

Recursion Restricted

SinFonIJA • University of Ljubljana • 26 September 2015

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1 A distributional difference between caseless and dative possessors

- Hungarian DP-internal possessors oscillate between being caseless/‘nominative’ and dative

- (1) a. csak [a János könyve] érdekes
only the János book.POSS interesting
b. csak [János-nak a könyve] érdekes
only János-DAT the book.POSS interesting
both: ‘only János’s book is interesting’

- for the caseless possessor in (1a), a position between D (lexicalised as *a*) and the head noun is customarily postulated — ‘SpecPossP’ in (2a) [the label serves expository purposes]
- for the dative possessor in (1b), it has been standard since Szabolcsi’s seminal work (see Szabolcsi 1983, 1994) to place it in SpecDP, as in (2b); we assume that Hungarian dative case is a postposition, so the dative possessor is included in a PP

- (2) a. $[_{DP} D [_{POSSP} POSSESSOR_{caseless} [Poss [POSSESSUM]]]]$
b. $[_{DP} [_{PP} P [POSSESSOR_{dative}]] [D [_{POSSP} [Poss [POSSESSUM]]]]]$

- while the alternation between (1a) and (1b) is generally free, there are restrictions that cause one of the two variants to be unavailable under specific circumstances
 - only (2a) yields a grammatical output when the possessor is a silent pronoun: (3)

- (3) a. [a *pro* könyvem] érdekes
the book.1SG interesting
‘my book is interesting’
b. *[[*pro* nekem] a könyvem] érdekes
DAT.1SG the book.1SG interesting

- only (2b) has a grammatical output when the quantifier *ki* used as a relative pronoun, question word, or distributive quantifier: (4/5c–e)

- (4) a. mindenki könyve ‘everywho book.POSS, i.e., everyone’s book’
b. valaki könyve ‘somewho book.POSS, i.e., someone’s book’
c. *aki könyve ‘A.who book.POSS, i.e., whose book (RELATIVE)’
d. *ki könyve? ‘who book.POSS, i.e., whose book (INTERROGATIVE)’
e. *ki-ki könyve ‘who-who book.POSS, i.e., everyone’s book (DISTRIB)’

- (5) a. mindenkinek a könyve ‘everywho.DAT the book.POSS, i.e., everyone’s book’
b. valakinek a könyve ‘somewho.DAT the book.POSS, i.e., someone’s book’
c. akinek a könyve ‘A.who.DAT the book.POSS, i.e., whose book (REL)’
d. kinek a könyve? ‘who.DAT the book.POSS, i.e., whose book (INT)’
e. kinek-kinek a könyve ‘who.DAT-who.DAT the book.POSS, i.e., everyone’s book (DIST)’

- (4a,b) vs (4c–e) suggests that *ki* is grammatical *per se* as a caseless possessor but that under certain circumstances it ‘outgrows’ the DP-internal caseless possessor position
- semantic definiteness is not a factor in this: (6); the restriction must be syntactic in nature

(6)	a.	Mari mindenkit *(meg)talált Mari everyone.ACC PV found	‘Mari found everyone’
	b.	Mari (meg)talált valakit Mari PV found someone.ACC	‘Mari found someone’
	c.	akit Mari (meg)talált A.who.ACC Mari PV found	‘who Mari found’
	d.	kit talált (meg) Mari? who.ACC found PV Mari	‘who did Mari find?’

2 The central hypothesis

- what underlies the pattern in (4) is a restriction on self-embedding recursion structures: (7) [(7) is similar to Richards’ (2006) distinctness condition but distinct in (a) confining itself to phase-level α and (b) not being cast in terms of linearisation]

(7) *restriction on recursion*
 a phasal category of type α can be embedded in a phasal category of the same type where there is a c-command relation between the heads of the two instances of α only if the two instances of α are separated by a phase head

- the restriction in (7) is the counterpart of the c-command *cum* phasemate requirement imposed on deletion of identical copies of a single category under Internal Merge in (8)

