Scope Marking Constructions in Dayal-type Indirect Dependency

Anikó Lipták

Abstract[1]

The purpose of this paper is to present new data from the realm of scope marking constructions in Hungarian and other languages, in order to argue that these provide primary evidence for Dayal's (1994, 2000) *indirect dependency* analysis. This analysis in turn sheds light on the nature of the overt *wh*-movement step that we find in the embedded clause of these constructions: it argues for treating that as an instance of run-of-the-mill *wh*-fronting, similar to what we find in matrix interrogatives.

The empirical novelty to this effect comes from constructions involving embedded adjunct clauses: relative and noun-associate clauses, which, similarly to well-studied cases of argumental embedded clauses in languages with scope marking, can license embedded *wh*-items with matrix interpretation. It will be shown that unlike argumental embedded clauses, which in principle can lend themselves to various analyses, the newly discovered adjunct embedded clauses can only be analysed along the lines of Dayal's proposal. This will have repercussions for the analysis of *wh*-movement inside the embedded clause of scope marking constructions: since the embedded clause according to this analysis is a full question, it contains an ordinary <+wh> feature on a functional head that *triggers* the movement of the *wh*-element in overt movement languages. An exception to this is relative clauses, which will be shown to behave differently for independent reasons.

The article is structured in the following way. Section 1 introduces scope marking constructions from a bird's eye view and lists the characteristic properties of these constructions. Section 2 presents the standard scope marking data from Hungarian. The new data will be presented in section 3, while the theoretical impact as well as the subsequent analysis of these data will be handled in section 4. It will be shown that the current account of Hungarian scope marking (Horvath 1995, 1997, 1998, 2000) would face serious difficulties if it was extended to these data. Instead, a Dayal-type

analysis is adopted. Section 5 is dedicated to the question what *triggers* the movement of the embedded *wh*-item. I will argue that just as in ordinary main clause interrogatives, the presence of a triggering feature is to be held responsible for overt fronting of the embedded *wh*-item. Evidence for this will come from Hungarian and crosslinguistic facts at the same time, involving Frisian and Slavic languages.

1. Scope Marking Phenomena: Properties and Explananda

1.1. Properties of scope marking

Since the early 1980's, scope marking (or *partial wh-movement*) has always been on the generative research agenda for languages like German (van Riemsdijk 1983), Romani (McDaniel 1989), Hindi (Mahajan 1990), Hungarian (Marácz 1990, Horvath 1995), and many more. Consider a run-of-the-mill example of a scope marking question and an answer to it from German:

(1) **Was**$_1$ denkt sie [*wen*$_1$ Fritz t$_1$ eingeladen hat]?
what thinks she whom Fritz invited has
'Who does she think Fritz invited?'

(1A) Anna.
'Anna.'

As (1) illustrates, scope marking involves a bi-clausal structure, with one *wh*-item in each clause. The *wh*-item in the matrix clause is referred to as the *scope marker*, and the one in the embedded clause as the contentful *wh*-phrase.

A question like (1) is at first sight equivalent to a question with long *wh*-extraction (as the translation also indicates), which shows that in the particular example in (1), the matrix *wh*-item (*was*) is a placeholder element, while the embedded *wh*-item (*wen*) is what the question is about.[2] Looking at scope marking constructions crosslinguistically, the following properties characterize them:

(2) (i) there is a scope marker *wh*-item in the superordinate clause
(ii) any *wh*-item can occur in the embedded *wh*-position (*who, what, when, where, why,* etc)

(iii) the answer given to a scope marking question specifies the embedded *wh*-item (cf. ex. (1A))
(iv) scope marking is unbounded; scope markers are usually spelled out in every intermediate clause, as illustrated in (3):

(3) **Was** denkt sie [***was*** Hans gesagt hat [*wen* Fritz eingeladen hat]]?
what thinks she what Hans said has whom Fritz invited has
'Who does she think Hans said Fritz has invited?'

(v) the embedded clause hosting the contentful *wh*-item cannot be a *selected* question (matrix predicates like *ask* are not allowed), cf. (4):

(4) ***Was** fragt sie [$_{<+wh>}$ *wen* Fritz eingeladen hat]?
what asks she whom Fritz invited has
'(lit.) 'Who does she ask Fritz invited?'

Properties (i)-(v) will come handy in section 3, where new instances of scope marking constructions will be identified with the help of these.

Other properties that characterize scope marking constructions, which I will have little to say about in this paper, are subject to variation across languages. In German or Hungarian, for example, the scope marker *wh*-item is overtly fronted, while in Hindi, it can also stay in-situ. Factive verbs can be matrix predicates in Hindi, but not in German. Similarly, yes/no questions are fine in the embedded clause in Hindi, but not in German or Hungarian.

1.2. Explananda

Scope marking phenomena present theoretically interesting puzzles that are not easy to explain. One puzzle concerns the syntactic and interpretive relation between the scope marker and the embedded question word. Under the general assumption that only *wh*-items with matrix scope get answered, the fact that the embedded *wh*-item in scope marking constructions is filled in by the answer suggests that the embedded *wh*-item has matrix scope. However, its overt position does not reflect this: it is found in the embedded clause. Various solutions have been proposed to resolve this issue, arguing either for LF-raising of the embedded *wh*-item or the whole embedded clause (via expletive replacement) or for an underlying semantic mechanism that ensures matrix scope for the embedded question. In this paper I

am going to argue that the data I discuss from Hungarian can be given a uniform analysis along the lines of the latter.

Another syntactic puzzle (noted, among others by Simpson 1995; Fanselow and Mahajan 1996; Müller and Sternefeld 1996) concerns the motivation for the obligatory fronting of the embedded *wh*-item (in languages with overt fronting): what *triggers* this movement? Again, under standard assumptions *wh*-movement is triggered by a feature on interrogative complementizers – i.e. complementizers that head question clauses, over which the *wh*-item takes scope. In scope marking constructions, the embedded *wh*-item ends up in the specifier position of a CP that is not a question (the embedded clause is not a <+*wh*>-clause, witnessed by (3) above).[3] A number of proposals have been suggested concerning this problem, with arguments to the effect that the attracting feature is in fact independent of question-semantics (Fanselow and Mahajan 1996); or that the condition that movement is attraction has to be relaxed (Müller 1998). Section 5 below will show that neither of these unorthodox approaches is necessary to account for the data: the embedded clause in scope marking constructions is a fully specified interrogative clause in the syntax (as well as the semantics): its interpretive properties and syntactic behaviour are exactly like that of matrix interrogative clauses.

Before we can elaborate on these issues in more detail, an introduction to the data, both standard and new, is necessary. I turn to these in section 2 and 3 respectively.

2. Hungarian scope Marking

In this paper I am concerned with the type of scope marking constructions that have been discussed in Horvath (1995) and subsequent work (Horvath 1997, 1998, 2000). I review the core data found in these articles in the present section, and I add new pieces of data to these in section 3.[4]

2.1. Sequential versus subordinated scope marking

Initially, Hungarian scope marking constructions fall into two basic types: subordinated and non-subordinated scope marking constructions.

Non-subordinated, or *sequential,* scope marking (the term coined by Dayal 1994) involves two juxtaposed, prosodically and syntactically autonomous clauses (É. Kiss 1987), like those in (5):

(5) **Mit** gondolsz? *Ki* nyeri a versenyt?
what-ACC think-2SG who win-3SG the competition-ACC
'What do you think? Who will win the competition?'

