

A Restriction on Recursion

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1 The central hypothesis^{*}

The central hypothesis of this paper is that there exists a restriction on self-embedding recursion structures created through Merge, stated in (1).¹

- (1) *restriction on recursion*
a phasal category of type α can be embedded in a phasal category of the same type where there is an asymmetric 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

(1) is the counterpart of the c-command *cum* phasemate constraint on deletion of identical copies of a single category under Internal Merge (Chomsky 2001). Internal Merge establishes a relationship between two copies such that the higher one asymmetrically c-commands the lower one, and causes the latter to remain silent (‘delete’). Only phase-level categories are eligible for Internal Merge, and the structural relation between the two copies must, besides c-command, obey the requirement that they not be separated by a phase head. This is recapitulated in (2).²

- (2) *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 an asymmetric 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

Juxtaposition of (1) and (2) reveals that the restrictions on recursion and movement are identical except for (a) the main predicate (‘be embedded in’ vs ‘license the deletion of’) and (b) the polarity of the conditional clause (positive in (1) and negative in (2)). Effectively, when two asymmetrically c-commanding instances of a phase-level category α are in a local structural configuration (‘phasematehood’), the result is ungrammatical unless the lower instance of α is invisible.

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1 We assume that a head c-commands everything that it itself and its syntactic projection c-command. So in a configuration in which α is a phrase in a specifier position that binds a copy further down the tree, the head of α c-commands the lower copy of α , and thereby also the lower copy of the head of α . This is the straightforward result of endocentricity, i.e., the feature-sharing relation between a head and its phrase. In a bare phrase structure model, all we have is α ; no principled distinction between the head of α and its phrase can even be made in such a model.

2 The restriction in (2) is a necessary condition for copy deletion but not a sufficient one: the two instances of α must not only be phasemates engaged in an asymmetrical c-command relation, but they must also be in a *chain*. This is an additional constraint specific to copy deletion.

1.1 *The central hypothesis in its historical and contemporary context*

The recursion restriction in (1) is a ‘filter’ in the sense of earlier generative approaches. In more current terminology, it evaluates the product of free Merge at the phase level, and rejects any and all structures that disobey (1). This is in line with recent research in the minimalist program. As Chomsky (2015: 14) puts it, ‘operations can be free, with the outcome evaluated at the phase level for transfer and interpretation at the interfaces’. It may be that the ban on local self-embedding recursion is not a domain-specific constraint placed on Universal Grammar but has its roots in human cognition, and is not ultimately specific to the human language faculty, deriving instead from third-factor principles. We will proceed conservatively here and postulate (1) as a linguistic constraint.

In doing so, we follow in the footsteps of several earlier proposals to rein in the embedding of a category α within a larger category α , including Hoekstra’s (1984) Unlike Category Constraint (UCC) and Van Riemsdijk’s (1988, 1998) Unlike Feature Condition (UFC).³ These concentrated specifically on cases of immediate self-embedding under complementation: Hoekstra proscribes $[_X \text{ X } [_{YP} \dots \text{ Y } \dots]]$ configurations for all cases in which X and Y are categorially identical; Van Riemsdijk finds fault with a category-based restriction of this sort, approaching the matter from the point of view of categorial *features* ($[\pm N, \pm V]$) rather than whole categories (A, N, P, V), but still focuses entirely on the head–complement relation.

More recently, Richards (2006) has proposed a Distinctness Condition that ‘rejects trees in which two nodes that are both of type α are to be linearized in the same phase, and are in an asymmetric c-command relation’ (p. 3). In his discussion of the ban on English infinitival relatives with an overt nominal *wh*-constituent (as in *the man (*who/*whose brother) to invite*), Richards comes closest to a treatment along lines similar to (1): the DP of *who* or *whose brother* is structurally too close to the D-head of the relativized noun phrase, making linearization impossible.⁴ But unlike us (and Chomsky 2001, as well as many others; see e.g. Bošković 2012: sect. 2 for an overview and discussion), Richards assumes throughout that DP is not a phase, hence that D is not a phase head.⁵ A significant difference between Richards’ (2006) Distinctness Condition and our restriction in (1) is thus that the former does not confine its reach to *phase-level* instances of α . This prevents Richards’ proposal from casting his Distinctness Condition as the natural opposite to the well-known restriction on Internal Merge in (2). For us, by contrast, (1) and (2) come as a package.

3 Van Riemsdijk notes the connection between these syntactic constraints and the Obligatory Contour Principle from the phonology literature, dating back to Leben (1973). Richards (2006:fn. 1) gives a few other references to work on a ‘syntactic OCP’.

4 Richards does not have a worked-out proposal for why the finite counterparts to these infinitival relatives are fine: *a man (who/whose brother) we should invite*. He suggests that there might be additional structure between the outer D-head and the relative operator; but how this could be a function of the finiteness of the relative clause remains unclear.

5 In line with most of the literature, Richards makes his decisions regarding the phasehood of categories entirely on the basis of what his theory requires: thus, in the opening paragraph of his section 4, he writes that ‘we will see examples in which Distinctness violations are avoided by adding extra structure; given the approach developed here, we will have to regard these extra morphemes as phase heads, introducing a Spell-out boundary between the potentially unlinearizable nodes.’ In this paper we make no tailor-made decisions about phasehood, and take the pervasive parallelism between CP and DP as a solid basis for assuming that the latter, like the former, is a phase — a complete R-expression, the counterpart to a complete proposition.

The scope of Richards' Distinctness Condition is very different from that of the UCC and the UFC. It even includes cases such as **'It's cold,' told John Mary* (quotative inversion involving a transitive verb, with two categorially indistinct DPs in immediate succession) under its purview — cases in which there is a c-command relation between the two nodes of type α but no *domination* or *inclusion* relationship. Our recursion restriction only has jurisdiction over domination configurations (embedding under asymmetric c-command), following in this respect the UCC and the UFC, though not confining itself to the direct complement-of relation. As a consequence, (1) cannot be cast as a constraint on linearization (which, following Kayne 1994, is a function of c-command relations, not domination), and the empirical facts under discussion in this paper will not fall out from a Distinctness Condition on linearization.

