Hungarian? The more general issue lurking in the background was: are there interesting differences between English and Hungarian syntax?

The sentence that Chomsky called the Hungarian counterpart of (1) is probably:

- (1a) Kit gondolsz hogy Vili mondta hogy látta Jánost  
 who you-think that Bill he-said that he-saw John  
 (acc)(indef) (compl)(nom)(def) (compl)(def) (acc)  
 acc = accusative  
 (in)def = (in)definite conjugation  
 compl = complementizer  
 nom = nominative

(Complementizers cannot be dropped in this sentence)

The idea that 'kit' in (1a) receives its case from 'gondolsz' is obviously correct. However, when it does not receive it in the embedded Comp-position, where does it receive accusative case then? As we will show, 'kit' in (1a) is an argument of the matrix clause and is not raised into the matrix clause. The complement clause 'hogy Vili mondta hogy látta Jánost' contains an empty resumptive pronoun bound by 'kit'. Raising of a wh-phrase from an embedded clause into the matrix clause is certainly possible in Hungarian. However, it is excluded when the embedded wh-phrase has nominative or accusative case. Here is an example where the wh-phrase has been moved:

- (1b) Kinél gondolod hogy János nagyobb  
 than-who you-think that John taller  
 (adessive)(def) (compl) (nom)

What makes it so difficult to distinguish between these two constructions is the fact that this particular construction is possible only when the wh-phrase has other than nominative or accusative case. The two constructions are in complementary distribution to a certain extent.

Here is the second way in which (1) translates into Hungarian:

- (1c) Mit gondolsz (hogy) mit mondott Vili (hogy) ki látta Jánost  
 what you-think that what he-said Bill that who he-saw John  
 (acc) (indef) (compl)(compl)(indef) (nom) (compl)(nom)(def) (acc.)

(Complementizers can be dropped - it may be even preferable to do so).

In (1c) the complement clauses are indirect questions. What is to be noted is that the Hungarian verbs 'gondolni' ('think') and 'mondani' ('say') can take indirect questions as complements, although 'think' in English cannot be constructed with an indirect question.

The differences between English and Hungarian that we think are the most interesting can be grouped as follows:

A - Hungarian is what we call a Focus prominent language, which is to say that it has a syntactic focus position. In English focus has only pragmatic and phonological relevance. As we know, wh-phrases are in Focus position in Hungarian, exactly as in Basque or Georgian. Two questions arise. Is Focus an A-position or a non-A position?, and: does it make sense to say that wh-phrases are in Comp at LF in Hungarian? Another way to put these two questions is: Is there Wh-Movement in the syntax and at LF in Hungarian?

B - Although complement clauses look very similar in both languages,

the question arises whether they are indeed alike? We will argue they are not. What is of special interest is the position and the role of the complementizers and the complementizer position in the two languages. There is only one complementizer, 'hogy', in Hungarian and it is the only constituent that may be in complementizer position.

C - Hungarian has free word order. What we want to know is: why? . In general, free word order may have different origins. For example a process may be operative which is called Scrambling and which can be taken to be an instance of Move  $\alpha$ .<sup>3</sup> Or it may be that there is simply no word order in base structure. We will argue that the latter is correct taking into account that there are no subject-object asymmetries in the language, nor so-called weak cross over violations. This will have considerable consequences for our views on Hungarian syntax. When there is no fixed base generated word order, there is no difference between A-positions and non-A positions, and consequently there is no movement either. Moreover, in that case case assignment does not take place under government. Instead there will be a mechanism called Linking which links NPs in phrase structure to arguments at lexical structure as proposed in Hale (1983). This, in its turn, implies that only under very strict conditions can NPs leave their clauses and move into higher clauses. Moreover, there must be an explanation for why there can be movement from one clause into another although there is no movement within a clause.

The paper is organized as follows. Part I is on question sentences. In section 2 we raise and answer the question why languages move their wh-phrases (when they do). We also list a number of strategies that languages may use in the construction of question sentences. In section 3 we give an analysis of the difference between direct and indirect questions. Part II is on Hungarian grammar. In section 4 we discuss the question whether Hungarian has WH-Movement, either from a position in a matrix clause or from a position in an embedded clause.<sup>4</sup>

PART I: QUESTION SENTENCES

2.1. Against LF-Movement and LF-Quantifier Interpretation.

Why would languages bother to invent rules fronting WH-phrases? The standard answer to this question is that wh-phrases, like all other operators, must be assigned scope. Moreover, they have widest scope in the sentence. So, WH-Movement is part of a more encompassing process of scope assignment. Of course, not all languages front their wh-phrases. Chinese is such a language. Nevertheless, Huang (1982) defends the view that in Chinese wh-phrases are moved into Comp at LF. Lasnik & Saito (1984) claim that in all languages each wh-phrase is in one of the Comp positions of the sentence at LF.

Haik (1984), in an important study, combats the view that a wh-phrase must be in Comp at LF for reasons of scope assignment. She claims that in languages where there is overt WH-Movement, it is the trace of the wh-phrase rather than the wh-phrase itself that is visible for scope assignment. If this is correct, then languages that do not move their wh-phrases to Comp have no need for LF WH-Movement, at least not for reasons of scope assignment. Moreover, there must be another reason why languages that move wh-phrases to Comp do so.

Haik cites the following sentences to support her position:

- (2) Which men did someone say that Mary likes t (= 38)
- (3) Une femme a dit que Marie aimait quelles hommes (= 39)
- (4) Which men did Mary say that some woman loved t (= 40a)
- (5) Quelle femme est ce que tu as dit qu'ils vont épouser t (= 41)

If WH-Movement has the effect of moving 'which men' into a position where it has widest scope than it should have wider scope than 'someone' in (2). However, the sentence can be read only with 'someone' having wider scope than 'which men'. When we assume that in French wh-phrases in situ are moved into Comp at LF, we would expect that 'une femme' in (3) has narrower scope than 'quelles hommes', which is again incorrect. In (4), 'which men' may either have wider scope or narrower scope than 'some woman'. This is because wide scope may be assigned to either of two NPs in the same clause. Something similar holds for (5).

We feel that Haik is right. As a matter of fact, it was argued in De Mey (1983) already that it is unnecessary to assume that in a sentence where a wh-phrase is in situ in an embedded clause, it has to be moved into the Comp position of either the matrix clause or the embedded clause at LF: Relevant examples are sentences like

- (6) Who knows where Mary bought which book

Compare Chomsky (1981). It is generally assumed that 'which book' is moved at LF either into the embedded Comp or the matrix Comp. In this way the ambiguity of the sentence is accounted for. However, if Haik is right and the surface position of 'which book' is the position that counts for scope assignment, then the ambiguity should be accounted for in a different way. We will provide another account in section 3 and conclude that the wh-in-situ facts do not support a theory of LF-WH-Movement.

What we have seen then is that fronting does not affect scope assignment. We have not demonstrated that fronting does not affect interpretation in some other way. What could this other way be? It is generally agreed upon that wh-phrases are (quasi-)operators. Operators have to be in a non-A position from where they bind a variable. This does not only hold for wh-phrases but also for quantifying NPs. For the latter compare May (1978). Quantifying NPs are consequently assumed to move to a non-A position. As such NPs occupy A-positions at S-structure, it is furthermore assumed that there is a movement rule operating at a level which is called LF (logical form). It is surmised that there is an interpretation process at LF which interprets certain NPs and wh-words as variable-binding devices. In this way LF-representations of natural language sentences come to look like first order logical formulas.

Haik's arguments do not prove that there is no LF-Movement and subsequent quantifier interpretation at LF. Moreover, a great number of people have adduced evidence in favor of the existence of an LF-component with the properties described above. We may feel that Haik's argument is a problem for any theory that assumes that there is LF-Movement, but we cannot reject such a theory without showing that the arguments in favor of LF-processes are defective. We will not attempt this in this paper. Nevertheless we will assume, for the rest of this paper, that there is no such process as LF-Movement. All we will do here is to indicate very globally our reasons for not believing in LF-Movement and LF Quantifier interpretation.

The most general reason for disbelief in LF is the fact that it imposes an essentially first order representation on natural language. However, it has been shown that in many cases second order representations are much more insightful and successful when it comes to accounting for facts of natural language. In the second place, when we look carefully at the arguments that have been brought forward to support the idea of LF-Movement and LF quantifier interpretation, we see that they are either defective or only just compatible with an LF-theory. The most forceful argument brought forward in favor of LF-Movement is the argument derived from 'inverse linking' in May (1977). It can be shown to be defective. Another argument has to do with the so-called Bijection Principle. This principle accounts for a number of phenomena that can be subsumed under the heading of Weak Cross Over. The Bijection Principle accounts for a number of facts in an elegant way. However, it makes the wrong predictions in other cases. As we will see, the Bijection principle does not seem to hold in Hungarian. Other facts have to do with 'proper government'. Compare Koopman (1984), Lasnik & Saito (1984). The data from Vata cited by Koopman are indeed very convincing; however, it is difficult to form a reasonable opinion on this language on the basis of the extremely small number of data offered there. The account offered by Lasnik & Saito is of such an abstruse character that it begins to work as a *reductio ad absurdum*. Quite in general, such accounts may be feasible for languages that do exhibit subject-object asymmetries. However, not all languages do. Hungarian is such a language. The few things said above do not prove of course that there is no LF-Movement. Nevertheless, we feel that time has come when it may be profitable to start from the other end. There is one general feeling that strengthens our dislike of LF-theories. It is too easy a solution for the problem of why languages are so different. There is a general check on the validity of LF-proposals: If the postulated LF process had had the same properties that syntactic processes have, that would have been a very convincing situation. However, what we see is that syntactic processes and LF-processes have rather different properties. To mention only one example, Huang argues that LF-Movement does not respect subadjacency. Many more examples could be cited.

