Information-Structurally (Un)Ambiguous Nominal Constructions in Hungarian[*]

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We discuss Hungarian sentences in which a (possessor or non-possessor) dependent of a noun head takes either noun-phrase-internal or external scope. We also investigate cases in which (i) the dependent in question is extracted from its matrix nominal expression (at least virtually) and (ii) several scope taking dependents can be found within a nominal expression. Particular attention is paid to scope taking dependents of (complex-event denoting) deverbal nominal constructions. In order to capture the phenomenon of internal-scope taking within nominal expressions, we propose a general syntactic representation in which the essentially morphology-based accounts are integrated with cartographic Split-DP / clausal-DP approaches (e.g. Giusti 1996, Grohmann 2003) via inserting operator layers in the new noun phrase structure. Certain language-specific intricacies are attributed to a post-Transfer process in PF in Sigurðsson's (2009) spirit, and certain extraction phenomena are accounted for by means of remnant movement.

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1   Introduction

Based on the DP-hypothesis advocated by Szabolcsi (Szabolcsi & Laczkó 1992), generative literature on the structure of noun phrases claims the existence of parallelisms between the verbal and the nominal domain. Several approaches (Guisti 1996, Rizzi 1997, Aboh 1998, Grohmann 2003, Laenzlinger 2005, among others) also argue for splitting up the DP into several functional projections, corresponding with the fact that these functional categories may encode discourse-related features. The verb-like properties of nouns have been described in connection with deverbal nouns, especially with complex-event denoting ones, which are considered to inherit the argument structure, that is, thematic arguments and other dependents from the input verb in many languages (e.g. Grimshaw 1990, 2011 for English, Kleemann-Krämer 2009 for German, Broekhuis *et al.* 2012 for Dutch). A number of proposals assume a VP node within the structure of deverbal nominals (Alexiadou *et al.* 2007), responsible for the verbal properties of these nominals.

We will claim that complex-event denoting deverbal nouns may also inherit the information structure from the input verb, that is, the fine-grained left periphery of Hungarian clauses, consisting of a layer of discourse-related functional projections (see also Farkas & Alberti 2016, Szabó *et al.* 2016). Besides foci, the distributive quantifiers *is* 'also' and *mind* 'each' may also appear within a complex-event denoting deverbal nominal expression, taking a noun-phrase-internal scope. However, operators may be scopally ambiguous, since they can also be interpreted externally (in the sense that they take scope over the matrix verb of the clause), like in the case of operators of ordinary nouns.

The paper concentrates on Hungarian sentences in which a dependent (XP_{dep}) of the noun head (N_{mat}) of a matrix noun phrase (DP_{mat}) is a scope taker.[1]

Section 2 investigates what can be regarded as the basic case: the case in which the scope in question can be interpreted relative to the (typically verbal) predicate (VP_{mat}) which takes DP_{mat} as its argument. Ambiguous sentences presented in section 3 demonstrate that the scope in question can also be interpreted "internally", that is, within DP_{mat}, if, and only if, DP_{mat} is a sufficiently verbal (typically deverbal) nominal construction. In such cases, in which XP_{dep} takes noun-phrase-internal scope, DP_{mat} itself can serve as an independent scope taker relative to VP_{mat}, as discussed in section 4.

Sections 2–4 systematically investigate how the following two factors affect the readiness of XP_{dep} to take external and/or internal scope: (i) whether XP_{dep} is a possessor or a non-possessor (see subsections 2.1, 3.1, 4.1 and subsections 2.2, 3.2, 4.2, respectively), and (ii) whether XP_{dep} appears noun-phrase-internally or is extracted (see 2.1.1, 2.2.1, 3.1.1, 3.2.1, 4.1.1, 4.2.1 *versus* 2.1.2, 2.2.2, 3.1.2, 3.2.2, 4.1.2, 4.2.2). Such further factors are also considered, though not systematically, as (iii) the type of N_{mat}, (iv) the argument *vs.* adjunct status of XP_{dep}, and (v) the noun-phrase-internal position of XP_{dep}. As for the type of operator that XP_{dep} serves as, this paper almost always uses (positive) distributive quantifiers (*mind* 'each/every/all'-expressions). The reason for this is the high readiness of this type of operator to accept different positions (NB: Alberti & Farkas (to appear b) and Farkas & Alberti (to appear) provide a fairly systematic overview of the behavior of other five operator types).

Section 5 deals with cases in which two dependents serve as scope takers within one and the same noun phrase; we point out that even hybrid interpretations can emerge, with one dependent taking internal scope while the other takes external scope.

Section 6 is devoted to the presentation of our detailed syntactic analyses. As for syntactic structures of noun phrases with internal-scope taking dependents, our point of departure is the general representation proposed in Alberti & Farkas (2015) and in Alberti *et al.* (2017). In this approach the essentially morphology-based Hungarian traditions[2] are integrated with the cartographic Split-DP Hypothesis (Giusti 1996), essentially yielding a tripartite nominal structure consisting of a thematic domain ($\Theta_V\Delta$), two agreement domains ($\Phi_V\Delta$, $\Phi_N\Delta$) and discourse domains ($\Omega_V\Delta$, $\Omega_N\Delta$) according to Grohmann's (2003:211 (37b)) theory of Prolific Domains. As for representing noun

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[1]   The following abbreviations are used in the glosses (on the basis of the conventions applied in the series *Approaches to Hungarian* (e.g., Alberti *et al.* 2015)): (i) case suffixes: ACC(USATIVE), DAT(IVE), DEL(ATIVE), ELA(TIVE), ILL(ATIVE), INE(SSIVE), SUB(LATIVE), SUP(ERESSIVE); (ii) other suffixes on nouns: PL(URAL), POSS (possessedness suffix), POSS.1SG/.../POSS.3PL (possessive agreement suffixes); (iii) affixes on verbs: 1SG/.../3PL (agreement suffixes), PERF (a perfectivizing verbal prefix (preverb)); (iv) further glosses: ADJ(ECTIVALIZER), ATTR(IBUTIVIZER), NMLZ (NOMINALIZER), PTC (PARTICIPLE); (vi) scope-hierarchical symbol: 'X>Y' ('X takes scope over Y').

Throughout the whole paper, the following six-degree scale of grammaticality judgments, given in Broekhuis *et al.* (2012, viii), is used: *: unacceptable, *?: relatively acceptable compared to *; ??: intermediate or unclear status; ?: marked: not completely unacceptable or disfavored form; (?): slightly marked, but probably acceptable. We also follow Broekhuis *et al.* (2012, xiv) in using introspective judgements by the group of the three authors (all native speakers of Hungarian) as the criterion of what word orders are part of the language associated with what readings (cf. Featherstone 2007, section 5.4), while we are aware of the fact that there might be speaker variation in this respect (see 3.2.1). Systematically testing our (highly complex) data would require another paper, given that testing even the simplest clause-level Hungarian focus constructions raises several methodological problems in addition to the inferencing influence of different scarcely calculable pragmatic factors (cf. Gerőcs *et al.* 2014).

[2]   This tradition is hallmarked by such seminal works as Szabolcsi and Laczkó (1992), the Mirror-Principle-based (Baker 1985) paper by Bartos (2000), and É. Kiss's (2002) book.

phrases with external-scope taking dependents, we take into account that the relevant XP_{dep} ceases to constitute an *each*-operator (similar cases of operator-feature percolation are described in Horvath (1997:549–550) and in Kenesei (1998, 2002)).

The paper concludes with a short summary (section 7) and an appendix, which gives the Grohmann-style analyses (Grohmann 2003) of our crucial examples.

2 N_{mat} is not a deverbal nominal

If DP_{mat} is the phrase of an ordinary noun with a scope taking dependent XP_{dep}, then the scope in question can be interpreted only relative to the predicative construction (VP_{mat}) that DP_{mat} belongs to as an argument. The reason for this is that a noun phrase, in contrast to verbal constructions, *ab ovo* does not refer to an event in which certain participants might take scope.

2.1 XP_{dep} is a possessor

2.1.1 XP_{dep} is inside DP_{mat}
Let us start with the case in which XP_{dep}, in particular, the universally quantified expression *mindkét fiú(nak)* 'both boy(DAT)', is a possessor inside the nominal expression (DP_{mat}) whose noun head (N_{mat}) it belongs to.[3]

As can be seen, the fully acceptable sentence variants presented in (1a–a') have only one meaning, according to which the *each*-quantifier must be interpreted relative to the verbal construction *elromlott* 'broke down', and not relative to the noun head *kocsija* 'one's car'. This is in spite of the fact that it would emerge as a logical possibility to express a "noun-phrase-internal" meaning (concerning the possessive relation between cars and their owners) according to which there is only one car with two owners. Because of analogous cases that will be presented later, in which the explicit presence or absence of the definite article will play a crucial role in triggering the noun-phrase-internal reading (cf. (9c), (10a,b) in 3.2.1), we also separately present this unavailable interpretation here in (1b).

(1) a. [Mindkét fiú(-nak   a)   *kocsija*]   *elromlott.*
         both   boy(-DAT the) car.POSS.3SG broke_down
         'It holds for each of the two boys that the car owned by him broke down.'
    a'. *Elromlott*   [mindkét fiú(-nak   a)   *kocsija*].
          broke_down both   boy(-DAT the) car.POSS.3SG
         'It holds for each of the two boys that the car owned by him broke down.'

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[3] In Hungarian, there are two kinds of possessors according to case marking: unmarked and explicitly case-marked ones (Szabolcsi and Laczkó 1992, 189–195), of which the latter will be referred to as NAK-possessors on the basis of its case suffix. The two kinds of possessors, as illustrated in (1a,b), are *ab ovo* freely interchangeable. An exception is that only NAK-possessors can be extracted, see (2) in 2.1.2 (cf. 6.3).

b. *[(A) mindkét fiú(-nak   a)   *kocsija*]   *elromlott.*
   the both   boy(-DAT the) car.POSS.3SG broke_down
   Intended meaning: 'The car owned by the two boys broke down. [Situation:
   there are boys A and B, and there are three cars a, b and c, of which a is
   owned by A, b by B, and c by A and B as a shared possession. Hence, there is
   a unique car which can be referred to as the one owned by both boys.]'
c. *Csak [(a) mindkét fiú(-nak   a)   *kocsija*]   *romlott*   *el.*
   only the both   boy(-DAT the) car.POSS.3SG broke_down away

The external (i.e., non-noun-phrase-internal) interpretation of the *each*-quantifier
XP_{dep} in (1a-a') can be construed as follows. The operator immediately belongs to XP_{dep}:
something ('his car broke down') is predicated of two boys. That is the meaning given in
(1a-a') above. Nevertheless, this meaning is model-theoretically the same as saying that
something ('it broke down') holds for two cars, which happen to be referred to as the
possession of a boy and the possession of another boy. According to this latter
formulation, the operator function is interpreted (still externally, i.e., relative to VP_{mat}) as
one belonging to DP_{mat}. In other words, DP_{mat} takes over its dependent's operator
function;[4] for which it also serves as evidence that the variant in (1c), in which we
attempt to give DP_{mat} an independent (focus) operator function, is unacceptable, since it
is impossible for DP_{mat} to have both a focus function and a quantifier function
simultaneously.[5]

Note that in Hungarian an *each*-quantifier that belongs to a verbal construction can
appear both preverbally, indicating its operator function, as in (1a), and postverbally,
masking its operator function, as in (1a') (see É. Kiss 1992, subsection 6.4.6.2). That is
why variants (1a) and (1a') are interchangeable, so DP_{mat} can be construed as an
(indirectly) quantified expression in both cases.

All in all, an operator function immediately belonging to XP_{dep} within an ordinary
nominal expression DP_{mat} (i) cannot be interpreted "internally" (i.e., relative to N_{mat}), but
(i') it must necessarily be interpreted "externally" (i.e., relative to VP_{mat}). This implies that
(ii) DP_{mat} cannot have an independent operator function in the information structure of
VP_{mat} but (ii') must be interpreted by taking over its dependent's operator function.

Note that the possibility of external operation interpretation mentioned in the
previous paragraph can be regarded as a manifestation of a universal rule concerning the
percolation of (arbitrary) operator features. It is this rule on which Horvath (1997, 548)
bases her theory of *wh*-feature percolation in certain Hungarian interrogative subordinate
constructions (Horvath 1997, 547–557). Kenesei applies the same rule to certain focus

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[4]   By this we do not mean that the determiner *mindkét* 'both' would syntactically belong to N_{mat} in
any sense. A piece of evidence for this claim is that a quantifier like *mindkét* does not combine with a
plural N (e.g., **mindkét kocsik/kocsijai* 'both car.PL/car.PL.POSS' are unacceptable constructions). In
contrast to this, such pluralized version of the examples in (1) as *mindkét fiú kocsijai* 'both boy
car.PL.POSS' is an acceptable noun phrase, which refers to two sets of cars. Therefore, DP_{mat} takes
over its dependent's operator function in a semantic sense; and if N_{mat} is in plural and the "inherited"
operator function is an *each*-quantifier, then it quantifies over sets. All in all, a noun head is either
immediately quantified by a quantifier-determiner that syntactically belongs to it (e.g., *mindkét kocsi*
'both car') or is quantified indirectly through a quantified argument of its (see (1a–a') in 2.1.1, and (6a–
b) and (7a–b) in 3.1.1).

[5]   Investigating such potential variants as those presented in (1b–c) in this subsection (and then
in (2b) and (3b) throughout section 2) will turn to be relevant in the light of the data presented in
sections 3-4.

constructions in Hungarian (Kenesei 1998, 223–225, 2002, 303).[6] We thus apply the rule to (some kind of) universal quantifier feature, an *each*-feature. Key components of the rule include that (i) the original position of the percolating feature should be an argument, and not an adjunct (Horvath 1997, 540–546; Kenesei 1998, 228), and (ii) it ceases to constitute an operator (of the given kind) (Horvath 1997, 549–550). As for formal details, while the quantifier determiner prefix *mind-* 'each' is morphologically attached to an element of XP_{dep}, the pragmasemantic contribution of the *each*-feature counts as if it were attached to the noun head of DP_{mat}.

2.1.2 XP_{dep} is extracted from DP_{mat}

We now apply our systematic testing protocol to the case in which the quantifier possessor XP_{dep} *mindkét fiúnak* 'both boy.DAT' is extracted (at least virtually) from the nominal expression (DP_{mat}) whose noun head (N_{mat}) it belongs to. In the case of extraction, only NAK-possessors can be used (see footnote 3); unmarked possessors cannot be extracted, as illustrated in (2a–a').

    Our observations are the same as in 2.1.1, so extraction does not cause any model-theoretically detectable differences, as shown by the essentially identical translations in (1a–a') and (2a-a').[7] That is, an operator function that immediately belongs to XP_{dep} (here extracted from DP_{mat}) (i) must necessarily be interpreted "externally" (i.e., relative to VP_{mat}), implying that (ii) DP_{mat} must be interpreted by taking over its dependent's operator function (cf. (2b)). This holds for both the case when the NAK-possessor appears preverbally (2a) and the case when it appears postverbally (2a').

(2) a. Mindkét fiú*(-nak) *elromlott*   [*a*   *kocsija*].
          both   boy-DAT   broke_down   the car.POSS.3SG
          'It holds for each of the two boys that his car broke down.'
  a'. *Elromlott*   [*a*   *kocsija*]   *tudtommal*   mindkét fiú*(-nak).
          broke_down the car.POSS.3SG with_my_knowledge both   boy-DAT
          'As far as I know, it holds for each of the two boys that his car broke down.'
  b. *Csak mindkét fiúnak *romlott*   *el*   [*a*   *kocsija*].
          only   both   boy.DAT broke_down away the   car.POSS.3SG

In other words, the extraction of XP_{dep} exerts no influence upon the Selkirk–Höhle-style *each*-feature percolation (2.1.1), as a result of which the quantifier function is taken over from the possessive argument to DP_{mat} in (2a–a'), and (2b) is ill formed, since it is impossible for DP_{mat} to have both a focus function and a (percolated) quantifier function simultaneously.

2.2 XP_{dep} is a non-possessor

Let us continue with the case in which the scope taker XP_{dep} is a non-possessor dependent of N_{mat}, which is still chosen to be an ordinary noun (in particular, *lány* 'girl').

