DP-Internal Operators and their Scopal Interaction with Operators of the Verb¹

1. Introduction and Aim

The seminal works of Hungarian generative literature (for example Brody & Szabolcsi, É. Kiss 2002, Surányi 2011) only focus on the operator zone that belongs to the verb, and distinguish different sorts of topics, quantifiers and foci. Our aim is to concentrate on operators that belong to nominal heads.

- (1) DP-internal operators
 - a. Elleneztem [DP csak Marinak a meghívását].
 - disagreed.1Sg only Mari.Dat the invitation.Poss.3Sg.Acc
 - 'I was against the idea of inviting only Mari (i.e. Mari alone)'
 - b. Elleneztem [DP mindkét lánynak a meghívását].
 - disagreed.1Sg both girl.Dat the invitation.Poss.3Sg.Acc
 - 'I was against the idea of inviting both of the girls'
 - c. [?]Elleneztem [DP Marinak is a meghívását].
 - disagreed.1Sg Mari.Dat also the invitation.Poss.3Sg.Acc
 - 'I was against the idea of inviting Mari as well'

In this talk we argue that in certain cases it is rewarding to assume DP-internal operators, and we examine their scopal interaction with the verb's operators. Some new data are presented which have not been described in the literature until now.

2. Background

2.1. Complement zone of nominal heads?

In the Hungarian generative literature three different concepts can be found relating to the postnominal complement domain.

- I. No complement (Szabolcsi&Laczkó 1992): This approach is based on the Focus Test as a Constituency Test.
- (2) The application of Focus Test to the Hungarian NP
 - a. *[A kalapja_N Péter] veszett el.

the hat.Poss.3Sg Péter lost away

intended meaning: 'It is Peter's hat that has been lost.'

b. *[A kalapja_N Péternek]_{Focus} veszett el.

the hat.Poss.3Sg Peter.Dat lost away

intended meaning: 'It is Peter's hat that has been lost.'

- ←→ The focus refuses any sort of "right branching" from the head:
- (3) The application of Focus Test to right branching phrases. The subordinate Clause in a DP: [... N CP]
 - a. Ki hívott meg? *[F Az a lány, akivel tegnap találkoztunk], hívott meg. who invited Perf that the girl who.Ins yesterday met.1Pl invited perf
 - a'. Ki hívott meg? [F Az a lány] hívott meg, akivel tegnap találkoztunk. who invited perf that the girl invited perf who.Ins yesterday met.1Pl 'Who has invited you?' 'The one who has invited me is the girl we met yesterday.'

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- → Also Szabolcsi & Laczkó (1992: 257–258) accept many examples which seem to violate the "no complement" concept. (4 a) and (b) clearly show that arguments of derived nouns occur more naturally in the postnominal position than adjuncts.
- (4) Arguments / adjuncts after the N head
 - a. János megérkezése Pestre / [?]Máriával ma is beszédtéma. János arrival.Poss.3Sg Pest.Sub / Mária.Ins todayalso topic 'János's arrival in Pest / with Mária is still a hot topic.'
 - b. A fiúk találkozása Máriával / [?]Pesten ma is beszédtéma. the boy.Pl meeting.Poss.3Sg Mária.Ins / Pest.Subtoday also topic 'The boys' meeting with Mária / in Pest is still a hot topic.'

II. There is a complement in "deep structure", but no complement in "surface structure". (É. Kiss 1998): NPs have a similar structure to VPs, but arguments can not stand after an N head because of the constraint on case assignment:

- a. The case marker of an NP appears on the right edge of this NP.
- b. The case marker cliticizes on the head of the NP or, in the case of an empty head, it cliticizes on the constituent preceding the head.

VP-contraction: The complement of the verb takes every constituent to be in its own complement – that is, every constituent which (originally/semantically) belonged to other constituents.

- → If the constituents are extracted from their N-head, we can apply the so-called "Behaghel's Law"
- (5) The "Behaghel Test" (Law of Increasing Constituents):
 - a. *Elmondattad végül

[Móricztól]

[a három tehénről]

[a gyerekkorunkbólismert tréfás kis verset]

[a két kis cserfes hódmezővásárhelyi unokahúgoddal]? recite.Caus.Past.DefObj.2Sg finally

Móricz Abl

the three cow.Del

the childhood.Poss.1Pl.Ela known funny little poem.Acc

the two little talkative Hódmezővásárhely.Adj niece.Poss.2Sg.Ins

'Did you finally make your two little talkative nieces from Hódmezővásárhely recite the funny little poem, known from our childhood, from Móricz about the three angry cows?'

b. Elmondattad végül [a két kis cserfes hódmezővásárhelyi unokahúgoddal] [a gyerekkorunkból ismert tréfás kis verset Móricztól a három tehénről]?