(8) *restriction on copy deletion*
 a phasal category of type α can license the deletion of a phasal category of the same type where there is a c-command relation between the heads of the two instances of α only if the two instances of α are NOT separated by a phase head

3 The distribution of caseless and dative possessors explained

- in the structure of possessed noun phrases, there is no phase head between the possessed noun phrase’s outer D-head and the phrase which harbours caseless possessors

(9) a. $[_{DP} D [_{PossP} POSSESSOR_{caseless} [Poss [POSSESSUM]]]]$ (= (2))
 b. $[_{DP} [_{PP} P [POSSESSOR_{dative}]] [D [_{PossP} [Poss [POSSESSUM]]]]]$

- the combination of (7), (8) and (9) delivers the pattern in (4)–(5)
 - for (5), the size of the possessor is immaterial: the D-head of the possessed DP and the D-head of the dative possessor embedded inside the PP in SpecDP are not in a c-command relation, so dative possessors as large as full DPs cause no violation of (7)
 - for (4), size matters

3.1 *Relative aki as a possessor*

- (4c) *aki könyve (5c) akinek a könyve
 A.who book.POSS A.who.DAT the book.POSS

- in (4c), *a* (formally identical with the definite article) in the relative pronoun *aki* indicates that the relative pronoun is as large as a DP
- (10a) violates (7)

- (10) a. * $[_{DP} D [_{POSSP} [_{DP} a- [_{QP} ki]]] [_{POSS}=-e [_{NP} könyv]]]$
 b. $[_{DP} [_{PP} P [_{DP} a- [_{QP} kinek]]] [D [_{POSSP} Poss=-e [_{NP} könyv]]]]]$

3.2 *Interrogative ki as a possessor*

- (4d) *ki könyve? (5d) kinek a könyve?
 who book.POSS who.DAT the book.POSS

- in (4d), the [+WH] feature of *ki* is represented in D — ‘typing’ features are on phase heads
- (11a) violates (7)

- (11) a. * $[_{DP} D [_{POSSP} [_{DP} [+WH] [_{QP} ki]]] [_{POSS}=-e [_{NP} könyv]]]$
 b. $[_{DP} [_{PP} P [_{DP} [+WH] [_{QP} kinek]]] [D [_{POSSP} Poss=-e [_{NP} könyv]]]]]$

3.3 *Distributive ki-ki as a possessor*

- (4e) *ki-ki könyve (5e) kinek-kinek a könyve
 who-who book.POSS who.DAT-who.DAT the book.POSS

- in (4e), reduplication of *ki* involves two instances of *ki*, one of them in the DP domain
- we tie the phonology and semantics of *ki-ki* together by representing *ki*, the bare quantifier, in two positions in the complex noun phrase:
 (a) inside a DistP generated in the specifier position of DP, and
 (b) in the complement of D

- (12) $[_{DP} [_{DistP} Dist [_{QP} ki]_i] [D [_{QP} ki]_i]]]$

- with the DistP portion of *ki-ki* located in SpecDP, it follows that the structure of distributive *ki-ki* is necessarily as large as a DP
- (13a) violates (7)

- (13) a. * $[_{DP} D [_{POSSP} [_{DP} [_{DistP} Dist [_{QP} ki]_i] [D [_{QP} ki]_i]]] [_{POSS}=-e [_{NP} könyv]]]$
 b. $[_{DP} [_{PP} P [_{DP} [_{DistP} Dist [_{QP} ki]_i] [D [_{QP} ki]_i]]] [D [_{POSSP} Poss=-e [_{NP} könyv]]]]]$

3.4 *Universal mindenki and existential valaki as possessors*

- (4a) mindenki könyve (5a) mindenkinek a könyve
 everywho book.POSS everywho.DAT the book.POSS
 (4b) valaki könyve (5b) valakinek a könyve
 somewho book.POSS somewho.DAT the book.POSS

- the grammaticality of (4a,b) indicates that *mindenki* and *valaki* are smaller than DP
→ we treat *vala-* and *minden-* as modifiers of *ki*, adjoined to the QP of *ki*, as in (14)