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   [6]   Kenesei (1998) provides the rule in question (formulated according to the 1995 version of Chomsky's Minimalist Program) as a minimalist reformulation of a rule by Höhle (1982) and Selkirk (1984). Note also that both authors' relevant ideas immediately rest upon Ortiz de Urbina's theory on operator feature percolation in the Basque language (e.g. Ortiz de Urbina 1990, 1993), who follows Webelhuth (1992, ch. 4).

   [7]   It is left to future research to reveal the pragmatic and/or stylistic differences that the kind of extraction discussed implies.

We also keep on considering *each*-quantifiers. As it can reasonably be assumed that ordinary nouns have no non-possessor (thematic) arguments (cf. (17) in 4.2.1),[8] XP_{dep} is chosen here to be an adjunct, in particular the superessive case-marked expression *mindkét fényképen* 'in both photos'. Note at this point that adjuncts in the role of XP_{dep} will prove to behave differently from arguments in the same role (compare, for instance, (9a) to (3a–a') and (12b) to (5a)).

2.2.1 *XP_{dep} is inside DP_{mat}*

Just like in 2.1.1, the given non-deverbal N_{mat} is not suitable for supplying XP_{dep} with noun-phrase-internal scope, see (3a–a') with Meaning 2 and (3b).[9] Nor can XP_{dep} take external scope, as also presented in (3a–a'). The Selkirk–Höhle-style rule on *each*-feature percolation (2.1.1) accounts for this latter fact: its property (i) declares that only arguments, and not adjuncts, can serve as the starting point of feature percolation.

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[8]   In Szabolcsi & Laczkó's (1992) standard noun-phrase model, for instance, there are no postnominal positions for either arguments or adjuncts (there are only two prenominal positions for the two types of possessor). There are, however, arguments for the potential right-branching character of the Hungarian noun phrase (see Alberti *et al.* 2015), and that its right periphery can host arguments as well as adjuncts.

[9]   The appearance of *lévő* in (3b) requires the discussion of a formal difference between possessor and non-possessor dependents. Non-possessors can appear only in an attributivized form in the zone between D and N (3b) while in the post-N zone (3a) and the pre-D zone (see (20b) in section 5) there is no attributivization. Adjuncts and arguments are attributivized by means of two markers *lévő* and *való*, which look like as if they were the present participial forms of *van* 'be' derived by means of *-Ó* (see Alberti and Farkas to appear b, 793–797). Note that *le-* is a suppletive stem of *van* appearing in the form *lesz* 'will be', for instance): in the case of adjuncts, *lévő* is used (3b), while arguments are attributivized by means of the alternative form *való* (see (9b) in 3.2.1). Possessors never undergo attributivization.

It is worth comparing the fully acceptable *lévő*-construction presented in (i) to the unacceptable *lévő*-construction presented in (3b). The radical difference in acceptability can be attributed to the following facts. The *lévő*-construction in (i) is a participial construction derived from a verbal construction with the *ott van* 'there exist' [verbal modifier + verb] unit in its center (and participial constructions have their own internal scope relations). The *lévő*-constructions and *való*-constructions discussed in this paper are not construed as participial constructions, but, rather, *lévő* and *való* should be regarded as attributivizing markers ('ATTR') of two different satellite types within noun phrases, namely, adjunct-like and argument-like ones, respectively. This double role in grammar resembles the double role that Kenesei (2014, ex. (35a)) attributes to the derivational suffix *-i*. It is claimed to be not only a word-level adjectivalizer but also an attributivizer of phrases marking, for instance, certain arguments of the deverbal nominal head in such expressions as *Egyiptom líbiai támadása* 'Egypt's attack of Libya / Libya's attack of Egypt' (NB: there is a third reading available: 'Egypt's attack in Libya').

(i)   *Csak [a [mindkét fényképen ott   lévő]   lány]   csinos.*
        only   the both   photo.SUP there be.PTC girl   pretty
        '[Situation: There are two photos with girls in them but there is only one girl who appears in both photos.] Only the girl who appears in both photos is pretty.'

Note that one of the anonymous reviewers finds the version of (3b) with a definite article immediately preceding *mindkét* 'both' fully acceptable with the interpretation with XP_{dep} taking internal scope. We attribute this radical difference in grammaticality judgments to the identification of the (3b) type (with the definite article) with the (i) type (i.e., the participial construction).

(3) a. **Felkeres majd* [*a   lány* mindkét fényképen].
         visit   then   the girl both   photo.SUP
         Intended meaning 1: 'There are two photos each with a girl in it, and both
         girls will come and see you.'
         Intended meaning 2: 'There are two photos with a girl who can be found in
         both, and she will come a see you.'
     a'. **[A lány* mindkét fényképen] *felkeres majd.*
         the girl both   photo.SUP visit   then
         Intended meanings: the same as in (3a)
     b. **Csak* [(a) mindkét fényképen *lévő   lány*] *keres fel.*
         only   the both   photo.SUP ATTR girl seeks up
         Intended meaning: '[Situation: There are two photos with girls in them but
         there is only one girl who appears in both photos.] Only the girl who appears
         in both photos is pretty.'

The sentence in (4a), however, which is similar to the one in (3a) in containing the
sequence [*a lány* mindkét fényképen], can be associated with a meaning or, at least for
some speakers, with two meanings.

(4) a. *Csinos a   lány* mindkét fényképen.
         pretty the girl both   photo.SUP
         Meaning 1: 'The girl looks pretty in both photos.
         [One and the same girl can be seen in both photos.]'
         Meaning 2 available to certain speakers: 'It holds for each of the two photos
         that the girl in the photo is pretty. [Thus, both girls are pretty.]'
     b. *Csinos* [*a   lány*] mindkét fényképen.
         pretty the girl both   photo.SUP
         Meaning 1 is based on the following scope hierarchy:
             [A DEFINITE GIRL] > [BOTH PHOTOS]
         Meaning 2 is based on the inverse scope hierarchy:
             [BOTH PHOTOS] > [A GIRL (PER PHOTO)]

A plausible explanation is demonstrated in (4b). Now the superessive case-marked
expression *mindkét fényképen* 'in both photos' is not the kind of XP$_{dep}$ we are studying in
this subsection but an immediate (free) dependent of the finite predicate. Nevertheless,
the question whether our Selkirk–Höhle-style rule of *each*-feature percolation always
correctly predicts the argument–adjunct asymmetry still requires much future research. It
would go beyond the scope of this paper to systematically investigate how different types
of adjuncts behave in the role of the non-possessor XP$_{dep}$ paired with different types of
N$_{mat}$ in all contexts studied in subsection 3.2.

2.2.2 XP$_{dep}$ is extracted
As the comparison between the analogous examples in 2.2.1 and in this subsection
shows, it is irrelevant whether an adjunct non-possessor XP$_{dep}$ is inside DP$_{mat}$ (see (3a–a'))
or is extracted (see (5a–b)). The given XP$_{dep}$ can be associated with neither internal nor
external scope.

(5)   a.   *Mindkét fényképen *felkeres majd a lány.*
           both   photo.SUP   visit   then   the   girl
           Intended meaning 1: 'There are two photos each with a girl in it, and both girls will come a see you.'
           Intended meaning 2 [the same as Intended meaning 2 in (3a–a')]: 'There are two photos with a girl who can be found in both, and she will come and see you.'
   b.   **A lány felkeres majd* mindkét fényképen.
           the   girl   visit   then   both   photo.SUP
           Intended meanings: the same as in (5a)

Thus, the concluding note in 2.1 can be repeated here: the extraction of XP_{dep} exerts no influence upon the Selkirk–Höhle-style rule on *each*-feature percolation (2.1.1). The quantifier function under discussion cannot be taken over from the adjunct to DP_{mat}, independent of its position, given that XP_{dep} is linked to N_{mat} as an adjunct and not as an argument.

3 N_{mat} is a deverbal nominal (a source of ambiguity)

This section points out that if the nominal expression DP_{mat} shows some degree of verbalness, this opens up the possibility for the scope taking XP_{dep} to take scope not only externally (as was the case in section 2) but also noun-phrase-internally. This option is presumably due to an embedded verb in the depth of DP_{mat} which can be regarded as the source of its verbalness.

3.1 XP_{dep} is a possessor

3.1.1 XP_{dep} is inside DP_{mat}
The straightforward source of the "verbalness" of DP_{mat} is that it is a deverbal nominal construction (Alexiadou *et al.* 2007, 477–613).
     As shown in (6a), the scope taking *each*-quantifier that serves as a possessor can still be interpreted externally, that is, relative to VP_{mat} (see Meaning 1). With a slightly modified (less smooth) stress pattern, however, it can also be interpreted noun-phrase-internally (see Meaning 2), that is, relative to N_{mat}, or more precisely, relative to the verb *elbocsát* 'dismiss', embedded in N_{mat} (termed as V_{emb} from now on). The two translations, and especially their supplements, show that the two meanings can clearly be differentiated even model-theoretically.

(6)   a.   *Ellenzem*   [mindkét fiú(-nak *az*) *elbocsát-ás-á-t*].
           oppose.1SG   both   boy(-DAT the) dismiss-NMLZ-POSS.3SG-ACC
           Meaning 1: 'It holds for each of the two boys that I am against his dismissal. [Both should be kept.]'
           Meaning 2: 'I am against the simultaneous dismissal of the two boys. [One of them can be sent away, I do not mind.]'
   b.   [Mindkét fiú(-nak *az*) *elbocsát-ás-á-t*]   *ellenzem*.
           both   boy(-DAT the) dismiss-NMLZ-POSS.3SG-ACC   oppose.1SG
           Meaning: the same as Meaning 1 in (6a)

Example (6b), in which DP$_{mat}$ is placed preverbally, is unambiguous, at least if DP$_{mat}$ is not a contrastive topic, evoking in this way Meaning 2 (but see subsection 4.1.1, which is devoted to the investigation of such cases in which DP$_{mat}$ has an independent operator function besides the noun-phrase-internal *each*-quantifier function of XP$_{dep}$). The only available meaning is the one in which XP$_{dep}$ takes external scope. The "disappearance" in (6b) of Meaning 2 in (6a) corroborates our argumentation concerning the analogous pair of examples in (1a–a') for the following reasons. (i) It was claimed that if XP$_{dep}$ takes external scope while remaining within DP$_{mat}$, then DP$_{mat}$ takes over its dependent's operator function. On this interpretation, therefore, DP$_{mat}$ counts as a quantifier, so it can appear postverbally (6a) as well as preverbally (6b). (ii) If XP$_{dep}$, however, takes internal scope, DP$_{mat}$ cannot take over that scope from it. There are two cases. (ii.a) The case in which DP$_{mat}$ is given some operator function in the information structure of VP$_{mat}$ (independently) will be scrutinized in section 4. (ii.b) If DP$_{mat}$ remains without any operator function, then its preverbal placement is not legitimate (6b), so it must appear postverbally (6a).[10]

The two minimal pairs presented in (7a–a') and (7b–b') illustrate that there is a radical difference in readiness to take internal scope between complex-event denoting deverbal nominals (7a,b) and simple-event denoting ones (7a',b').[11] The latter type patterns with ordinary nouns (in the role of N$_{mat}$) in permitting only taking external scope for its possessor XP$_{dep}$. The reason for this is that simple-event denoting deverbal nominals, which denote "only" event types, are less verbal than deverbal nominal constructions patterning with verbal constructions in denoting complex events (Alberti & Farkas to appear a, subsection 1.3.1.2.4). The crucial factor of this difference in verbalness has to do with the choice of possessor (Laczkó 2000, 307–311). A complex-event denoting deverbal nominal has a designated type of possessor in the sense that it is obligatorily identical to a designated thematic argument of V$_{emb}$ (with the Theme, if any, and with the Agent, otherwise, according to the basic rule). In the case of a simple-event denoting deverbal nominal, however, (i) the possessor can be identical to the Agent or another thematic argument of V$_{emb}$, or (ii) it can happen to be identical to the Theme, or (iii) it can be identical to a participant that is in a loose (non-thematic) semantic relation to the given deverbal nominal. The actual interpretation of the possessor in an on-going discourse in the case of simple-event denoting deverbal nominals depends on world knowledge. In the case of the surgeon in (7b'), for instance, it is uneasy to retrieve an interpretation according to which the possessor is a Theme, that is, the surgeon is operated on. However, in a variant of the complex-event denoting sentence (7b) in which the possessor *beteg* 'patient' is replaced with the expression *sebész* 'surgeon', the only

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[10] It is highly dispreferred, but undoubtedly not totally excluded, in Hungarian that accusative case-marked Themes (and not nominative case-marked Agents) appear preverbally without any special stress pattern as (non-contrastive) topics. In the particular case, however, DP$_{mat}$ cannot be construed as a (non-contrastive) topic. This is presumably exactly due to the fact that this kind of topic can put no extra stress pattern on the internal quantifier stress pattern, so hearers have simply no reason to evoke this (*ab ovo* highly dispreferred) reading.

[11] A characteristic difference between complex-event denoting and simple-event denoting deverbal nominals is the presence or absence of purely perfectivizing preverbs (e.g. *meg*). While the former constructions obligatorily retain such preverbs (7a,b), in the latter constructions such preverbs must be omitted (7a'), sometimes with blocking forms substituting for the regularly derived nominal forms (7b'). On the systematic differentiation of these two types of deverbal nominal, see Laczkó (2000, 304–333; NB: (6) presents a complex-event denoting deverbal nominal).

interpretation is still the one according to which the possessor is a Theme (that is, two surgeons happen to be operated on).

(7)   a.   *Ellenzem*   [mindkét   nagyi(-nak   *a*)
           oppose.1SG   both   grandma(-DAT   the)
           ma   reggel   való   meg-látogat-ás-á-t].
           today   morning   ATTR   PERF-visit-NMLZ-POSS.3SG-ACC
           Meaning 1: 'It holds for each of the two grandmas that I am against visiting her this morning. [We should go nowhere. Let us stay at home.]'
           Meaning 2: 'I am against visiting both grandmas this morning. [We have time to visit at most one of them.]'

      a'. *Sokáig*   *tartott*   [(*a) mindkét   nagyi(-nak   *a*)
           for_a_long_time   lasted   the   both   grandma(-DAT   the)
           látogat-ás-a].
           visit-NMLZ-POSS.3SG
           Meaning 1: 'It holds for each of the two grandmas that her visit took a long time. [Situation: Grandma A's visit took 6 hours, and grandma B's visit took 7 hours.]'
           ~~Meaning 2~~ (not available): 'The two grandmas common visit took a long time. [Situation: Grandma A's visit took 30 minutes, grandma B's visit took 40 minutes, and when they came together, that visit took 7 hours.]'

      b.   *Ellenzem*   [mindkét   beteg(-nek   *a*)
           oppose.1SG   both   patient(-DAT the)
           ma   reggel   való   meg-operál-ás-á-t].
           today   morning   ATTR   PERF-operate-NMLZ-POSS.3SG-ACC
           Meaning 1: 'It holds for each of the two patients that I am against operating on him this morning. [Neither of them is prepared for operation.]'
           Meaning 2: 'I am against operating on both patients this morning. [We have time to operate on at most one of them.]'

      b'. *Sokáig*   *tartott*   [(*a) mindkét   sebész(-nek   *a*)
           for_a_long_time   lasted   the   both   surgeon(-DAT   the)
           mai   operáció-ja].
           today.ADJ   operation-POSS.3SG
           Meaning 1: 'It holds for each of the two surgeons that his operation today took a long time. [Situation: Surgeon A's operation took 6 hours, and surgeon B's operation took 7 hours.]'
           ~~Meaning 2~~ (not available): 'The two surgeon's common operation took a long time. [Situation: Surgeon A's operation took an hour, surgeon B's operation took 80 minutes, and when they operated on that special patient together, that operation took 7 hours.]'

Note in passing that there is no difference in (not) having internal information structure between the two types of simple-event denoting deverbal nominals presented in (7a') and (7b'). That is, there is no difference between those nouns that are derived regularly by means of the deverbal nominalizer *-ás* and those whose regular derivation is blocked by lexical forms which already exist in the language (Laczkó 2000: 335).

3.1.2 *XP~dep~ is extracted*

In order to investigate the case in which the scope taking possessor (XP$_{dep}$) of a deverbal noun (N$_{mat}$) is extracted from the phrase (DP$_{mat}$) of the noun, let us consider the variants (8a–b) below of the ambiguous sentence presented in (6a) in the previous subsection.