III. There is a complement (Alberti&Medve 2002/2005:141–142, and Chapter 6) Alberti &Farkas (2013)

- (6) Argument (Inheritance) Principle:
 - a. Lexical-semantic (and conceptual (Laczkó 2000)) arguments of heads appear in X as sisters of X
 - b. They may remain *in situ* (under certain circumstances).

Let us base the Hungarian constituency test on *complete answers* (one potential constituent, explicit structure) → the non-exhaustive "Well for example..." answers which contain contrastive topics.

(7) • Na például ('Well for example') Test:

a. Mi bosszant?

what annoy.3Sg

Na például [az előzetes egyeztetés nélküli meghívása a húgodnak

arra az éjfélig tartó koncertre], **az** nagyon bosszant.

well for_instance the previous agreement without.Adj invitation.Poss.3Sg the sister.Poss.2Sg.Dat

that.Sub the midnight.Ter lasting concert.Sub that very annoy.3Sg

'What annoys you? Well for instance, as for your sister's invitation to that concert lasting until midnight, without any previous agreement, that annoys me very much.'

2.2. Theories about DP-internal operators

"The evidence presented in favor of a DP-internal topic or focus position in the literature involves several different lines of argumentation" (Szendrői 2010: 867) The most common explanations are based on examples of adjective reordering associated with contrastive focus like in (8).

(8) • Adjective reordering

My friends all drive big cars, but only I drive a BLACK big car. (Truswell, 2005)

The theories presented in Szendrői (2010) only deal with the position of non-argumental elements of nouns. In this talk we will examine DP-internal operators in a semantic but not in a syntactic sense, and we describe the scopal interpretation of nominal *arguments* in inherent operators marked with *only*, *also* and *both*.

2.3. Nouns with argument structure

2.3.1. Deverbal nouns

Broekhuis & Keizer (2012, 117–356) base their theory on the fact that typically three types of nominal heads qualify as argument-taking ones: deverbal nouns, *story/picture* nouns and relational nouns.

There are two derivational processes in Hungarian the result of which are deverbal nouns which inherit the arguments of the input verbs: nouns with the suffix $-\acute{O}(ja)$ denote 'actor / instrument', while suffix $-\acute{A}s$ forms complex event nominals to denote an action or activity (Laczkó 2000).

The characteristics of the latter one are as follows:

- a) their event and argument structure is the same as that of the input verb,
- b) they cannot be pluralized,
- c) their PP-arguments or adjuncts can be adjectivized by *való* (Laczkó 2000).

(9) • A complex event nominal in *való*-construction

Elleneztem mindkettőtök nyilvánosság előtt való meghívását.

disagreed.1Sg both publicity before való invitation.Poss.3Sg.Acc

'I was against inviting both of you in public'

2.3.2. Story/picture nouns

Story and picture nouns can be either deverbal or non-derived and are claimed to take an Agent (creator) and a Theme (subject matter) as their arguments in addition to a frequently occurring adjunct, the owner. The arguments of picture and story nouns can generally be left unexpressed (Broekhuis & Keizer 2012, chapter 2.2.5.)

(10) • Story/picture nouns

- a. Elfogadtam mindkettőtök cikkét.
 - accepted.1Sg both.2Pl paper.Poss.3Sg.Acc
 - 'I accepted the papers of both of you'
- b. Láttam mindkettőtök képeit az esküvőről.
 - saw.1Sg both.2Pl picture.Poss.3Pl.Acc the wedding.Del
 - 'I saw the pictures of both of you about the wedding.'

2.1.3. Relational nouns

Relational nouns are underived nouns which obligatorily take an argument referring to a related entity (Laczkó 2009). Some of these nouns can only be used in possessive constructions, and if the possessor is not realized, the noun phrase is not well-formed.

(11) • Relational nouns

- a. Megfogtam mindkettőtök kezét.
 - caught.1Sg both.2Pl hand.Poss.3Sg.Acc
 - 'I took the hands of both of you.'
- b. Imádom mindkettőtök szüleit.
 - admire.1Sg both.2Pl parent.Poss.3SgPl.Acc
 - 'I admire the parents of the both of you'
- b. Csokikrémet teszek minden süti közepébe.
 - chocolate cream put_in.1Sg every cake middle.Poss.3Sg.Ila
 - 'I put chocolate cream inside every cake.'