If, however, we are right in our surmise that languages do not front their wh-phrases for reasons of interpretation, why do they front them? The view that we defend is that many, but not necessarily all languages have special ways (which we call strategies) to mark the interrogative character of the sentence. For Yes/No-questions this may seem to be more urgent than for wh-phrases. However, what we see is that there are many specific constructions for wh-questions in many languages. That is not really surprising either, in view of the fact that wh-phrases have two different functions: they are either real questions words, which means that they ask for an answer, or they form set expressions, that is, constructions commonly called 'indirect questions' (which name is very unfortunate).<sup>6</sup>

What we see is that there are different strategies in use in different languages. It suggests itself that the choice for a particular strategy has to do with other structural properties of the language. We do not have a worked out typology for languages based on the different ways of forming questions sentences. All we can do is to give some examples of such strategies. In the rest of the paper we want to describe, moreover, certain facts of Hungarian question sentence formation, by which we attempt to make plausible our assumption that there is a connection between the strategies used in question sentence formation and other properties of the language;

## 2.2. A few examples of strategies used in Question Sentence Formation.

A widely used strategy to mark the interrogative character of a wh-question is to move the wh-word(s) into a prominent position. The notion of a 'prominent position' is rather intuitive. Apparently the Comp-position is a prominent position in English and languages like it. In Focus-prominent languages, however, we see that wh-phrases are moved into Focus. It should be observed that this account entails that in a Focus prominent language wh-phrases are not in Comp at any level.

There is no need to assume that languages use only one strategy. We must distinguish between sentences where the question word is in the matrix clause and sentences where the question word is in an embedded clause. Fronting a wh-phrase from an embedded clause requires long distance movement. Now certain languages apparently do not like long distance movement. Then short Wh-Movement may be the only movement allowed and a different strategy is called for in the other case. This difference may still be of importance even in languages that do not move their wh-phrases. For instance, in languages that use question particles there may be a restriction on the distance between the wh-phrase and the particle. It may even be the case that a language dislikes long distance relationships in general. For all such cases another strategy must be mentioned. We best exemplify the strategy by English sentences and non-sentences: if English were such a language it would not be possible to say:

(7) Who do you think that Bill said that John saw?

Instead, we had to use the following:

(8) What is your opinion? What did Bill say? Who did John see?

where (7) is to be interpreted in the following way:

(9) What is your opinion on the following question? What did Bill say about the following question? Who did John see?

That is to say, (8) requires just one answer, not three answers, in spite of the fact that there are three questions. We will see that Hungarian makes use of this strategy.

There is another strategy that a language may use in case it dislikes long distance dependencies. The strategy consists in extending the number of arguments of the matrix clause. Let us illustrate this again in terms of English. If English would use such a strategy we had to say, instead of

(10) Who did John know that Bill saw?

(11) Of whom (with respect to whom, about whom) did John know that Bill saw him?

A language where this strategy is in frequent use is Dutch. It is clear what is going on. In fact, such a language does not use a question word in the embedded clause at all. Rather, it uses a question word in the matrix clause. The pronoun in the embedded clause is then a resumptive pronoun, by which we mean here that it has the question word as its 'antecedent', necessarily. Something like this can be found in Hungarian.

An issue that is of considerable interest for our purpose is the difference between direct and indirect questions. The next section will be entirely devoted to indirect questions. However, there is one issue concerning indirect questions that we will deal with here already. The question is whether languages have strategies in order to mark the difference between direct and indirect questions.

Let us first go into some details of indirect question formation. Compare

- (12) Who knows what John bought?
- (13) Who knows that John bought what?

The word 'what' functions differently in these sentences. It is an interrogative phrase in (13), which means that it asks for an answer. However, 'what' in (12) does not ask for an answer. Rather, the clause 'what John bought' stands for the set of things bought by John. 'What' in (12) is best compared to a 'set-abstractor'. Such wh-phrases cannot be moved out of their clause. Analyses based on a Wh-Movement rule have, of course, made provisions that prevent such wh-phrases from being moved out of their clause. In our intuitive approach we prefer the terminology developed here.

Obviously, we need not assume that each language marks the case where a wh-phrase has the set-abstractor function. When languages do, we need not assume that they all use the same strategy.

What happens when there are no such ways to mark the difference? Imagine a language where there are no sentences of the form (12), only sentences of the form of (13), which are then ambiguous between the sense that (12) has and the sense that (13) has. Chinese is apparently such a language.

As we can see from (12) and (13), English does mark the difference between these two types of wh-words. Question words are either moved to the matrix Comp position or stay behind in their base-generated position when the matrix Comp is filled already by a wh-phrase. Set abstractor words, however, have to be moved into the Comp position of the embedded clause that they belong to or, also, stay in their base-generated position when the embedded Comp position is filled already with another wh-phrase. So wh-phrases in situ may have two functions: they may either be direct or 'indirect' (=set abstractor) question words. Compare 'which book' in (6), which can have both senses: the sentence is ambiguous between these senses. In the one sense the sentence asks for a list of pairs. In the other sense the sentence asks for the set of persons each of whom is able to recite the set of pairs that the embedded clause 'where Mary bought which book' stands for.

Still another strategy is found in Japanese, which does not front wh-phrases. Instead it makes use of 'question' particles. Lasnik & Saito (1984) cite the following sentences:

- (14) Watasi-wa John-ga nani-o katta ka sitte iru (= 2)  
I-topic John-Nom what-acc bought Q know  
I know what John bought
- (15) Bill-wa (John-ga naze kubi-ni natta tte) itta no (= 37b)  
Bill-T John-N why was fired Comp said Q  
Why did Bill say that John was fired?
- (16) Mary-wa John-ga nani-o katta kadooka siranai<sup>+</sup> (no) (= 32)  
Mary-T John-N what-A bought whether know not  
What does Mary not know whether John bought?

It is clear from the examples that the position of the question particle is decisive for the kind of interpretation of a wh-phrase in an embedded clause. In Japanese, wh-phrases are in base-position. It gets the interrogative sense by inserting a question particle in the matrix clause, whereas it has the set abstraction sense when the question particle is in the embedded clause. Therefore, (16) is ungrammatical when the 'no' is left out: as there is a 'whether' in the sentence, the question word 'nani-o' cannot have the set abstraction sense. (We come back to 'whether' in section 3).

The question that we are interested in most is, of course, how sentences like (12) and (13) translate into Hungarian and whether there is an overt difference between the two different types of wh-phrases. We will come back to this in due course.



### 3. Indirect Questions.

#### 3.1. Subcategorization and Selection.

It is generally agreed upon that verbs may be strictly subcategorized for an indirect question.<sup>8</sup> Here are some examples:

- (17) Everybody knows what John bought
- (18) <sup>+</sup>Everyone believes what John bought
- (19) Everybody knows that John bought potatoes
- (20) Everybody believes that John bought potatoes

Whereas 'know' can take both a +WH and a -WH sentential complement, 'believe' takes only -WH sentential complements.

Grimshaw (1979) argued that combinatorial properties of predicates and their complements should be explained in terms of two independent sets of cooccurrence restrictions: subcategorizational and selectional restrictions. Whereas the former are syntactic, the latter are semantic. Both 'know' and 'believe' are strictly subcategorized for  $\bar{S}$ ; 'know' however selects both a Q-type and a P-type complement, whereas 'believe' selects only a P.

One of Grimshaw's arguments has to do with exclamations. Exclamations can occur in matrix clauses and embedded clauses. Compare:

- (22) What a fool he is (= Grimshaw 2a)
- (23) I'm amazed at what a fool he is (= 4a)

Whereas there is no syntactic difference between indirect questions and indirect exclamatives, there is of course a considerable semantic difference. Grimshaw uses E as an indication of the semantic type of exclamation. So verbs like be surprised at, be amazed at are subcategorized for an  $\bar{S}$  and select an E complement whereas verbs like know, decide etc take an  $\bar{S}$  and select a Q type complement.

Further evidence for the reality of semantic types of complements like Q and E can be derived from so-called concealed questions and concealed exclamations. Compare the following sentences:

- (24) Fred tried to guess how much money had been stolen (Grimshaw 68d)
- (25) Fred tried to guess the amount of the stolen money (= 67d)
- (26) It is amazing what a big car he bought (= 73a)
- (27) It is amazing the big car he bought (= 72a)

Apparently, members of the same semantic type can belong to different syntactic categories. Later on we will suggest an explanation for this.

The general idea behind Grimshaw's proposal is very attractive. Syntax is not the only thing that matters. However, we also feel that Grimshaw did not go far enough. We cannot content ourselves with the observation that there are semantic types without attempting to reveal their structure. Let us first raise a question and notice two problems.

The question that arises in this context is whether the classification of clauses as P, Q and E makes sense only for clauses which are subcategorized for at a syntactic level, as Grimshaw apparently assumes. If this is correct, then it does not make sense to talk of main sentences as being members of such semantic types. However, we see no reason for being thus restrictive and we decide to classify main sentences also as either P, Q or E. This decision will have specific consequences for the theory.