The variants in (8) are not ambiguous in the way in which (6a) is: they must highly preferably (8a) or exclusively (8b) be associated with the interpretation according to which XP$_{dep}$ takes external scope, simultaneously its operator character to passing DP$_{mat}$ (Meaning 1). This is presumably due to the fact that there is not enough grammatical clue for speakers to realize the information structurally neutral character of DP$_{mat}$ according to the potential reading with XP$_{dep}$ taking noun-phrase-internal scope (cf. footnote 13 and the relevant comments on (6b)). Thus the suppressed status ('??') of Meaning 2 in (8a) is accounted for. As for the full unacceptability of Meaning 2 in (8b), however, its explanation requires some observations given in section 4 and a remnant-movement-based analysis provided in section 6 (see Figure 3). The point is that an internal-scope taker XP$_{dep}$ extracted to a preverbal position should indicate not only its own internal operator function. Surprisingly, it should also indicate (instead of the remnant of DP$_{mat}$) the operator function of the whole DP$_{mat}$. This operator function, however, can be evoked only in the case of such phonetically characteristic operator functions as a focus or a contrastive topic (see 4.1.2).

(8) a. *Ellenzem   az elbocsát-ás-á-t   továbbra is*   mindkét fiúnak.
       oppose.1SG the dismiss-NMLZ-POSS.3SG-ACC still   also   both   boy.DAT
       Meaning 1 [the same as Meaning 1 in (6a)]: 'It holds for each of the two boys that I am against his dismissal. [Both should be kept.]'
       ??Meaning 2 [the same as Meaning 2 in (6a)]: 'I am against the simultaneous dismissal of the two boys. [One of them can be sent away, I do not mind.]'
    b. Mindkét fiúnak *ellenzem   az elbocsát-ás-á-t.*
       both   boy.DAT oppose.1SG   the dismiss-NMLZ-POSS.3SG-ACC
       'It holds for each of the two boys that I am against his dismissal. [Both should be kept.]'
       [the same as Meaning 1 in (6a), but see subsection 4.1.2]

Finally, if a possessor XP$_{dep}$ is extracted from a simple-event denoting deverbal nominal construction, only the reading in which XP$_{dep}$ takes external scope is available, just like in the case of their counterparts with a non-extracted XP$_{dep}$, see (7a',b') in 3.1.1. Simple-event denoting deverbal nominals therefore pattern with ordinary nouns in permitting for XP$_{dep}$ to only take external scope whether it is extracted (cf. 2.1.2) or not (cf. 2.1.1).

3.2   **XP~dep~ is a non-possessor**

3.2.1 *XP~dep~ is inside DP~mat~*

As a comparison between (9a–b) below and (6a) in 3.1.1 shows, a non-possessor XP$_{dep}$ relative to N$_{mat}$ behaves in the same way as a possessor XP$_{dep}$ does if DP$_{mat}$ is a highly verbal construction (a complex-event denoting deverbal nominal expression, for instance).

In particular, if an XP_{dep} *each*-quantifier is placed either postnominally (9a) or prenominally[12] (9b) relative to N_{mat}, it can be interpreted both externally (i.e., relative to VP_{mat}, see Meaning 1) and noun-phrase-internally (see Meaning 2) (that is, relative to N_{mat}, or more precisely, relative to the verb *felbérel* 'hire' V_{emb} embedded in N_{mat}). The noun-phrase-internal reading tends to come with a slightly modified (less smooth) stress pattern. The two translations, and especially their supplements, show that the two meanings can clearly be differentiated even model-theoretically.

(9)   a. *Ellenzem*   [*Péter*   *felbérel-és-é-t*   mindkét   munkára].
           oppose.1SG Péter   up.hire-NMLZ-POSS.3SG-ACC both   job.SUB
           Meaning 1: 'It holds for each of the two jobs that I am against hiring Péter to do it. [Péter is not allowed to work for us at all.]'
           Meaning 2: 'I am against hiring Péter to do both jobs.
           [Péter can do one of them, I do not mind.]'
   b. *Ellenzem*   [*Péter* mindkét munkára *való*   *felbérel-és-é-t*].
           oppose.1SG Péter both   job.SUB   ATTR up.hire-NMLZ-POSS.3SG-ACC
           Meaning 1: the same as Meaning 1 in (9a)
           Meaning 2: the same as Meaning 2 in (9a)
   c. *Ellenzem*   [??*(a)*   mindkét munkára *való*   *felbérel-és-ed-et*].
           oppose.1SG the   both   job.SUB   ATTR up.hire-NMLZ-POSS.2SG-ACC
           ??Meaning 1 (without the definite article): 'It holds for each of the two jobs that I am against hiring you to do it. [You are not allowed to work for us at all.]' (cf. Meaning 1 in (9a))
           Meaning 2 (with the definite article): 'I am against hiring you to do both jobs. [You can do one of them, I do not mind.]' (cf. Meaning 2 in (9a))

The version in (9c), in which the possessor of N_{mat} (is *pro*-dropped, and therefore it) does not appear as an unmarked possessor (masking the definite article of N_{mat}, see Bartos 2000: 749–752), presents the following interesting facts. (i) The definite article of N_{mat} is optional, though (i') its presence is highly preferred (at least in the authors' dialect). (ii) The fully acceptable variant with the definite article (explicitly) present can be associated only with the meaning on which XP_{dep} takes internal scope (Meaning 2). (iii) In the other version without the definite article, XP_{dep} obligatorily takes external scope (Meaning 1). (iii') This reading, however, is scarcely available ('??') even for speakers (of a microvariation) who sufficiently readily accept the kind of nominal expressions determined by the determiner of their non-possessor dependents (instead of own determiners).

If DP_{mat} is placed preverbally, the difference in acceptability judgments between the variants with the definite article (10b) and without it (10a) is less pronounced. The (slight) difference between (10a) and the articleless variant of (9c) may have to do with the strict referentiality requirements concerning the postverbal zone, in contrast to the preverbal zone (Alberti 1997) (also see subsection 6.2).

If, however, DP_{mat} is placed preverbally but an unmarked possessor determines DP_{mat} (masking the potential definite article), the resulting (single) sequence of words (10c) patterns with (9b) in the following respect. They are ambiguous between the (fully

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[12] The prenominal placement of a dependent of N_{mat} can be made possible by means of an attributivized form (Laczkó 1995: 101–110), which must be a *való*-construction in the case of arguments.

acceptable) reading on which XP$_{dep}$ takes external scope (Meaning 1) and the (also fully acceptable) one on which it takes internal scope (Meaning 2).

(10) a.   ?[Mindkét munkára *való   felbérel-és-ed-et*]   *ellenzem.*
            both   job.SUB   ATTR up.hire-NMLZ-POSS.2SG-ACC oppose.1SG
            Meaning [the same as Meaning 1 in (9c)]: 'It holds for each of the two jobs
            that I am against hiring you to do it. [You are not allowed to work for us at all.]'

     b.   [*A* mindkét munkára *való   felbérel-és-ed-et*]   *ellenzem.*
            the both   job.SUB   ATTR up.hire-NMLZ-POSS.2SG-ACC oppose.1SG
            Meaning [the same as Meaning 2 in (9c)]: 'I am against hiring you to do both
            jobs. [You can do one of them, I do not mind.]

     c.   [*Péter* mindkét munkára *való   felbérel-és-é-t*]   *ellenzem.*
            Péter both   job.SUB   ATTR up.hire-NMLZ-POSS.3SG-ACC oppose.1SG
            Meaning 1 [the same as Meaning 1 in (9a)]: 'It holds for each of the two jobs
            that I am against hiring Péter to do it. [Péter is not allowed to work for us at
            all.]
            Meaning 2 [the same as Meaning 2 in (9a)]: 'I am against hiring Péter to do
            both jobs. [Péter can do one of them, I do not mind.]'

As the comparison between the examples presented in (11) below and those in (7a',b') shows, non-possessor dependents pattern with possessor dependents in the following respect. XP$_{dep}$ can take only external scope if DP$_{mat}$ is not a complex-event denoting deverbal nominal construction, as in (9–10) above, but "only" a simple-event denoting one (with no characteristic independent operator function, see 4.2.1[13]).

(11) a.   *Sokáig   tartott* [*a   tegnap   reggeli   beszélget-és*
            for_a_long_time lasted the yesterday morning.ADJ talk-NMLZ
            mindkét témáról*].
            both   topic.DEL
            Meaning 1: 'It holds for each of the two topics that yesterday morning's talk
            about it took a long time.'
            ~~Meaning 2~~ (not available): 'The talk about both topics took a long time.'

     b.   *Sokáig   tartott* [*a   tegnap   reggeli   záróvizsga*
            for_a_long_time lasted the yesterday morning.ADJ final_exam
            mindkét tantárgyból*].
            both   subject.ELA
            Meaning 1: 'In the case of both subjects, yesterday morning's final exam
            from each of them lasted for a long time.'
            ~~Meaning 2~~ (not available): 'The final exam from both subjects lasted for a long
            time.'

All in all, in the case of such highly verbal nominal expressions as complex-event denoting deverbal nominal constructions, a non-possessor dependent can *ab ovo* take scope ambiguously, yielding ambiguous sentences in certain cases while opening up a

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[13] In the light of what is discussed in 4.2.1, Meaning2 in (11a–b) is rather to be called 'suppressed' than 'ill formed'. One of the anonymous reviewers of the paper claims that there are speakers for whom the nominal constructions in question are not significantly less acceptable in the case of a non-operator DP$_{mat}$ than in the cases discussed in 4.2.1.

special difference in other cases (with respect to the definite article of DP_{mat}). Interestingly, in the former case, both readings are fully acceptable, while in the latter case, the version without the definite article is highly marked and its acceptance is highly speaker-dependent. We will return to this topic in subsection 6.2. It can be asserted, nevertheless, that if a speaker can accept both variants, the formal difference unequivocally implies the differentiation of the reading on which XP_{dep} takes external scope from the one on which XP_{dep} takes internal scope. This is in harmony with what can be observed in other areas of grammar in which formal alternatives enable one to express semantic distinctions.

3.2.2 *XP_{dep} is extracted*

If a scope taking non-possessor of a deverbal noun is extracted from the phrase of the noun, the pattern of acceptability is essentially the same as we got in the case of scope taking extracted possessors (see subsection 3.1.2).

Let us now consider the variants presented in (12), based on the ambiguous sentence in (9a) in the previous subsection. They must preferably, or exclusively be associated with the interpretation according to which XP_{dep} takes external scope (see (12a) and (12b), respectively), by simultaneously passing DP_{mat} its operator character (Meaning 1). The reason for this is again that there is no grammatical clue for speakers to realize (the information structurally neutral character of DP_{mat} leading to) the potential reading on which XP_{dep} takes noun-phrase-internal scope (cf. footnotes 10 and 13, the relevant comments on (6b), and in particular, the comments on (8a–b)). As for the lower acceptability of extracted external-scope taking non-possessors relative to extracted external-scope taking possessors, the difference has to do with extraction itself: a possessor can more readily be extracted than a non-possessor. The difference may be attributed to the agreement relationship between possessors and possessees (compare (12a)/Meaning 1 and (12b) to (8a)/Meaning 1 and (8b), respectively).

> (12) a. *ˀEllenzem   Péter   felbérel-és-é-t*
>   oppose.1SG   Péter   up.hire-NMLZ-POSS.3SG-ACC
>   *továbbra is   mindkét munkára.*
>   still   also   both   job.SUB
>   ˀMeaning 1 [practically the same as Meaning 1 in (9a)]: 'It holds for each of the two jobs that I am against hiring Péter to do it. [Péter is not allowed to work for us at all.]'
>   ˀˀMeaning 2 [practically the same as Meaning 2 in (9a)]: 'I am against hiring Péter to do both jobs. [Péter can do one of them, I do not mind.]'
>   b. ⁽ˀ⁾Mindkét munkára *ellenzem   Péter felbérel-és-é-t.*
>   both   job.SUB   oppose.1SG Péter up.hire-NMLZ-POSS.3SG-ACC
>   Meaning: the same as Meaning 1 in (12a) (but see subsection 4.2.2)

Finally, if a non-possessor XP_{dep} is extracted from a simple-event denoting deverbal nominal construction (unless DP_{mat} is given a characteristic independent operator function such as focus or contrastive topic), only the reading in which XP_{dep} takes external scope is available (cf. 4.2.2).

In the next section we consider a subset of the data in more detail, before providing a (tabular) summary of the facts we have covered.

4 DP$_{mat}$ as an independent scope taker

As observed several times in the previous subsections, if XP$_{dep}$ with an operator function ω$_{emb}$ takes internal scope (in the information structure of V$_{emb}$), DP$_{mat}$ will not take over the given operator function of XP$_{dep}$,[14] but DP$_{mat}$ can take an independent operator function ω$_{mat}$ in the information structure of V$_{mat}$. A necessary requirement for readily realizing this condition is that ω$_{mat}$ should be a phonetically remarkably indicated operator function, in order to enable hearers to notice that not only operator function ω$_{emb}$ is present.

4.1 XP$_{dep}$ is a possessor

4.1.1 XP$_{dep}$ is inside DP$_{mat}$

The examples below illustrate that ω$_{mat}$ can readily be assigned a focus function (13a) or a contrastive-topic function (13b), with ω$_{emb}$ still chosen to be an *each*-quantifier.

(13) a. *Csak* [mindkét fiú(-nak   *az*)   elbocsát-ás-á-t]   *ellenzem.*
only both   boy(-DAT the) dismiss-NMLZ-POSS.3SG-ACC oppose.1SG
'I am against only the option according to which both boys would be sent away. [As for me, one of them can be sent away].'

  b. [Mindkét fiú(-nak   *az*)   *elbocsát-ás-á-t*]$_{CTop}$
both   boy(-DAT the)   dismiss-NMLZ-POSS.3SG-ACC
határozottan   ellenzem.
definitely   oppose.1SG
'As for the option according to which both boys would be sent away, I am definitely against that. [As for me, one of them, for instance, can be sent away].'

4.1.2 XP$_{dep}$ is extracted

The series of examples in (14) shows a surprising fact concerning sentences like those in (13). It is possible to extract XP$_{dep}$ without "losing" the semantic contributions thanks to ω$_{emb}$ and ω$_{mat}$, in spite of the fact that in the resulting constructions the extracted XP$_{dep}$ should indicate both operator functions.

   In (14a), there are two words explicitly indicating the two operator functions: *csak* 'only' indicates that ω$_{mat}$ is a focus function, while *mindkét* 'both' makes it clear that ω$_{emb}$ is an *each*-quantifier. In (14b), if it is carefully performed with a brief fall and a long rise (see É. Kiss 2002: 22–25, Gyuris 2009, Alberti & Medve 2000), the "embedded" *each*-quantifier is furnished with an unmistakably indicated contrastive-topic function.

(14) a. *Csak* mindkét fiúnak   *ellenzem   az elbocsát-ás-á-t.*
only both   boy.DAT oppose.1SG the dismiss-NMLZ-POSS.3SG-ACC
Meaning [the same as in (13a)]: 'I am against only the option according to which both boys would be sent away. [As for me, one of them can be sent away].'

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[14] This comes from component (ii) of the rule on operator feature percolation (2.1.1): once the process of percolation has taken place, the constituent referred to as XP$_{dep}$ in this paper ceases to constitute an operator (Horvath 1997: 549–550).

b. [Mindkét fiúnak]$_{CTop}$ *határozottan ellenzem   az elbocsát-ás-á-t.*
both   boy.DAT   definitely   oppose.1SG the dismiss-NMLZ-POSS.3SG-ACC
Meaning [the same as in (13b)]: 'As for the option according to which both boys would be sent away, I am definitely against that. [As for me, one of them, for instance, can be sent away].'

Section 6 will discuss how this is possible to derive (by means of assuming remnant movement, see Figure 3).

4.2   XP$_{dep}$ is a non-possessor

4.2.1 XP$_{dep}$ is inside DP$_{mat}$
As the comparison between the examples in (13) and the (almost) fully acceptable examples in (15) shows, choosing XP$_{dep}$ to be a non-possessor dependent makes it even easier to assign independent operator functions ω$_{emb}$ and ω$_{mat}$ to XP$_{dep}$ and DP$_{mat}$. The reason for this is presumably the fact that the explicit presence of the definite article that belongs to N$_{mat}$ unambiguously "selects" the meaning on which XP$_{dep}$ takes internal scope (see 3.2.1).