(5A) Péter.
'Péter.'

The order of these sentences is freely reversible. Yes/no questions are allowed in them:

(6) **Mit** gondolsz? Péter nyeri-*e* a versenyt?
what-ACC think-2SG Péter win-3SG-Q the competition-ACC
'What do you think? Will Péter win the competition?'

The "matrix" predicate cannot be negated:

(7) ***Mit** nem javasolsz? *Kit* vegyünk fel?
what-ACC not suggest-2SG whom hire-SUBJ-1PL PV
'What don't you suggest? Whom should we hire?'

The most frequent predicates to occur in these constructions are: *gondol* "think", *tud* "know", *hall* "hear", *mond* "say", *szeretne* "would like", *akar* "want", *számít* "count on", *ajánl* "recommend", *javasol* "advise", *jósol* "predict".

Sequential scope marking is the most frequently occurring type among native speakers. 25% of the consulted speakers prefer these constructions to any other types reviewed below.

Subordinated scope marking differs from non-subordinated constructions in that it clearly involves syntactic subordination. In Hungarian embedded argumental clauses subordination is indicated by the presence of *hogy* "that", a finite complementizer (available both in indicative and interrogative clauses). An example of subordinated scope marking is given in (8), with its characteristic intonation pattern in (8'):

(8) **Mitől** fél Mari, hogy *ki* lesz az igazgató?
what-FROM fear-3SG Mari that who be-FUT.3SG the director
(lit.) 'What does Mari fear that who will be the director?'

(8A) **Attól**, hogy Péter.
that-FROM that Péter-NOM
'(Mari fears that it will be) Péter.'

(8') | '**Mitől** fél Mari | □ hogy `*ki* lesz az igazgató? |[5]

Unlike in sequential scope marking, the order of the clauses is not reversible (9), and yes/no questions are not allowed (10):

(9) *Hogy *ki* lesz az igazgató**, mitől** fél Mari?
that who be-FUT.3SG the director what-FROM fear-3SG Mari

(10) ***Mitől** fél Mari, hogy Péter lesz-*e* az igazgató?
what-FROM fear-3SG Mari that Péter be-FUT.3SG the director
(lit.) 'What does Mari fear whether Péter will be the director?'

The matrix clause can be negated to some extent; subject to individual variation and choice of the predicate:

(11) ***Mitől** nem fél Mari, hogy *ki* lesz az igazgató?
what-FROM not fear-3SG Mari that who be-FUT.3SG the director
(lit.) 'What does Mari not fear that who will be the director?'

Subordinated scope marking can occur in many environments. Both response-stance and non-stance predicates can take part in this pattern: *elfelejt* "forget", *emlékezik* "remember", *észrevesz* "notice", *rájön* "find out", *megbán* "regret", *említ* "mention", *fél* "fear", *megesküszik* "swear", *megakadályoz* "block", (*meg)jósol* "predict", *kihirdet* "make public". Similarly, predicates taking subject clauses: *zavar* "bother", *kiderül* "turn out" occur with this pattern.

For completeness' sake it has to be mentioned that subordinated scope marking actually comes in two flavours. Apart from the pattern described in (8)–(11), some matrix predicates also allow for what we could call a *parenthetical* subordinated scope marking construction, that is, where the matrix clause functions as a parenthetical.[6] The parenthetical nature of this clause can be seen from the fact that the matrix clause has reduced prosodic and syntactic autonomy in these clauses: the left periphery of these clauses cannot contain a stressed element like focus or negation, as illustrated in (12); and the embedded complementizer can cliticize to the matrix verb, as shown in (13) (all these sentences have to be read by the intonation pattern in (13b)):

(12) a. ***Mit** gondolt MARI, hogy *ki* lesz az igazgató?
what-ACC thought-3SG Mari that who be-FUT.3SG the director
(lit.) 'What did MARI think that who will be the director?'

b. ***Mit** nem gondolsz, hogy *ki* lesz az igazgató?
what-ACC not think-2SG that who be-FUT.3SG the director
(lit.) 'What didn't you think that who will be the director?'

(13) a. **Mit** gondolsz, hogy *ki* lesz az igazgató?
what-ACC think-2SG that who be-FUT.3SG the director
(lit.) 'What do you think that who will be the director?'

b. | ` **mit** gondolsz hogy `*ki* lesz az igazgató |?

Parenthetical scope marking also differs from standard cases of scope marking (i.e. (8)–(11) above) in that it accepts short answers, involving a single constituent only, while standard cases of scope marking usually trigger a full clausal answer (compare (8A)):

(14) **Mit** gondolsz, hogy *ki* lesz az igazgató?
what-ACC think-2SG that who be-FUT.3SG the director
(lit.) 'What do you think that who will be the director?'

(14A) Péter.
'Péter.'

In the remainder of this paper I put cases of parenthetical scope marking aside, and concentrate on non-parenthetical ones only. The term *subordinated* scope marking will uniquely refer to these.

2.2. Argumental versus adjunct scope marking

The previous section has introduced Hungarian scope marking constructions that occur with argumental embedded clauses. The examples above contained embedded clauses that function as internal arguments of the matrix verb. Next to these, one can find subject clauses as well, as (15) illustrates (Horvath 1995, 1997, 1998, 2000):

(15) **Mi** zavarta Marit [hogy *kinek* telefonáltál]?
what bothered-3SG Mari-ACC that who-DAT phoned-2SG
(lit.) 'What bothered Mari that whom did you phone?'

(15A) **Az** [hogy Péternek (telefonáltam)].
that that Péter-DAT phoned-1SG
(lit.) 'That I phoned Péter.'

Argumental clauses are not the only clauses, however, that can occur in scope marking. As Horvath (1995) has already shown, adverbial clauses can also be found:

(16) **Miért** vagy dühös [mert *kivel* találkoztál]?
what-FOR be-2SG angry because who-WITH met-2SG
(lit.) 'Why are you angry because you met whom?'

(16A) **Azért** [mert Péterrel találkoztam].
that-FOR because Péter-WITH met-1SG
'Because I met Péter.'

The common property characterizing both argumental and adverbial embedded clauses in scope marking constructions is that both combine with a pronominal associate in the main clause. This pronominal associate shows up as a case-marked *mi* "what" in interrogative contexts and a case-marked *az* "that" in declarative contexts (e.g. *mitől – attól* in (8), (8A); *mi – az* in (15), (15A); *miért – azért* in (16), (16A)). The *wh*-variant of this sentential pronominal, a suitably case-marked *mi* "what" is what plays the role of the scope marker in scope marking constructions. This, however, is not an absolute requirement: pronominal *mi* is not the only element that can be a scope marker in Hungarian. The next section will focus on new instances of scope marking constructions that involve full, lexical NP/DP phrasal scope markers. The examples will contain other types of adjunct embedded clauses.

3. New Ccases of Scope Marking: Adjunct Clauses Embedded under NP/DPs

The previous section concerned itself with the various types of scope marking constructions that have been mentioned in the previous literature. The present section shows that subordinate scope marking has a much wider empirical base than previously recognized: it occurs with noun-associate clauses and relative clauses as well. These will be introduced in sections 3.1. and 3.2. in turn.

The existence of these latter types is of high theoretical significance because they present a challenge to extant analyses of Hungarian scope marking (Horvath 1995, 1997, 1998, 2000), as will be shown in section 4. While Horvath's account is irreconcilable with these facts of Hungarian, these constructions can easily be accounted for by Dayal's (1994, 2000) analysis.