3. Methods and Results

3.1. The behaviour of the quantified possessor beside different types of nominal heads

Laczkó (2009), citing Bresnan, made a distinction between *argument structure* and *lexical conceptual structure*. The latter is a semantic level of representation encoding certain aspects of the meaning of predicates. We use this term to denote structures the members of which have an intermediary status between argumenthood and adjuncthood. We argue that the nominal head may have a complement zone with arguments, adjuncts and members of the conceptual structure: conceptual arguments.

So we tested the behavior of the possessor as quantifier (Q "both") in DP-internal position with a deverbal (12a), a story-picture (13a), and a relational (14a) nominal head \rightarrow DP-internal quantifiers can take scope over the matrix verb (Table 1) – just like the extracted possessors. (Meaning 2: wide-scope reading)

	DP-internal	(12a) Elleneztem [pp mindkettőtök meghívását].	Meaning2:
DEVERBAL		disagreed-1Sg both-Poss2P1 invitation-Poss3Sg-Acc	'In the case of the both
	Pre-verbal	(12a') Mindkettőtöknekqelleneztem [DP a meghívását].	of you, I was against the
	Q ("all")	both-Poss2P1-Dat disagreed-1Sg the invitation-Poss3Sg-Acc	idea of invitation.'
			both > be_against >
			invite
, ш	DP-internal	(13a) Elfogadtam [DP mindkettőtök cikkét].	MEANING 2:
÷		accepted-1Sg both-Poss2P1 paper-Poss3Sg-Acc	both > accept > paper
STORY- PICTURE	Preverbal	(13a') Mindkettőtökneko elfogadtam [DP a cikkét].	
ಬಹ	Q ("all")	both-Poss2P1-Dat accepted-1Sg the paper-Poss3Sg-Acc	
	DP-internal	(14a) Imádom [DP mindkettőtök szüleit].	Meaning 2:
RELATI-NAL		admire-1Sg both-Poss2P1 parents-Poss3Sg-Acc	both > admire > parents
	PREVERBAL	(14a') Mindkettőtökneko imádom [DP a szüleit].	
RELA	Q ("all")	both-Poss2P1-Dat admire-1Sg the parents-Poss3Sg-P1-Acc	

Table 1: Possessor as universal quantifier with wide scope interpretation

(12a) is scopally ambiguous. The possessor can take the narrowest sentence scope, if it is given a special rising intonation contour typical of contrastive topic.

Szabolcsi (2010) mentions that there is a cross-linguistic variation in the behavior of quantifiers like both and mindkettő. According to Landman (2004) the English both is strictly distributive, but the Dutch (de) beide allows collective interpretation. Hungarian mindkettő is ambigous, but only under certain circumstances. In the case of the deverbal noun, mindkettő can have a collective meaning. In example (12b), accordingly, the possessor is in DP-external position with a DP-internal interpretation.

		DP-internal	(12a) Elleneztem [Dp mindkettőtök meghtvását]. disagreed-1Sg both-Poss2P1 invitation-Poss3Sg-Acc	MEANING 1: 'I was against the
	DEVERBAL	CONTRASTIVE TOPIC	(12b)Mindkettőtöknek _{CTopic} elleneztem [_{DP} a meghívását]. both-Poss2Pl-Dat disagreed-1Sg the invitation-Poss3Sg-Acc	idea of inviting you two together.' be_against > both > invite

Table 3 Possessors of deverbal nouns with narrow scope interpretation

With a non-deverbal noun, narrow-scope reading is impossible. (15b) is ill-formed, and not for a phonological reason (15b'), although it represents the intended meaning.

- (15) Is it possible to create scope for non-deverbal N?
 - a. Elfogadtam a cikket, ami mindkettőtöké. accepted-1Sg the paper-Acc that both-Poss2Pl meaning2: ACCEPT > BOTH > PAPER
 - 'I accepted the paper that was written by you together.'
 - b. *Elfogadtam *a* mindkettőtök cikkét. accepted-1Sg the both-2Pl paper-Poss3Sg-Acc
 - b'. Elfogadtam *a* mindkettőtök számára fontos cikket. accepted-1Sg the both-Poss for important paper-Acc 'I accepted the paper which is so important to both of you.'

Consequently, we found that only a deverbal noun inherits a real argument structure which is capable of scopal interaction with the verb's argument structure, whilst a non-deverbal nominal has no argument structure, only conceptual arguments, because it is not able to take narrow scope.