(15) a. Csak [a mindkét munkára   *való felbérel-és-ed-et*]
only   the both   conference.SUB ATTR up.hire-NMLZ-POSS.2SG-ACC
ellenzem.
oppose.1SG
'I am against only the option according to which you would be hired to do both jobs. [You can do one of them, I do not mind.]' (cf. Meaning 2 in (9c))

b. [A mindkét munkára *való felbérel-és-ed-et*]$_{CTop}$
the both   job.SUB   ATTR up.hire-NMLZ-POSS.2SG-ACC
határozottan   ellenzem.
definitely   oppose.1SG
'As for hiring you to do both jobs, I am definitely against that. [As for me, however, you can do one of them.]' (cf. Meaning 2 in (9c))

A similar phenomenon can be observed in (16). The "matrix" contrastive topic (ω$_{mat}$) unambiguously "selects" the meaning on which XP$_{dep}$ takes internal scope (ω$_{emb}$ is chosen to be the usual *each*-quantifier). This makes it possible for us to recognize internal information structures even in the case of such less verbal nominal expressions as simple-event denoting deverbal nominal constructions (cf. (11) in 3.2.1), at least to a certain extent ('??') and with high speaker-dependent variation.

(16) a. $^{??}$*Na például   [a tegnap   reggeli   beszélget-és*
well for_instance the yesterday morning.ADJ talk-NMLZ
mindkét témáról],   az sokáig   tartott.
both   topic.DEL that for_a_long_time lasted
'Well for instance, yesterday morning's talk about both topics, that took a long time.'

b. ??*Na például* [*a tegnapi záróvizsga*
well for_instance the yesterday.ADJ final_exam
mindkét tantárgyból], *az sokáig tartott.*
both subject.ELA that for_a_long_time lasted
'Well for instance, yesterday's final exam from both subjects, that took a long time.'

As presented in (17a–b), it also holds for certain groups of non-derived nouns that their non-possessor dependent XP_{dep} with an operator function ω_{emb} can more or less readily take internal scope if, and only if, DP_{mat} saliently carries an (independent) operator function ω_{mat}.[15] Example (17a) illustrates the group of non-derived nouns which are termed *story/picture* nouns. Such nouns are assumed to be exceptional in Broekhuis *et al.* (2012, subsection 2.2.5) in that they have thematic arguments (namely, Theme, Agent and Beneficiary, as if they belonged to an underlying verb such as *write* or *paint*). It is this obviously verbal property that presumably makes DP_{mat} sufficiently verbal for having an information structure (at least if DP_{mat} has a salient independent operator function) in which XP_{dep} can take internal scope, surprisingly readily ('?').

(17) a. ?*Na például* [*az a remek cikk*
well for_instance that the great paper
[*mindkét döntősről*]$_{Theme}$], *az nagyon tetszik.*
both finalist.DEL that very_much like
'Well for instance, that great paper about both finalists, I like that very much.'

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[15] This holds only for non-possessor dependents. If XP_{dep} is a possessor, then it can (sufficiently readily) take internal scope only in the case of such highly verbal DP_{mat} constructions as complex-event denoting deverbal nominal expressions. Otherwise, if DP_{mat} is "only" a simple-event denoting expression, as illustrated in example (i), or, as can be seen in (ii–iii), the phrase of such special non-derived nouns as those presented in (17a-b), a possessor cannot take internal scope under any circumstances, however salient an operator function DP_{mat} carries.

(i) **Na például* [(*a*) *mindkét sebész(-nek a*)
well for_instance the both surgeon(-DAT the)
mai operáció-ja], *az sokáig tartott.*
today.ADJ operation-POSS.3SG that for_a_long_time lasted
Intended meaning: 'Well for instance, the two surgeon's common operation, that took a long time. [Situation: Surgeon A's operation took an hour, surgeon B's operation took 80 minutes, and when they operated on that special patient together, that operation took 7 hours.]' (cf. (7b') in 3.1.1)

(ii) **Na például* [(*a*) *mindkét fiú(-nak a*) *gyönyörű képe*],
well for_instance the both boy(-DAT the) beautiful picture.POSS.3SG
az nagyon értékes.
that very valuable
Intended meaning: 'Well for instance, the beautiful picture [by both boys] / [of both boys] / [owned by both boys], that is very valuable.'

(iii) **Na például* [(*a*) *mindkét kedvenc irányítóm(-nak a*)
well for_instance the both favorite quarterback.POSS.1SG(-DAT the)
meccse], *az nagyon érdekes volt.*
match.POSS.3SG that very interesting was
Intended meaning: 'Well for instance, the match in which both of my favorite quarterbacks took part, that was very interesting.'

b. *ʔNa   például   [az   a   tegnapi   meccs*
    well   for_instance that the yesterday.ADJ   match
    [mindkét fiam   ellen]$_{\text{Co-Agent}}$, *az   jó   volt.*
    both   son.POSS.1SG   against   that good   was
    'Well for instance, yesterday's match in which I played against both of my
    sons, that was good.'

As for (17b), Farkas & Alberti (to appear, subsection 2.1.1.2.2) argue that there is
another special group of non-derived nouns patterning with the group of *story/picture*
nouns exactly in the characteristic respect that they have thematic roles (namely, Agent,
Co-Agent and Goal, as if they belonged to an underlying verb such as *fight* or *play (a
game)*). It can be observed in (17b) that these *fight/game* nouns also pattern with
story/picture nouns in implying that DP$_{\text{mat}}$ can take internal information structure, at least
if it has a salient "matrix" operator function (making it possible for XP$_{\text{dep}}$ to take internal
scope).

The source of the exceptional property of constructions of *story/picture* nouns and
fight/game nouns that they have internal information structure may be hypothesized to be
what was referred to above as (abstract) "underlying verbs". In this sense these groups of
nouns are similar to deverbal nominals, for which their underlying verbs are explicitly
designated as their derivational basis (also see footnote 24 in subsection 6.2).

4.2.2 XP$_{dep}$ is extracted
Let us now consider the series of examples in (18), which are word-order variants of the
examples presented in (15) in 4.2.1. They illustrate that it holds not only for possessors
but also for non-possessor arguments that they can — almost as readily — be extracted
without "losing" the semantic contributions thanks to ω$_{\text{emb}}$ and ω$_{\text{mat}}$. This is in spite of
the fact that in the resulting constructions the extracted XP$_{\text{dep}}$ should indicate both
operator functions. The same combinations of the operator function ω$_{\text{emb}}$ of XP$_{\text{dep}}$ and
the operator function ω$_{\text{mat}}$ of DP$_{\text{mat}}$ are investigated here as in the case of the extracted
possessors in (14) in 4.1.2: in both examples, an "embedded" *each*-quantifier is combined
with a "matrix" focus/contrastive-topic function (18a–b).

(18) a. $^{(?)}$*Csak* mindkét munkára *ellenzem*   a   *felbérel-és-ed-et.*
          only   both   job.SUB   oppose.1SG   the up.hire-NMLZ-POSS.2SG-ACC
          Meaning [the same as in (15a)]: 'I am against only the option according to which
          you would be hired to do both jobs. [You can do one of them, I do not mind.]'

      b. $^{(?)}$[Mindkét munkára]$_{\text{CTop}}$ *határozottan ellenzem*
           both   job.SUB   definitely   oppose.1SG
          a   felbérel-és-ed-et.
          the up.hire-NMLZ-POSS.2SG-ACC
          Meaning [the same as in (15b)]: 'As for hiring you to do both jobs, I am
          definitely against that. [As for me, however, you can do one of them.]'

A slight but significant deterioration in acceptability judgments can be observed in
(18) relative to (14) as well as to (15). This has to do with extraction in both cases. In the
absence of the agreement relationship typical of the possessor–possessee connection in
Hungarian, the syntactic affiliation of an extracted non-possessor is obviously less easy to

recognize than either that of a non-extracted non-possessor or that of an extracted possessor (cf. the comments on (12) in 3.2.2).

The variants of the less verbal nominal expressions presented in (16–17) in the previous subsection with XP_{dep} extracted (which we do not illustrate here) also show a one-degree deterioration in acceptability, yielding highly marked, very artificial constructions, which are practically unacceptable.

We conclude this section with an interim summary in tabular format of the variants systematically taken into account in the subsections of sections 2–4. What is relevant to our discussion in each variant is whether XP_{dep} can take internal and/or external scope.

N_{mat}		XP_{dep}	XP_{dep} RELATIVE TO DP_{mat}	SCOPE	
				INT	EXT
NON-DEVERBAL	ordinary noun (section 2)	Poss (2.1)	inside (2.1.1)	*	✓
			extracted (2.1.2)	*	✓
		non-Poss (2.2)	inside (2.2.1)	*	*
			extracted (2.2.2)	*	*
	story/picture	Poss	inside (4.2.1)	*	✓
		non-Poss	inside (4.2.1)	?	✓
DEVERBAL (section 3)	complex-event denoting	Poss (3.1)	inside (3.1.1, 4.1.1)	✓	✓
			extracted (3.1.2, 4.1.2)	✓	✓
		non-Poss (3.2)	inside (3.2.1, 4.2.1)	✓	✓
			extracted (3.2.2, 4.2.2)	(?)	✓
	simple-event denoting	Poss (3.1)	inside (3.1.1, 4.2.1)	*	✓
			extracted (3.1.2)	*	✓
		non-Poss (3.2)	inside (3.2.1, 4.2.1)	??	✓
			extracted (3.2.2, 4.2.2)	*?	✓

Table 1: *Scope taking possibilities of XP_{dep} depending on its grammatical function (+/–possessor), its relative position to DP_{mat} and the type of the noun head N_{mat}*

5   Multiple scope taking, hybrid scope taking

The triply ambiguous deverbal nominal construction in (19a) below demonstrates that even hybrid scope taking is permitted in the following sense. Within one and the same deverbal nominal construction (DP_{mat}), one dependent (XP_{dep}) of V_{emb} takes internal scope while another one (YP_{dep}) takes external scope (19d). That is, not only double external-scope taking (19b) and double internal-scope taking are permitted (19c).

By triple ambiguity we mean that all three readings can readily be evoked on the basis of the single word order given in (19a), but only by carefully performing three different stress patterns (on the "smooth" and "less smooth" stress patterns, see 3.1.1 and 4.1.2). The source of the three readings is the following three possible distributions of the two *each*-quantifiers between the finite verbal construction *ellenez* 'oppose' (VP_{mat}) and the embedded verb *(be)von* 'involve' (V_{emb}) in the depth of the deverbal nominal construction (DP_{mat}). First, as formulated in (19b), both quantifiers belong to the information structure of VP_{mat}. Second (19c), both quantifiers belong to the information structure of V_{emb}. Third (19d), the possessor as an *each*-quantifier (YP_{dep}) belongs to VP_{mat} (something is *opposed* in the case of both colleagues), while the non-possessor as a

quantifier (XP$_{dep}$) belongs to V$_{emb}$ (the option of *involving* someone in both projects is referred to).

(19)   a. [Mindkét kolléga   mindkét   projektbe   *való*
              both   colleague   both   project.ILL   ATTR
              be-von-ás-á-t]   *határozottan*   *ellenzem.*
              into-pull-NMLZ-POSS.3SG-ACC   definitely   oppose.1SG

       b. Meaning 1: 'It holds for each of the two colleagues that in the case of him it holds for each of the two projects that I am definitely against the option according to which he would be involved it. [Neither colleague should be involved in either project.]'

       c. Meaning 2: 'As for the option according to which both colleagues would be involved in both projects, I am definitely against that. [As for me, both colleagues can be involved, but only in one of the projects.]'

       d. Meaning 3: 'It holds for each of the two colleagues that I am definitely against the option according to which he would be involved in both projects. [Neither colleague should be involved in both projects at the same time.]'

       e. ~~Meaning 4~~ (not available): A potential meaning 'It holds for each of the two projects that I am definitely against the option according to which both colleagues would be involved in it. [In both projects, at most one colleague can be involved.]'

As for the fourth potential reading, according to which the possessor as an *each*-quantifier belongs to the information structure of V$_{emb}$ while the non-possessor to that of VP$_{mat}$ (19e), such a reading cannot be associated with the word order presented in (19a) (with any stress pattern). This suggests the following generalization. If, within a deverbal nominal construction (DP$_{mat}$), operator ω' commands operator ω'' (in the structure reflecting word order), it is excluded that the higher operator belongs to V$_{emb}$ while the lower operator to VP$_{mat}$. That is, the scopal domain of the finite verb "from outside" cannot spread lower than the upper boundary of the scopal domain of the embedded verb. In other words, the Spell-out position of an operator with a percolating operator feature must be higher than that of an operator whose operator feature does not undergo percolation (cf. the Selkirk–Höhle-style rule on *each*-feature percolation demonstrated in 2.1.1). As shown in (19b–d), however, neither is it prohibited that the finite verb acquire several arguments of the embedded verb as its own operator (19b), nor is it prohibited that the embedded verb retain all of its arguments in its own information structure (19c), nor is some hybrid distribution prohibited (19d).

Given that DP$_{mat}$ was claimed in 2.1.1 to take over the operator function of its external-scope taking dependent, the possibility for multiple external-scope taking raises the question what happens if different types of operator function belong to the external-scope taking dependents in question. Our hypothesis is that in such cases (i) it is the lowest operator function that DP$_{mat}$ takes over, but (ii) there are various constraints on potential combinations (according to which particular scope takers must be extracted, for instance). Both observations are illustrated by the fairly acceptable and fully unacceptable variants presented in (20a), in which the "lowest" operator function is the focus function (which is taken over by DP$_{mat}$, as witnessed by the *mondok nemet* 'say.1SG no.ACC' word order that is used instead of the neutral *nemet mondok* word order). Nevertheless, given that this paper is restricted to the systematic investigation of *each*-quantifiers, a thorough

investigation of (both homogeneous and hybrid) multiple scope taking would go far beyond its scope.

(20) a. Mindkét   kutató*(²-nak)   csak az Amarilla-projektbe   *való*
          both   researcher(-DAT only the Amarilla-project.ILL ATTR
          be-von-ás-á-ra   *mondok*   *nemet.*
          into-pull-NMLZ-POSS.3SG-SUB say.1SG   no.ACC
          'It holds for both reserchers that I am against only the option according to which he is involved in the Amarilla-project.'

      b. *Na például*   mindkét projektbe ugyanannak a   kollégának
          well for_instance both   project.ILL same.DAT   the colleague.DAT
          a   be-von-ás-a,   *az nem volt jó   ötlet.*
          the into-pull-NMLZ-POSS.3SG that not was good idea
          'Well for instance, involving one and the same colleague in both projects, that was not a good idea.'

The construction presented in (20b) illustrates multiple internal-scope taking: a non-possessor *each*-quantifier (XP_{dep}) and a possessor focus (YP_{dep}) take internal scope (both to be interpreted relative to V_{emb}) within a DP_{mat} (to be interpreted as a contrastive topic in the information structure that belongs to VP_{mat}). It also demonstrates that Hungarian (presumably due to its very rich morphology) makes it possible to express explicitly, by word order, all potential scope orders (see É. Kiss 1992, subsection 6.1), even within noun phrases. It is a relevant factor, however, that attributive positions, capable of hosting non-possessors (e.g., through *való*-constructions), are preceded by both prenominal possessor positions. Therefore, the language can express all potential scope orders explicitly, by word order, only at the cost of licensing a zone on the left periphery of the noun phrase preceding the DP layer (and the NAK-possessor) that is capable of hosting non-possessor operators (see Alberti & Farkas, to appear b, 2.2.1.3).

6   Syntactic structures

This section provides the syntactic structures of the types of nominal construction discussed in sections 2–5. The four subsections 6.1–6.4 tend to correspond to the four sections in question, respectively. Each discusses a syntactic structure associated with a distinguished example coming from the corresponding section (or a plausibly modified variant). Certain topics will be discussed only in connection with one figure, but the table in the Appendix presents the relevant syntactic positions of all scope takers sections 2–5 discuss. The issue of extraction, for instance, which appears two times in all four sections, will be discussed in 6.3. The question of the connection between the type of scope taking and the presence or absence of the definite article *a(z)* 'the' is dealt with in 6.2.