3.1. Scope marking with relative clauses

Relative clauses in Hungarian can be headed relatives or free relatives. The type of relative clauses that are important for purposes of illustrating scope marking data are the headed restrictive relatives, which can be either headed by a pronominal (17) or a full NP/DP (18) (in bold):

(17) **Az** megy át a vizsgán [aki 20 pontot szerez].
that go-3SG PV the exam-ON who-REL 20 point-ACC score-3SG
'The person who scores 20 points passes the exam.'

(18) **Az a diák** megy át a vizsgán [aki 20 pontot szerez].
that the student go-3SG PV the exam-ON who-REL 20 point-ACC score-3SG
'The student who scores 20 points passes the exam.'

Under standard assumptions about relativization (not adopting Kayne (1994)), (17)–(18) conform to the following schematic structure:

(17'/18') $[_{DP}$ az (a diák) $[_{CP}$ aki 20 pontot ér el]]

(17'/18') underlies scope marking constructions as well. In these cases, we find two *wh*-elements: the embedded relative clause contains a *wh*-item and the head of the relative clause must be or must contain a *wh*-phrase, as well:

(19) **Ki**$_i$ megy át a vizsgán [aki$_i$ *hány pontot*
who go-3SG PV the exam-ON who-REL how many point-ACC
szerez]?
score-3SG
(lit.) 'Who$_i$, who$_i$ scores how many points, passes the exam?'
(intended) 'How many points does one have to score to pass the exam?'

(20) **Melyik diák**$_i$ megy át a vizsgán [aki$_i$ *hány*
which student go-3SG PV the exam-ON who-REL how many
pontot szerez]?
point-ACC score-3SG
(lit.) 'Which student$_i$, who$_i$ scores how many points, passes the exam?'
(intended) 'How many points does a student have to score to pass the exam?'

In these examples we are dealing with two questions: the matrix question ranges over individuals (*ki* "who" or *melyik diák* "which student") and the embedded question ranges over the number of points (*hány pontot* "how many points-ACC").

The interpretation of these questions is clearly reflected by the particular answers they trigger:

(19A) **Az**$_i$ [aki$_i$ *20 pontot* szerez]. / *Mari.
that who-REL 20 point-ACC score-3SG / Mari
'Who(ever) scores 20.' / 'Mari.'

(20A) **Az (a diák)**$_i$ [aki$_i$ 20 pontot szerez]. / *Mari.
that the student who-REL 20 point-ACC score-3SG / Mari
'The student who scores 20 points.' / 'Mari.'

As we can see in these examples, the answer necessarily has to specify the embedded question, i.e. the number of points that need to be scored for passing the exam. An answer naming particular individuals who pass the exam is not satisfactory.

The intonation contour of these complex constructions is parallel to that of argumental subordinated scope marking constructions, as was illustrated in (8') above:

(20') | '**Melyik diák** megy át a vizsgán, | □ aki `*hány pontot* szerez? |

The constructions in (19)–(20) comply with all criteria we identified in section 1 as defining properties of scope marking. There is a scope marker in them (property (i)); the choice of the embedded *wh*-phrase is free (property (ii)); the question is answered by providing a value for the embedded *wh*-item (property (iii), see (19A), (20A)). The relation is unbounded, it can involve multiple layers of embedding (property iv):

(21) **Melyik diák** megy át a vizsgán, [aki
which student go-3SG PV the exam-ON who-REL
milyen könyvből tanul [amit *ki* írt]]?
what book-FROM study-3SG what-REL.ACC who wrote-3SG
(lit.) 'Which student$_i$, who$_i$ studies from what kind of book$_j$, that$_j$ who wrote, passes the exam?'

The ban on selected interrogative subclauses (property (v)) is satisfied vacuously, since relative clauses are never selected to be interrogative. In fact, not only are they never selected, they cannot *ever* contain a *wh*-item in any other constructions but the constructions under investigation here. If the matrix clause was not an interrogative clause, the relative clause would fail to license a question:

(22) ***Az** megy át a vizsgán [aki *hány pontot* szerez]?
that go-3SG PV the exam who-REL how many point-ACC score-3SG
(lit.) 'Who(ever) scores how many points, passes the exam.'

The matrix interrogative clause has to comply with one requirement: the *wh*-phrase in it has to either correspond to the *head* of the embedded relative clause or ask for a property that is also spelled out in the relative clause. The following two examples illustrate these points:

(23) ***Hány** **diák**$_i$ megy át a vizsgán [aki$_i$
how many student go-3SG PV the exam-ON who-REL
hány *pontot* szerez]?
how many point-ACC get-3SG
(lit.) 'How many students$_i$, who$_i$ score how many points, pass the exam?'

(24) **Kinek**$_i$ **a diákja** megy át a vizsgán, [aki$_i$
who-DAT the student-POSS.3SG go-3SG PV the exam-ON who-REL
hány pontot szerez]?
how many point-ACC get-3SG
(lit.) 'Whose$_i$ student$_j$, who$_{i/*j}$ scores how many points, passes the exam?'
(intended) 'How many points does a teacher have to score to pass a student?' / '*How many points does a student have to score to pass the exam?'

In (23) we see that although the matrix and the embedded *wh*-phrases are identical in meaning (*hány* "how many"), the sentence fails to be interpretable, because the relative clause is not construed as a numeral modifier of students. In (24), the relative clause has to be interpreted as a modifier over the smallest *wh*-phrase, *kinek* "who-DAT", and not the larger phrase *kinek a diákja* "whose student-NOM", even though the resulting meaning is pragmatically unlikely. This shows that in case the matrix *wh*-phrase can be found in a referentially independent larger NP/DP, the relative clause in scope marking has to associate with the smallest *wh*-phrase possible, as a scope marker.

To summarize, this section has shown beyond doubt that the constructions in (19)-(20) instantiate an example of scope marking, namely scope marking with an adjunct embedded clause. The semantic and intonational properties of these clauses are exactly parallel to well-established cases of scope marking with argumental embedded clauses. The scope marker is (or is found within) the head of relativization, and the embedded clause is contained inside the relative clause. The answer necessarily has to fill in the embedded *wh*-variable.

3.2. Scope marking with noun-associate clauses

The behaviour of relative clauses in scope marking is fully paralleled by adjunct-type noun-associate clauses in Hungarian.

3.2.1. Noun-associate Clauses in Hungarian

Hungarian noun-embedded clauses have been argued to be of two kinds: arguments or adjuncts (Kenesei 1992). As far as their internal structure is concerned, they both look the same: they are run-of-the-mill finite embedded clauses, introduced by the finite complementizer *hogy* "that".