Another distinction between (1) and Richards' Distinctness Condition is that (1) only has jurisdiction over local recursion of *phasal* α : nothing in principle forbids immediate self-embedding of *non-phasal* categories, as in $[_{VP} V [_{VP} V \dots]]$ structures, usually referred to as cases of 'restructuring' or 'clause union', and often treated as curiosities. Our proposal ensures the legitimacy of such local self-embeddings directly. Richards' (2006) Distinctness Condition, by contrast, fails to linearise all trees in which we find an asymmetric c-command relation between two phasate nodes of type α . By not confining its reach to *phase-level* instances of α , Richards' condition rules out local VP recursion structures. Not limiting itself to phase-level α 's also prevents Richards' proposal from casting the recursion restriction as the natural opposite to the well-known restriction on Internal Merge in (2).

With (1) and (2) conceived of as a package, the recursion restriction does not rule out situations in which a *silent* copy of α is embedded in a phasal category of the same type and there is no phase head in between. So movement can 'save' a case of local self-embedding. This helps us understand an otherwise quite intractable set of facts about possessive noun phrases in Hungarian, which is the topic of section 2, the core of the paper.

1.2 *The structure of the paper*

The rest of the paper concerns itself primarily with a number of other previously ill-understood properties of Hungarian complex noun phrases, which will be seen to fall out directly from the recursion restriction in (1). In section 3, we look at restrictions on possessor recursion. Section 4 addresses a constraint on demonstrative possessors. Section 5, which looks beyond Hungarian, asks the question of how the external determiner of possessive noun phrases should be mapped into the structure of the complex noun phrase, in accordance with the recursion restriction in (1). A brief conclusion is offered in section 6.

2 **A distributional difference between caseless and dative possessors**

2.1 *Some preliminaries*

Possessors inside the Hungarian noun phrase oscillate between being caseless ('nominative') and dative: (3a) and (3b) are both grammatical and mean the same thing.⁶

6 We used the focus construction to ensure that the bracketed strings in (3) are indeed single syntactic constituents. We will turn in section 2.5 to the question of why there is speaker variation regarding the grammaticality of the definite determiner in (3a).

- (3) 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’

We assume that Hungarian caseless possessors uniformly occupy a position between D (lexicalised as *a*) and the head noun (see e.g. Den Dikken 1999). Assimilating the internal structures of the noun phrase and the clause, and treating the caseless possessor as the structural subject of the possessive noun phrase, we will call this position ‘SpecIP’ for concreteness.⁷ For the dative possessor in (3b), it has been standard since Szabolcsi’s seminal work (see Szabolcsi 1983, 1994) to place it in SpecDP, as in (4b). We assume that Hungarian dative case is a post-position (see *i.a.* Asbury 2008, Hegedűs 2013). So the dative possessor is included in a PP.

- (4) a. [DP D [IP POSSESSOR_{caseless} [I [POSSESSUM]]]]
 b. [DP [PP P [POSSESSOR_{dative}]] [D [IP [I [POSSESSUM]]]]]

2.2 Two restrictions on the possessive case alternation

While the alternation between (3a) and (3b) is generally free, there are restrictions that cause one of the two variants to be unavailable under specific circumstances.

When the possessor is a silent pronoun (*pro*), only (4a) yields a grammatical output. We see this in (5). This is not much of a puzzle: the SpecDP position is an \bar{A} -position, and \bar{A} -positions are not usually the kinds of positions that *pro* is licensed to occur in.⁸

- (5) 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

7 The label ‘IP’ for us serves expository purposes only. We have chosen to eschew the use of the label ‘PossP’ because the literature on Hungarian already exploits this label in a way different from the one we intend.

8 Two of our reviewers note correctly that (5b) does not improve when the overt first-person singular pronoun *én* ‘I’ is used: **énnekem a könyvem érdekes* ‘my book is interesting’. This does not subtract from the point made in the text, however. In Dékány (2011:§5.2) it is argued that in oblique case contexts, the pronoun is not in the complement position of the case marker. The strongest support for this hypothesis comes from the fact that the oblique case particles systematically fail to show vowel harmony with the pronoun to which they are attached (see e.g. *énhozzám, tehozzád, őhozzá* ‘towards me, you, him/her/it’ and *énnálam, tenálad, őnálá* ‘at me, you, him/her/it’). (It so happens that with the dative case particle, this cannot be seen directly, because the front-vowel form *-nek* is the default form in this case, and none of the personal pronouns has a back vowel (*maga* ‘You_{SG}’ is arguably not a pronoun but a full DP), so disharmony will never arise.) If the pronoun were itself the complement of the oblique case particle, it would be very difficult to understand how vowel harmony could be prevented. Dékány’s (2011) conclusion that the pronoun is not in the complement position of oblique case particles (but ‘stands in an appositive-like relation to the case marker’; cf. Bartos 1999, Moravcsik 2003) entails that oblique case constructions featuring an overt pronoun involve a *pro* in the complement position of the case particle (which we analyse as a P):

(i) [én_i [*pro*_i nekem]]

More interesting is the fact that there is also a restriction on the distribution of (4a,b) that works in the opposite direction, causing (4a) to have no grammatical output. We see this restriction at work in (6c–e), featuring (a compound headed by) the quantifier *ki* ‘who’ used as a relative pronoun, question word, or distributive quantifier. In these cases, the possessor must be dative, as in (6c–e).