The first problem can be illustrated with the help of sentences (12,13) (the second follows in the context of example (30)) :

- (12) Who knows what John bought?
- (13) Who knows that John bought what?

When we follow Grimshaw we have a problem: it is unclear how the embedded clauses of these sentences should be classified. When we classify 'what John bought' in (12) as a Q then what to do with 'that John bought what' in (13)?

A further question is, of course, whether it is correct to classify 'what John bought' in (12) as a Q. As we observed already, the wh-phrase 'what' does not function as a question word at all, as it does not ask for an answer. Rather, it functions like a set abstractor and the clause 'what John bought' should be viewed as a set-expression. We propose therefore to add another semantic class which we will call S. When we talk of a set we mean a set of individuals or, generally, of n-tuples of individuals. The following example (from Bolinger(1978)) shows that we need indeed reckon with n-tuples of individuals:

(28) I wish I knew who expects that Mary will marry who (= 24. )

Here the clause 'who expects that Mary will marry who' is embedded under the verb 'know' and is, again, a set expression. This time, however, it is a set of pairs of individuals. It consists of all the pairs (x,y) such that x expects that Mary will marry y.

What about the clause 'that John bought what' in (13)? Is this an indirect question? It is difficult to see this in this example as the verb 'know' takes both indirect questions and indirect declarative clauses as an argument. However, we find a clearer example in (28): 'that Mary will marry who'. The verb 'expect' does not take indirect questions. We conclude that neither 'that John bought what' in (13) nor 'that Mary will marry who' in (28) is an indirect question. But what are they? And of what nature is the difference between (12) and (13)?

Let us notice first that the clauses 'that John bought what' in (13) and 'that Mary will marry who' in (28) are not on a par, as 'what' in the former is a real question word, whereas 'who' in the latter is not. Further, it must be observed that it does not make sense to say that the clause 'that John bought what' in (13) is an indirect question, not even when we are prepared to give this term a slightly different sense than it has in traditional parlance. What would have to be the difference between a question and an indirect question? It is true that the question word in (13) is in an embedded clause. However, that is so only from a syntactic point of view and we have already accepted the idea that syntax and semantics do not necessarily parallel one another. (13) is a multiple question, which means that it asks for answers that consist of pairs of individuals. Although 'what' in (13) is in a subordinate position with respect to 'who' from a syntactic point of view, this is not so from a semantic point of view: the two wh-phrases are really on a par.

This suggests the following analysis. A multiple question consists of a two-place relation whose two arguments positions are filled by wh-phrases which function as real question words.<sup>4</sup> When we analyze (13) we should say that it consists of the predicate 'x knows-that-John-bought y'. Note that when the first argument position is not filled by a wh-phrase, 'what' has to be fronted. Compare

(29) What does Bill know that John bought

We have now found an answer to the question of how to classify the embedded clause 'that John bought what' in (13). It simply does not make sense to classify this clause as a P, Q or E: a part of a multiple question is not a question itself. Put differently: a multiple question cannot be analyzed into two separate questions.

This suggests also a way in which the difference between (12) and (13) should be accounted for. Where (13) differs from (12) is in the choice of the predicate. The predicate in (12) is 'know'. It is a two-place-relation and its first argument position is filled by a wh-word, whereas its second argument position is filled by a set expression.<sup>9</sup>

We now turn to 'that Mary will marry who' in (28). It is differently embedded than 'that John bought what' in (13). The two clauses have in common though that they are part of a larger expression. Therefore they cannot be independently classified. In this case, the clause 'that Mary will marry who' is part of a larger expression 'who expects that Mary will marry who', which is a set expression standing for a set of pairs. Such an expression cannot be analyzed in two expressions each of which denote a set of individuals not any more than we can analyze an expression standing for a multiple question into two expressions which each denote a single question. 10

Before we turn to the second of the problems announced we want to point out that there is a considerable advantage in construing an indirect question like 'what John bought' as a set expression. In this way we can explain why indirect questions or indirect exclamations can occur in the same positions as concealed questions or concealed exclamations. Let us go back to (24). Note that the embedded clause 'how much money was stolen' stands for the set having the amount of the money stolen as its only member. Therefore, (24) and (25) are equivalent.

Here then is the second problem with the theory of semantic types proposed. Consider the following sentence which is again from Bolinger (1978):

(30) Who regretted that he had not seen who is an open question (=15)

Can we still maintain that 'who regretted that he had not seen who' is a set expression? The answer is clearly No. We can understand (29) as expressing a wish to know what the extension of a certain predicate is. However, the extension of a predicate is difficult to construe as an open question. Let us note that the following sentence is a suitable paraphrase of (30):

(31) The question of who regretted that he had not seen who is an open question

What (31) shows is that 'who regretted that he had not seen who' is a modifier of the head noun 'question'. This suggests that complements of the semantic type S are selected by verbs only. In fact, 'who regretted that he had not seen who' in (30) is not a complement at all. Remember that we decided not to take the semantic type classification as a classification of complements only. This leaves us freedom to classify  $\bar{S}$ s which modify head nouns like 'question' or 'fact' as Qs or as Ps.

However, classifying 'who regretted that he had not seen who' as a Q does not seem correct either. When used the way it is in (30) such an  $\bar{S}$  turns into the name of a question and is no longer a question. That's why

it occupies an argument position in (31) and the predicate 'is an open question' can be applied to it. That is also the reason why it does not ask for an answer.

It is good to observe that there is an argument in favor of dividing the class of indirect questions into two classes (complements and modifiers): there are no concealed questions corresponding to the modifying clauses. Compare

(32) Susan found out the place where the meeting was to be held

(33) Susan found out where the meeting was to be held

(34) Where the meeting is to be held is an open question

(35) The place where the meeting is to be held is an open question

Note however, that this disrupts the unity of the syntactic class of 'indirect questions', which shows that this term has no formal status in the theory.

At this point it may be good to summarize our findings. We started out discussing Grimshaw's distinction between selection and subcategorization. However, the way Grimshaw uses the term 'selection' presupposes that syntax and semantics run entirely parallel: the facts that she accounts for have to do with clauses that can be distinguished on a semantic level only because they behave the same for subcategorization. We agree with Grimshaw that a syntactic analysis cannot stand on its own. It has to be eked out by a semantic analysis. Where we differ is in that we are convinced that a syntactic analysis may dissolve a sentence into constituents that have no separate status as constituents of a semantic analysis. The analysis of indirect questions provides a beautiful illustration of this view.

In our framework there is every reason to distinguish between questions and indirect questions, which are not questions at all: they are either names of questions or set expressions. A question asks for an answer. A wh-question asks for a set of individuals, or rather, n-tuples of individuals. An indirect wh-question, when in complement position, stands for a set. Wh-questions are Q-type expressions, indirect wh-questions are S's (=sets)

We may wonder how the confusion came about: why are indirect questions generally viewed upon as questions? The first reason must be their ability to modify the noun 'question', as in (30). However, that does not justify the classification as a question when they are not used as modifiers. The second reason must be a general tendency to identify a question with its true answers. However, although we can define what is a good answer to a given question, we cannot classify independent sentences as 'answers'. There is no category of answers. In order to see what relationship there is between a question and an answer, consider the following sentences:

- (36) Who wrote this book?
- (37) I know who wrote this book

'who wrote this book' in (37) stands for the set that is the true answer to (36).

Note that indirect wh-questions are still set expressions when we embed them under verbs like 'ask' or 'wonder'. Maybe the difference here is even clearer than in the other cases. Consider:

- (38) I asked John who wrote this book?

'Who wrote this book' is a set expression. So what (38) says can be paraphrased roughly as: I asked John for a certain set. That of course is exactly what (36) does as well: it asks for a certain set.

Up till now we have not said anything about indirect whether-questions. It is often defended that whether-questions stand also for a set, the set of true answers to the corresponding question. Under this view

- (39) Does it rain?

asks for a set, a set having the true answer to this question as its only member. The sentence

- (40) I asked John whether it was raining

says that I asked John for a set. So far, there is no difference between indirect whether-questions and indirect wh-questions. Yet, there is a difference. 'Whether' is a complementizer, but wh-words are arguments. (16) shows that this is a real difference.

However, in order to deal with this difference properly, we need a more fully worked out theory of complement clauses. This will be our concern in the next section.

3.2. A Theory of Indirect Questions.

Earlier we claimed that (13)

(13) Who knows that John bought what

consists, from a semantic point of view at least, of a complex predicate whose two argument positions are filled by two question words: 'who' and 'what'. (13) is a multiple question. Let us represent the structure of (13) like this:

(41)  $\hat{x}\hat{y}$  Know-that-John-bought (x,y)

As (12) shows, there is another possibility:

(12) Who knows what John bought

We can represent the structure of (12) as follows:

(42)  $\hat{x}(\text{Know } (\hat{y} \text{ John-bought-}y) )(x)$

(12) is not a multiple question.

Differences like the one we found between (12) and (13) are possible only because wh-phrases are arguments: a sentence like

(43) Who knows whether John bought Aspects

does not have the structure of (42) but of (41). It should be analyzed as follows:

(44)  $\hat{x}$  Know-whether-John bought-Aspects (x)

and not as

(45)  $\hat{x}$  Know( $\hat{y}$  John-bought-Aspects-y))(x)

This may come as a surprise as from a syntactic point of view (43) has the structure of (14) rather than of (13).