The difference between the argumental and the adjunct type can be seen from the kind of DP-structure these clauses occurs in. Argument clauses, which are selected by a derived event/process nominal, need case. Given that they cannot bear case (Stowell 1981), they have to be linked to a case-marked expletive. This expletive, a demonstrative pronominal, occupies the only available case position of a possessive DP, the dative case position Sp,DP (Szabolcsi 1992):

(25) a. annak belátása [hogy…] argumental N-clause
that-DAT realization-POSS.3SG that
'the realization that…'

b. [$_{DP}$ *annak*$_i$ [$_{D0}$ a [$_{NP}$ belátása [$_{CP}$ *hogy* …]$_i$]]]

Due to this structural requirement, nouns with an argumental CP cannot have other possessors:

(25) c. *Péternek a belátása [hogy…]
Péter-DAT the realization-POSS.3SG that
'Péter's realization that…'

Adjunct noun-embedded clauses, on the other hand, do not have to comply with such a restriction: in this case the embedded CP is not a selected argument, but an adjunct that is associated with the lexical-semantic frame of the (simplex or result) nominal. These clauses can occur in NP/DPs with overt possessors (26):

(26) a. az az indok [hogy …] adjunct N-clause
that the argument that
'the argument, that…'

b. [$_{DP}$ az [$_{NP}$ az indok [$_{CP}$ hogy …]]]

c. Péternek az az indoka [hogy…]
Péter-DAT that the argument-POSS.3SG that
'Péter's argument, that…'

3.2.2. Scope Marking with Adjunct Noun-associate Clauses

Scope marking with adjunct-type noun-associate clauses are grammatical for all speakers of Hungarian, while argumental-type embedded clauses

show some variation: many informants found them just as good as adjunct-type embedded clauses; several of them, however, found them degraded or ungrammatical. Therefore, in the following I illustrate the patterns with adjunct-type noun-associate clauses only.

Scope marking with noun-associated adjunct clauses is illustrated in (27):

(27) **Milyen üzenetet**$_i$ kapott Péter [hogy *hova* kell mennie]$_i$?
what message-ACC got-3SG Péter that where need go-INF-3SG
(lit.) 'What message, where does he have to go, did Péter get?'

(27A) Péter **azt az üzenetet**$_i$ kapta [hogy a rendőrségre
Péter that the message-ACC got-3SG that the police-TO
kell mennie]$_i$
need go-INF-3SG
'Péter got a message that he has to go to the police force.'

Just like with relative clauses, the matrix *wh*-phrase is a "what (kind of)" question that asks for the same kind of property that is also expressed by the embedded clause. As far as intonation is concerned, these sentences are most frequently pronounced with the same intonation contour as argumental or relative clauses above:

(27') |'**Milyen üzenetet** kapott Péter, | □ hogy `*hova* kell mennie? |

(27) also complies with all criteria for scope marking established in section 1, namely the presence of a scope marker (*milyen üzenetet* "what message-ACC"); the choice of the embedded *wh*-phrase; the required answer pattern (property (i), (ii), (iii)). The unbounded nature of the constructions is illustrated in (28):

(28) **Milyen üzenetet** kaptál, [hogy ***melyik állítást***
what message-ACC got-2SG that which claim-ACC
ellenőrizzük [hogy *melyik üzem* nyereséges]]?
check-IMP-1PL that which factory profitable
(lit.) 'What message, that we should check which claim, that which factory is profitable, did you get?'

The nominal with which the embedded clauses are associated has to be a "what kind" *wh*-phrase in each clause. The ban on selected <+wh>-clauses

is complied with as well. If the embedding noun requires a question, like the noun *kérdés* 'question', scope marking is unavailable:

(29) ***Milyen kérdéssel** foglalkoztak [$_{CP+wh}$hogy *mire* kell a pénz]?
what question-WITH dealt-3PL that what-ON need the money
(lit.) 'What question, that do they need the money for what did they treat?'

This section has shown that just like relative clauses, adjunct noun-associate clauses are capable of hosting a *wh*-phrase with matrix interpretation as long as the nominal they are associated with is a "what kind" *wh*-expression. These constructions show the same properties as standard cases of scope marking, and therefore should be considered as such.

3.3. Empirical summary: the patterns of Hungarian subordinate scope marking

On the basis of the discussion in the previous sections it can be concluded that Hungarian subordinated scope marking occurs in Hungarian across the following constructions types, both argumental (a) and adjunct (b),(c),(d) ones:

(a)	argumental embedded clauses associated with *az/mi*	– ex. (8), (15)
(b)	adverbial clauses associated with *az/mi*	– ex. (16)
(c)	relative clauses associated with an NP/DP	– ex. (19), (20)
(d)	adjunct noun-associate clauses with an NP/DP	– ex. (27)

Of these constructions, the literature (Horvath 1995, 1997, 1998, 2000) has only discussed type (a) and mentioned in passing type (b). These are the ones that occur with a uniform scope marker *mi* pronominal. (c) and (d), as was shown above, associate with a full NP/DP. The correct empirical generalization therefore seems to be that Hungarian subordinated scope marking occurs with *any* embedded clause that is associated with a (pro)nominal constituent, whose meaning it specifies. The schematic representation of scope marking constructions is the structure in (30):

(30) [$_{CP}$ ***wh-***(pro)noun$_i$ [$_{CP}$ … *wh* …]$_i$]

The next section reviews the literature on the analysis of scope marking, and puts forward the claim that relative clauses and adjunct noun-associate clauses (type (c) and (d)) are to be analysed along the lines of Dayal's indirect dependency approach, which, apart from being the only analysis capable of dealing with these data, can be easily extended to cases of argumental scope marking and adverb scope marking as well (type (a) and (b)).

4. The Analysis of Adjunct Scope Marking

Scope marking constructions have been analysed in various ways in the literature. These can be classified into two general types of approaches: the *direct* and the *indirect* dependency approaches. The two approaches differ in the kind of relationship they ascribe to the embedded *wh*-item and the matrix scope marker. In the direct dependency, the embedded *wh*-item directly replaces the scope marker at LF. The indirect dependency approaches, which have two subtypes as well, argue either that there is a *syntactic* link between the scope marker and the embedded clause, or a *semantic* mechanism that links these two.

In this section I briefly sketch each approach and show whether or not it suits the newly discovered cases of Hungarian scope marking. As it turns out, only one type of approach can account for these: the *semantic indirect* dependency account.

4.1. Direct dependency approach

According to the advocates of the *direct dependency* approach (van Riemsdijk 1983, McDaniel 1989, Cheng 2000, among others) the embedded *wh*-item is directly linked to the matrix *wh*-item in the syntax and semantics, via LF-expletive replacement of the sort well-known from *there*-expletive constructions. The scope marker is an expletival placeholder for the embedded *wh*-item in the main clause:

(31) S-str $[_{CP+wh}$ **was** $[_{CP-wh}$ *wh-phrase* $[_{IP} \ldots t_i \ldots]]]$
LF $[_{CP+wh}$ *wh-phrase* $[_{CP-wh}$ t_i $[_{IP} \ldots t_i \ldots]]]$

Expletive replacement at LF gives rise to a structure that is parallel to cases of long extraction, and is forced by Full Interpretation and the *Wh*-criterion, which apply at LF: at the level of interpretation the embedded clause cannot

contain any *wh*-element, since it is not an embedded question. What triggers the *partial* movement of the contentful *wh*-item to the embedded Sp,CP position receives various answers in the different versions of the direct dependency approaches.

The general unavailability of this approach to the cases of Hungarian scope marking under discussion can easily be seen from the fact that these constructions constitute islands for extraction (CNPC):

(32) *Hány pontot$_i$ megy át a vizsgán [aki t$_i$ szerez]?
how many points-ACC go-3SG PV the exam-ON who-REL score-3SG
(intended) 'How many points does one have to score to pass the exam?'

The same has been noticed about subject clauses and adverbial clauses as well (Horvath 1995): scope marking, unlike long extraction, is possible across islands (CED-effects). This militates against an analysis in terms of LF-long extraction.