- (6)
- a. mindenki könyve
everywho book.POSS
‘everyone’s book’
 - b. valaki könyve
somewho book.POSS
‘someone’s book’
 - c. *aki könyve
A.who book.POSS
‘whose book (RELATIVE)’
 - d. *ki könyve?
who book.POSS
‘whose book (INTERROGATIVE)’
 - e. *ki-ki könyve
who-who book.POSS
‘everyone’s book (DISTRIBUTIVE)’
- (7)
- a. mindenkinek a könyve
everywho.DAT the book.POSS
‘everyone’s book’
 - b. valakinek a könyve
somewho.DAT the book.POSS
‘someone’s book’
 - c. akinek a könyve
A.who.DAT the book.POSS
‘whose book (RELATIVE)’
 - d. kinek a könyve?
who.DAT the book.POSS
‘whose book (INTERROGATIVE)’
 - e. kinek-kinek a könyve
who.DAT-who.DAT the book.POSS
‘everyone’s book (DISTRIBUTIVE)’

The contrast between (6a,b), on the one hand, and (6c–e), on the other, suggests that *ki* is grammatical *per se* as a caseless (‘nominative’) possessor but that under certain circumstances it ‘outgrows’ the DP-internal caseless possessor position, and can only be realised in the DP-peripheral dative possessor position, as in (7). The question that concerns us in the remainder of this section is what is responsible for this restriction on the distribution of *ki*-possessors.

2.3 *It is not the semantics*

Semantic definiteness is clearly not a factor in this. (6a,b) do not form a natural class as opposed to (6c–e) in terms of semantic definiteness. The *ki*-forms in (6b–d) are all indefinite, and hence

happily occur as objects of constructions with so-called ‘definiteness effect verbs’ such as *talál* ‘find’, which, when not modified by a preverb, only accept indefinite objects (see Szabolcsi 1986). The *ki*-form in (6a), on the other hand, is semantically definite (‘strong’), and can be used as the object of *talál* ‘find’ only when the preverb (‘PV’) *meg* is added. We illustrate this in (8).⁹

- (8) 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’

Since it is not semantic, the restriction at work in (6) must be syntactic in nature. In the next subsection, we analyse the facts in (6) and (7) from the perspective of the main proposal of this paper: the recursion restriction in (1).

2.4 The distribution of caseless and dative possessors explained

In the structure of possessive noun phrases that we adopted in section 2.1, reproduced in (9), there is no phase head between the possessive noun phrase’s outer D-head and the phrase which harbours caseless possessors in its specifier position. IP may be separated from D by projections belonging to the functional sequence of the possessum, but no phase head can occur between IP and D.

- (9) a. $[_{DP} D [_{IP} \text{POSSESSOR}_{\text{caseless}} [I [_{\text{POSSESSUM}}]]]]$ (= (4))
 b. $[_{DP} [_{PP} P [_{\text{POSSESSOR}_{\text{dative}}}] [D [_{IP} [I [_{\text{POSSESSUM}}]]]]]]]$

The combination of (1), (2) and (9) delivers the pattern in (6)–(7) as follows. For datives, as in (7), the size of the possessor is immaterial. Even when the possessor is a full-size DP, the D-head of the possessive 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 will not cause a violation of (1). This is true entirely regardless of whether the dative possessor is base-generated in SpecDP or binds a silent copy in the c-command domain of the possessum’s D-head. For recall that (1) and (2) form a package, and (2) explicitly allows α to locally c-command an element of the same type as long as α remains silent. The structure in (9b) is therefore grammatical irrespective of the question (which we will not take a stand on here) of whether or not dative possessors come from a lower position within the possessive noun phrase. The dative possessor will always be allowed to be a full DP; its size is entirely immaterial.

For (6), with a caseless possessor in SpecIP, on the other hand, size matters. Let us go through the trespassers in (6c–e) one by one in the following subsections.

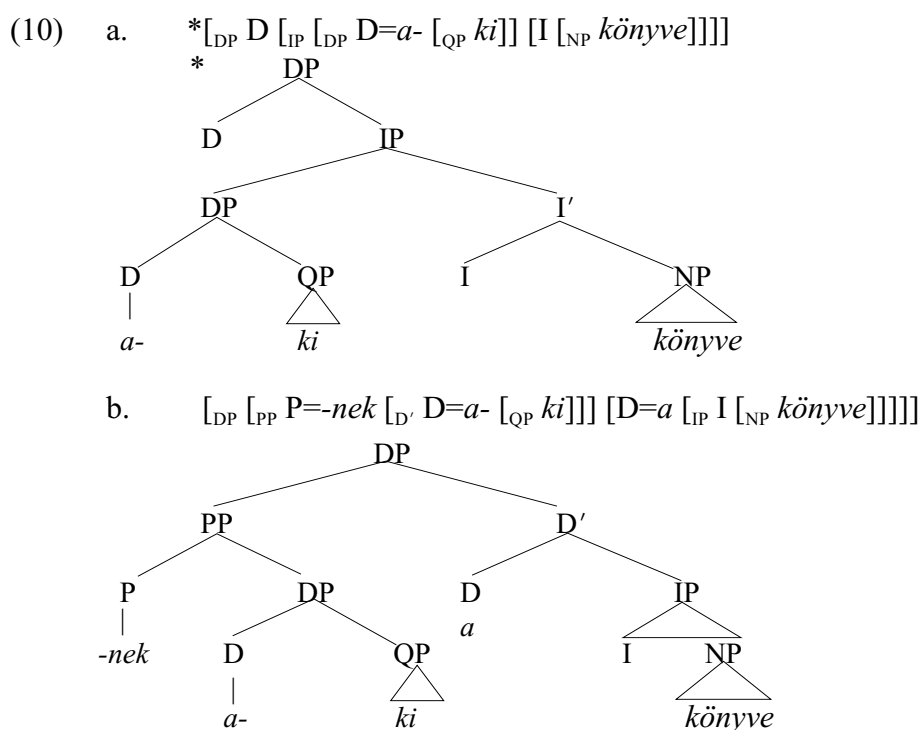
⁹ Unfortunately, *ki-ki* cannot be used in this environment regardless of whether a preverb is present or not. So we have not included an example with *ki-ki* in (8).

2.4.1 Relative *aki* as a possessor

In (6c) (repeated below, along with (7c)), the presence of *a* (formally identical with the definite article *a*) in the relative pronoun *aki* indicates that, while semantically indefinite, the relative pronoun is as large as a DP.