In earlier papers (e.g. Farkas & Alberti 2016), our point of departure was Giusti's (1996: 126) argumentation that different operator positions are to be assumed in Noun Phrases, at least for some languages. Albanian, Bulgarian, Serbian, and Italian served as the first examples. Then further Romance languages such as Romanian (Giusti 2005) and Latin itself (Giusti and Iovino 2014), and Slavic ones like Polish (Cetnarowska 2014), Slovenian (Mišmaš 2014) and Croatian (Caruso 2016) have been cliamed to belong to the group of such languages (see also Roehrs 2013). Sections 25 have pointed out that

Hungarian belongs to such languages, too. In Giusti's (1996: 126) words, "[...] functional projections [situated either immediately below [the DP-layer] or immediately above it] represent the "fine" structure of the DP, in the sense that Rizzi (1997) proposes for CPs." In Hungarian, not only one of these functional zones, but both can be found: (20b) is an excellent illustration of a zone of quantifiers above the layer DP of the definite article, while (15a–b) show quantifiers immediately following the definite article.

In these Giustian studies, however, mainly determiners, adjectives, and different further attributive and determiner-like expressions are assumed to perform operator functions, and not the types of arguments and adjuncts presented in sections 2–6. Therefore, we should extend Giusti's syntactic proposals by incorporating the assumptions of Grohmann's (2003) general cyclical partitioning to syntactic domains. That is, we should apply Grohmann's (2003, 211 (37b)), potentially cyclically repeatable, tripartite nominal structure consisting of a thematic domain (ΘΔ), an agreement domain (ΦΔ) and a discourse domain (ΩΔ), primarily to the rich word-order variations (see Figures 1–4 below). The key to handling the extremely complex morphology of the Hungarian noun phrase is to attribute certain (language-specific) intricacies to a post-Transfer process in PF in Sigurðsson's (2009) spirit.

The following observations on case form Sigurðsson's (2009:42) point of departure, among analogous other observations concerning gender, animacy and number features. (i) Even within one and the same language, there may be extensive variation in case-marking, depending on either linguistic or social variables (constructions, dialects, idiolects, etc). (ii) Where one language uses case to mark a relation, another language may opt for suprasegmental marking or marking of non-argument members of the relevant syntactic relation (prepositions, particles, verbs, complementizers, adverbs, etc). Sigurðsson is led to the conclusion that we should look for an understanding of these facts in PF, the medium that 'broadcasts' Narrow Syntax (NS). Narrow Syntax itself is a much more abstract, or 'semantic', system, which does not operate with PF visible units like inflectional features, nor does it have features that stand in simple one-to-one mapping relations to elements in the perceptible form of language. Uninterpretable features are thus claimed not to be present in syntax; instead, they are a product of the interfaces (Sigurðsson 2009:21). Formal feature values belong to PF only, i.e., they are not syntactic objects but PF 'translations' of more abstract syntactic structures and correlations. Case is nonexistent in syntax. Agreement is a PF copying process, differing radically from abstract, syntactic Agree. Accordingly, much of the 'labor' of traditional syntax happens in PF and is thus invisible to the semantic interface, SF, that is, the computation proceeds on the PF side after Transfer.

This is the point where Grohmann's (2003) tripartite prolific (clausal) domains can be associated with the current view of Transfer (Grohmann 2009:3), which is more intricate than the traditional generative view. Transfer is the 'super-operation' feeding the modular interfaces, made up of Transfer to LF (*Interpret*) and Transfer to PF (*Spell-Out*). Within Phase Theory, Transfer is assumed to apply more than once, throughout the derivation, which leads to a *dynamic* evaluation of Narrow Syntax. Basing himself of Phase Theory, Grohmann (2009:4) accepts that the relevant unit of the derivation subject to Transfer is the phase: simply put, each phase undergoes Transfer. The phase acts as a Spell-Out domain, which means that it undergoes Transfer (to both LF and PF) and then becomes impenetrable for further computation, freezing the material contained within it.

Sigurðsson's (2009) endeavor can be interpreted in this context as follows (Grohmann 2009:10). Chomsky (e.g. 2008) develops an approach according to which

uninterpretable features are deleted prior to (or as part of) Transfer. Sigurðsson pursues the 'obvious' alternative, namely, that such features are not present in syntax, but are instead a product of the interfaces. Gender, number, and case are not operative in syntax, but they rather are morphological PF interpretations of syntactic correlations. It is thus assumed and argued for that there is a sharp distinction between discrete *features* in morphology and abstract *relations* in syntax.

Before entering into the intricate details of the syntactic analyses of different Hungarian noun phrase types, let us consider the crucial part of our global picture, and its background motivation. In Hungarian, presumably as a Finno-Ugric heritage, there is a tension between (i) the (still only) partial differentiation of determination/specification from possession (Fokos 1960:232, 1963:7), seen in (10c) in 3.2.1, and (ii) the extremely high level of striving for showing scope order by word order in the discourse domain (e.g. É. Kiss 1992:139–142, 161–171, 2002:113–126). The expression 'partial differentiation' refers to the following factors. (i) The possessor either masks the definite article (10c), or, (ii) if it is a personal pronoun, it can immediately precede a demonstrative element (e.g. *a te azon/ama feltételezéseiddel* 'with that assumptions of yours'; lit. 'the you that assumption.POSS.PL.2SG.INS'). (iii) A third option is that if it is a NAK-possessor, it can immediately precede another kind of demonstrative element, which agrees with N_{mat} in number and case (e.g. *Ilinek azokkal a feltételezéseivel* 'with that assumptions of Ili's'; lit. 'Ili.DAT that.PL.INS the assumption.POSS.PL.3SG.INS', see Ihsane & Puskás 2001). The triple of these three determining elements can be construed as a unit ⟨Dem, D, Dem⟩ of neighboring heads, at least on the assumption that the possessors presented are hosted in their specifiers. The freedom on the left periphery of the Hungarian noun phrase in showing an $\omega_1 > \omega_2 > ... > \omega_N$ scope order is then restricted by a single requirement: the corresponding sequence $XP_1 > XP_2 > ... > XP_N$ of argument and adjunct phrases should be mapped onto the left periphery so that the possessor in the sequence, if any, should be pinned on the ⟨Dem, D, Dem⟩ unit appropriately. This practically results in a left periphery with a DP-layer sandwiched by two operator zones (cf. Giusti 1996:126), with this center itself serving as an operator layer performing an ordinary (i.e., non-contrastive, hence logically idle) topic function. The precise place of "pinning" depends on the kind of "push-pin", that is, the possessor type. A technical consequence of the proposal is that the given $\omega_i P$ operator-layer should be identified with the DP-layer (see Figures 1 and 4 in 6.1–6.4) or one of the DemP-layers (see Figures 2 and 3) of the Hungarian noun phrase. In other words, a D or Dem position is assumed to host a Top, Q or Foc operator if its specifier hosts a phrase performing such an information-structural function.[16]

What is then transferred to LF is trivially the $\omega_1 > \omega_2 > ... > \omega_N$ scope order. The Sigurðssonian conceptualization of the Grohmannian discourse domain is useful in the course of transferring the sequence of phrases to PF, which gives a fairly eclectic impression if viewed otherwise. Besides the numerous phonetic realizations of possessors, it is the attributivized appearance of scope takers between the two main

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[16] If one's theoretical framework cannot be reconciled with the idea of such multifunctional determining heads, one should assume the — structurally more complex — approach that the string of layers of the operators $\omega_1 > \omega_2 > ... > \omega_N$ freely combines with the layers of the aforementioned ⟨Dem, D, Dem⟩ unit. This approach should then account for the close link between the possessor role and this determining center by means of additional rules. It is also worth noting at this point that even in the structurally less complex approach of the main text it is admitted that a DP- or DemP-layer can occur with no operator function (i.e., with an empty specifier).

pillars D and N, demonstrated in footnote 9, that presents the major complication. A syntactic approach in which accounting for such intricacies provides the point of departure (e.g., how an argument base-generated on the right periphery gets an attributivized form between D and N, and how it then gets rid of this form in the pre-D zone) is likely to lose sight of the key tendencies. The aforementioned problem, for instance, can be solved in the Sigurðssonian approach by simply saying that Transfer is sensitive to the syntactic relation that a given non-possessor scope taker happens to be between D and N and "broadcasts" that non-possessor in an appropriately attributivized form (cf. (21a–a') in 6.1). A richer system of "broadcasting" some components of the Hungarian DP structure (for whose precise phonological realization uninterpretable features are responsible in pre-Sigurðssonian minimalist models) will be given in 6.2.

6.1   The structure of expressions of ordinary nouns with an (external-) scope taking XP$_{dep}$

This subsection presents the syntactic structure of the variant of (1a) in 2.1.1 with an unmarked possessor, repeated here as (21b). The importance of this structure as a first detailed illustration lies with the fact that it is this simpler structure that the thematic arguments and certain adjunct types appearing due to the verbal basis in the case of deverbal nominals (21c) nestle themselves into (see 6.2–6.4). The simplest hypothesis is that (i) ordinary nouns have no thematic roles, so they lack a Grohmannian thematic domain ($\Theta\Delta$), but (ii) their dependents are base-generated in an agreement domain ($\Phi\Delta$) preceded by the N head (21a), and (iii) their prenominal appearance is regarded as performing some information-structural function in the corresponding discourse domain ($\Omega\Delta$) (21a'). As this function is no more than some kind of foregrounding, it is to be regarded as a non-contrastive topic, a function whose performing, relative to a non-operator position, implies no change in model-based truth evaluation. Nevertheless, it is to be regarded as an operator function, not only in order to retain the optimally simple view of the noun phrase structure with a head dividing it into a discourse domain and an agreement domain, but also on account of the relation of topic status to discourse salience. Examples (21a',a'',b) present all the three Ω-positions of possessors discussed in the introduction to section 6.[17] The Ω-position of non-operators, whose attributivization problem was mentioned there, is also illustrated here, in (21a').

(21) a. [*a két szép régi kocsija*$_N$ ⟨$_\Phi$[a nagyinak] [a ház mögött]⟩]
       the two nice old car.POSS.3SG the grandma.DAT the house behind
       'the two nice old cars of the grandma behind the house'

    a'. ⟨$_\Omega$ [a nagyinak] [a ház mögött lévő]⟩ *két szép régi kocsija*$_N$]
       the grandma.DAT the house behind ATTR two nice old car.POSS.3SG
       'the grandma's two nice old cars behind the house'

    a''. ⟨$_\Omega$ a [te]⟩ *két szép régi kocsid*$_N$ ⟨$_\Phi$[a ház mögött]⟩]
       the you$_{Sg}$ two nice old car.POSS.2SG the house behind
       'your$_{Sg}$ two nice old cars behind the house'

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[17] The counterpart of (21a'') in which the personal pronoun is not foregrounded by occupying an Ω-position is a version constructed simply by omitting the pronoun in question. That is, we should have recourse to *pro*-drop. The *pro* itself can be regarded as occupying a position in $\Phi\Delta$.

b. [Mindkét fiú *kocsija*] *elromlott.*
  both boy car.POSS.3SG broke_down
  'It holds for each of the two boys that the car owned by him broke down.'

c. Na például [mindkét évben mindkét konferenciára mindkét kutatónak
  well for_instance both year.INE both conference.SUB both researcher.DAT
  az ugyanabból a projektpénzből való *elküldése*],
  the same.ELA the project_money.ELA ATTR send-NMLZ-POSS.3SG
  az egyszerűen képtelenség.
  that simply impossibility
  'Well for instance, it is simply impossible that in both years we send both
  researchers to both conferences from one and the same project money.'
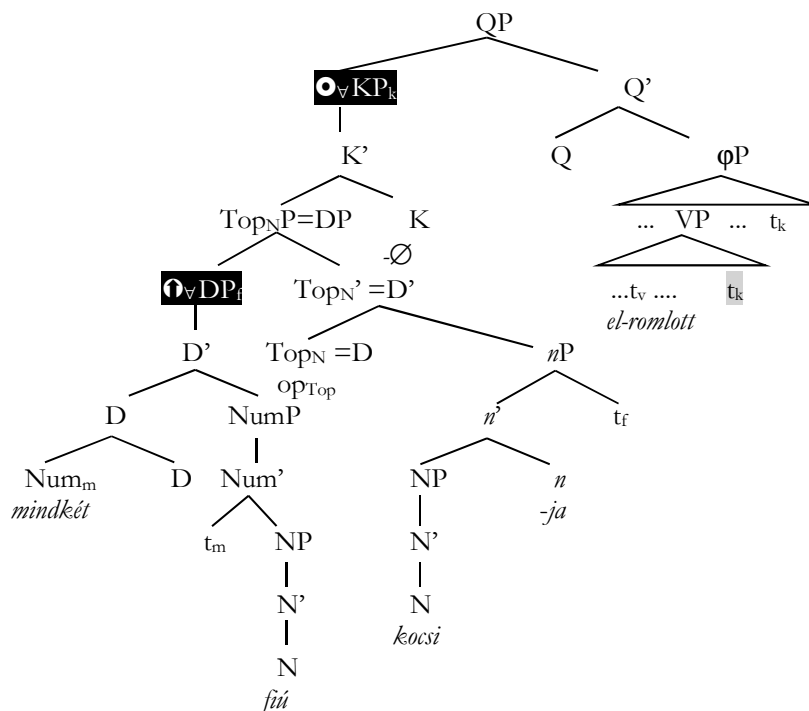
Figure 1: *Syntactic structure of (21b)*[18]

We have constructed the layer hierarchy of the structure of the nominal expression in Figure 1 on the basis of the proposals by Bartos (2000) and É. Kiss (2002:151–180). However, it has required notational and derivational modifications to adapt it to Grohmann's (2003:227–228) two basic generalizations over derivational dependencies within tripartite clause-like cycles: (i) cycle-internal movement always targets the next higher domain (according to this order: $\Omega\Delta\leftarrow\Phi\Delta\leftarrow\Theta\Delta$), and (ii) movement across cycles targets a position within the same type of domain in the next higher cycle (i.e., $\Omega\Delta\leftarrow\Omega\Delta$, $\Phi\Delta\leftarrow\Phi\Delta$, $\Theta\Delta\leftarrow\Theta\Delta$).

Bartos (2000:678–683), by reference to Baker's (1985) Mirror Principle, proposes layers between D and N essentially on the basis of the assumption that morphology is frozen syntax, that is, "today's morphology is yesterday's syntax" (Givón 1971:413). The

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[18] The internal structure of the complement of Q, i.e., the clausal structure, is not elaborated, because in this paper we do not commit ourselves to a definite model of Hungarian clausal syntax. The following new symbols appear in Figures 1–4. $\bullet_\forall$: quantifier, percolating *each*-feature: $\cap_\forall$.

morphology of the noun head in (22b) suggests that (i) a PossP-layer builds upon the NP-layer, reflecting the change resulting in a "possessed noun", and (ii) then comes a NumP-layer for numeral information, and (iii) then an Agr$_N$P-layer, given the agreement between possessor and possessee in number and person. In Figure 1, (i) PossP is referred to as nP on the analogy between the (non-thematic) argument generating function of Poss/n and the Agent-licensing function of v,[19] (ii) there is no NumP-layer as the singular number does not require its projection, (iii) there is no agreement layer because this kind of agreement is asymmetrical, or defective, in the sense that in possessive structures with non-pronominal possessors there is no agreement (22b') (Bartos 2000:678–683).

(22) a. *Na például ...,   azok elvesztek.*
       well for_instance   those lost.3PL
       'Well for instance, ..., that have lost.'

    b. [az$_D$ én] / *[én/nekem Ø$_D$] / *?[nekem a$_D$] gyönyörű gomb-ja-i-m$_N$
       the I   I /I.DAT   I.DAT   the beautiful button-POSS-PL-1SG
       Intended meaning: 'my beautiful buttons'

    b'. a lányok(nak a) gyönyörű [gomb-ja-i   / *gomb-ja-i-k]$_N$
        the girl.PL.DAT the beautiful button-POSS-PL-1SG / button-POSS-PL-3PL
        Intended meaning: 'the girls' beautiful buttons'

    c. *[a$_D$ Peru] /ˇ[Peru Ø$_D$]/*?[Perunak Ø$_D$] /ˇ[Perunak az$_D$] egykori kincs-e-i
       the Peru / Peru   / Peru.DAT   /Peru.DAT the one-time treasure-POSS-PL
       Intended meaning: 'Peru's one-time treasures'

Our tree building method observes a principle of D-visibility.[20] This principle declares that either the specifier or the head of the DP must be spelled out. In Figure 1, for instance, the unmarked possessor should be raised into the DP-layer (also see Figure 4), the default filler of which is the definite article *a(z)* 'the' (see Figures 2 and 3; see also footnote 17). Figure 1 also presents another application of the principle: within

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[19] The use of nP in Hungarian was also proposed by Giuliana Giusti (p.c., 25 May 2016).