4.2. The syntactic indirect dependency approach

In contrast to the direct dependency approach, the *indirect dependency* approaches posit an indirect relationship between the *wh*-items: the scope marker is directly linked to the whole embedded clause.

There are two types of ideas about what provides the link between the scope marker and the embedded clause: in some analysis the link is syntactic, in others it is semantic in nature. In this section I review the syntactic accounts (which were called *mixed* approaches in Lutz, Müller and von Stechow (2000). Apart from Mahajan (1990) and Fanselow and Mahajan (2000), the extant analysis of Hungarian, Horvath (1995, 1997, 1998, 2000), belongs to this type of approach as well. In my discussion I focus on Horvath's analysis only.

4.2.1. Horvath (1995, 2000) Account of Hungarian Scope Marking

In Horvath's analysis, the scope marker is a (*wh*-)pronominal anticipatory pronoun, generated in A-position (AgrP in Horvath 1997); associated with the embedded CP proposition, bearing the case that is assigned to the CP and which the CP cannot carry due to the case resistance principle (Stowell

1981). In scope marking constructions, just as in any case of clausal subordination, the subordinated CP needs to "meet" its case before the end of the derivation (to satisfy Full Interpretation). To achieve this, the CP has to adjoin the sentential pronominal at LF:

(33) $[_{CP}\ [_{FocP}\ \boldsymbol{mi}_{+case}\ [_{AgrP}\ t_j\ [_{CP}\ [_{FocP}\ wh\text{-}phrase_i\ [_{IP}\ldots\ t_i\ \ldots\ ]]]\ ]]]$

LF

The LF movement step of clausal pied-piping can only be successful, according to Horvath, if the CP and the sentential expletive *match* in *wh*-features (cf. *non-distinctness*, Chomsky and Lasnik 1991). The scope marker is a <+wh> item, which then requires the embedded clause to have a matching <+wh> feature as well. This <+wh> feature will have to come from the embedded *wh*-item, since in scope marking constructions the embedded clause is never selected to be a question, and consequently it does not possess any inherent <+wh>-feature.

In other words, in order for proper matching to take place, there must be a free, *transmittable* <+wh>-feature available in the embedded clause, that can *percolate* up onto the embedded CP. This requires the presence of a *wh*-phrase in the embedded Sp,CP (Horvath glosses over the fact that the overt position of *wh*-items is lower than CP in Hungarian). After <+wh>-feature transmission, the *wh*-item looses its *wh*-hood, and its operator nature. As a "disarmed" *wh*-item, it does not cause any violation of the *Wh*-criterion.

This mechanism explains why scope marking is only possible if the *Wh*-Criterion does *not* otherwise require a *wh*-operator in Sp,CP, i.e. only with verbs which do not select questions (cf. ex. (4)):

(34) ***Mit** kérdeztél $[_{CP+wh}$ hogy *ki* lesz az igazgató]?
what-ACC asked-2SG that who be-FUT.3SG the director
(lit.) 'What did you ask that who will be the director?'

The right interpretation of scope marking constructions (i.e. a meaning similar to long *wh*-questions) comes about in the following way. As a result of case-driven expletive replacement by the whole embedded CP, the embedded *wh*-item acquires matrix scope at LF due to its structural position: it will c-command out of the specifier of a specifier (Kayne 1994), thereby taking scope over everything in the matrix clause.

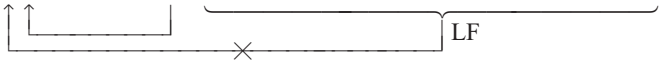
(35) $[_{CP+wh}\ [_{CP+wh}\ wh_{i+wh}\ [_{C'}\ C_{-wh}\ [_{IP}\ \ldots\ t_i\ \ldots]]]$-**mi** $[_{AgrP}\ t_j\ \ldots]\ ]$

Given that the embedded CP moves as a whole, Horvath's analysis predicts that island violations do not occur, which is borne out by the facts.

4.2.2. Adjunct Scope Marking: A Problem for Horvath's Account

Section 3 has shown that the empirical base of subordinate scope marking is much larger than previously thought. It occurs with relative and noun-associate adjunct embedded clauses as well. It is easy to see that these newly discovered cases of scope marking do not lend themselves to an analysis that was sketched in the previous section. As we have seen, Horvath's account is crucially based on *expletive replacement*, and the analysis of scope markers as *expletives*. While this is certainly an a priori possible stand for the analysis of embedded clauses that combine with a uniform pronoun *mi* "what", the same analysis cannot be carried over to relative and noun-associate clauses for the simple fact that these are *never* associated with expletival elements. The scope markers in these constructions are not (*wh*-)expletives, but full-blown argument NP/DPs, with a lexical meaning of their own. Therefore, an analysis in terms of expletive replacement by the embedded CP at LF is not tenable:

(36) $[_{CP}\ [_{FocP}$***melyik diák***$_i\,[_{DP}\ t_i\ [_{CP\text{-}wh}$ aki $[_{FocP}$*hány pontot*$_i\,[_{IP}\ldots\ t_i\ \ldots\ ]]]\ ]]]$



Note that this is true even if expletive replacement is taken to be *adjunction* of the embedded CP to the matrix pronominal, as argued by Horvath, with reference to case requirements of the embedded clause. Such an adjunction step would be totally unmotivated in the case of relative and noun-associated embedded clauses, as these clauses, being adjuncts, are not in need of case.

In the next section I turn to the only account that can handle the newly found Hungarian facts of scope marking: Dayal's (1994, 2000) indirect dependency.

4.3. Semantic Indirect Dependency Approach (Dayal 1994, 2000)

4.3.1. Outline of the Analysis

The other, *semantic* type of *indirect dependency* approach, represented by works of Dayal (1994, 2000), argues for an underlying semantic link between

the scope marker and the embedded clause. The scope marker in this account is a standard argumental *wh*-phrase, which quantifies over propositions. The embedded clause, a full-blown question, restricts the domain of propositions that the scope marker quantifies over.

For a semantic representation, Dayal follows Hamblin (1973) in taking questions to denote the set of possible answers to them. *Wh*-expressions are existential quantifiers whose restriction is either implicit or provided by some overt restriction. In this view, the main clause interrogative in (8), repeated from above

(8) **Mitől** fél Mari, hogy *ki* lesz az igazgató?
what-FROM fear-3SG Mari that who be-FUT.3SG the director
(lit.) 'What does Mari fear that who will be the director?'

has the following logical representation: λp∃q[p a proposition & p=^fear (Mari,q)]. Dayal assumes furthermore that quantification is always restricted in natural languages, thus also with quantification over propositions; the overt or covert restrictor of the matrix propositional quantifier can be represented by a variable *T:* λp∃q[T(q) & p=^fear(Mari,q)]. The meaning of the embedded clause is λp∃x [p=^will-be-director (x)], which can be made the restrictor *T* in the interpretation of the matrix question. The end result is: λp∃q[∃x [q=^will-be-director (x)] & p=^fear(Mari,q)]. In informal rephrasing, (8) denotes the following question: "what proposition p, such that p is a possible answer to 'who will be the director?' is such that Mari fears p?" Possible answers to the question "who will be the director" are propositions like *Péter will be the director; Anna will be the director; Hugo will be the director*. From this set of propositions, (8) will ask for the one that Mari fears. The embedded clause under this account crucially has to be interpreted as a question, because only questions can function as restrictions over a propositional variable scope marker in the matrix clause.