3.2. Arguments of deverbal nouns in DP-Internal and DP-External Operators

3.2.1. Possessor argument

In the second part of the paper, the appearance of an argument of deverbal nouns is systematically exhibited: as it appears as different operators in different positions. Arguments, especially the datively case-marked possessor, can be extracted from the DP and can stand in a preverbal position in focus and in quantifiers with a wide-scope interpretation (16b, 12a', 18b). The possessor can also bear a contrastive intonation with inverse scope reading (16a, 12b, 18a), except when it is modified by an *also* (Table 4).

- (16a) [?]Csak a fiúnak # ellenzem a meghívását. MEANING1: DISAGREE > ONLY > INVITE only the boy-Datdisagree-1Sg the invitation-Poss-3Sg-Acc
- (16b) *Csak a fiúnak ellenzem a meghívását.* MEANING2: ONLY > DISAGREE> INVITE only the boy-Dat disagree-1Sg the invitation-Poss-3Sg-Acc
- (16c) Ellenzem [csak a fiúnak/Julinak a meghívását]. MEANING1 disagree-1Sg only the boy-Dat/Juli-Dat the invitation-Poss3Sg-Acc
- (16d) *Ellenzem [a csak a fiú/Juli meghívását.] disagree-1Sg the only the boy/Juli invitation-Poss3Sg-Acc
- (16e) *[DP A meghívását csak a fiúnak/csak Julinak] ellenzem. the invitation-Poss3Sg-Acc only the boy-Dat/Juli-Dat disagree-1Sg
- (16f) *Ellenzem [a meghívását] tegnap [csak a fiúnak/csak Julinak]. disagree-1Sg the invitation-Poss3Sg -Acc yesterday only the boy-Dat/Juli-Dat
- (17a) [DP A meghívását mindkét fiúnak] ellenzem. MEANING1 the invitation-Poss3Sg-Acc both boy-Dat disagree
- (17b) Ellenezem [a meghívását] sajnos [mindkét fiúnak]. MEANING2 disagree-1Sg the invitation-Poss3Sg-Acc unfortunately both boy-Dat
- (18a) *A fiúnak is # ellenzem a meghívását . the boy-Dat also disagree-1Sg the invitation-Poss3Sg
- (18b) *A fiúnak* is ellenzem a meghívását. MEANING 2 ~ MEANING1 the boy-Dat also disagree-1Sg the invitation-Poss3Sg
- (18c) Ellenzem a fiúnak is a meghívását. $MEANING2 \sim MEANING1$ disagree-1Sg the boy-Dat also the invitation-C-Acc
- (18d) *Ellenzem a fiú is meghívását.

disagree-1Sg the boy also invitation-Poss3Sg-Acc

- (18e) $*[_{DP}A meghívását a fiúnak is]$ ellenzem. the invitation-Poss3Sg the boy-Dat also disagree-1Sg
- (18f) Ellenzem [a meghívását] sajnos [a fiúnak is]. MEANING ~ MEANING disagree-1Sg the invitation-Poss3Sg unfortunately the boy also

	CONTR.	PRE-	DP-INTERNAL POSITIONS		POSTVERBAL	
	TOPIC	VERBAL	BEFORE D	AFTER D	AFTER N	
F	? (16a)	✓ (16b)	✓ (16c)	* (16d)	*(16e)	* (16f)
('ONLY')						
Q('ALL')	(?) (12b)	✓ (12a')	✓ (12a)	✓ (12a)	✓ (17a)	✓ (17b)
Q	* (18a)	✓ (18b)	? (18c)	*(18d)	* (18e)	✓ (18f)
('ALSO')						

Table 4: Possessor argument in different positions

There are differences in the interpretation of the possessor as agent and as a patient (Table 5).

		AGENT: 'I refuse to be	PATIENT: 'I refuse to
		treated by the both of	treat the both of you at
		you at the same time.'	the same time.'
DP-	(5a) Elutasítom [DPmindkettőtök kezelését].	MEANING 2: both >	MEANING 2: both >
INTERNAL	refuse-1S both-Poss2Pl treatment-Poss3Sg-Acc	refuse > treat	[✓] MEANING1: refuse >
			both > treat
Pre-	(5a') Mindkettőtöknek Q elutasítom $[DP]$ a kezelését $[DP]$.	✓MEANING2: both >	✓MEANING2: both >
verbal Q	both-Poss2Pl-Dat refuse-1Sg the treatment-	refuse > treat	refuse > treat
("ALL")	Poss3Sg-Acc		
CONTR.	(5b) Mindkettőtöknek $_{CToP}$ ehutasítom [$_{DP}$ a kezelését].	*MEANING2	MEANING1: refuse >
Торіс	both-Poss2Pl-Dat refuse-1S g the treatment-	*MEANING1	both > treat
	Poss3Sg-Acc		

Table 5: The interpretation of the possessor as agent/patient

3.2.2. Non-possessor argument

We also examined what kind of scopal interpretation non-possessor arguments can have in *való*-constructions. Examples in (19) illustrate that the non-possessor argument *koncertre* takes narrow scope in the *való*-construction, if it is a focus or the quantifier *both* (19a, 19b), while the quantifier *also* can not stand beside *való*.