[20] Its application to Hungarian on the basis of a proposal by Alexiadou (2004:47) is convincingly argued for by Egedi (2015:6), among others. Something similar, namely that economy forces in some languages to have a zero D when Spec,DP is occupied by an overt element and to have a filled D when Spec,DP is non-overt or not filled at all, is proposed in different works by Giusti on Romanian (e.g., Giusti 2005:37) as an Economy Principle. We also argue (without illustration, due to space limitations) that if one accepts the tentative hypothesis, sketched in the introduction to section 6, according to which Spec,Dem$_{ez/az}$P, Spec,DP and SpecDem$_{e(z)}$P host the three types of possessor, the principle of head-visibility also holds for the Dem$_{e(z)}$P-layer (i). The other two DemP-layers shown in (i) in their order on the left periphery of the Hungarian noun phrase can be characterized by the following weaker variant of head-visibility: of Spec,DemP and the corresponding Dem head, at least one should be realized phonetically. That is, the Dem head can be null, or alternatively, both the Dem head and Spec,DemP can be phonologically overt. Note that here the stricter head-visibility principle would yield systematic ambiguity due to the homophony of the function word *az*. For instance, *Ilinek az őze* 'Ili.DAT *az* deer.POSS.3SG' would be ambiguous between the readings Ili's deer / that deer of Ili's, so the latter should be expressed as follows: *Ilinek az az őze*. At the same time, however, it also holds for the entire determiner system that at most one Dem (of the three potential demonstrative heads belonging to the same N) can be realized phonetically, namely the rightmost one, with alternative variants being ill-formed or having a pejorative connotation.

(i)   [... Dem$_{ez/az}$ D$_{a(z)}$ Dem$_{e(z)}$ ... Dem$_{ezen/azon/eme/ama}$ ... N ...]
           this/that   the   this   this/that/this/that

the structure of the unmarked possessor *mindkét fiú* 'both boys', the quantifier-determiner *mindkét* 'each' is raised into the internal DP-layer.[21]

Let us return to the (22a+b/b'/c) possessor variants. The distribution of grammaticality judgments indicates that the position of the unmarked non-pronominal possessor, which masks the definite article, precedes that of the personal-pronominal possessor to the right of the definite article, and is preceded by the position of the NAK-possessor to the left of the definite article. It is a tempting tentative hypothesis to identify the latter two possessor positions with specifiers of demonstratives (see footnote 21), since in this way we obtain the following highly coherent and uniform theory. There are a few determiner heads, including the D head itself, scattered on the left periphery of the noun phrase, and they host the distinguished dependent of N, the possessor, in order to supply it, minimally, with a (logically idle, non-contrastive) topic function. We hypothesize that this accommodation occurs on varied, diachronically accidental, conditions concerning the form of the possessor. Hence, the Sigurðssonian approach that they should be handled as Hungarian-specific PF phenomena, rather than something to be explained in Narrow Syntax, is the most promising choice.

Our last remark on Figure 1 concerns the operator type of the unmarked possessor in Spec,DP. It is not referred to as a quantifier, in spite of the fact that the determiner *mindkét* 'both' ('each.two') belongs to it. This analysis is nothing else but the technical realization of the Selkirk–Höhle-style *each*-feature percolation (2.1.1), as a result of which the *each*-quantifier function of the possessive argument XP_{dep} is taken over by DP_{mat}, through which DP_{mat} can serve as a quantifier in the information structure that belongs to (the finite verb of) the clause. One might think that this deprivation of the operator feature from XP_{dep} yields a situation in which XP_{dep} is not a legitimate inhabitant of the Grohmannian $\Omega\Delta$ any longer. That is not the case, however. Exactly due to its prenominal position, DP_{mat} still functions as a foregrounded element, practically a non-contrastive topic (in a pragmatic topic-predicate tier, which is partly independent of the logico-semantic relevant-set based operator functions, see Szeteli & Alberti 2017). If the multifunctional D head hosts a topic operator op_{Top}, the specifier of its phrase will be perfectly suitable for hosting XP_{dep}.

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[21] The minimal pair in (i–ii) provides evidence for the raising of *mindkét* 'both' (or at least the prefix *mind-*) into the DP-layer. The finite verb indicates that the object is a definite expression, which is explicitly indicated in (ii) by the presence of the definite article *a(z)* 'the', too. In (i), either the definite article or *mindkét* must be present, but not together, at least they cannot appear adjacent to each other (cf. (ii)). Therefore, in the corresponding variant, *mindkét* takes over the function of the definite article, in the way that it is raised into the DP-layer. As shown in (ii), however, this requires adjacency; if an attributive, for instance, is inserted between the position of the definite article and that of the original position of *mindkét*, the raising in question is barred. Note in passing that attributives are *ab ovo* not capable of taking over the function of the definite article, given that they need not include elements containing determiners.

(i) *Továbbküldöm* [**(a / mind-)két tegnap kapott emailt*].
    forward.1SG   the / each-two   yesterday received email.ACC
    'I am going to forward the two emails I received yesterday.'
    'I am going to forward both emails I received yesterday.'

(ii) *Továbbküldöm* [**(a) tegnap kapott mindkét / két emailt*].
     forward.1SG   the yesterday   received each.two/ two email.ACC
     'I am going to forward both / the two emails I received yesterday.'

6.2   The structure of complex-event denoting deverbal nominal constructions with a scope taking XP$_{dep}$

The subsection concentrates on the characteristic property of complex-event denoting deverbal nominal constructions that they can have internal information structure. As discussed, in order to capture this special capability, we need an extended DP structure that integrates the morphological (Mirror-Principle-based, Baker 1985) Hungarian traditions (Szabolcsi & Laczkó 1992, Bartos 2000, É. Kiss 2002) with the cartographic Split-DP Hypothesis (Giusti 1996, Ihsane & Puskás 2001) by assuming noun-phrase-internal operator layers (see Grohmann 2003:211 (37b), Alberti & Farkas 2015, and Alberti *et al.* 2017).

Figure 2 presents a syntactic structure constructed in this spirit with its noun-phrase-internal quantifier layer, referred to as Q$_N$P. It represents the structure of a variant of (9b) in 2.1.1, repeated here as (23).

(23)   *Ellenzem*   [*Ilinek   a*   mindkét munkára *való   felbérel-és-é-t*].
          oppose.1SG Ili.DAT the both   job.SUB ATTR up.hire-NMLZ-POSS.3SG-ACC
          'I am against hiring Ili to do both jobs. [She can do one of them, I do not mind.]'

Let us consider the relevant details of the syntactic structure in Figure 2. As the given DP$_{mat}$ is a highly verbal nominal expression, namely a complex-event denoting deverbal nominal construction, an appropriately extended VP-structure based upon V$_{emb}$ as its head is assumed to be taken by the nominalizer *-Ás* in the head N$_{mat}$.[22] We consider this embedded verbal construction located inside DP$_{mat}$ to be the "scope-semantic" source of the internal scope (noting that it is in the absence of such a semantic source that the nominal expressions headed by ordinary nouns discussed in section 2 are not capable of functioning as internal quantifiers). What makes it possible for an internal

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[22] The thematic domain (ΘΔ) of this clause-like "verbal hemisphere" is essentially analyzed in Surányi's (2009:234, 237, 238) sophisticated hierarchical model as follows. Besides the customary VP layer ("containing oblique, goal and theme arguments, as well as internal stative locatives") and *v*P layer ("hosting the external argument subjects, and probably also dominating source and orientation of trajectory adverbials"), we need a position for preverbs and other verbal modifiers "below the base position of those elements that cannot "incorporate" [into the verb] and above the base position of those that can." The given layer is termed PredP by Surányi, because the (phrasal) verbal modifier and the verb form a complex predicate, but we term this thematic layer θ$_{Obl}$P, given the following typical relation between the preverb and an oblique argument: if a preverb has a compositional meaning contribution, it characterizes the relation between the kind of movement described by the VP and a Goal, Source or Location described by the given oblique argument. In Figure 2, f and m are the indices marking the entire phrase of the preverb and, within this phrase, the Goal, respectively.

As for ΦΔ, the embedded V projects (at least) up to Asp(ectual)P, but it has no projection containing T(ense)P (see Alberti 2004, É. Kiss 2006, 2008), because deverbal nominal constructions obligatorily contain even exclusively-perfectivizing preverbs (see Laczkó 2000:314–316) but they express no tense. In our Sigurðssonian approach, the arguments should assign Φ-functions in a very simple way. An argument in Spec,φ$_{Cen}$P is marked in Narrow Syntax as a "central" or "distinguished" participant. Then such Hungarian-specific intricacies as its unmarked or default-case marked status (the latter status characterizes the NAK possessor) and the somewhat defective agreement discussed in 6.1 should be accounted for in PF. Other arguments are marked as "non-central" in Narrow Syntax, and hypothesized to obtain, in PF, a case marker given for them as a default stored in the mental lexical network feeding ΘΔ in NS (Lohndal 2012).

information structure to be hosted is that the Hungarian noun-phrase structure is (even) more flexible than hypothesized earlier.

In the particular nominal expression in Figure 2, V_{emb} has two arguments (besides the preverb), which are raised into, and can be hosted in, the nominal hemisphere (cf. Dékány 2014). As discussed in 6.1, the nominal hemishpere functions as a reduced Grohmann-cycle with domains $\Phi\Delta$ and $\Omega\Delta$. Here one of the arguments can appear as a possessor. Namely, the Theme or the Agent argument is designated for this role depending on the particular derivation,[23] which is a grammatical function typical of dependents of noun phrases. The possessor is first raised into Spec,nP, whose layer is responsible for checking (the mere fact of) possessedness, and then, being a NAK-possessor, it raises further to a pre-D layer reserved for possessors, termed here as DemP (see 6.1).[24] The other argument is an oblique-case-marked noun phrase, which is also hosted in the prenominal zone, witnessed by its attributivized form (in a *való*-construction). We follow Ihsane & Puskás (2001:45), whose approach is based on Aboh's (1998) ideas, in assuming that (potentially iterable) functional projections can be inserted between the DP-layer and the NP/nP-layer in the Hungarian DP-structure. In this way we get an optimally simple Grohmannian formula with the two domains $\Phi\Delta$ and $\Omega\Delta$ divided by the N head itself, which expands Ihsane & Puskás's original functional zone to the leftmost, pre-D, periphery. This expansion is at the cost of ignoring the difference that in the zone between D and N, but not in the pre-D zone, a non-possessor is spelt out in an attributivized form. This phenomenon might be accounted for by assuming that the two zones belong to $\Omega\Delta$s of two Grohmann-cycles, and the higher $\Omega\Delta$ is fed by phrases coming from the lower $\Omega\Delta$ ($\Omega\Delta\leftarrow\Omega\Delta$). The Sigurðssonian approach, however,

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[23] It is this rule (see Laczkó 2000:307–308, 379, Alberti & Farkas to appear a, 1.3.1.7) that explains the observation that a possessor XP_{dep} can never have internal scope if (i) DP_{mat} is a (non-complex-event denoting) deverbal nominal construction and the semantic role of the given possessor is (chosen to be) different from the role designated in the given derivation (see ex. (i) in fn. 16 in 4.2.1), or (ii) N_{mat} (in the center of DP_{mat}) is a non-derived noun (see (ii-iii) in fn. 16 and (1b–c) in 2.1.1). Thus we claim that XP_{dep} can have noun-phrase-internal scope on condition that a syntactic operation associates it with an argument within VP_{emb}. This raises the question whether VP_{emb} "develops" in the complement of N_{mat} if N_{mat} is less verbal than a complex-event denoting noun (see (9–10)) but more verbal than an ordinary noun. Such groups of nouns are identified here as simple-event denoting deverbal nominals (in the case of which the head V_{emb} is unequivocally determined in the given derivation) and *story/picture* nouns and *fight/game* nouns (in the case of which the abstract "underlying verb" referred to in 4.2.1) can serve as V_{emb}. As the comparison between the series of examples presented in (11), in which XP_{dep} cannot be interpreted as an internal-scope taker, and those presented in (16–17), in which XP_{dep} does not totally reject ('?/??') internal scope, demonstrates, these groups of nouns are Janus-faced. Under special circumstances (see the disambiguated constructions in (16-17)), such syntactic constructions seem to be available to speakers as a VP_{emb} construction in the complement of N_{mat} (essentially in the same way as shown in Figure 2); the data in (16–17) can be accounted for in this way. Otherwise (see (11)), however, the fact that N_{mat} hosts a lexical noun implies that VP_{emb} does not develop at all in syntax, or it develops but the layer of N_{mat} forms a barrier which the aforementioned potential syntactic operation to associate VP_{emb}-internal positions with positions in the nominal "hemishpere" of DP_{mat} is not capable of penetrating.

[24] In earlier models (Szabolcsi & Laczkó 1992, Bartos 2000), NAK-possessors raise to Spec,DP, but the data in (22) in 6.1 suggest that we need a finer-grained layer structure if we also intend to satisfy the principle of D-visibility. As discussed, the "cheapest" solution is to identify Spec,$Dem_{Az}P$ with the operator position of the NAK-possessor, by inserting the operator in the Dem head. As for its pragmasemantic content, the possessor is simply foregrounded in order to obtain discourse-salience; it undergoes no change with any consequence for model-based truth evaluation.

enables us to opt for a much simpler and more elegant solution with one $\Omega\Delta$ in the nominal hemisphere: on the basis of the abstract narrow syntactic relations 'dominates DP' and 'dominated by DP', it is calculated in the PF component whether a non-possessor should appear in an attributivized form or not. The "broadcasting" of a possessor is an analogous story: it is also its relative narrow syntactic position with respect to DP that decides how its morphological form is calculated in PF.