This semantic mechanism underlies all scope marking constructions according to Dayal. The syntax of scope marking constructions can be different from language to language. The relation between the matrix *wh*-item and the embedded clause can range from a loose juxtaposition to a real syntactic dependency. Crucial to this analysis is the treatment of sentential pronominals as full arguments, which follows the spirit of a considerable amount of syntactic proposals (Rosenbaum 1967; Bennis 1986; É. Kiss 1987; Torrego and Uriagereka 1989; Müller 1995; Moro 1997; Stepanov 2000) and the analysis of the embedded clause as a syntactic adjunct, a semantic *restrictor* over the matrix argument nominal.

4.3.2. Adjunct Scope Marking in Dayal's Account

The above sketched analysis suits Hungarian double question scope marking like a glove: as we have seen, in this language scope marking does not only occur with standard sentential subordination, where the expletive-replacement analysis is in principle available, but also with other types of embedding, where expletive replacement is completely out of the question. Relative and noun-associate clauses do not combine with expletives, rather, they appear with full NP/DPs. On the other hand, their role is exactly as described by Dayal's account: to provide a restriction over the matrix (pro)nominal constituent, the NP/DP they modify.

The particular interpretation of adjunct-type scope marking constructions then must also be due to a Dayal-kind semantics: the scope marker is restricted by the embedded clause, which explains why it has to be answered in terms of the restrictive embedded clause. If one takes a noun phrase and provides it with a full clausal restriction, it is expected that in case the clausal restriction contains a *wh*-question, the noun phrase as a whole contains a variable, i.e. is questioned as well.

4.3.2.1. Relative Clauses

The most obvious clausal restrictions in languages are restrictive relative clauses. They form a restriction on the denotation of the noun head, and they are syntactically subordinated to their nominal head which takes scope over them. If they contain a question, that question restricts the denotation of the nominal head as well, which makes it necessary that this nominal be quantificational (and not referential). This explains why the presence of a *wh*-item inside the relative forces the nominal head to appear as a *wh*-item as well (cf. 22, repeated here from above):

(22) *Az megy át a vizsgán [aki *hány pontot* szerez]?
that go-3SG PV the exam who-REL how many point-ACC score-3SG
(lit.) 'Who(ever) scores how many points, passes the exam.'

Adopting Dayal's semantics for a question like (20), and the semantics for ordinary restrictive relative clauses, we end up with the following picture. The matrix *wh*-phrase *melyik* "which" has two restrictions: the NP *diák* "student" and the restrictive relative clause (37).

(20) **Melyik diák**$_i$ megy át a vizsgán [aki$_i$
which student go-3SG PV the exam-ON who-REL
hány pontot szerez]?
how many point-ACC score-3SG
(lit.) 'Which student$_i$, who$_i$ scores how many points, passes the exam?'
(intended) 'How many points does a student have to score to pass the exam?'

(37) **Melyik diák**$_i$ megy át a vizsgán | aki$_i$ *hány pontot* szerez? |
restriction

The interpretation corresponds to (38):

(38) the set of propositions p, such that for some individual x such that x is a student and x is in the set of individuals who have the property related to a proposition, namely the proposition who scored n-many points, p = x passed

I refer the exact logical formalisation of this question to further research, as it is much more complex than the formalisation of argumental scope marking. Due to the fact that a question (i.e. a set of propositions) cannot directly restrict an individual variable, the formalisation might involve some extra semantic tools like choice functions (Veneeta Dayal, p.c.)

4.3.2.2. Adjunct Noun-associate Clauses

I propose that the analysis of relative clauses in the previous section carries over in all relevant respects to adjunct noun-associate clauses. As these instances of embedded clauses have been argued to be clausal adjuncts (Stowell 1981; Grimshaw 1990; Kenesei 1992, 1994), these can be treated in the same way as relative clauses for our purposes.

That is, the embedded clause functions as an adjunct modifier that restricts the matrix nominal expression, which is a full argument:

(27) **Milyen üzenetet** kapott Péter [hogy *hova* kell mennie]?
what message-ACC got-3SG Péter that where need go-INF-3SG
(lit.) 'What message, where does he have to go, did Péter get?'

(39) **Milyen üzenetet** kapott Péter hogy *hova* kell mennie?

restriction

(40) the set of propositions p, such that for some individual x, such that x is a message and x is in the set of individuals who have the property related to a proposition in T, namely where Péter has to go, p = Péter got x.

4.4. The analysis of argument scope marking

This section has shown that the newly identified cases of scope marking constructions receive a straightforward analysis in Dayal's framework. They refute any other analysis, in terms of LF expletive replacement, due to the fact that they do not contain any expletives.

The question arises whether one would be justified in treating all instances of subordinated scope marking in Hungarian under the semantic indirect dependency approach. The strongest (and therefore the most interesting) claim would be to say that all constructions are alike, and, generalizing to the "worst case", they all involve adjunct embedded clauses, which must receive an analysis along the lines of Dayal's framework. This would argue for treating sentential pronominals as arguments of the matrix predicate and the embedded clauses as adjuncts, modifying the argumental pronominals (É.Kiss 1987), as in Dayal's original proposal.

As recent developments have shown, however, (Lutz, Müller and von Stechow 2000), it is clear that scope marking constructions, and their analysis, might differ across languages: properties of Hindi scope marking, for example, are easier to explain with the indirect dependency approach, while those of German with the direct or the syntactic indirect approach. Moreover, different types of scope marking can exist even within one and the same language: a case in point is Passamaquoddy, which has two distinct scope marking constructions, with different scope markers and different verbal agreement patterns (Bruening 2001, to appear).

Space limitations block me to enter a discussion here about whether a uniform analysis for all Hungarian facts is desirable or not. Pending futher, more detailed comparison of argumental and adjunct scope marking constructions and their detailed properties, I refer this topic to future research. It is clear, however, already at this point, that in case such a uniform analysis is indeed warranted, no theory to date except Dayal's account could cover all data.

5. The Trigger of Embedded Overt Movement

After spelling out the analysis of the Hungarian facts in the previous section, the present section returns to the problem of the *triggering* factor, as introduced at the outset of this paper.

5.1. The application of Dayal's approach

As already mentioned, scope marking constructions involve an overt *wh*-movement step in the embedded clause (except in languages that allow for *wh*-in-situ in general). For illustration, recall (1) from German. The embedded *wh*-item obligatorily has to undergo fronting, it cannot stay in situ:

(1) **Was**$_1$ denkt sie [*wen*$_1$ Fritz t$_1$ eingeladen hat]?
what thinks she whom Fritz invited has
'Who does she think Fritz invited?'

(41) ***Was**$_1$ denkt sie [Fritz *wen* eingeladen hat]?
what thinks she Fritz whom invited has

Hungarian facts are fully parallel to the German ones, they involve obligatory fronting in standard argumental scope marking (15)/(42):

(15) **Mi** zavarta Marit [hogy *kinek* telefonáltál]?
what bothered-3SG Mari-ACC that who-DAT phoned-2SG
(lit.) 'What bothered Mari that whom did you phone?'