What is the difference between an embedded clause introduced by 'that' and one introduced by 'whether'? In order to discuss this let us consider the following sentences.

(46) Bill believes that John bought Aspects

(47) Bill knows that John bought Aspects

(48) Bill knows whether John bought Aspects

(49) Bill wonders whether John bought Aspects

(50) Bill believes whether John bought Aspects

(51) Bill wonders that John bought Aspects

Imagine that we have a huge information processing system called Bill having among other things, an enormous amount of memory cells. Each cell is labeled and we use linguistic expressions as labels. We will restrict ourselves to those cells that are labeled by clauses like 'John bought Aspects' or sentences like (46-51). We have to distinguish between three separate systems, parts of the greater system, which can be called Reality, the Subjective System and the Objective System. The difference between the two latter systems is that the memory cells from the Objective System, if they are filled, copy their contents from Reality, whereas the cells from the Subjective System do not. Both the SS and the OS are subdivided again into disjoint areas accessible through gates. Gates are labeled 'know that', 'know whether', 'believe that', etc. 'Whether'-gates are to be found in OS only; they are lacking in SS as SS does not have access to Reality and 'whether' indicates that the clause that follows has to have the same value as in Reality. Beyond each gate the cells are again labeled by clauses like 'John bought Aspects'.

Cells beyond a 'that-gate' have to have the truth value 'True'. In OS, moreover, the contents of a cell labeled 'John bought Aspects' must be a copy of the contents of the cell 'John bought Aspects' in Reality. So, if 'John bought Aspects' is filled by a False in Reality then the cell 'John bought Aspects' beyond the know-that-gate has to be empty. The cell labeled 'John bought Aspects' beyond the believe-that-gate in SS, however, may be filled (which means that it is filled by a True) even when 'John bought Aspects' has a False in Reality.

Cells beyond a 'whether-gate' in OS copy whatever contents the corresponding cell in Reality has. That is the reason why there are no whether-gates in SS. It should be noted, however, that there is no principled reason that prohibits the presence of whether-gates in SS. The reason why a verb like 'think' does not take indirect questions could therefore very well be a language internal reason, not a universal one. It is in fact easy to extend the rules given for verbs belonging to SS by saying that a memory cell in SS may be filled even when it is beyond a whether-gate; what this would come down to is that there could be a language where there are sentences that would have to be translated as: Bill thinks whether it is raining, meaning that Bill has an opinion on whether it is raining. The sentence just expresses that Bill has a certain opinion, but it does not say what that opinion is. The case is really completely parallel to the difference between Bill knows that it is raining and Bill knows whether it is raining.

Bill is not only an information storage system. It has also an acquisition task and a communication task. However, the division between SS and OS remains valid. As acquisition is directed towards Reality-- the system tries to copy the contents of certain cells in Reality onto empty cells in OS--the part of the empty memory space beyond the know-whether-gate is labeled 'wonder whether', another part is called 'ask-whether', etc.

Communication concerns the contents of the cells in OS and SS. When the information communicated comes from the OS, it is retrieved from cells located within an area accessible through either whether- or that-gates. As there are no whether-gates in SS, all the information retrieved from this system has to be retrieved from memory space beyond that-gates.

There is still more to this system than we discussed up till now as is apparent from the existence of the matter-verbs, the decide-verbs and the depend-verbs. But we will not go into this. For our purposes it suffices when we have made clear the kind of difference there is between verbs that take that-clauses and verbs which take whether-clauses. The main claim that we wish to uphold here is that the important distinction is between 'subjective' and 'objective'. The verbs belonging to the subjective system have to take 'that-clauses', whereas verbs that belong to the objective system may either take 'whether'-clauses or 'that'-clauses. Clauses introduced by 'that' have the truth-value 'true', whereas clauses introduced by 'whether' have whatever truth value Reality assigns them. Another objective of the introduction of the information system is to make clear what it means to say that 'x knows-that-John-bought y' is a complex predicate. What it, finally, also makes very clear is how misleading it is to call a 'whether'-clause an indirect question. Both 'that'-clauses and 'whether'-clauses introduce sentences that have a truth-value. It does not make sense to say that clauses introduced by 'whether' are questions or that clauses introduced by 'that' are declaratives. As we pointed out, the difference between 'whether'-clauses and 'that'-clauses is of a entirely different nature.

An issue that we have touched upon already, but which we wish to state again is the following. As we see from (13), a that-clause may contain a wh-phrase. Moreover, this kind of clauses may be embedded under both 'know' and 'believe', that is, under verbs that take 'that'-clauses irrespective of the fact whether they belong to the objective or the subjective group. We may wonder how that is possible, as a phrase containing a wh-phrase does not have a truth value: it is an open formula. The answer is that the wh-phrase is an argument of the complex predicate and not an argument of the main verb. Compare what we said in relation to (29).

Obviously, much more could and should be said on this subject matter. This much will suffice for our purposes, however:

PART II: THE GRAMMAR OF HUNGARIAN

4. Hungarian question sentences and the Rule of WH-Movement.

In this section we wish to investigate whether there are good arguments for assuming that Hungarian makes use of the rule of WH-Movement for the purpose of forming question sentences. In 4.1 we deal with certain issues in the area of Hungarian grammar. In 4.2. we deal with matrix clauses, in 4.3 we deal with wh-words in embedded clauses.

4.1. Some issues in the Grammar of Hungarian.

The issue that is important for our purpose is whether we are justified in calling Hungarian a non-configurational language. It should be noted that the question is not so much whether Hungarian is either configurational or non-configurational. Rather the question is whether it makes sense to call a language non-configurational.

There are people who call a language non-configurational iff that language has free word order. However, Hale (1982) gives a list of properties that we find in languages that we tend to call non-configurational. Free word order is only one item on the list. Moreover, it is not necessary that all languages that are to be called non-configurational have all the properties of this list. Further, it is clearly not enough to say that a language has free word order; what we wish to attain is a situation where we can reduce free word order to another property of the language. Hale enlistst the following properties (and adds that this list is not complete):

- (53) (a) "free" word order
- (b) the use of discontinous expressions
- (c) free or frequent "pronoun drop"
- (d) lack of NP-Movement transformation
- (e) lack of pleonastic NPs (like it, there, il,...)
- (f) use of a rich case system
- (g) complex verb words or verb-cum-Aux systems

The property from which all the other properties of non-configurationality can be deduced is the property of being a one-bar language. That means that 'the germ of the correct typological perspective on configurationality is to be found in the so-called X-bar theory of the categorial component'.

In Hale (1983) the view is defended that giving this answer is simply begging a fundamental and more interesting question, namely: Why does a language use a phrase structure system of this highly 'permissive' type? Hale proceeds to formulate the Configurationality Parameter (CP):

- (54)(a) In configurational languages, the projection principle holds of the pair (LS,PS)
- (b) In non-configurational languages the projection principle holds of LS alone ( = 28 )

BY 'LS' is meant: 'lexical structure', whereas by 'PS' is meant: phrase structure. It is clear that Hale now takes the projection principle as the locus of configurationality.

Apparently, many people are sceptical with respect to attempts to find 'the germ of the correct typological perspective on configurationality'. What they fear is probably the following. When we hold some deep seated property of language as the kernel of the notion of configurationality, the languages of the world will be divisible into two groups which have



relatively little to do with one another. In this way one may run the risk of violating the principle underlying all explanatory linguistics, which tells us to reduce the apparent differences between the languages of the world to some common deep seated principles rather than take it too easily for granted that all languages are different.

We do not share these fears. Moreover, it is not necessary to go too deeply into this here. We come back to some aspects of this discussion later on. For the moment we want to simply state that we believe that it makes good sense to speak of the non-configurational character of a language.

Why is non-configurationality important to our subject-matter? There are two topics on which we think the configurationality issue can be brought to bear. These are:

- are wh-phrases in Hungarian simplex sentences in their base generated positions at S-structure or are they moved into their SS-position?
- is there long distance WH-Movement in Hungarian?

4.2. Wh-phrases in matrix clauses.

As we discussed already, wh-phrases are in Hungarian not in sentence initial position. Rather they are in a position that is generally called Focus. Focus is the position immediately preceding the finite verb, Apart from the relative order of Focus and the finite verb, however, there is no fixed word order in an Hungarian S. This implies that a Hungarian simplex sentence can be divided into four parts:

$$(55) \quad \dots / F / V_{fin} / \dots$$

(1)            (2)            (3)            (4)

The reason why we can distinguish between (1) and (2) in (55) is that Focus can accommodate only one constituent, or, which is even more restrictive and also more appropriate, Focus can accommodate only one constituent provided this has only one intonation center. Constituents that end up in Focus bear heavy stress.

It is obvious then that Focus has at least two aspects. In the first place, it has a communicative function. It contains that part of the message that stands out from the rest of the sentence in, say, importance. In the second place, it has also a phonological aspect. There is no need to assume the phonological notion of focus coincides with the communicative notion: Compare Culicover & Rochemont (1983). In the third place, however, Hungarian Focus is also, and for our purposes most importantly, a syntactic notion.

Focus need not be filled. On the other hand, there are certain constituents that have to end up in Focus when present. Kiss (1981) gives the following list of Focus elements:

- (56)(1a) reduced verbal complements: verbal prefixes  
determinerless nominal complements  
predicative nouns  
predicative adjectives

(1b) complements modified by a 'focussing operator' (a.o. wh-phrases)

As Focus accommodates only one constituent there must also be a rule of precedence to decide which element has to be in Focus in case two or more elements of different types are present in the sentence. (When necessary we will distinguish between Focus elements and elements in Focus.) Kiss (1981) formulates surface filters to this effect.