- (6c) **aki könyve*
 A.who book.POSS
 (7c) *akinek a könyve*
 A.who.DAT the book.POSS
 ‘whose book (RELATIVE)’

The ungrammaticality of **aki könyve* (6c) then follows from (1), as the structure in (10a) illustrates:¹⁰ the D-head of the possessor in SpecIP in (10) is c-commanded by the D-head of the possessive noun phrase, resulting in a local self-embedding configuration for the category D. With (7c), represented in (10b), there is no such problem: the two D-heads are not in a relationship of c-command in this structure, so (1) is moot.



Readers who are satisfied that this takes care of the facts in (6/7c) are welcome to skip straight down to section 2.4.2 at this point. But for the benefit of those who have concerns about our hypothesis that the *a-* of Hungarian relative pronouns is formally a D, we dedicate the remainder of the present subsection to allaying these concerns.

The reason why some readers may be disinclined to immediately accept our hypothesis that relative *a-* is formally a D is that, on a popular analysis of the distribution of definiteness inflection in Hungarian, the facts in (11) seem to conflict with that hypothesis.

10 Here and in what follows, we treat *ki* as a bare quantifier, its projection labelled ‘QP’.

- (11) valaki/ az ember akit szeretek/*szeretem
 someone/the man A.who.ACC love.1SG.INDEF/*DEF
 ‘someone/the man I love’

A widely held analysis of definiteness agreement pattern exhibited by Hungarian finite verbs is couched in terms of the DP *vs* smaller-than-DP distinction (see esp. Bartos 2001b and É. Kiss 2000, 2002): objects that are as large as DPs trigger a finite verb form from definite (or objective) conjugation; indefinite (or subjective) inflection occurs when the object is smaller than DP. That the relative pronoun, when serving the object function within the relative clause, triggers the indefinite/subjective conjugation of the verb, as shown in (11), is unexpected if (a) DP-objects always control DEF inflection, and (b) the relative pronoun *akit* in (11) is a DP constituent originating in the object position of the relative clause.

But the indefinite inflection in (11) is not necessarily in conflict with our hypothesis that the *a-* of relative pronouns is a D. There are two lines of approach to the matter, each equally plausible in principle. One would be to call (a) into question; the alternative is to hold on to (a) and to find a way to square it with (b). Let us start with the second approach.

Assuming that the *a-* of relative pronouns is a D, as is highly plausible in light of its morphophonology, is not tantamount to assuming that it necessarily forms a constituent with the relative pronoun. A reasonable hypothesis would be to assume that *a-*, which occurs at the left edge of the relative clause, first tries to combine with the relative clause as a whole — much as in Kayne’s (1994) update of Vergnaud’s raising analysis of relative clause constructions:

- (12) [_{DP} *valaki* [D=*a-* [_{CP} *kit*_i [C [_{TP} *szeretek* *t*_i]]]]]

Since relative *a-* is a prefix, it needs to be able to form a unit in the PF component with the *wh*-operator in the left periphery of the relative CP. On the assumption that the left edge of CP is visible to D, this is unproblematic in the case of (12). But in (6c) or (7c), if *a-* were a D-head outside the relative CP, no PF-unit could be formed out of *a-* and *ki(nek)*: the relative pronoun in these examples is a proper subpart of the phasal DP constituent in SpecCP, invisible to the outer D.¹¹

11 Though the matter deserves more attention than we can give it here, it seems to us that the text discussion may also allow us to understand the fact that while (6c) (**aki könyve*) is impossible, phrasal caseless possessors are grammatical in correlative constructions (as a reviewer points out):

- (i) a. *amelyik ember könyve érdekes, az (az ember) nem unatkozik*
 A.which man book.POSS interesting that the man) not bored
 ‘the man whose book is interesting, that man isn’t bored’
 b. *ahány ember könyvét elveszed, annyi fog újat venni*
 A.how.many man book.POSS.ACC confiscate.2SG that.many will new.ACC buy
 ‘however many people’s book you confiscate, as many people will buy a new one’

Our tentative hypothesis is that *amelyik* and *ahány* in these constructions occupy the D or SpecDP position of the possessive DP, with *ember* ‘man’ on its own in the caseless possessor position. Placing *aki* in (6d) in D or SpecDP is impossible (even in free relatives) as the caseless possessor position would then be occupied by a (silent) resumptive pronoun locally bound by the *wh*-operator, in violation of the anti-locality restriction on resumption (McCloskey 1990). This is echoed in the fact that (as our reviewer also notes; cf. Szabolcsi 1994) once *ember* is replaced with *pro* in the examples in (i), the result becomes degraded, and only a dative possessor construction is grammatical:

- (ii) *amelyik-?(nek a) könyve érdekes, az nem unatkozik*
 A.which-DAT the book interesting that not bored

- (13) *_{[DP valaki [D=a- [CP [DP ki(nek) könyve]_i [C [TP ... t_i ...]]]]]}

With (13) ill-formed, the first-resort strategy of treating relative *a-* as a D-head outside the relative clause must be abandoned, and the alternative of mapping it into a minimal constituent with the *wh*-pronoun *ki* must be exploited. In the case of (7c), this delivers a grammatical result, as shown already in (10b). But for (6c), placing the DP of *aki* in the caseless possessor position inside a larger DP, as in (10a), violates the recursion restriction.

For (6c), neither a treatment of *a-* as a D-head outside the relative clause, as in (13), nor one that maps it into a minimal DP together with the *wh*-pronoun *ki*, as in (10a), is grammatical. The string in (6c) therefore has no chance of survival. For (7c), even though (13) fails, there is a grammatical alternative, given in (10b). And for (11), the first-resort strategy of placing *a-* in the D-head outside the relative CP delivers a grammatical result, thereby allowing the *wh*-pronoun *ki* to be smaller than DP and to trigger INDEF inflection on the finite verb in the relative clause. Since the first-resort option in (12) is grammatical, no other option is considered; so *akit* is never treated by the grammar as a minimal DP constituent, and DEF inflection is ruled out.

This way of reconciling the analysis of (6c) given in (10a) with the agreement facts in (11) allows us to preserve the Bartos/É. Kiss approach to the distribution of the definite or objective conjugation, based on DP-hood. But Coppock & Wechsler (2012) argue (based on earlier work by Coppock) that that approach to definite agreement is itself not right. They present the cluster of facts in (14) and (15) as a major problem for the DP-hood approach.