(14) $[_{QP} \{vala-, minden-\} [_{QP} ki]]$

- (15) (Bende-Farkas 2014:110, fn. 19) suggests that *minden* is not inherently distributive
→ we do not attribute inherent distributivity to *minden*, and derive the fact that it overwhelmingly delivers distributivity from its external-syntactic distribution

(15) kibányásztak minden aranyat
PV.mine.PST.3PL every gold.ACC
'all (the) gold has been excavated'

- with *minden* not treated as a distributive quantifier, it is not placed in SpecDP
→ (16a) does not violate (7)

(16) a. $[_{DP} D [_{POSSP} [_{QP} minden-/vala- [_{QP} ki]]] [_{POSS=-e} [_{NP} könyv]]]$
b. $[_{DP} [_{PP} P [_{QP} minden-/vala- [_{QP} ki]]] [D [_{POSSP} POSS=-e [_{NP} könyv]]]]]$

ERGO all and only those *ki*-form possessors that are necessarily as large as DP are barred, by (7), from the caseless possessor position in the c-command domain of the D-head of the possessed noun phrase

4 Possessed possessors

- the recursion restriction in (7) also explains the fact that when a possessor is itself a possessed noun phrase, it usually cannot be caseless but must be dative-marked instead

(17) a. *[[János kalapja] széle]
János hat.POSS rim.POSS
b. *[[Jánosnak a kalapja] széle]
János.DAT the hat.POSS rim.POSS
c. [[János kalapjána]k a széle]
János hat.POSS.DAT the rim.POSS
d. [[Jánosnak a kalapjána]k a széle]
János.DAT the hat.POSS.DAT the rim.POSS
'the rim of János' hat'

- Hungarian possessed noun phrases with a common-noun or proper-name possessor are always of category DP, triggering definite agreement on the verb, even when their possessor and possessum are both indefinite (Bartos 1999, É. Kiss 2004)

(18) csak [egy diáknak két dolgozatát] találta/*talált
only one student.DAT two paper.POSS.ACC found.3SG.DEF/*INDEF
jutalomra méltónak a zsűri
prize.to worthy the jury
'the jury found only one student's two papers worthy of a prize'

- *János kalapja* ‘János’ hat’ in (17a) and *Jánosnak a kalapja* in (17b) must both be dominated by a DP node
- by (7), *János kalapja* and *Jánosnak a kalapja* are barred from being in the caseless possessor position: the recursion restriction takes care of the ungrammaticality of (17a,b)
- it is not true that when a possessed noun phrase in turn serves as the possessor of a larger noun phrase, it can *never* be caseless/‘nominative’
 - when the internal possessor is non-third person, it freely allows its possessed noun phrase to serve as a caseless possessor: (19)
 - when the possessor is third person, an overt caseless possessed possessor is grammatical only in the presence of number inflection: (20)

(19)	a.	az	én	kalapom	széle	‘my hat’s rim’
		the	I	hat.1SG	rim.POSS	
	b.	a	te	kalapod	széle	‘your hat’s rim’
		the	you.SG	hat.2SG	rim.POSS	
	c.	a	mi	kalapunk	széle	‘our hat’s rim’
		the	we	hat.1PL	rim.POSS	
	d.	a	ti	kalapotok	széle	‘your hat’s rim’
		the	you.PL	hat.2PL	rim.POSS	
(20)	a.	*az	ő	kalapja	széle	‘his/her hat’s rim’
		the	(s)he	hat.POSS	rim.POSS	
	b.	*az	Őn	kalapja	széle	‘Your hat’s rim’
		the	You	hat.POSS	rim.POSS	
	c.	az	ők	kalapjuk	széle	‘their hat’s rim’
		the	they	hat.POSS.3PL	rim.POSS	

- **descriptive generalisation:** when *kalap* bears ϕ -feature inflection (as in (19) and (20c)), its projection can serve as the caseless possessor of a larger possessed noun phrase; when it does not, it cannot