However, it must be doubted that Kiss was right in taking all the elements mentioned in (56) as Focus elements. Quite recently, it was proposed by Ackermann and Komlósy that reduced complements are not in Focus but rather in a position which they call 'verbal modifier' ('VM'). Thereby their proposal comes very close to the phrase structure defended in Horváth (1981). We can indicate the difference between Kiss' and Horváth's proposals as follows: whereas Kiss assumes that Focus is separated from V by a major constituent boundary, Horváth and also Ackerman and Komlósy assume that there is a constituent,  $X^{max}$  according to Horváth and VM according to Ackerman and Komlósy, which together with the V forms a  $\bar{V}$ .

We think it may be good to distinguish clearly between VM and Focus. This implies that only (56, 1b) are focus elements. We propose the following rules

$$(57) \quad \begin{array}{l} S \quad \text{-----} \rightarrow (X^n)^* \bar{V} (X^n)^* \\ \bar{V} \quad \text{-----} \rightarrow \text{Focus } \bar{V} \\ \bar{V} \quad \text{-----} \rightarrow \text{VM } V \text{ Infl} \end{array}$$

With this proposal we are in agreement with the observation by Kenesei (compare Kenesei(1984) ) that a focus element and a VM-element may be simultaneously present in a non-finite construction. Here is his example:

- (58) A csak másokat durvának tartó játékosok  
 the only others rough considering players  
 -the players who consider only others rough-

Here 'csak másokat' is in Focus, whereas 'durvának' is a VM-element. To be sure, in finite constructions VM-elements may not be in preverbal position when focus is occupied by some focus element. This is a process, however, that is still not well understood and we have nothing to add.

The crucial question now is whether elements in Focus at S-structure have been base generated in Focus or have been moved into this position by an application of Move A. When we look back at (53), the list of properties that non-configurational languages are said to possess, we see that it is a property of a non-configurational language not to allow NP-Movement. Nothing, however, is said about WH-Movement. Can there be WH-Movement in a non-configurational language?

Why can't there be NP-Movement in a non-configurational language? The reason is that in such a language all positions are  $\theta$ -positions. Compare Hale (1982). The reason behind this again is that in such a language there is no straightforward and consistent relationship between  $\theta$ -role assignment and structural position, nor between case-assignment and structural position. Ultimately, this is again a consequence of the CP (54b).

However, when this is to mean that there is no difference between A-positions and A-positions, there can be no wh-movement either. This is also in agreement with Kenesei (1984) who observes that there is no weak cross-over violation in constructions like the following

- (59) A férfi, akit az az állítás hogy (8) szélhámos felháborított, elment  
 the man whom that the claim that (he) a fraud infuriated went-away  
 -the man who the claim that he was a fraud infuriated left-

Observe that there is a weak cross-over violation in the English counterpart to (59). We can immediately add examples with questions:

- (60) a Kit háborított fel az az állítás hogy szélhámos?  
 who infuriated that the claim that a fraud?  
 -Who did the claim that he was a fraud infuriate?  
 b Hogy szélhámos, kit háborított fel az az állítás?  
 c Az az állítás kit háborított fel, hogy szélhámos?

Such facts are in conflict with a GB-account for English syntax generalized to Hungarian.

Moreover, assuming that there is no WH-Movement in Hungarian we have to conclude that there is no variable left behind in the argument position from where the wh-phrase has been moved. The wh-operator then is an operator that does not bind a variable, something which is not possible in the GB-framework, but which is not astonishing in an account where wh-phrases do not have to move in order to end up in operator position.

It should not be overlooked that the assumption that Hungarian is a non-configurational language plays a significant role here. It is not only that the principle of Weak cross over does not hold in Hungarian, it does not even make sense. As there are no fixed positions there is no way to tell where a wh-phrase could have been moved away from. Consequently, it does not make sense to say that wh-phrases remain in situ, as the use of this term presupposes that movement is possible.

If there is no consistent relationship between case assignment and structural position, as Hale claims, then case is not assigned under government either. Hale (1983) proposes the Linking Rule, which says:

- (61) Coindex  $\bar{N}$  in PS with arg in LS, provided the case category of  $\bar{N}$  is identical to that of arg (assigning a distinct index to each arg in LS. (= 14)

4.3. Wh-phrases in embedded clauses.

4.3.1. Az-hogy-S=complements.

We listed two topics on which the configurationality issue can be brought to bear. We dealt with the first one. In 4.3.4. we deal with the second one: is there long distance WH-Movement in Hungarian? Before we can deal with this question, however, we have to say something about the construction of embedded clauses in Hungarian (this section) and discuss two different ways of forming questions sentences with question words in embedded clauses (4.3.2). 4.3.3. is a partial summary.

In English a number of verbs are subcategorized for a  $\bar{S}$ -complement: believe, think, know. The same holds for the Hungarian analogues. Yet, there is a difference in the construction of embedded clauses in English and Hungarian in spite of a superficially perfect match. Consider:

- (62) Tudom / gondolom / hiszem hogy János elment  
I-know I-think I-believe that John left
- (63) Azt tudom / gondolom / hiszem hogy János elment  
That<sub>dem</sub> I know (think, believe) that John left

Whereas the English translation of (63) is more marked than the translation of (62), the Hungarian sentences are on a par as far as grammatical or acceptability is concerned. (As we will see in a moment, there is a difference between them.) We claim that (63) represents the construction in a more revealing form. We will call complement clauses "az-hogy-S=complements" although we do not believe that such complements are one constituent at deep structure. Nevertheless, there is obviously a special relationship between the demonstrative 'az-' and the 'hogy-S=clause'. Consider the following three facts. First, a Hungarian sentence is built on the verb and its case array. A clause cannot show the case that the verb is subcategorized for, the demonstrative 'az-' however can, and it is one of its functions to do so. It may come as a paradox now when we say that the demonstrative can be easily left out as is the case in (62). However, the force of the case array invoked by the verb is so strong that the demonstrative need not always be present to show the case. It is, apparently, sufficient that it is possible to do so when the need is felt. We will say, then, that the demonstrative represents the clause, as it bears the case that the clause itself cannot bear.

Second, also in another respect does the demonstrative represent the clause. As we can see in (63), the demonstrative and the 'hogy-S=clause' need not be adjacent. In (63), the demonstrative is in Focus position. The semantic effect, however, is that the embedded clause itself is focalized. Note that it is not possible to have both the demonstrative and the clause in Focus. When they are separate constituents this is obvious. (Even if the 'az' and the hogy-S=clause would count as one constituent, they cannot be in Focus at the same time as they would have more than one intonation center.) What we see then is that the demonstrative is in Focus but the hogy-S=clause is not; or the clause is in Focus but the demonstrative is left out altogether. It is impossible to have the clause in Focus and the demonstrative somewhere else in the sentence.

Third, there is a characteristic difference in the relationships between a hogy-S=clause and the demonstrative on the one hand and such a clause and what we will call "case-phrases" on the other. Let us first make clear what we mean by 'case phrases'.

Case phrases correspond in a sense to English PPs consisting of a preposition and a personal pronoun. However, syntactically (morphologically rather, as case phrases are one word-expressions) they are quite different from PPs. They consist of a case ending followed by an AGR-like suffix indicating the grammatical person and number. The personal pronouns have a defective paradigm, there being no oblique case forms of the personal pronouns. The case phrases replace these lacking forms.

In order to illustrate the use of case phrases we have to turn to other examples than (62,63). The third person singular personal pronoun does have an accusative form, őt, this, however, cannot be used when referring to an embedded clause. So consider the following sentences:

- (64) Rá gondoltam, hogy János elment  
Of-it I-thought  
(sublative case phrase)  
-I thought of it, namely that John left-
- (65) Arra gondoltam, hogy János elment  
Of-that  
(demon<sub>sublative</sub>)  
-I thought of John's having left-

(64) and (65) illustrate the different relations between an embedded clause and the demonstrative on the one hand and such clauses and the personal pronoun (case phrase) on the other.

The important question now is, of course, how to analyze an 'az-hogy-S=complement'. It is tempting to say that Hungarian verbs are subcategorized for NPs only, not for PPs or Ss. As to the former, this is certainly correct: Hungarian verbs are subcategorized for case marked NPs, not for PPs (by which term we mean both prepositional phrases and postpositional phrases). When we would analyze an 'az-hogy-S=complement' as one constituent at deep structure, however, there would be no need to assume that Hungarian verbs are subcategorized for Ss either.

This is certainly an attractive point of view. Yet, there are important reasons for rejecting it. In the first place, this would probably force us to analyze the 'hogy-S=clause' as a modifier of the demonstrative head. However, it is not possible to replace 'az-' by NPs like 'az a kérdés' (the question) or 'az a tény' (the fact). This should be possible, however, if the clause were indeed a modifier. Compare what we said in the context of examples (30,31). Second, in spite of its being the representative of the hogy-S=clause, the demonstrative has sufficient freedom with respect to the clause. It can be separated from the clause or be left out altogether. We met with one case where it has to be left out. We will come over an even more telling example: compare (77). Third, the position filled by 'az' can be taken up also by an interrogative pronoun. These are very interesting cases.