- (19a) Ellenzem a csak a koncertre való meghívását Julinak. MEANING1 disagreed-1Sg the only the concert-Sub való invitation-Poss3Sg-Acc Juli-Dat.
- (19b) Ellenzem a mindkét koncertre való meghívását Julinak. MEANING1 disagreed-1Sg the both concert-Sub való invitation-Poss3Sg-Acc Juli-Dat.
- (19c) *Elleneztem a koncertre is való meghívását Julinak. disagreed-1Sg the concert-Sub also való invitation-Poss3Sg-Acc Juli-Dat.

3.2.3. Two operators inside the DP

It can be interesting to investigate cases where there are more than one operators within the DP. Instead of trying out all the possible variants, we used the following strategy: we looked for the most preferred word order which could express the scopal interpretation we gave (Table 6).

Scopal relations	Possible word order variations
Only > Both > Disagree	(20a) ??? Csak a koncertre ellenzem [a meghívását mindkét húgodnak].
	Only the concert-Sub disagree-1Sg the invitation both sister-Poss2Sg-Dat
Only > Disagree > Both	(20b) ^{??} Csak a koncertre ellenzem [mindkét húgod(-nak a) meghívását].
	(20c) ^{??} [Mindkét húgodnak] _{CTop} csak a koncertre ellenzem [a meghívását].
Both > Disagree > Only	(20d) Mindkét húgodnak ellenzem [a csak a koncertre való meghívását].
	(20e) ^{??} [Csak a koncertre] _{CTop} mindkét húgodnak ellenzem [a meghívását].
Both > Only > Disagree	(20f) ^{???} Mindkét húgodnak csak a koncertre ellenzem [a meghívását].
Disagree > Only > Both	(20g)? Ellenzem [a csak a koncertre való meghívását mindkét húgodnak].
	(20h)?? [Mindkét húgodnak] _{CTop} ellenzem [a csak a koncertre való
	meghívását].
Disagree > Both > Only	(20i) Ellenzem [mindkét húgodnak a csak a koncertre való meghívását].
	(20j) ^{???} [Csak a koncertre] CTop ellenzem [mindkét húgod meghívását].

Table 6: Preferred word orders belonging to scope orders

If the construction is sematically difficult, it is not easy to give our judgment on the well-formedness of the construction. The structure of the constructions can be logically possible, but our perception hinders or prevents its understandability.

3.2.4. The structure of the DP

We have provided an underspecified structure for the Hungarian DP with four different domains within it: for the datively case-marked possessor, there is a domain before the definite article and one post-nominal position, and as for the nominative possessor, there is the position after the D. Non-possessor arguments can stand after the N head, but they can also be used attributively in való-constructions before the N head. $\leftarrow \rightarrow$ In (21) the non-possessor argument is not in a való-construction, and precedes the D head.

(21) Mi bosszant?

what annoy.3Sg

Na például [?][az éjfélig tartó koncertre] az előzetes egyeztetés

nélküli meghívásotok, az nagyon bosszant.

well for_instance the midnight. Ter lasting concert. Sub the previous agreement without. Adj invitation. Poss 2Pl that very annoy. 3Sg

'What annoys you? Well for instance, as for your invitation to that concert lasting until midnight, without any previous agreement, that annoys me very much.'

4. Conclusions

- 1. We found some evidence for the existence of a nominal complement, and we introduced the *na például* (well for example) test as a constituency-test in Hungarian.
- 2. We tested three types of nominals with complements. We found that only deverbal nouns have real arguments; relational and story/picture nouns have conceptual arguments. The arguments of deverbal nouns can also take narrow scope under certain circumstances.
- 3. We examined the arguments of deverbal nouns in different positions. We can establish that there are at least two possible strategies assigned to an argument:
- a) it can stay after its head to show its argumenthood,
- b) it can move to a preverbal operator to fulfill its function.
- 4. We sketched out an underspecified structure for the DP, and mentioned a phenomenon that can modify our conception about the DP.

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