(21)	a.	$[_{\text{PossP}[\phi]} \text{POSSESSOR}_{[\phi]} [_{\text{Poss}[\phi]} [\text{POSSESSUM}]]]$	
	b.	$[_{\text{DP}} \text{D} [_{\text{PossP}} \text{POSSESSOR} [_{\text{Poss}} [\text{POSSESSUM}]]]]$	
	c.	$*[_{\text{PossP}} \text{POSSESSOR} [_{\text{Poss}} [\text{POSSESSUM}]]]$	(* if merged with an external X)

- Chomsky: an XP–YP structure cannot be labelled ‘from within’ unless XP and YP share a common set of features under agreement, with the shared features serving as the label
- in (21a), the shared ϕ -features of the possessor in SpecPossP and the Poss-head allow the XP–YP structure to be labelled, by ϕ
- when there is no ϕ -agreement between the possessor and Poss, the XP–YP structure (‘PossP’) must rely for its licensing on a local dependency between it and an external head that is part of the same *extended projection*
- for PossP, the D-head serves this purpose
- absent ϕ -agreement between the possessor and the Poss-head, a DP must be erected on top of PossP: (21b) is grammatical and suitable for further application of Merge; (21c) is unusable as a dependent in a larger syntactic structure

- (20a,b) vs (20c) now follows as an effect of the distribution of φ -feature agreement
 - (20c): the PossP of *kalapjuk* ‘their hat’ can be labelled by φ (PL), and merged directly as the possessor of *szél*, as in (22)
 - (22) obeys (7): (20c) is grammatical
- (22) $[_{DP} D=a(z) [_{PossP1[\varphi]} [_{PossP2} POSS'OR_{[\varphi]} [_{Poss2}_{[\varphi]} [POSS'UM]]] [_{Poss1} [POSS'UM]]]]]$
 - (20a,b): the PossP of *kalapja* bears no φ -features cross-referencing those of the possessor — *-ja* is a ‘bare’ possessive marker, not marked for φ
 - this PossP cannot be merged externally: (23a) is ungrammatical
 - a DP must be erected on top of PossP to complete the extended projection before the possessed noun phrase can be merged as the possessor of *szél* ‘rim’
 - (23b) violates (7): (20a,b) with overt pronouns are ungrammatical
- (23) a. $*[_{DP} D=a(z) [_{PossP1} [_{PossP2} POSS'OR [_{Poss2} [POSS'UM]]] [_{Poss1} [POSS'UM]]]]]$
 b. $*[_{DP} D=a(z) [_{PossP1} [_{DP} D [_{PossP2} POSS'OR [_{Poss2} [POSS'UM]]] [_{Poss1} [POSS'UM]]]]]$

NB (24) is grammatical
 → (24) has a structure different from those in (23), not containing a PossP2 at all
 → *radical* pro-drop

- (24) a kalapja széle ‘his/her/Your hat’s rim’
 the hat.POSS rim.POSS
- (25) $[_{DP} D=a [_{PossP} [_{xNP} kalapja] [_{Poss} [szél]]]]]$

5 Demonstrative possessors

- what we said about (4)–(5) carries over to the contrast in (26)
- (26) a. **ez könyve* this book.POSS b. *ennek a könyve* this.DAT the book.POSS ‘the book of this’
- Dékány (2011): Hungarian free-standing demonstratives are portmanteaux of N, Dx (a deixis head) and D
 - independently used demonstratives always require D to be projected
 - (26a) violates (7)
- Hungarian case-concordial demonstratives in adnominal position are also base-merged as full DPs in a position c-commanded by D and not separated from D by a phase head
 - case-concordial demonstratives must raise to SpecDP to avoid violating (7)
- (27) a. *ezt a könyvet* this.ACC the book.ACC b. **az ezt könyvet* the this.ACC book.ACC
- demonstratives belong to the DxP portion of the structure of the extended noun phrase in (28b) (paralleling the structure of the clause in (28a))
- Hungarian case-concordial demonstratives are phrasal: they originate in SpecDxP
- if they stay there, as full-blown DPs immediately embedded below D, they violate the recursion restriction in (7)