We mention one felicitous consequence of the rejection of the proposal to consider 'az-hogy-S=complements' NPs at deep structure: as we will discuss later, NPs are configurational constituents in Hungarian, whereas Ss are non-configurational. If 'az-hogy-S=complements' were NPs we had to make an exception to this rule, as the hogy-S=part in it is non-configurational.

For all these reasons we prefer an analysis where verbs like 'gondolni' take (alongside the subject NP) both an NP and a clause as arguments. The NP has to be filled by a pronoun but not necessarily the demonstrative pronoun; it may also be an interrogative pronoun. Although there is only one syntactic form for Hungarian embedded clauses, 'hogy-S=clauses' can be interpreted in different ways. Certain verbs

select 'hogy-S=clauses' with a specific semantic structure. So the Hungarian facts support Grimshaw's theory of selection even better than do the English facts.

Before proceeding to give examples illustrating the use of az-hogy-S=complements, a word must be said about the complementizer 'hogy'. Exactly as its English counterpart 'that', it does not have any meaning and it can be dropped in many cases. The exact rules, however, are not clear to us. What is important for our purposes, however, is that the complementizer position has considerable importance in English but not in Hungarian. The reason must be that in Hungarian, 'hogy' does not play any role either in subcategorization or in selection. The word 'hogy' introduces both embedded 'declarative' clauses and indirect questions, both whether-questions and wh-questions.

Here are some examples illustrating the use of 'az-hogy-S=complements':

- (66) Azt tudom hogy ki jön  
That<sub>dem</sub> (acc) I-know that who comes (= I know who will come)
- (67) Ki tudja azt hogy János jön-e?  
who knows John comes-Q (who knows whether John will come)
- (68) Azt tudom hogy ki jön-e
- (69) A munka befejezése attól függ hogy jó lesz-e az  
The work completion-Poss on-that depends that good will-be-Q the  
időjárás  
weather  
-Whether the work can be completed depends on whether the weather  
will be good-
- (70) Jánost az lepte meg hogy milyen hosszú az Eiffel-torony  
John (acc) that<sub>dem</sub> (nom) surprised that so high the E.-Tower  
-John was surprised that the E tower was so high-
- (71) Nehéz kérdés az hogy ki gyilkolta meg Smith-urat  
difficult question that(nom) that who murdered S. sir  
-It is a difficult question who killed Mr. Smith

As can be seen from (67) and (69), Hungarian has a question particle 'e' which is mainly used in an indirect 'whether-question'. (It can be used in main clauses as well, but then it expresses surprise rather than the interrogative character of the sentence). It is a Yes/No-question particle rather than a general question particle, as can be seen in (68). Of course, 'e' is not a complementizer, and it would be sheer silliness to say that 'hogy-e' is a complementizer at all.

Consider now the following examples:

- (72) Azt gondoltam hogy ki jön  
(73) Azt gondoltam hogy János jön-e

Maybe these sentences are not completely out--however, they are extremely awkward. An obvious thing to say would be that the verb 'gondolni' cannot be constructed with indirect questions, just like its English counterpart 'think'. However, this does not seem correct. 'gondolni' can be constructed with an indirect question. However, in such a case the pronominal filling the second argument position should not be 'az' but 'mi-' (what).

So, we do have sentences like:

- (74) Mit gondolsz hogy ki jön  
What you-think  
(75) Mit gondolsz hogy János jön-e

We will discuss such examples in greater detail in the next section. Here however, we want to note that such examples support the analysis of 'gondolni' advanced before according to which it takes (alongside a subject NP) an NP and a  $\bar{S}$ . It can hardly be seriously proposed to consider 'mit' and

'hogy ki jön' or 'mit' and 'hogy János jön-e' one constituent, not even from a semantic point of view. 'Mit' asks for a certain opinion, namely an opinion on the question that fills the third argument position. Apparently, the choice of a third argument cannot be made independently of the choice of the second argument. When we choose 'mit' as a filler for the second argument position, we have to opt for a clause that is an "indirect question". The sentence

(76) Mit gondolsz hogy János jön

does not make sense.

What is clear now is why the demonstrative 'az' and the "hogy-S=clause" are so near to one another in sentences like (66-71): the demonstrative stands for the same semantic entity that the clause itself stands for. It is also clear why the relationship between 'mit' and the following hogy-S=clause is not so close: 'mit' does not stand for the entity that the clause stands for as well, it only asks for this entity.

A word should be added about the accusative case of azt and mit. It should be clear that there is a difference in meaning between the use of 'gondolni' together with an accusative object and the use of 'gondolni' and a sublative object. Compare (64,65) to (74/5). The accusative object stands for the contents of the opinion, whereas the sublative object stands for the semantic entity at which the thought has been directed. Something analogous holds for 'hinni' (to believe). It is furthermore clear that 'tudni' (to know) cannot be constructed with a sublative object.

To close off this section, let us shortly return to sentences (12,13):

(12) Who knows what John bought?

(13) Who knows that John bought what?

It is of interest to know now how such phrases translate into Hungarian. Here are their translations:

(76) Ki tudja(azt hogy)mit vett János?

who knows that<sub>dem</sub> that<sub>comp</sub> what he-bought John<sub>nom</sub>

(77) Ki tudja hogy mit vett János

The main difference between these sentences is that the hogy in (77) cannot be left out, whereas it can be left out in (76) provided we drop the 'azt' also. It confirms what we said on the constructions behind such sentences in English. Only in (76) do we have an 'indirect question'. The embedded clause in (77) ('hogy mit vette János') is part of a complex predicate, from a semantic point of view. (77) is a multiple question, whereas (76) is not. As we may expect we have alongside (76,77) also sentences like:

(78) Ki gondolja(azt hogy)mit vett János?

(79) Ki gondolja hogy mit vett János?

The embedded clause in (78) is an indirect question again, whereas (79) itself is a multiple question.

4.3.2. Sentence Intertwining and the Mit-strategy.

In order to make possible a discussion of whether there is long distance Movement in Hungarian, we will have to discuss two different construction types. As we will see in the course of this section, the existence of these two constructions implies that sentence (1)

(1) Who do you think Bill said saw John

can be translated in two different ways into Hungarian.

Alongside multiple questions like

(80) Who thinks that John bought what

we have also questions with only one question word:

(81) What do you think that John bought?

How does (81) translate into Hungarian? There are in fact two translations:

(82) Mit gondolsz hogy vette Janos?

What(acc) you-think(indef)that he-bought John

(83) Mit gondolsz (hogy) mit vette Janos?

what(acc)

The difference between these sentences is that there are two 'mit-phrases in (83) but only one in (82). It is easy to see that the two 'mit'-phrases in (83) are not on a par. Compare:

(84) Kit gondolsz hogy látott János

who(acc) he-saw

(85) Mit gondolsz (hogy) kit látott János

(85) is constructed the same way that, say, (74) is. A literal translation of (85) is: what is your opinion on the question of what it is that John bought? As we have seen, the reason why Hungarian has sentences like (85) is that the verb 'gondolni' may take an indirect question. We will call this the 'mit'-strategy. (84), on the other hand, exemplifies a construction that was called 'mondotátszövődés' ('sentence intertwining') by the Hungarian linguist Zolnay. Compare Zolnay (1926). There are a few remarks to be made with respect to these two constructions. We start with the 'mit'-strategy.

The 'mit'-strategy can also be used when we have an embedded multiple question:

(86) Mit gondolsz (hogy) ki mit adott a menyasszonynak  
gave the bride (dative)

Second, the 'mit-strategy' can be applied twice provided there is a verb like 'gondolni' in the embedded clause. Therefore, as a translation of

(1) Who do you think Bill said saw John

we could propose:

(87) Mit gondolsz mit mondott Vili hogy ki látta Jánost?  
you-think he-said he-saw John(acc)

(83) and (85) are completely grammatical and acceptable, but it would appear that (87) is less acceptable because of its greater complexity.

As to the sentence intertwining construction, we note that it would be quite natural to assume that the wh-phrase in such a construction is raised from the lowermost sentence into the matrix clause. However, although moved wh-phrases take their case along in English, this does not always appear to be the case in Hungarian. Compare the second translation of (1) (which is in agreement with the sentence-intertwining construction):



- (88) Kit gondolsz hogy Vili mondta hogy látta Jánost?  
who(acc) you-think

The assumption that the 'kit' in (88) has been raised from the most deeply embedded clause gives rise to two problems. The first is this: if the wh-phrase in (88) is indeed raised why doesn't it retain its case now that it is the subject of the embedded clause although it would have done so when it would have had another than subject function in the embedded clause?

According to Kiss (unpublished), this is an isolated phenomenon just because non-nominative NPs always retain their case in the course of extraction. Compare

- (89) Kinél gondolod hogy Vili mondta hogy nagyobb János?  
Than-who you-think taller John(nom)  
-Than who do you think Bill said that John is taller?-

Isolated though the phenomenon may be, it would be unwise to ignore it, however. If nominative NPs would retain their case also, (1) would translate as:

- (90)<sup>+</sup> Ki gondolod hogy Vili mondta hogy látta Jánost?

instead of (88). However, (90) is out and the reason for this is a very fundamental one. The nominative 'ki' in (90) cannot be anything else but the subject of the matrix clause, but the finite verb does not agree with it in number.

It may be good to add that the ungrammaticality of (90) has nothing to do with the complexity of the sentence.