- (14) a. eltitkolom valamennyi találkozást
 keep.secret.1SG.DEF each meeting.ACC
 b. eltitkolok minden találkozást
 keep.secret.1SG.INDEF every meeting.ACC
 ‘I keep each/every meeting a secret’
- (15) a. a Mari {valamennyi/minden} könyve
 the Mari each/every book.POSS
 ‘Mari’s every book’
 b. (*a) {valamennyi/minden} könyv(e)
 the each/every book.POSS
 ‘(her) every book’

In (15), we see that *valamennyi* ‘each’ and *minden* ‘every’ behave very much on a par within the complex noun phrase: when there is some material to the left of the quantifier, both co-occur with the definite determiner *a* (see (15a)); but in the absence of such intervening material, the definite article cannot show up in combination with either of these quantifiers. The grammaticality of (15a) can be taken to show that both *valamennyi* and *minden* occur in full-blown DPs, whose D-head is spelled out unless it is string-adjacent to the quantifier, as in (15b) (cf. Szabolcsi’s 1994 haplology rule). But if that is what (15a) shows, then the agreement difference seen in (14) is unexpected from the point of view of the DP-hood approach to definiteness agreement: if both *valamennyi* and *minden* are contained in full DPs, they ought to behave on a par with respect to the agreement form of the verb they trigger when serving as object quantifiers; but the fact of the matter is that they do not. On the other hand, if one wants to uphold the DP-hood approach by maintaining that *valamennyi találkozást* in (14a) is not a DP while *minden találkozást* in (14b) is, the fact that inside the DP the two quantifiers behave exactly alike when it comes to the distribution of the definite determiner, as (15) shows, remains mysterious.

Coppock & Wechsler (2012) conclude from the combination of (14) and (15) that definiteness inflection is not correlated with the status of the object as a DP. Their alternative, in terms of a feature [\pm DEF] whose distribution is not linked to D, is, as far as we can tell, exactly as deep as the facts are. But whatever the right approach to noun phrases quantified by *valamennyi* ‘each’ and *minden* ‘every’, the analysis of (6c) given in this subsection will stave off trouble in the face of (11): if the DP-hood approach is correct, our analysis avoids a conflict with (11) by allowing the *a*- of the relative pronoun to project as in (12); and if Coppock & Wechsler (2012) are right that DP-hood is not the key to definiteness agreement in Hungarian, the indefiniteness inflection of (11) has no direct bearing on the analysis of (6c) at all.

2.4.2 Interrogative *ki* as a possessor

For interrogative **ki könyve* (6d) (repeated below along with (7d)), we adopt a structure that represents its [+WH] feature in D.

- (6d) **ki könyve?*
 who book.POSS
- (7d) *kinek a könyve?*
 who.DAT the book.POSS
 ‘whose book (INTERROGATIVE)’

We do so on the assumption that ‘typing’ features (in the sense of Cheng 1991) are located on phase heads: in order to be selectable and movable as a question operator, an interrogative *wh*-element has to be dominated by DP.¹² This is depicted in (16a), which once again runs afoul of (1). As before, the dative-possessor construction in (7d) is well-behaved, as shown in (16b).

- (16) a. $*[{}_{DP} D [{}_{IP} [{}_{DP} [+WH] [{}_{QP} ki]] [I [{}_{NP} könyve]]]]$
 b. $[{}_{DP} [{}_{PP} P=-nek [{}_{D'} [+WH] [{}_{QP} ki]]] [D=a [{}_{IP} I [{}_{NP} könyve]]]]$

The analysis in (16) raises a similar potential concern in the realm of definiteness agreement to the one raised by (10). Once again, *kit* qua accusative object triggers indefinite inflection on the finite verb, as shown in (17).

12 This statement holds for *wh-ex-situ* languages such as present-day Hungarian, but presumably not for *wh-in-situ* (constructions within) languages. This is potentially relevant for an understanding of the fact that in older varieties of Hungarian, one occasionally comes across *wh*-phrases of the type in (6d): *ki fia-borja* ‘who son.POSS calf.POSS, whose offspring’, *ki tanya-ja ez a nyárfás?* ‘who farm.POSS this the poplar grove, whose farm is this poplar grove?’. (The pattern seems vanishingly rare even in Old Hungarian: a search we ran on a >130,000-word tagged corpus of Old Hungarian codices unearthed a mere 7 tokens, all from the same source.) For *wh*-phrases such as *ki tanya-ja* ‘whose farm’, a reasonable analysis would locate the [+WH] feature not on the D associated locally with the *wh*-word *ki* but instead on the D-head of the possessive noun phrase, with the *wh*-word itself smaller than DP (at most a QP) and unmarked for the ‘typing’ feature, and therefore in principle eligible to occur in phrase- and clause-internal positions (*in situ*). To determine what was going on in the syntax of Hungarian at the stage at which *ki tanya-ja* was possible, one needs to know what the status of the definite article was at that time, what other aspects of nominal phrases were different, and to what extent the language allowed for *wh-in-situ*. Egedi (2013, 2014) shows that the use of articles spreads gradually in Old Hungarian. Little else is known with any certainty about the diachronic syntax of the Hungarian DP, or, for that matter, about the distribution of *wh*-phrases in questions. A proper account of the diachronic data regarding caseless *wh*-possessors would require an enterprise investigating the structure of the entire DP as well as that of interrogative constructs at the relevant period, which we cannot undertake in the context of the present paper. (One of our reviewers mentions that (s)he finds (6d) ‘marginally okay’, but rejects *kik könyve?* ‘who.PL book’. We have no account for this contrast. If it is systematic among a significant number of speakers, it seems to be the opposite of the one Szabolcsi (1994) notes for **ez/°ezek könyve*; see section 4.1, below.)

- (17) kit szeretsz/*szereted?
 who.ACC love.2SG.INDEF/*DEF
 ‘who do you love?’