- (28) a. $[_{CP} C [_{D_{XP}} Dx (\approx T) [_{AspP} Asp [_{VP} V]]]]$
 b. $[_{DP} D [_{D_{XP}} Dx [_{AspP} Asp (\approx Num) [_{NP} N]]]]$

- D_xP in (28b) is strictly dependent on D: D_xP cannot survive without a local D
- whenever an extended noun phrase contains a demonstrative, it must be as large as a DP
- a phrasal case-concordial demonstrative must raise out of D's c-command domain: (7)
- independently, we know about occupancy of SpecDP in Hungarian that it requires the presence of an overt determiner in the D-head: (29)

- (29) Jánosnak *(a) könyve
 János.DAT the book.POSS

- the ungrammaticality of (30a) now follows: there is a D-head locally c-commanding the DP of *ezt* in SpecD_xP; so *ezt* must raise; but there is no legitimate landing-site for *ezt* in (35a) because silent D does not accommodate a specifier for movement in Hungarian

- (30) a. **ezt* könyvet b. *e/eme* könyvet
 this.ACC book.ACC this book.ACC

- the non-case-concordial demonstratives in (30b) never occur in pre-determiner positions and do not have free-standing, independent uses; they have no phrasal distribution
- they are exponents of the D_x-head in the extended projection of the noun (cf. (28b))
- (30b) does not violate (7)

6 On the external definite article of possessed noun phrases

- for (31), with the possessor in SpecPossP below D, (7) requires that the definite article *the* NOT form a constituent with *man*
- *the* in (31) must be the exponent of the outer D-head

- (31) the man's coat

- the non-constituency of *the man* predicts its non-extractability

- (32) a. *the man is easy to find 's coat
 b. *the man was slept in 's bed by a famous actress

- the possessor should logically be able to strand the genitival marker
- even if (33) (Kayne, Radford) involves extraction with stranding of the genitival marker, this is still irrelevant to the question of whether *the* and *man* in (31) form a constituent: (33) involves just the bare *wh*-word *who*, whereas (31) features the string *the man*

- (33) a. the woman who I saw a picture of 's daughter
 b. that's the guy who I think 's sister is the lead singer in a new band

- no reported cases in which strings of a definite article or *which* and a head noun serving as a possessor occur separated from the genitival 's and the possessum — *the president*, *I think 's coat is on the chair* or *which man do you think 's coat is on the chair?*

→ if such strings are good, they can be assimilated to (34) (Jespersen 1927), via resumption

(34) the fellow who you don't know his name

→ if such strings are bad, they pattern with (32), for which resumption is not available, for independent reasons: no resumption in *tough*-movement or NP-raising constructions

→ the ungrammaticality of (32) confirms that *the man* in (31) is not a constituent, as predicted by the recursion restriction in (7)

• the placement in the outer D-head of the definite article immediately preceding the possessor also accounts for the fact that *the man's coat* in (31) is outwardly definite: cf. (35)

- (35) a. there is {a/*the} man's coat on the chair
b. there is {a/*the} coat on the chair

7 Conclusion

• grammar places a restriction of self-embedding recursion structures:
if a phase α is embedded in a phase of the same type and there is a c-command relationship between the heads of the two α 's, then

- (i) the two instances of α must be separated by a phase head β different from α , or
(ii) the lower instance of α must be silent

→ the fact that Hungarian interrogative, distributive, relative, and demonstrative pronouns can be dative possessors but cannot fill the caseless possessor position can be derived from (7) in conjunction with the fact that interrogative, distributive, relative, and demonstrative pronouns all project up to DP

• possessed possessors instantiate Chomsky's 'problem of projection': they have to either bear φ -agreement (which labels the structure) or be embedded under an external licenser that completes the extended projection — D

ACKNOWLEDGEMENTS *The first author gratefully acknowledges the financial support of the Distinguished Guest Scientist Fellowship Programme of the Hungarian Academy of Sciences, which made his stay in Budapest from 1 September 2014 to 30 June 2015 possible. The second author is grateful for the financial support of the Hungarian Scientific Research Fund (OTKA NK 100804) and a postdoctoral grant of the Hungarian Academy of Sciences.*

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