(42) ***Mi** zavarta Marit [hogy telefonáltál *kinek*]?
what bothered-3SG Mari-ACC that phoned-2SG who-DAT

These Hungarian facts, however, do not instantiate *wh*-fronting for <+wh>-feature checking/licensing, due to the fact that in this language, overt fronting of *wh*-items happens for *focusing* reasons. *Wh*-items, including those in echo questions, behave like contrastive focus constituents and they occupy Sp,FocP, a relatively low functional projection in the left periphery, embedded under CP, TopP(s) and QP(s) (Horvath 1981, É.Kiss 1987):

(43) [$_{CP}$ [$_{TopP*}$ [$_{QP*}$ [$_{FocP}$ Foc^{o} […]]]]]

Movement to Sp,FocP is motivated by a <+foc> feature on Foc^{o} and on the *wh*-phrases. Next to a focus feature, *wh*-items also possess a <+wh> feature that needs checking in the syntax, as was shown by Horvath (1981) and Lipták (2001), this however, does not motivate overt movement *distinct* from focusing. For this reason, the Hungarian facts above are not indicative of the presence or absence of any particular *wh*-syntax of scope marking constructions. I take it, however, that even though there is no overt *wh*-movement involved in Hungarian questions, covert *wh*-movement (<+wh>-feature movement) does happen to the interrogative complementizer C^{o} (Lipták 2001), and thus, at LF, the Hungarian facts in (15)/(42) are parallel to the German facts in (1)/(41), where overt *wh*-movement is visible.

How to explain German (1)/(41) then? Under the assumption that the embedded *wh*-item is only interpreted in the matrix clause, the embedded overt movement step remains unexplained: *wh*-movement is usually triggered by a feature on interrogative complementizers within which the *wh*-item takes scope. If we were to assume, with the direct or the syntactic indirect approach, that the embedded *wh*-item does not take scope in the embedded clause, but gains matrix scope at LF (via expletive replacement), obligatory fronting remains mysterious: there is no reason for the *wh*-item to leave its base-position its overt syntax. The embedded C^{o} head in German does presumably not possess a <+wh> feature that could trigger the movement of the embedded *wh*-items to Sp,CP.

With the indirect dependency analysis of scope marking constructions in place, it is not difficult, however, to identify the trigger for the movement of the embedded *wh*-item. The *wh*-item has to front in the embedded clause for the same reason why it has to in matrix interrogative clauses: to check a <+wh> feature on a high left peripheral head. The embedded clause in standard scope marking constructions for all intends and purposes behaves like a full-fledged matrix question: it is interpreted as a normal question, so it is expected that its syntax is also that of a normal question. It differs from matrix questions in one respect only: that it has subordinated syntax (presence of a complementizer, embedded word order, etc). If my analysis is on the right track, these constructions qualify as an *embedded root phenomenon* in this particular respect: they contain a matrix interrogative that occurs with subordinated syntax.

Following Dayal (1994, 2000) I therefore put forward the claim that in scope marking constructions of the type examined in this paper, the embedded question is a fully specified question-clause. It contains a <+wh> attracting (or unvalued) feature on C^{o} or another functional head that triggers overt movement of the embedded *wh*-phrase.

Note that this idea is by no means in conflict with the fact that scope marking does not occur with embedded clauses that are selected questions (as shown above in (4), (34)). This is because the morphosyntactic <+wh> feature that triggers the movement of *wh*-phrases in the syntax is *never* the selectional feature, in any language, in any construction. This can be seen, among other things, from the fact that selectional features are not always present in all cases of embedded interrogatives that feature *wh*-movement. Two illustrative examples are given in (44)-(45), which show that embedded interrogativity can be licensed by mood or negation in the matrix clause, also with matrix predicates that otherwise do not select interrogative clauses ((45) is taken from Adger and Quer (2001)):

(44) a. *I am aware who killed Mary.
b. I am not aware who killed Mary.

(45) a. *Julie admitted/heard/said if the bartender was happy.
b. Julie didn't admit/hear/say if the bartender was happy.

This shows that the <+wh> feature that triggers syntactic movement is not a selectional one, but a morphosyntactic feature that can be independent of selectional properties. Its presence cannot be deduced or derived from selectional features in a one-to-one manner.

I believe that scope marking constructions under Dayal's analysis are similar to cases like (44)–(45), in that they contain a <+wh> attracting feature on a functional head in an unselected embedded clause:

(46) **Was** denkt sie $[_{CP<+wh>}$ wen$_{<+wh>}$ Fritz eingeladen hat]?

Although the embedded <+wh> feature on C^{o} is not related to selectional properties, it is not an "out of the blue" feature: its presence on embedded C is linked to the presence of a <+wh> feature on the matrix "scope marker", a *wh*-constituent. This is possible due to feature-sharing between these two constituents, that take part in an underlying subject-predicate (small-clause) relation.

(47) [denkt sie … $[_{SC}$ $[_{<+wh>}$**was**$][_{CP<+wh>}$ wen Fritz eingeladen hat]]

This configuration, in which the scope marker and the embedded clause form one constituent at some level or represenation, was proposed by, among others, in É. Kiss (1987) for Hungarian sentential complementation

and in Herburger (1994) for German. In this configuration *wh*-feature sharing is possible, similarly to other types of feature-sharing processes (agreement, case). As a result, the embedded CP can inherit the <+wh> feature from the matrix *wh*-phrase. This in turn explains why we find overt embedded movement in these clauses.

As we can see, Dayal's approach, coupled with regular assumptions about subject-predicate relationships, successfully takes care of the problem of triggers in a rather straightforward manner and without unorthodox auxiliary assumptions about *wh*-licensing. In the next section I turn to the discussion of the triggering factor in adjunct embedded clauses.

5.2. The *wh*-syntax of adjunct embedded clauses in scope marking

The situation in adjunct-type scope marking is very similar to the one found in argumental scope marking, illustrated and explained in the previous section.

Hungarian is again lame about the *wh*-syntax of the embedded clause: although all constructions discussed in this paper feature overt *wh*-movement, these always take place for focusing reasons:

(27) **Milyen üzenetet** kapott Péter [hogy *hova*$_i$ kell mennie t$_i$]?
what message-ACC got-3SG Péter that where need go-INF-3SG
(lit.) 'What message, where does he have to go, did Péter get?'

(48) ***Milyen üzenetet** kapott Péter [hogy kell mennie *hova*]?
what message-ACC got-3SG Péter that need go-INF-3SG where

(19) **Ki** megy át a vizsgán [aki *hány pontot*$_i$ szerez t$_i$]?
who go-3SG PV the exam who-REL how many point-ACC score-3SG
(lit.) 'Who$_i$, who$_i$ scores how many points, passes the exam?'

(49) ***Ki** megy át a vizsgán [aki szerez *hány pontot*]?
who go-3SG PV the exam who-REL score-3SG how many point-ACC

Looking at other languages with parallel facts, however, gives clear indication about the *wh*-syntax of these clauses. Scope marking constructions of the type discussed in this paper, namely with noun-associate and relative clauses, are not restricted to Hungarian only.

According to my survey on 18 languages[8], adjunct-type scope marking constructions occur in a *subset* of the languages that have standard argumental scope marking constructions, and do not occur in languages where argumental scope marking cannot be found. Specifically, I found that Frisian and some Slavic languages (Serbian and Slovenian), which are known to have subordinate scope marking (cf. Hiemstra 1986, Golden 1995, Stepanov 2000) have constructions parallel to the Hungarian facts discussed in this paper. Frisian and Slovenian are extremely instructive to look at when discussing the embedded *wh*-movement step in scope marking. In these languages *wh*-movement in embedded questions targets Sp,CP, which can be seen from the fact that the *wh*-phrase is placed before the embedded complementizer (Frisian and Slovenian allow for a doubly-filled comp). In noun-associate clauses with scope marking, the embedded *wh*-phrase lands in Sp,CP as well, as the data from Frisian (50) and Slovenian (51) illustrates: [9]

(50) **Wat** boadskip hast krigen, *wêr*'tst hinne moatst?
what message have-2SG got where-that-2SG to must
(lit.) 'What message, where do you have to appear, did you get?'