Here the problem is perhaps less pressing because even with a DP-node erected over *kit* there still is no definite determiner present, unlike in the case of *akit*, whose *a-* we analysed as an exponent of D. But the whole point of the DP-hood approach to definiteness agreement is precisely that the mere presence in the structure of the object of a projection of D will trigger definite inflection — regardless of whether this D is overt or silent. So our hypothesis that [+WH] is in D as it stands runs into a conflict with the DP-hood approach.

We could respond to this challenge in much the same way we did for relative *aki*. One response would be to abandon the DP-hood hypothesis, in Coppock & Wechsler’s (2012) footsteps. The alternative will be to take the [+WH] D to preferentially project high, outside CP, while *wh*-possessors force low generation. We will postpone the pursuit of this alternative to some future point at which the ongoing debate in the literature about the DP-hood hypothesis for definiteness agreement will have reached a clear conclusion.

2.4.3 Distributive *ki-ki* as a possessor

The ill-formedness of **ki-ki könyve* (6e) (repeated below along with (7e)) can be made to fall out along the same lines as that of (6c) and (6d).¹³

- (6e) **ki-ki könyve*
 who-who book.POSS
 kinek-kinek a könyve
 who.DAT-who.DAT the book.POSS
 ‘everyone’s book (DISTRIBUTIVE)’

First, let us be explicit about how to treat reduplicative *ki-ki*. We adopt an analysis of reduplication of *ki* as involving two instances of *ki*, one of them in the DP domain. More precisely, we would like to tie the phonology and semantics of *ki-ki* together by assuming that *ki*, the bare quantifier (which is not itself distributive), is represented in two positions in the complex noun phrase that it is dominated by: (a) inside a DistP located in the specifier position of DP, and (b) in the complement of D. This is depicted in (18). The two instances of *ki* are fully identical. But because they are not in a c-command relation, neither is marked for deletion, and both undergo vocabulary insertion at PF.¹⁴

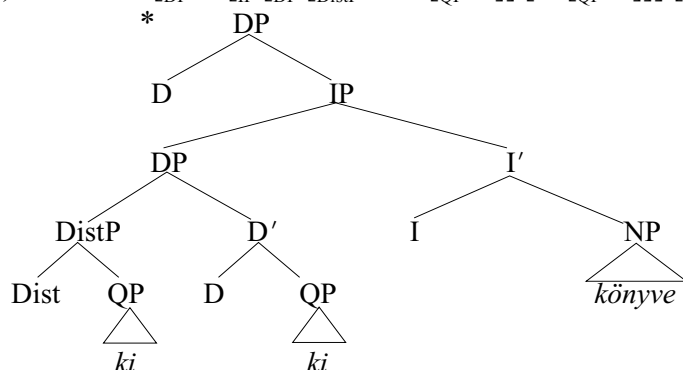
- (18) [DP [DistP Dist [QP *ki*]] [D [QP *ki*]]]

With the DistP portion of *ki-ki* located in SpecDP, as in (18), it then follows that the structure of distributive *ki-ki* is necessarily as large as a DP. This causes the recursion restriction in (7) to prevent *ki-ki* from occupying the caseless possessor position: (19a) is ill-formed. But of course nothing is wrong with (19b), with dative *kinek-kinek* in SpecDP, not c-commanded by the D-head of the possessive noun phrase.

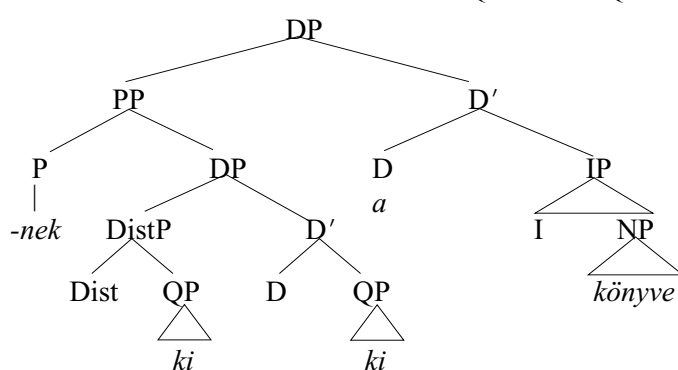
13 One of our readers does not find (6e) ‘fully ungrammatical’, and quotes one example found on the web (*ki-ki apja* ‘who-who father.POSS’). Be that as it may, the fact that (6e) never seems impeccable requires an explanation.

14 Whether they are linked to one another by ‘sideward movement’ or externally merged independently of one another is a question we need not take a stand on here.

- (19) a. *_{[DP D [_{IP} [_{DP} [_{DistP} Dist [_{QP} ki]]] [D [_{QP} ki]]] [I [_{NP} könyve]]]]}



- b. [_{DP} [_{PP} P=-nek [_{DP} [_{DistP} Dist [_{QP} ki]]] [D [_{QP} ki]]]] [D=a [_{IP} I [_{NP} könyve]]]]]



Before moving on, we would like to say a few words about the fact that we are placing the DistP in (18) in SpecDP (and are thereby making distributive *ki-ki* as large as a full DP).¹⁵ We are doing so because, although there are massive parallels between the internal functional structures of clauses and complex noun phrases, the left periphery of the latter is much reduced compared to that of clauses. While clauses sport topic and focus positions in their left periphery, for noun phrases it is clear that their left periphery is much less articulated. Let us illustrate this briefly, starting with focus fronting.

Though *wh*-elements can certainly find themselves at the left edge of a complex noun phrase (as in Hungarian (7d), or English (20a)), there is no *wh*-movement in the noun phrase: (20b) is ungrammatical.

- (20) a. [whose book about Chomsky] are you reading?
 b. *[who (my) book about *t*] are you reading?

Likewise, non-*wh* focus fronting is a well-established possibility in the clause, and can even be triggered by the nominative possessor of a complex noun phrase, resulting in pied-piping of the entire noun phrase, as illustrated by Hungarian (21b). But as (22c,d) show, focus movement *within* the complex noun phrase (with its familiar trappings of a particular prosodic contour and ‘preverb stranding’) is impossible.