Table 2 presents a broader picture of how the abstract NS-relations 'dominates DP', 'dominated by DP', 'dominates N' and 'dominated by N' determine the post-Transfer realization of the language-specific details of the Hungarian DP structure for whose phonological realization NS-internal uninterpretable features must be responsible in pre-Sigurðssonian minimalist models (see fn. 22 on the variation of demonstratives). A Sigurðssonian description of the (non-trivial) agreement system is postponed to future research (see (22) in 6.1).

	pre-DP zone	zone between DP and N	post-N zone
case marking of possessor XP$_{dep}$	marked by NAK	unmarked	marked by NAK
marking of non-possessor XP$_{dep}$	unmarked	attributivized	unmarked
form of approximative Dem	*ez* (agreeing in case and number)	*e(z)* / *eme* / *ezen* (non-agreeing)	—
form of distal Dem	*az* (also agreeing)	*ama* / *azon* (non-agreeing)	—

Table 2: *Post-Transfer realization in PF of some language-specific uninterpretable details of the Hungarian DP structure*
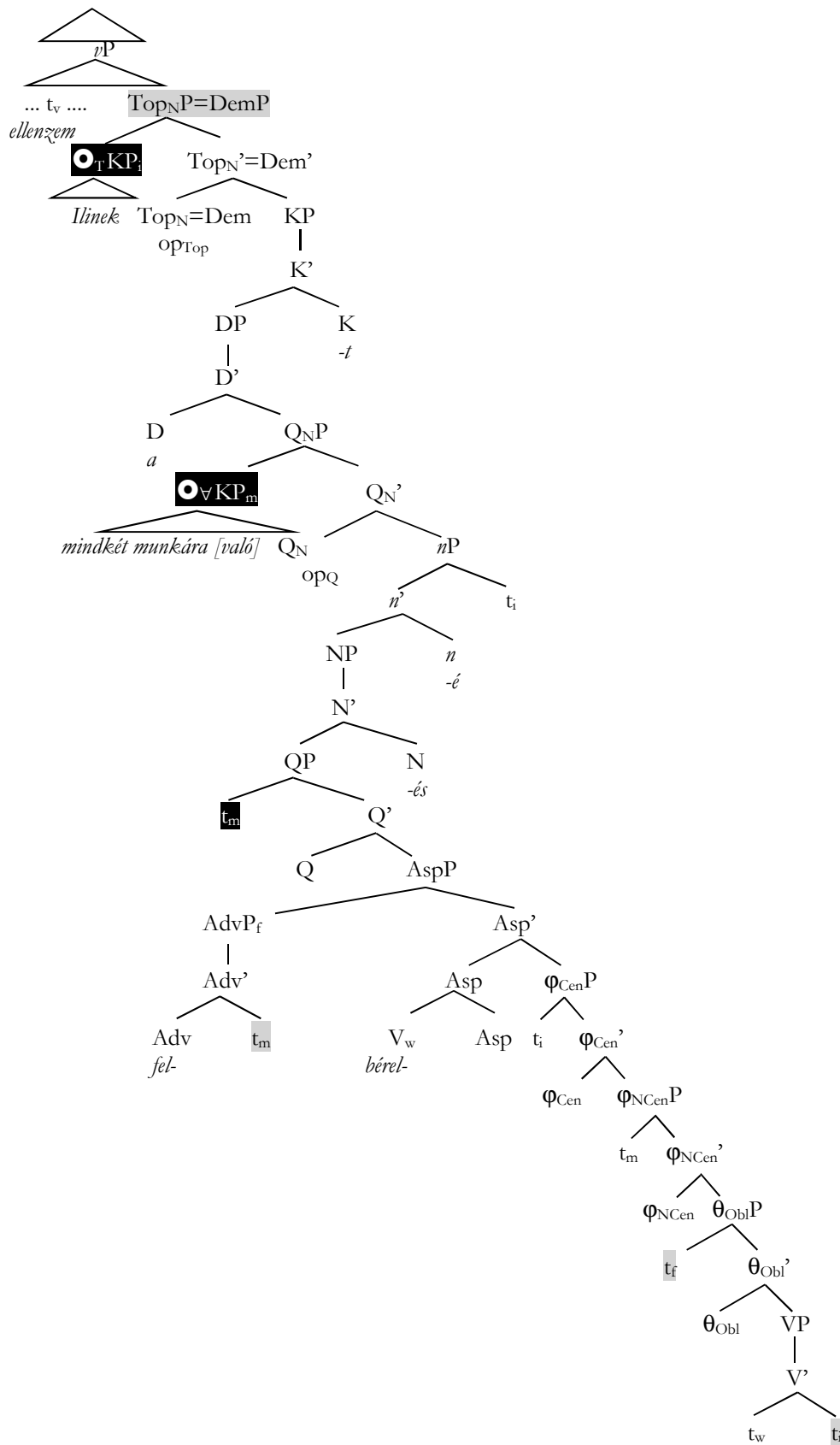
Figure 2: *Syntactic structure of (23)*

Let us now return to the system in 3.2.1 of ambiguous nominal expressions (9a,b and 10c) and unambiguous ones (9c and 10a,b). We repeat here (9a) as (24a–a') and (10a–b) as (24b–b') with the difference that in (24) simple stress marks help the reader to differentiate the readings with an external-scope taking quantifier (24a,b) from those with an internal-scope taking one (24a',b'). The symbols '~' and '#' mark unstressed words and obligatory pauses between words, respectively, according to the authors' own native speaker intuition (the precise prosodic differences, if any, are not yet known, see e.g. Surányi & Turi 2017). See also the relevant rows of the table presented in the Appendix.

(24) a. *Ellenzem*   [*Péter   felbérel-és-é-t*   #   'mindkét munkára].
      oppose.1SG Péter up.hire-NMLZ-POSS.3SG-ACC both   job.SUB
      'It holds for each of the two jobs that I am against hiring Péter to do it. [Péter is not allowed to work for us at all.]'

   a'. *Ellenzem*   [*Péter   felbérel-és-é-t*   "mindkét   munkára].
      oppose.1SG Péter up.hire-NMLZ-POSS.3SG-ACC both   job.SUB
      'I am against hiring Péter to do both jobs. [Péter can do one of them, I do not mind.]'

   b. ?['Mindkét 'munkára *való   felbérel-és-ed-et*]   *ellenzem.*
      both   job.SUB ATTR up.hire-NMLZ-POSS.2SG-ACC oppose.1SG
      Meaning [the same as Meaning 1 in (9c)]: 'It holds for each of the two jobs that I am against hiring you to do it. [You are not allowed to work for us at all.]'

   b'. [*A* "mindkét ~munkára *való   felbérel-és-ed-et*]   "*ellenzem.*
      the both   job.SUB ATTR up.hire-NMLZ-POSS.2SG-ACC oppose.1SG
      Meaning [the same as Meaning 2 in (9c)]: 'I am against hiring you to do both jobs. [You can do one of them, I do not mind.]'

   c. *Ellenzem*   [*a (te)   felbérel-és-e-d-et*   mindkét   munkára].
      oppose.1SG the you up.hire-NMLZ-POSS-2SG-ACC both   job.SUB
      Meaning 1: 'It holds for each of the two jobs that I am against hiring you to do it. [You are not allowed to work for us at all.]'
      Meaning 2: 'I am against hiring you to do both jobs. [Péter can do one of them, I do not mind.]'

This distribution of data with respect to (un)ambiguity can straightforwardly be accounted for by hypothesizing that there is (only) a partial difference between the unmarked-possessor dependent and the attributivized non-possessor dependent. Namely, in Hungarian the former *must* (24a–a'), while the latter *can* (24b–b'), optionally be raised into the DP-layer, masking the definite article in this way. The obligatory raising of the unmarked possessor yields ambiguity in the aforementioned ambiguous nominal expressions: one and the same form needs to be associated with the two possible interpretations that V_{emb} and V_{mat} offer via their information structures. The optional raising of the attributivized non-possessor, however, opens up the possibility for associating the two potential readings with different phonetic forms. Of the alternatives, it is plausible that the reading on which XP_{dep} takes internal scope (see (24b), cf. (10b) and (9c/Meaning 2)) is associated with the alternative in which the definite article is present: the definite article "hides" the scope taking XP_{dep} from VP_{mat} "outside", making possible for XP_{dep} only to take internal scope. In other words, if D is realized phonetically, the Selkirk–Höhle-style *each*-feature percolation (2.1.1) is barred. Otherwise, however, XP_{dep} is not hidden from VP_{mat} and its information structure. That is, if

Spec,DP is realized phonetically, nothing bars the process of operator feature percolation, but $\Omega_N\Delta$ is open for VP$_{mat}$.

As mentioned in 3.2.1, there is microvariation with respect to how readily speakers raise an attributivized non-possessor into the DP-layer. Certain speakers seem to categorically reject this kind of raising, insisting that only the unmarked possessor can (and must) be raised into the DP-layer. For them, thus, the option discussed in the previous paragraph does not exist. Nevertheless, they pattern with speakers of the more liberal variety in judging the nominal expressions referred to as unambiguous in the previous paragraph ((24b–b'); (9c) and (10a,b)) as unambiguous. This suggests that even the latent option disambiguates the given type of nominal expression with the definite article present.

The ambiguous status of the word order in (24c) suggests that, unfortunately, it is not a general rule that the definite article "hides" the scope taking XP$_{dep}$ from VP$_{mat}$ "outside". The given word order can (also) be associated with an external scope taking XP$_{dep}$. This fact must be related to the fact that D-visibility makes it obligatory for the definite article to appear (as shown by (22b), pronouns are not suitable for filling Spec,DP). The "shading" effect only holds for "optional" definite articles (24b–b'). The intricate picture can be explained with reference to principles of economy, an integral part of minimalist models.

The competing structures are presented in Table 3. The crucial economy assumption is that there are three definite articles in Hungarian, of which 'AZ' is not permeable for percolating features while '∅' and 'az' are permeable (on the empty realization of the Hungarian definite article, see Alberti *et al.* 2017). They are strictly ordered with respect to economy in this way: [AZ > ∅ > az] (i.e., AZ is the most economical, that is, the cheapest, alternative). As for PF, 'AZ' and 'az' are spelled out as *a(z)* while '∅' is an empty allomorph (∅). This (undoubtedly stipulative) assumption can be motivated by saying that the order is intended to express the difference in permeability (*a(z)* vs. ∅), but D-visibility obscures the picture. Note that (24b) reveals a surprising pattern: it is worth opting for the preferred '∅' (at least for certain speakers) even at the cost of placing a non-possessor in Spec,DP; which is a possibility left open when there is no possessor to occupy Spec,DP.

	scope	Spec,DP	AZ	∅	az
(24a)	external	poss.	*: percolation *: D-visibility	✓	*: D-visibility
(24a')	internal	poss.	*: D-visibility	✓	*: D-visibility
(24b)	external	?non-poss.	*: percolation *: D-visibility	✓	*: D-visibility
		–	*: percolation	*: D-visibility	✓ → *: economy
(24b')	internal	non-poss.	*: D-visibility	✓ → *: economy	*: D-visibility
		–	✓	✓ → *: economy	✓ → *: economy
(24c)	external	–	*: percolation	*: D-visibility	✓
(24c)	internal	–	✓	*: D-visibility	✓ → *: economy

Table 3: *Competition between three variants of the definite article in Hungarian*

Thus, in the case of the variants with XP$_{dep}$ as an external scope taker (24a,b,c), the principle of D-visibility will chose between '∅' and 'az', which permits feature

percolation; if '∅' is not excluded (24a,b), it is the preferred solution. In the case of the variants with XP_{dep} as an internal scope taker (24a',b',c), permeability is irrelevant. Hence, the economically preferred 'AZ' will win (24b,c) unless D-visibility excludes this choice (24a').

6.3   The structure of scope taking nominal constructions with an internal-scope taking XP_{dep}

As pointed out in section 4, if XP_{dep} takes internal scope, DP_{mat} is free to take independent scope, obviously in the information structure of VP_{mat}. The syntactic representation of a case like this requires no novel assumptions. What is needed is no more than the combination of the syntactic apparatus presented in Figure 1 (in which DP_{mat} can take (external) scope in the information structure of VP_{mat} due to an operator layer built upon VP_{mat}) and that presented in Figure 2 (in which XP_{dep} can take (internal) scope in the information structure within DP_{mat} licensed by an operator layer appearing in the nominal hemisphere of DP_{mat}).

Therefore, this subsection can concentrate on the remarkable cases in which XP_{dep} with its noun-phrase-internal scope is extracted into the information structure of VP_{mat} in order to simultaneously show the operator function of DP_{mat} (4.1.2, 4.2.2). Our syntactic approach is illustrated via the syntactic analysis of example (14b) in 4.1.2, repeated here as (25).

(25)   ["Mindkét˜fiúnak]$_{CTop}$"*határozottan "ellenzem   az elbocsát-ás-á-t.*
        both   boy.DAT   definitely   oppose.1SG the dismiss-NMLZ-POSS.3SG-ACC
        'As for the option according to which both boys would be sent away, I am
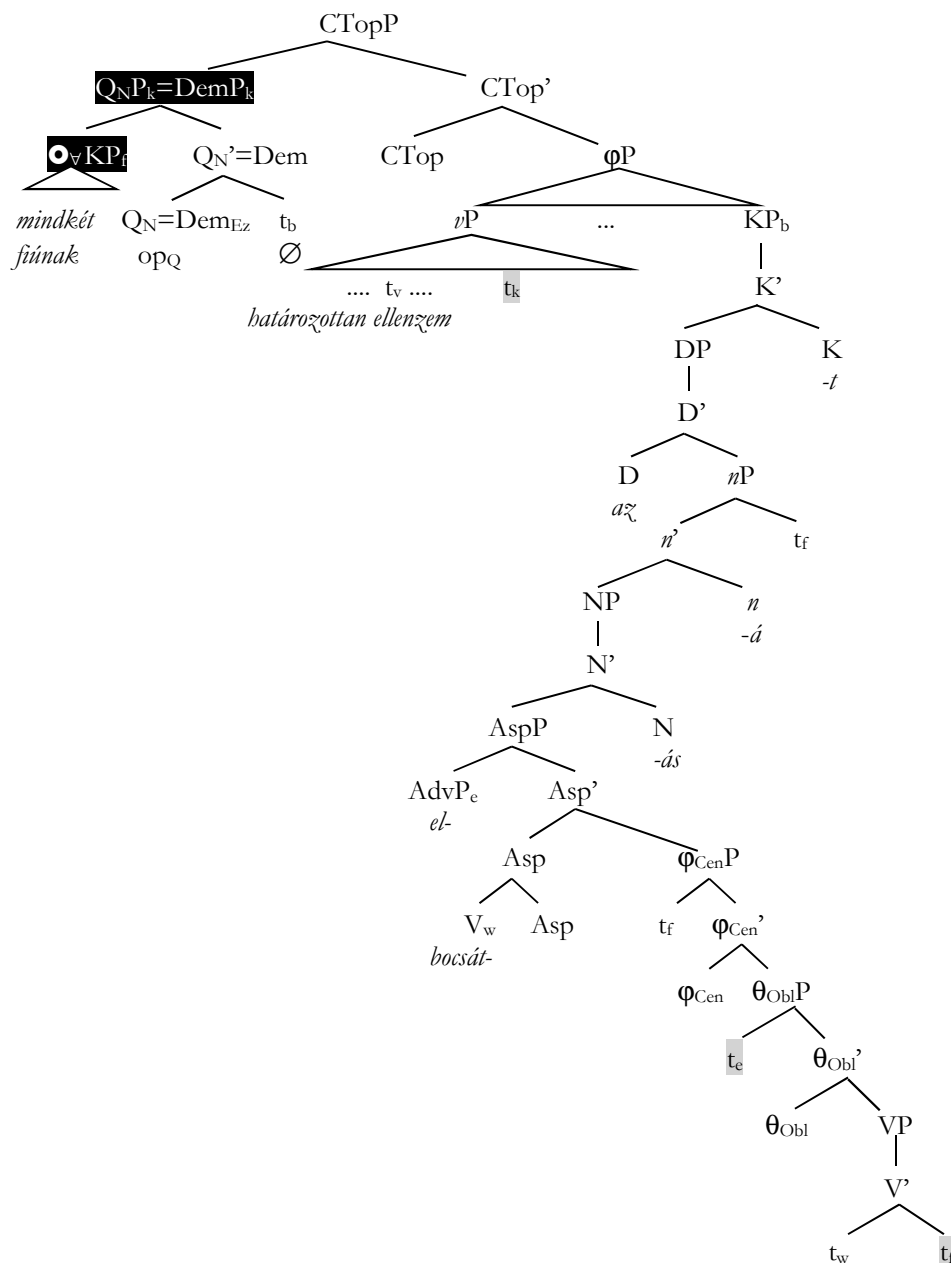   definitely against that. [As for me, one of them, for instance, can be sent away].'

Figure 3: *Syntactic structure of (24)*

In Figure 3, the quantified expression with noun-phrase-internal scope is not an attributive expression (as was the case in Figure 2), but a NAK-possessor.[25] Its Q$_N$P layer

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[25] The NAK-possessor, even if it serves as a quantifier instead of being only foregrounded, can form a constituent with the possessee. This can be verified by means of the classical focus test (Szabolcsi & Laczkó 1992:189) as well as the "for instance"-test proposed by Alberti *et al.* (2015), see (i-ii), respectively.

(i)   *Csak*   mindkét   fiúnak   *az elbocsát-ás-á-t*   *ellenzem.*
      only   both   boy.DAT   the   dismiss-NMLZ-POSS.3SG-ACC   oppose.1SG
      Meaning [the same as (13a) in 4.1.1]: 'I am against only the option according to which
      both boys would be sent away. [As for me, one of them can be sent away].'

above the DP-layer is assumed to be generated as follows: the operator op_Q is inserted in the Dem_{Ez} head.[26] Our analysis also accounts for the following facts, by means of the kind of remnant movement proposed by Koopman & Szabolcsi (1999, 2000) and Alberti (2004). (i) The (internal-scope taking) NAK-possessor (referred to as KP_f in Figure 3) appears preverbally, split from DP_{mat} (the object of the matrix verb, referred to as $Q_N P_k = DemP$), which has become a remnant in this way. (ii) The possessor (or rather, its phonetic form) carries (the special contrastive-topic stress pattern of) the external operator function of the complete DP_{mat}. (iii) The extracted part, which appears postverbally, obviously occupying a non-thematic position, is exactly a DP phrase deprived of its leftmost periphery (KP_b), originally in the complement of Dem_{Ez}.