- (91) Ki hiszed hogy jön  
who(nom) you-think(definite) that comes  
(92) Ki hiszel hogy jön  
you-think(indefinite)

are also reported to be ungrammatical.

(91) and (92) are not the same sentence. They differ as to the value of the feature (+ definite). So far we have not said anything about definiteness but in order to be able to formulate the second problem with sentence intertwining we need to say something about definiteness first.

In Hungarian, transitive verbs have two conjugations called the definite and indefinite conjugation. The former is used when the direct object is definite. We will not list which NPs are definite and which are indefinite. In general the classification does not differ from what is called definite and indefinite in other languages. We only mention embedded clauses, which are definite, relative pronouns which are indefinite and question phrases having 'melyik-' (which) as their determiner: they are definite.

The second problem with sentence intertwining then is to explain why the matrix verb does not have the definite form in (88). This sentence, however, would become ungrammatical when we replace the indefinite 'gondolsz' by the definite 'gondolod'. Moreover, we would expect that we could freely insert a demonstrative into the sentence. However, both

- (93)<sup>+</sup> Kit gondolsz azt hogy Vili mondta hogy látta János  
and

- (94)<sup>+</sup> Kit gondolod azt hogy Vili mondta hogy látta János  
are out.

The two problems are best discussed in combination. First, let us note that sentence intertwining is not only impossible in the case of a nominative wh-phrase. If that were so, the following sentence would have to be good:

- (95)<sup>+</sup> Kit gondolod hogy Vili mondta hogy János látott  
John(nom) he-saw(indefinite)

However, this sentence is out. The verb 'gondolni' has to take indefinite form in such a case and we end up with .

- (96) Kit gondol<sub>sz</sub> hogy Vili mondta hogy János látott

As we have discussed, the result of sentence intertwining in a sentence with a raised nominative wh-phrase (compare (90)) is out for a very important reason. This reason is in fact independent of the sentence intertwining construction. Now (95) is also out for independent reasons. It is impossible to have an indefinite object and a definite verb form in the same clause.

This suggests then that the term 'sentence intertwining' is used for two different constructions, one of which should not be called that at all. We have sentence intertwining in (89), but not in (88) and (96). (90) and (95) are also examples of sentence intertwining, but these sentences are out.

As we have discussed, 'gondolni' differs from its English counterpart in that 'think' does not take indirect questions whereas 'gondolni' does. Of course, 'gondolni' when combined with a non-interrogative clause does not differ in meaning from the English verb 'think'. This means that we can analyse (89) as consisting of a complex predicate 'x gondolj-hogy Vili mondta hogy János nagyobb y-nél!'. The second argument position is filled by a wh-phrase and it is raised into the matrix clause. In our view then, the formation of complex predicates is the essence of sentence intertwining. We will have more to say about this in the next section.

Let us turn to (88,96) now. We best consider the following example sentences:

- (97) <sup>?</sup>Azt gondolod-e (hogy) kit látott János?  
(98) Mit gondolsz hogy kit látott János?  
(99) Melyik fiút gondolod hogy János látta (Melyik fiút = which boy)  
(100) Őt gondolod-e hogy János látta?  
(101) Kit gondolsz hogy János látott?

(97) and (100) are Yes-No Questions expressing surprise: do you really have an opinion on who it was that John saw? and 'Do you really think that it was him that John saw?' (97) asks whether a certain propositional memory cell is filled, whereas (98) asks for the contents of this cell. (100) gives us the contents of a certain non-propositional memory cell whereas (101) asks for the contents of this cell. In all these examples the NPs 'azt' in (97), 'mit' in (98), 'melyik fiút' (which boy) in (99) 'őt' in (100) and 'kit' in (101) are arguments to the verb 'gondolni' and not to a complex predicate 'x gondolj- hogy János lát- y-t'.

When all this is correct, this means that (88) is rather close to the construction type that we called the 'mit-strategy'. The difference is that 'mit' in the latter construction asks for a proposition, whereas 'kit' in (101) asks for an entity.

Also, when this correct, (99) and (100) must be structurally ambiguous. We can construe 'melyik fiút' or 'Űt' as either the object of the verb 'gondolni' or of the complex predicate 'x gondolj- hogy János lát- y-t'. (We can do this only with the non-propositional cases, not with (97) which has a propositional NP. Also we can do this only with the definite cases. (98) and (101) would become ungrammatical: - 'gondolni' has the definite form when part of such a complex predicate because an embedded clause is definite). It may sound improbable when we say that (99,100) are structurally ambiguous, but it is probably true. Kiss (to appear) notes that the following two sentences are acceptable to her:

((102) Mária könyvet mondott hogy vesz Jánosnak a születésnapjára  
a-book she-said she-bought for-John for-his-birthday  
(accusative) (indef) (indefinite)

(103) Mária könyvet mondta hogy vesz Jánosnak a születésnapjára  
she-said  
(definite)

-It was a book, Mary said, that she would buy for John as a birthday present-

This is to say that according to Kiss' judgment both the indefinite form and the definite form of 'mondani (to say) are good here. Now it is uncertain whether all native speakers will accept both forms because for many the combination of a definite verb form and an indefinite accusative NP seems to be excluded. (We discussed this earlier in the context of (95)). Apparently, for people who are very sensitive to grammatical distinctions it makes a difference whether the accusative NP is the real object of the verb or not.

It should be observed now that the examples (88) and (96) are not the only grammatical members of the constructional paradigm that they belong to. In particular,

(104) Kit gondolsz hogy János nagyobb?  
appears to be a grammatical sentence.

We have spoken before of the mutual restrictions between the arguments that fill the second and third argument positions of 'gondolni'. When we use a non-propositional interrogative phrase like 'kit' to fill the second argument position, we have to use a proposition with a gap to fill the third argument position. However, instead of a gap we also find 'personal pronouns'. Compare the following sentence which may even be better than its counterpart (104):

(105) Kit gondolsz hogy János nagyobb nála  
than-him

If this is correct, this would be in conflict with the "avoid pronoun" strategy that is assumed for English.

Furthermore, it may be good to observe that the fact--if fact it is--that (105) is even better than (104) has nothing to do with the presence of a case phrase in (105). Also the following examples seem to be acceptable to a certain extent, in spite of the spelled out pronouns:

(106) Kit gondolsz hogy Ű látta Jánost?  
(107) Kit gondolsz hogy János látott Űt?

(Compare (88) and (96)).

4.3.3. Summary of the solution to the problems raised by (1).

We have presented the main elements of a solution to the problems raised by the sentence (1). It may be good to summarize this.

The problem was to know why the analogue of 'who' in

(1) Who do you think Bill said saw John

has accusative case in Hungarian. We claimed that this problem cannot be solved in terms of the GB-theory. Therefore we had to deal with several aspects of the way in which questions are formed in natural languages and also with a number of issues in the grammar of Hungarian.

There are two ways in which we can translate (1) into Hungarian:

(88) Kit gondolsz hogy Vili mondta hogy látta Jánost?

(87) Mit gondolsz mit mondott Vili ki látta Jánost?

We deny that there has been raising of the 'kit'-phrase in (88) and in this we differ from the viewpoints advanced by both Horváth and Kiss. In particular we deny that there is 'sentence intertwining' in (88). In fact, both sentences are instances of patterns of sentence construction that are made possible by the fact that in Hungarian verbs that take embedded clauses are subcategorized for both an NP and an  $\bar{S}$ . The NP must be a pronoun, in the more common case it is 'az-'. At no level are 'az' and the 'hogy-S=clause' one constituent. The pronoun 'az-' can be easily left out and in some cases it even has to be left out. This is the case when the hogy-S=clause is in focus. It is also the case in the sentence-intertwining construction. In case the pronoun is obligatorily absent, 'hogy' cannot be dropped and neither can it be dropped in case the pronoun is not 'propositional' as in (87).

It would be wrong to say that (87) and (88) are built on the same pattern. On the contrary, there are some characteristic differences between the two sentences that are worth noticing because they reveal a difference between English (and related languages) and Hungarian. It is maybe not a rule but it is at least a statistical truth that an English verb that takes indirect whether-clauses takes also an "indirect question" introduced by a wh-phrase. The Hungarian verb 'gondolni' could be said to behave in accordance with this statistical truth. However, there is nothing in Hungarian that corresponds to the difference in English between a 'whether'-clause and a clause introduced by a wh-phrase. What we find instead is that the second argument position, the one destined for a pronominal NP, is occupied either by a propositional interrogative pronoun ('mit' in (87) corresponding to 'whether-clauses in English) or an individual interrogative pronoun ('kit' in (88) corresponding to the clause introduced by a wh-phrase in English). Corresponding to the different choices of pronouns filling the second argument position is a difference between the ensuing 'hogy-S=clauses'. Choosing 'mit' entails that the 'hogy-S=clause' has an 'indirect' question word. Choosing 'kit' entails that the ensuing clause has a (what we call) 'resumptive' pronoun, that is a pronoun that must be bound by the pronoun in second argument position. The resumptive pronoun may either be a gap or an overt pronoun or case phrase.