15 The discussion in the remainder of this subsection could again be skipped by readers satisfied with the analysis presented above.

- (21) a. János megoldotta a gondját
 János PV.solve.PST.DEF the problem.POSS.ACC
 ‘János solved his problem’
- b. csak az Ő gondját oldotta meg
 only the he problem.POSS.ACC solve.PST.DEF PV
 ‘only HIS problem did he solve’
- (22) a. a gond megoldása
 the problem PV.solve.NML.POSS
- b. a gondnak a megoldása
 the problem.DAT the PV.solve.NML.POSS
 both: ‘the problem’s solution’
- c. *csak a GOND oldása meg
 only the problem solve.NML.POSS PV
- d. *csak a GONDnak az oldása meg
 only the problem.DAT the solve.NML.POSS PV
 (intended) ‘only the solution of the PROBLEM’

Whether there is topic movement in the noun phrase is a less straightforward matter. For Italian, Giusti (2006) argues explicitly that attributive adjectival modifiers can be displaced into the left periphery of the noun phrase (between D and the possessive adjective) by contrastive topicalisation: (23b) is an example from Giusti’s work.

- (23) a. le sue lunghe trecce bionde (Italian; Giusti 2006)
 the her long tresses blonde
 ‘her long blonde tresses’
- b. le lunghe sue trecce bionde → *lunghe* = contrastive topic
 the long her tresses blonde

But it is not obvious that this is a case of *displacement*. The elements changing places in (23b) are both formally adjectives (*sue* inflects like an adjective), and the relative ordering of attributive adjectives has long been known not to be rigidly fixed. It is perfectly reasonable to assume that attributive modifiers can in principle be merged freely, in no particular order, and that we arrive at different prosodies and semantic/pragmatic interpretations depending on the order of Merge (and, concomitantly, the hierarchical and linear organisation). It seems to us dubious, therefore, that (23b) demonstrates that there can be topic fronting into the left periphery of the complex noun phrase. And at any rate, ordinary information topics should be a logical impossibility within the noun phrase, on the standard assumption that an information topic marks what the *utterance* is about — information topics are a property of utterances, not of subconstituents of the syntactic constructs that form utterances.

Let us conclude from this quick survey of the information-structural landscape that noun phrases lack displacement of their subparts into their left periphery — something that we attribute to the fact that noun phrases lack the structural wherewithal to support such displacement: their \bar{A} left periphery is relatively small, presumably consisting just of the DP-layer, the counterpart of the CP of the clause. With this said, we can reassure ourselves that *ki-ki*, the reduplicative distributive quantifier, must indeed have its DistP located in SpecDP, as depicted in (18). From this and the central hypothesis in (1) it then follows, as pointed out before, that *ki-ki* cannot be a caseless possessor of a possessive noun phrase: (19a) contravenes the recursion restriction.

2.4.4 Universal *mindenki* and existential *valaki* as possessors

Unlike the examples in (6c–e), which we have now dealt with, the possessive noun phrases in (6a) and (6b) (repeated below) are perfectly well-formed.

- (6a) *mindenki könyve*
 everywho book.POSS
 ‘everyone’s book’
- (6b) *valaki könyve*
 somewho book.POSS
 ‘someone’s book’

The grammaticality of (6a,b) indicates that *mindenki* and *valaki* are smaller than DP. We propose to treat *vala-* and *minden-* as modifiers of *ki*, adjoined to the QP of *ki*, as depicted in (24).

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

For *valaki*, there is no reason to think that its structure might be as large as a DP: it is the quintessential indefinite. So the grammaticality of (6b), alongside dative (7b), is straightforward. The same is true for the free-choice items *bárki* and *akárki* ‘anyone’, which are likewise indefinite and perfectly grammatical as caseless possessors (*bárki/akárki könyve* ‘(just) anyone’s book’). Their *bár-* and *akár-* are, like *vala-*, adjoined to QP.

For *minden-*, the analysis in (24) is not entirely straightforward. It is commonly held that present-day Hungarian *minden* is an inherently distributive quantifier. For *ki-ki*, we have just placed a DistP in its SpecDP, representing its distributive semantics. If for *minden* we were to do the same thing, we would be at a loss explaining the difference between the two quantifiers in the possessive noun phrase: with *mindenki* as large as DP, (6a) is expected to be in violation of (1). The fact that (6a) is grammatical indicates that *minden* is not (necessarily) as large as DP. This conclusion receives support from observations made by Bende-Farkas (2014).

Bende-Farkas (2014:110), surveying the empirical territory in detail, shows that *mind*, which distributes very much like the (floating) quantifier *all* of English, was not inherently distributive in Old Hungarian, and still is not at present. The non-floating quantifier *minden* was not inherently distributive in Old Hungarian either. And Bende-Farkas (2014:110, fn. 19) notes that even today, *minden* can combine with mass nouns, as in (25) (an example due to Bende-Farkas).

- (25) *kibányásztak minden aranyat*
 PV.mine.PST.3PL every gold.ACC
 ‘all (the) gold has been excavated’

The grammaticality of sentences such as (25) is hard to square with any strong claim to the effect that *minden*, in present-day Hungarian, is inherently distributive. Since its ancestor was not inherently distributive either, the conservative position to take is not to attribute inherent distributivity to *minden*. With *minden* not treated as an inherently distributive quantifier, and hence not necessarily as large as DP, we can understand the grammaticality of (6a) against the background of the previous discussion: since the structure of *mindenki* is not as large as a full DP, it is fine for *mindenki* to serve as the caseless possessor of a possessive noun phrase: (26a) is not rejected by the recursion restriction in (1), or by any other ingredient of the grammar. And of course (26b), the structure for dative-possessive (6b), is perfectly grammatical as well.