(51) **Kakšno sporo ilo** si dobil, *kam* da moraš iti jutri?
what message aux get-PTC where that must go tomorrow
(lit.) 'What message, where do you have to appear, did you get?'

In scope marking with relative clauses, embedded *wh*-movement does not occur, *wh*-phrases stay in situ ((52) illustrates Frisian, and (53) Serbian[10]):

(52) ?**Hokker studint** komt dertroch, dy't *hoefolle punten* hat?
which student comes through REL-that how-many points has
(lit.) 'Which student, who scores how many points, passes the exam?'

(53) **Koji student** prolazi ispit, koji dobije *koliko poena*?
which student passes exam which gets how many points?
(lit.) 'Which student, who scores how many points, passes the exam?'

Without further discussion, I take it that Hungarian (27) is in all respects similar to (50), (51), and (19) is similar to (52), (53). The difference is that while *wh*-movement to C^{o} is overt in Frisian and Slovenian noun-complement clauses, it is covert in Hungarian.

How to account for these data then? Following the analysis of argumental scope marking in the previous section, we can extend the proposal to cases

of adjunct scope marking as well: the embedded question in these constructions, too, behaves as a fully specified interrogative clause, and as such, it becomes available as a propositional restrictor to the matrix *wh*-quantifier.

In the case of noun-associate questions, the embedded *wh*-phrase fronts to Sp,CP to check the <+wh> feature on C^0:

(54) **Wat boadskip** hast krigen…
what message have-2SG got
… [$_{CP<+wh.>}$ *wêr*$_i$'tst [hinne moatst t_i?]]?
where-that-2SG to must

The availability of the <+wh> feature on C^o is the result of a <+wh> feature sharing process, that was introduced in the previous section. The matrix NP and the embedded clause share a *wh*-feature:

(55) [hast krigen…[$_{SC}$ [$_{<+wh>}$**wat boadskip**][$_{CP<+wh>}$ *wêr*'tst hinne moatst]]

The situation with relative clauses is different, as the empirical evidence in (52), (53) above shows. In these contexts we do not find overt *wh*-movement in the embedded clause. This is due to independent syntactic reasons. Although the same feature-sharing process as in (55) is available here, too, (the head of the relative clause and the relative clause itself form a constituent in the base), the relative complementizer cannot carry any interrogative <+wh> feature due to the fact that the CP domain of relative clauses is fully specified for relativization. The relative Sp,CP position hosts a relative operator (overt or covert) and the relative C^o complementizer's feature content is incompatible with <+wh> features. For this reason, overt *wh*-movement does not occur inside relative clauses in languages where *wh*-movement does otherwise move *wh*-items into the CP domain. Without an attracting feature, the embedded *wh*-item has to stay in-situ. The exact licensing conditions of this *wh*-item are unclear to me. Lacking insight, I leave this for further investigation, briefly mentioning only that what we are dealing here is not unknown in the syntax of English, either. Where English differs from Hungarian, Frisian or Slavic languages is that relative clauses with questions are only grammatical under special circumstances, namely in the context of quiz-questions[11]:

(56) Which actor, who was nominated for Oscar in which film in 1965, died in 1980?

The availability of adjunct-type scope marking shows differences crosslinguistically: it is restricted to quiz-contexts in English-type languages, while it is available in "ordinary" scope marking questions in some languages that allow for argumental scope marking as well.

In this section I provided crosslinguistic evidence for the empirical observation that embedded *wh*-movement takes place in the overt syntax in adjunct scope marking constructions and I argued that it is possible to characterize the embedded *wh*-movement step in these as an instance of matrix *wh*-movement, if a Dayal-type approach to these constructions is adopted.

6. Summary

This paper introduced hitherto unidentified scope marking constructions from Hungarian, Frisian, and Slavic languages, and showed that these involve complex questions embedding adjunct clauses (noun-associate or relative clauses). Their existence is of great theoretical importance because they provide primary evidence for a Dayal-type indirect dependency analysis. Such an analysis in turn argues for a conventional picture concerning the movement triggers in the embedded clause of scope marking: *wh*-movement to a high licensing position has to happen for interpretive reasons.

Notes

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2. More detailed investigation (Herburger 1994; Lahiri 2002) shows that the parallel with long extraction is not absolute.
3. Note that the overt position of *wh*-items in Hungarian is not Sp,CP, but a lower focus projection, Sp,FocP (Horvath 1981, É. Kiss 1987).
4. The Hungarian data in this paper were collected in the form of written questionnaires and oral consultations in Hungary, during the years 2001 and 2002. The material represented here is based on the judgments of the following people: Péter Antonyi, Huba Bartos, Péter Boross, Judit Gervain, Beáta Gyuris, Ildikó

Kasza, István Kenesei, Attila B. Kis, Katalin É. Kiss, Márta Maleczki, Enikő T. Németh, Lászlóné Sipos, Balázs Surányi, Gabriella Tóth, Ildikó Tóth, Péter Vajda.

5. Symbols are taken from Varga (2002): | = edge of intonational phrase; □ = pause; ‘ = full fall major stress; ’ = half-fall major stress
6. The prosodic characteristics of parenthetical scope marking constructions are close to those that Reis (2000) calls *Integrated parenthetical* (IP) constructions in German. They are not the same, though. German IP can be characterized by the following properties, not present in Hungarian: (a) With IP in German, the embedded clause has V2, signalling that it is a root clause; (b) IP allows for yes/no questions; (c) preference predicates (*wünschen* “would like”) cannot occur in IP.
7. These effects can be illustrated by (i) and (ii):

   (i) a. *Kinek$_i$ zavarta Marit [hogy t$_i$ telefonáltál]?
   who-DAT bothered-3SG Mari-ACC that phoned-2SG

   b. **Mi** zavarta Marit [hogy *kinek* telefonáltál]?
   what bothered-3SG Mari-ACC that who-DAT phoned-2SG
   (lit.) ‘What bothered Mari, that you phoned whom?’

   (ii) a. *Hogy voltál szomorú [mert viszonyultak hozzád]?
   how were-2SG sad because related-3PL 2SG-TO

   b. **Miért** voltál szomorú [mert *hogy* viszonyultak hozzád]?
   what-FOR were-2SG sad because how related-3PL 2SG-TO
   (lit.) ‘Why were you sad, because they related to you in which manner?’
8. These were: Moroccan Arabic, Bavarian, Mandarin Chinese, Danish, Dutch, English, Finnish, Flemish, Frisian, German, Greek, Hindi, Hungarian, Italian, Japanese, Serbian, Slovenian, Spanish.
9. The Frisian data are based on the judgements of Henk Wolf, Siebren Dijk and Willem Visser (p.c.), the Slovenian ones on judgements by Franc Marušič, Tatjana Marvin, Rok Žaucer (p.c.).
10. The Serbian data are taken from Boban Arsenijevič and Radoslava Trnavac.
11. Although these sentences are treated as ordinary questions in Kempson et al (2001).

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