We did not give (and we will not give this here either) a list of issues where we deviated from the GB-framework. It is not because we think that this would be without importance, but only because this deserves even more effort than the amount we spented on this article already. It would be of great interest to see where we need to amend the Binding theory of Chomsky (1981), for example. At one point, we clearly committed ourselves. We are convinced that the arguments

put forward by Grimshaw (1979) in favor of a theory of selection are very strong and we have a feeling that Hungarian provided even more evidence in favor of this theory. We also feel, however, that Grimshaw's theory should be extended and we did some concrete proposals on this score. Where Grimshaw's theory clearly implies some parallelism between syntax and semantics in that only subcategorized constituents are members of a semantic type (so at least do we interpret Grimshaw), we believe that the syntactic and the semantic subcategorizations have much more freedom with respect to one another. (It would be folly of course to deny that there is any connection between the two.) One specific implication of this viewpoint deserves to be mentioned here. It is not necessary to assume that a clause that fills a (syntactic) argument position is a semantic argument as well: it may just as well be part of a larger (semantic) argument. This is needed for an analysis of the sentence intertwining construction. We claim that sentence intertwining is essentially the construction by which we form 'complex predicates. Complex predicates are essential ingredients of multiple question sentences where the two (or more) question words are not in the same (syntactic) clauses.

Although, strictly speaking, we do not need a theory of 'sentence intertwining in order to analyze the two translations of (1) into Hungarian, (87) and (88) not being of this construction type, the theory behind sentence intertwining has constantly been in the background and often even in the foreground of this article. The reason is of course that (88) has been taken to be an instance of sentence intertwining, that is, of Raising. In order to falsify this analysis we had to find out what the reasons are that there is raising in natural language. We also believed it to be indispensable to deal quite extensively with the differences between direct and 'indirect' questions and question words.

#### 4.3.4. Is there long distance movement in Hungarian?

In section 3.1. we argued that wh-phrases are base generated in Focus. The argument we used there was that there can be no movement in a non-configurational language as the difference between A-positions and non-A-positions does not make sense. What we have to show now is why there can be movement in a sentence like

(108) *Kinél gondolod hogy János nagyobb?*

Than who do you think that John is taller?

Let us note, in the first place, that it is less correct to say that there is no movement in a non-configurational language. Rather, we should say that there is no movement within the boundaries of a non-configurational category. Ss are non-configurational in Hungarian, NPs or PPs are not.

Second, when talking about raising, as in (108), we are speaking about movement across S-boundaries. As we pointed out earlier, a Hungarian finite sentence is built on a verb and its case-array. There is a close relationship between the verb and its NP-arguments because of the process of Linking (compare (61)). What happens in (108) is that an argument linked to the predicator of its clause moves in to a higher clause. Speaking abstractly, it would not have been impossible for the moved phrase to receive a second case from the matrix predicator as well. Double case marking is well known from languages like Quecha and Warlpiri. Compare Lefebvre & Muysken (1982), Hale (1982), Jelinek (1984). However, it is probably the case that double case marking is possible in these languages only when there has been movement out of an infinite clause. According to Hale (1982, footnote 13), movement out of a finite clause in Hungarian is impossible.

In languages where there is an elaborate case system, where there is case linking rather than case assignment, where the arguments do not have a fixed order, and--last but certainly not least--arguments can easily be left out, raising cannot be a natural process. To be more precise, what is problematic is not so much the fact that a NP leaves its clause but the fact that it enters a clause where it cannot be linked to a predicator. What we can expect then is that raising, if it occurs at all, occurs only under the pressure of some other force operative in the language. From sentences like (108) we may conclude that the necessity to focus wh-phrases out of embedded clauses into the matrix clause is such a force in Hungarian.

For a good understanding, something should be said about movement in general. Modern syntactic theory has been deeply affected by the assumption that movement is an essential process in the syntax of natural languages. In spite of its importance, the notion of movement itself has received very little theoretical attention. A very narrow conception of movement has been the result. It has been too easily assumed that movement takes place under the same circumstances in all languages.

Let us try to capture the essence of movement in informal terms. We will say that there is movement when a constituent is not where we expect it to be and it is where we do not expect it to be. Of course, the use of the term 'movement' is a metaphor.

We have, intentionally, given a vague description of what movement is. In spite of its vagueness, however, three things have been made clear. First, movement is closely tied up with expectancies concerning the positions where constituents are to be found. Naturally, different such expectancies obtain in different languages. Second, movement is not necessarily from one previously determined position to another such

position. For example, there is also movement when an argument linked to a predicator moves out of the domain of this predicator. The constituent may move from any position in the domain of the predicator to any other position in the domain of the higher predicator.

Third, even if movement is from one fixed position to another, it is, contrary to what is generally assumed, not necessary to assume that argument positions are the only type of fixed positions that exist in a language. Positions may be defined on the basis of other devices. Take for example the focus position in Hungarian. It is defined on the basis of the position of the finite verb, which is itself not fixed. Moreover, Focus is the basis on which another domain can be defined. It consists of all the constituents that precede focus and is called Topic in Kiss (1981). It is the position called (1) in (55).

The reasons given above seem sufficiently strong to support an analysis of Hungarian in which it is assumed that there is no short distance wh-movement but there is long distance Wh-Movement.

Footnotes.

<sup>1</sup>This paper is an enlarged version of a talk given at the yearly Taalddag of the Algemene Vereniging voor Taalwetenschap in January 1984. On certain points we hold different views now than we did then. We are grateful to our informants Mevr. Bos, Dr. Gerstner, Mevr. Marácz and Mevr. van Wely and to K. E. Kiss and A. Scabolsci for discussion and comments. We are also grateful to Katalin Kiss for sending us a copy of Zolnay (1926).

<sup>2</sup>Compare Azkarate e.a. (1982), Harris (1981).

<sup>3</sup>Compare Saito & Hoji (1983).

<sup>4</sup>A general remark should be made on the framework in the investigation was achieved. We started out holding an orthodox GB-view. However, we were not able to find acceptable and intuitively appealing solutions to our problems. Moreover, we think that the views advanced by Hale on configurationality are worth pursuing, but they are sometimes difficult to reconcile with the principles of GB-theory. Finally, the way in which the notion of LF is worked out in contemporary linguistics does not appeal to us (we will argue against LF later on). What we attempted in the first place, was to find solutions that are acceptable from an intuitive point of view. As a result, the theoretical framework is poorly developed. It will require much more study to find out in which ways we can change and adapt the GB-viewpoints so that we will be able to give an adequate description of the facts of Hungarian.

<sup>5</sup>Compare, among many others, Zwarts (1981)

<sup>6</sup>Although we find the term 'indirect question' misleading and we do not think that it has a real status in the theory, we will use the term in many places in the sequel as a descriptive term for certain constructions.

<sup>7</sup>This formulation anticipates the difference between the set abstractor sense of wh-words and the question discussed in section 3: a wh-question asks for a set, whereas an indirect question stands for a set.

The explanation offered here for the ambiguity of (6) differs from the one given in De Mey (1983). This does not mean that we reject the solution proposed there. On the contrary, we still think that this explanation is correct. However, we did not consider sentences of the form of (6) there in the sense in which they are multiple questions.

It should be noticed that a sentence like

(i) Who knows who bought which book?



can be analyzed in two different ways. We can analyze (i) as being synonymous to

(ii) Who knows that who bought which book?

but we need not do so. In the other sense, 'who' is an indirect question word. Bolinger (1978) cites several examples where an embedded clause has a question word in subject position rather than in complementizer position. Compare his 25. Another example is

(iii) Who's afraid who'll catch what.

It is made clear in the ensuing discussion in Bolinger (1978) that he assumes that the second 'who' is in subject position.

<sup>8</sup>Baker (1970) suggests that all predicates which take indirect questions can be classified into four classes, roughly corresponding to four predicate types: know, decide, matter and depend. As a matter of fact, however, the first class must be further subdivided into something like the following:

- (i)-knowledge: acquiring knowledge
- retaining knowledge
- communication
- conjecture
- opinion
- inquisition

Such is the classification that we find in Karttunen (1977).

<sup>9</sup>In what follows we allow ourselves an informal and even rather sloppy way of speaking in that we will talk about predicates whose argument positions are occupied by certain types of expressions. When there is no need to we will not clearly distinguish between syntax and semantics.

<sup>10</sup>It should be observed that this is made possible by our decision to let the semantic classification be independent of the syntactic subcategorization. This decision has really two parts. On the one hand, members of semantic types need not be constituents for which a verb is subcategorized (as in the case of main clauses). On the other hand, a constituent, even if it is strictly subcategorized for by a verb need not be a member of a semantic type: it may be part of such a member.

<sup>11</sup>We do not claim that indirect questions and concealed questions are indeed of the same type. It might be wise to take the syntactic difference between these expressions seriously. There is equivalence then, but there is also structural difference. This amounts to the difference between a set and a set having this former set as its only member. That is, whereas 'the reason for my decision' is a (unit) set of reasons, 'what the reason for my decision were' is

a set having this set as its only member. In what follows we will ignore such subtle differences and we will go on talking about an indirect question as a set of entities.

<sup>12</sup>It should be noted that Hale's view on configurationality as defended in Hale (1983) is better adapted to describe Hungarian than is his view from Hale (1982). Hungarian is certainly not a one-bar language. However, there is no reason to assume that Hale (1982) is simply wrong. We do not believe that there is only one type of nonconfigurationality.

<sup>13</sup>As we will see, there are cases where an 'az-'argument cannot be present. These will play a considerable role in what follows. We take 'hogy-S=clauses' to be  $\bar{S}$ s and assume that verbs can be subcategorized for  $\bar{S}$ s. - We note here in passing that we will often write: " az- " instead of "az". The reason is that we want to indicate that the demonstrative can be further inflected but that we abstract away from the correct inflection.

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