　　Remarkably, the analysis of the cases in which an external-scope taking dependent (XP_{dep}) is extracted from DP_{mat} (like in (8b), repeated here as (26a)) practically requires one and the same remnant movement. This is crucially due to the fact that the same word order needs to be derived. The only difference is that in the type of (26a) our Selkirk–Höhle-style *each*-feature percolation (2.1.1) yields the following two changes: (i) $DemP_k$, the object of V_{mat}, will obtain a quantifier status, while (ii) the NAK-possessor (KP_f) will "remain" a foregrounded, non-contrastive, topic.

(26) a.　'Mindkét 'fiúnak *ellenzem　　az　elbocsát-ás-á-t.*
　　　　　both　　　　boy.DAT oppose.1SG the dismiss-NMLZ-POSS.3SG-ACC
　　　　　'It holds for each of the two boys that I am against his dismissal. [Both
　　　　　should be kept.]'

(ii)　*Na　például*　　　mindkét fiúnak　　*az　elbocsát-ás-á-t,*
　　　well　for_instance　both　　boy.DAT　the dismiss-NMLZ-POSS.3SG-ACC
　　　azt　　　határozottan　ellenzem.
　　　that.ACC definitely　　oppose.1SG
　　　Meaning [the same as in (25)]: 'As for the option according to which both boys would be
　　　sent away, I am definitely against that. [As for me, one of them, for instance, can be sent
　　　away].'

[26] The minimal pair presented in (i-ii) is an argument for associating the $Dem_{Ez}P$-layer with the NAK-possessor, given that nothing can be inserted between the demonstrative pronoun *ez/az* and the definite article *a(z)*. It is shown that all types of possessor should be closer to D than a non-agreeing Dative case-marked argument. Hence, the two types of NAK-phrase can be distinguished on the basis of their distance from D, which is plausible to account for by associating the NAK-possessor with the demonstrative layer adjacent to the DP-layer. It would require another paper to discuss when it is required that a non-possessor on the leftmost position of the noun phrase should be followed by a possessor in Spec,$Dem_{Ez}P$ or in Spec,DP (cf. (i) and (ii)), also depending on such factors as operator types of the given XP_{dep} elements and the potential splitting of DP_{mat}.

(i)　　Na　például　　　　mindkét barátodnak mindkét út(°nak　a) felajánlása,
　　　well for_instance　both　　friend.DAT　both　　trip(.DAT the) offer.NMLZ.POSS.3SG
　　　az　　meggondolatlanság volt.
　　　that thoughtlessness　　was
　　　'Well for instance, offering both friends both trips, that was an act of thoughtlessness.'
(ii)　Na　például　　　　mindkét útnak　　mindkét barátod*(°nak a) felajánlása,
　　　well for_instance　both　　trip.DAT both　　friend(.DAT　the) offer.NMLZ.POSS.3SG
　　　az　　meggondolatlanság volt.
　　　that thoughtlessness　　was
　　　'Well for instance, offering both trips to both friends, that was an act of thoughtlessness.'

b. ^(?)["Mindkét ˜munkára]_{CTop} *ellenzem   a   felbérel-és-ed-et.*
both   job.SUB   oppose.1SG the up.hire-NMLZ-POSS.2SG-ACC
'As for hiring you to do both jobs, I am definitely against that. [As for me,
however, you can do one of them.]' (cf. (18b))

b'. ^(?)'Mindkét 'munkára *ellenzem   a   felbérel-és-ed-et.*
both   job.SUB   oppose.1SG the up.hire-NMLZ-POSS.2SG-ACC
'It holds for each of the two jobs that I am against hiring you to do it. [You
are not allowed to work for us at all.]' (cf. (12b))

Almost the same pair of parallel analyses based on remnant movement can also be applied to other cases. (i) It can be applied to the cases (presented in (18) in 4.2.2) in which an internal-scope taking non-possessor is extracted from an (external-)scope taking nominal expression (see (26b)). (ii) It can also be applied to the cases (presented in (5a) in 2.2.2 and (12b) in 3.2.2) in which an external-scope taking non-possessor is extracted from the matrix nominal expression, which takes over its operator function and counts as a member of the information structure of VP_{mat} (see (26b')). The Appendix presents all the relevant details.

6.4   Representing hybrid scope taking

The triply ambiguous deverbal nominal construction in (19a) in section 5 should be evoked here. It demonstrated that even hybrid scope taking is permitted in the sense that within one and the same deverbal nominal construction, one dependent (KP_p) of V_{emb} takes internal scope, while another one (DP_k) takes external scope (see (19d), repeated here as (27)). That is, not only double external-scope taking (19b) and double internal-scope taking are permitted (19c); see the Appendix.

The constituent tree in Figure 4 demonstrates the structure of the hybrid variant, with practically no novel technical details emerging. As a result of the Selkirk–Höhle-style *each*-feature percolation (2.1.1), the unmarked possessor in Spec,DP internally serves as a foregrounded topic, while it is the entire DP_{mat} with its gained *each*-feature that performs a quantifier function, but in the information structure of V_{mat}. The non-possessor quantifier, however, remains to serve as an internal scope taker. As declared in section 5 as a potential universal generalization, the percolating operator feature in $\Omega_N\Delta$ dominates the highest position of the non-percolating one.

(27) [Mindkét kolléga   mindkét   projektbe *való*
both   colleague both   project.ILL ATTR
be-von-ás-á-t]   *határozottan ellenzem.*
into-pull-NMLZ-POSS.3SG-ACC definitely   oppose.1SG
The meaning considered: 'It holds for each of the two colleagues that I am definitely against the option according to which he would be involved in both projects. [Neither college should be involved in both projects at the same time.]' (cf. Meaning 3 in (19d))
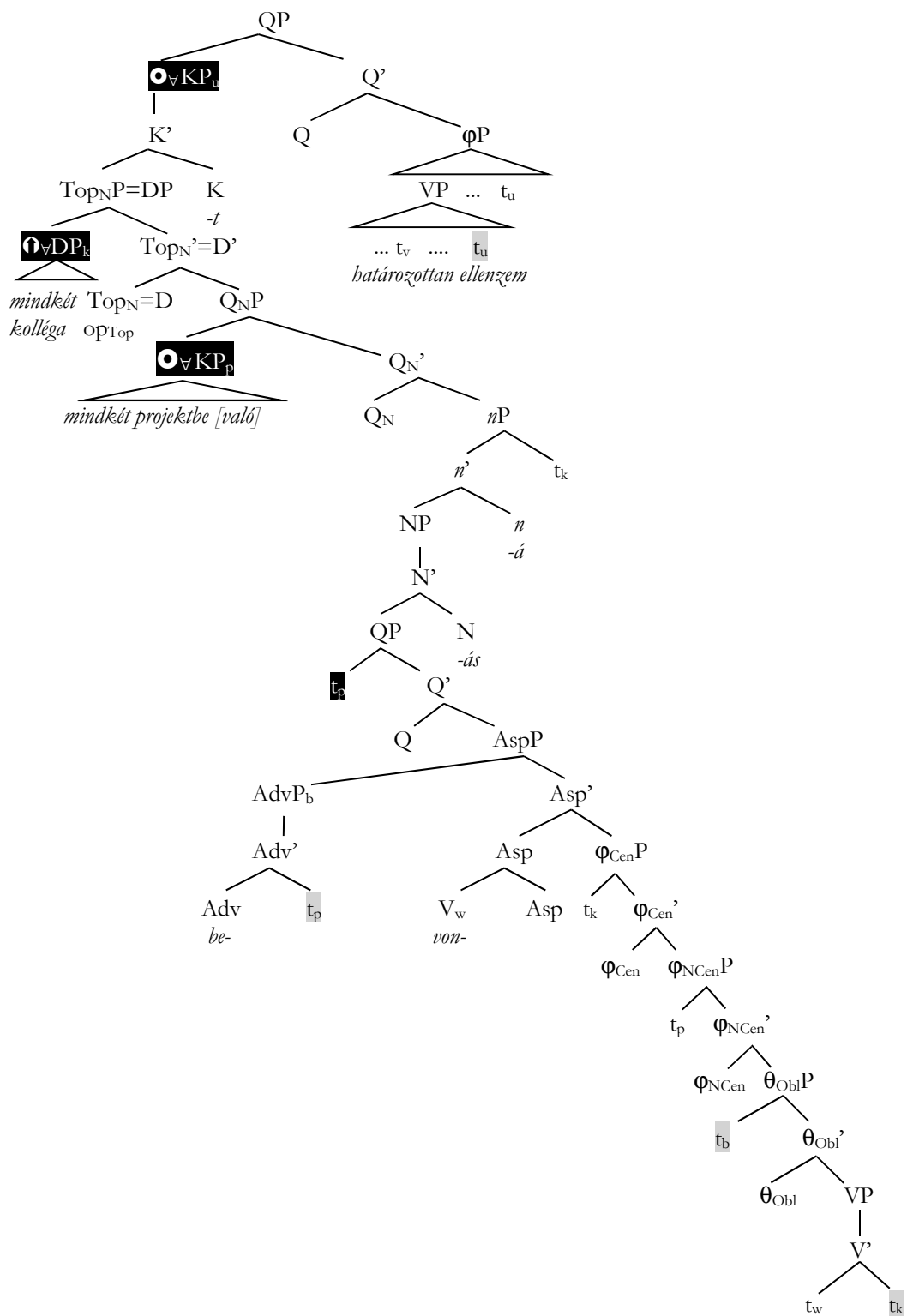
Figure 4: *Syntactic structure of (27)*

7   Summary

This paper discussed Hungarian sentences (with VP$_{mat}$ as its finite verbal construction) in which a (possessor or non-possessor) dependent (XP$_{dep}$) of the noun head (N$_{mat}$) of a noun phrase (DP$_{mat}$) is a scope-taking *each*-quantifier.

If N$_{mat}$ is an ordinary noun, XP$_{dep}$ is unavoidably an external-scope taker (section 2), at least as an *each*-quantifier. If N$_{mat}$ is a complex-event denoting deverbal nominal, XP$_{dep}$ can *ab ovo* be interpreted as taking either external or internal scope, depending on such further circumstances as, for instance, the (explicit) presence or absence of the definite article that belongs to N$_{mat}$ (section 3). If XP$_{dep}$ takes internal scope, then DP$_{mat}$ is free to take (independent external) scope in the information structure of VP$_{mat}$ (section 4). It holds for all these cases that XP$_{dep}$ can be extracted from DP$_{mat}$ without any essential changes in potential readings, even if XP$_{dep}$ is an internal-scope taker (see 6.3 and subsection 2 in sections 2–4), yielding the strange situation in which its phonetic form is simultaneously associated with the phonetic features typical of two operator functions (see 4.1.2 and 4.2.2). Even several dependents in DP$_{mat}$ can serve as scope takers, either homogeneously (i.e., uniformly taking internal/external scope) or heterogeneously. The latter option yields a hybrid interpretation according to which (at least) one dependent takes internal scope while other dependents are external-scope takers (section 5).

In order to capture the phenomenon of internal-scope taking within nominal expressions, we proposed a general syntactic representation in which essentially morphology-based approaches to the Hungarian noun phrase are integrated with Giusti's (1996) cartographic Split-DP Hypothesis. The result is a tripartite nominal structure consisting of a thematic domain ($\Theta_V\Delta$), two agreement domains ($\Phi_V\Delta$, $\Phi_N\Delta$) and discourse domains ($\Omega_V\Delta$, $\Omega_N\Delta$), following Grohmann's (2003:211 (37b)) theory of Prolific Domains (section 6). The phenomenon of external-scope taking is accounted for by assuming a Selkirk–Höhle-style mechanism of *each*-feature percolation (2.1.1). Another crucial point of our approach is that the explanation of certain language-specific intricacies are attributed to a post-Transfer process in PF in Sigurðsson's (2009) spirit (see the last sentence of the introduction to section 6).

In this paper, our observations are all based on, and our analyses all pertain to, cases in which XP$_{dep}$ serves as an *each*-quantifier. The investigation of analogous cases with XP$_{dep}$ serving as a focus or other types of operator is left for future research.

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Appendix. Moves of XP$_{dep}$ across Grohmann-domains ($\Omega_N\Delta\leftarrow\Phi_N\Delta$, $\Omega_N\Delta\leftarrow\Omega_v\Delta$, $\Phi_N\Delta\leftarrow\Phi_v\Delta$, $\Phi_v\Delta\leftarrow\Theta_v\Delta$, $\Omega_v\Delta\leftarrow\Phi_v\Delta$)

Grohmann-domains	Ω_N			Φ_N		Ω_v	Φ_v		Θ_v
Argument/*Adjunct*	nPos*	Pos	nPos*	Pos	nPos*	Pos	Pos	nPos*	
Transfer — Phon. form		$nAk > a(z)_D > u$, $U \Rightarrow \emptyset_D$	$\emptyset^{k\wedge}való/lévő$	nAk/pro		Pos: nAk	nAk/pro		
Transfer — Order	scope		scope	Behaghel's Law		scope	Behaghel's Law		
Example ⇩									
(1a-a'), (2a-a'), (7a'$_{M1}$)		⋏ ∩ m2 fiú(nak)		Ↄ					
(6$_{M1}$), (8a$_{M1}$), (8b)		⋏ ∩ m2 fiú(nak)		Ↄ			Ↄ		Ↄ
(6$_{M2}$),(7a$_{M2}$),(8a$_{M2}$),(13a-14b)		O m2 fiú(nak)		Ↄ			Ↄ		Ↄ
(9a$_{M1}$)		⋏ Péter		Ↄ$_p$			Ↄ$_p$	∩$_m$ m2 m'ra	Ↄ$_p$ Ↄ$_m$
(9a$_{M2}$)		⋏ Péter		Ↄ$_p$		O$_m$ m2 m'ra	Ↄ$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(9b$_{M1}$), (10c$_{M1}$)		⋏ Péter	⋏ ∩$_m$ m2 m'ra	Ↄ$_p$			Ↄ$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(9b$_{M2}$), (10c$_{M2}$)		⋏ Péter	⋏ ∩$_m$ m2 m'ra	Ↄ$_p$			Ↄ$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(9c$_{M1}$), (10a)		⋏ ∩ m2 m'ra való					Ↄ		Ↄ
(9c$_{M2}$), (10b), (15a-b)		[a]	O$_m$ m2 munkára				pro$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(11a-b), (16a-17b)						O m2 ...	Ↄ		Ↄ
(12a$_{M1}$), (12b)		⋏ Péter	⋏ ∩$_m$ m2 m'ra	Ↄ$_p$			Ↄ$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(12a$_{M2}$)	O$_m$ m2 m'ra	⋏ Péter		Ↄ$_p$		Ↄ$_m$	Ↄ$_p$	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(18)	O$_m$ m2 m'ra	[a]				Ↄ$_m$	pro	Ↄ$_m$	Ↄ$_p$ Ↄ$_m$
(19b)		⋏ ∩$_k$ m2 kolléga	⋏ ∩$_p$ m2 p'be	Ↄ$_k$			Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
(19c)		O$_k$ m2 kolléga	O$_p$ m2 p'be	Ↄ$_k$			Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
(19d)		⋏ ∩$_k$ m2 kolléga	O$_p$ m2 p'be	Ↄ$_k$			Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
*(19e)		O$_m$ m2 kolléga	⋏ ∩$_p$ m2 p'be	Ↄ$_k$			Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
(20a)		⋏ ∩$_k$ m2 kutatónak	⋏ ∩$_p$ csak az A. p'be	Ↄ$_k$			Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
(20b)	O$_p$ m2 p'be	O$_k$ u-nak a k'nak		Ↄ$_k$		Ↄ$_p$	Ↄ$_k$	Ↄ$_p$	Ↄ$_k$ Ↄ$_p$
(21a)				a n'nak	*a ház mögött*				
(21a')		⋏ a nagyinak	⋏ a ház mögött	Ↄ$_n$	Ↄ$_h$				
(21a'')		[a] ⋏ te		Ↄ$_t$	*a ház mögött*				
(21c): Year, Conf, Researcher, Project money	O$_y$ O$_c$	O$_r$	O$_p$	Ↄ$_p$		Ↄ$_y$ Ↄ$_c$ Ↄ$_p$	Ↄ$_r$	Ↄ$_c$ Ↄ$_y$ Ↄ$_p$	Ↄ$_r$ Ↄ$_c$

Symbols: **O** : quantifier; **∩**: percolating *each*-feature; **⋏**: foregrounded (non-contrastive) topic; **Ↄ**: non-surface position; Pos: possessor; nPos: non-possessor; *: iterable