- (26) a. $[_{DP} D [_{IP} [_{QP} minden- [_{QP} ki]] [I [_{NP} könyve]]]]$
 b. $[_{DP} [_{LPP} P=-nek [_{QP} minden- [_{QP} ki]] [D [_{IP} I [_{NP} könyve]]]]]$

Some words are due on the fact that *valamennyi* ‘each’ and *mindegyik* ‘each’, for which there is no grammatical counterpart to Bende-Farkas’ (25), readily occur on caseless possessors: *valamennyi ember/mindegyik ember könyve* ‘each man’s book’. For us, the important point to make about these quantifiers is that, though they may be semantically distributive, nothing in the morphology of these expressions signals the presence of a DistP within their structure: *valamennyi* is built on *mennyi* ‘how many/much’, to which is added the same *vala-* that we also saw in the existential quantifier *valaki*; *mindegyik* is based on *egyik* ‘one.IK’ (where *-ik* is a partitive-like suffix; see Csirmaz & Dékány, forthc.), used in combination with the *mind* of *mindenki*. Unlike in the case of reduplicative *ki-ki*, where the first *ki* explicitly spells out the DistP in SpecDP in the structure in (18), there is nothing in *valamennyi* or *mindegyik* that activates the DP layer in the structure. One way to account for the distributivity of *valamennyi* and *mindegyik* would be to postulate a structure for them that is analogous to that of *ki-ki* in (18), and to place a silent distributive operator in SpecDP. The alternative is to treat them as smaller than DP (on a par with *mindenki* and *valaki*) and to derive their distributivity from their position in the clausal left periphery (*à la* Beghelli & Stowell 1997, Szabolcsi 1997). Only the second approach is compatible with our analysis of the caseless possessor data. We adopt it here, and add in support of our decision that (unless one were to enter *valamennyi* in the lexicon twice, as two different quantifiers) it would be unadvisable to treat *valamennyi* as inherently distributive: when it does not bear stress, it actually serves as an existential quantifier meaning ‘some’ (in line with its being composed of *vala-* ‘ \exists ’ and *mennyi* ‘how many/much’; Csirmaz & Dékány, forthc.). Though much remains to be understood about the properties of *valamennyi* (and *valahány*, which is similarly ambiguous between existential and universal uses) and *mindegyik*, it does not seem to us that their morphosyntax jeopardizes the analysis of recursion in the DP presented in this paper.

This concludes our discussion of the paradigms in (6) and (7). We have seen that the recursion restriction in (1), in conjunction with independently supported assumptions about the structures of the various *ki*-forms, delivers exactly the distribution of caseless possessors that we find in (6): all and only those *ki*-form possessors that are necessarily as large as DP are barred from the caseless possessor position in the c-command domain of the head of the possessive DP.

2.5 A note on proper name possessors

We have two related pieces of unfinished business left to deal with in this section: the fact that proper names are grammatical as caseless possessors, and the fact that (3a) allows *a* ‘the’ only for those speakers who can combine proper names with the definite article in general (^o*a János*, meaning just ‘János’).

- (3a) csak [^o*a* János könyve] érdekes
 only the János book.POSS interesting
 ‘only János’s book is interesting’

Our approach to recursion leads us to treat the proper name possessor in (3a) as a nominal extended projection smaller than DP. This may seem awkward in light of the referentiality of the proper name. But there are considerations that we believe cogently support the idea that proper names can be smaller than DP, and, more specifically, the idea that a proper name possessor in the complement of the outer D-head of the possessive noun phrase *must* be smaller than DP.

That proper names are not necessarily as large as a full-blown DP is clear from the fact that proper names can be preceded by articles — an indefinite article in cases such as *we have a (certain) John Smith in our midst*, or a definite article in *the John Smith that I went to school with is now a famous conductor*. In neither case is *John Smith* itself directly referential; but the DPs containing *John Smith* are. For *John Smith's hat* and Hungarian *Kovács János kalapja*, we would like to maintain that the proper name possessors also project structures smaller than DP and that the referentiality of the possessor is contributed through the merger of the outer determiner of the possessive noun phrase as a whole.

That a proper name possessor in the complement of the outer D-head of the possessive noun phrase *must* be smaller than DP is suggested by a fact about prenominal Saxon genitives and Hungarian-style caseless possessor constructions alike: it is impossible to modify the possessor with an apposition or appositive relative in extraposed position. While both (27a) and (27b) are grammatical, it is impossible to associate the apposition or extraposed non-restrictive relative with the prenominal possessor in (27c). The same is true for a Hungarian caseless proper name possessor, as (27c') shows.¹⁶

- (27) a. I saw *John Smith* yesterday, (*who is*) *a famous conductor*
 b. I saw [the house of *John Smith*] yesterday, (*who is*) *a famous conductor*
 c. *I saw [*John Smith's* house] yesterday, (*who is*) *a famous conductor*
 c'. *láttam [*Kovács János házát*], (*aki*) *egy híres karmester*
 saw.1SG *Kovács János* house.POSS.ACC *who* a famous conductor

Since appositions and appositive relative clauses with *who* or Hungarian *aki* must take referential DPs as their associates (cf. **I would like to be a rich man, who is a famous conductor* versus *I would like to be a rich man, which a famous conductor usually is*), and since prenominal Saxon genitive or caseless possessors must be smaller than DP, it follows that in *I saw John Smith's house* it is impossible to link an apposition or appositive relative to just the possessor. This impossibility now supports our claim that low proper name possessors are smaller than DP.

In light of this, we follow Szabolcsi (1994) in treating the definite article of *a János kalapja* as the exponent of the D-head of the entire possessive noun phrase. The proper name possessor itself is smaller than DP. In standard Hungarian, as in English (**the*) *John's hat*, the outer D-head of a possessive noun phrase with a proper name possessor c-commanded by the outer D must remain silent. Locally c-commanding both the possessor and the possessum, the outer D-head must be compatible with both. In standard Hungarian and English, a definite determiner is incompatible with a (non-relativised) personal proper name, whence the obligatory silence of D. But in varieties of Hungarian in which *a János* is grammatical, there is no restriction on combining a proper name with a locally c-commanding definite determiner. Hence %*a János kalapja* 'the János hat.POSS' is grammatical precisely in those dialects in which *a János* is, too. For geographical proper names such as *a Duna* 'the Danube' or *az Opera* 'the Opera', all varieties of Hungarian use a definite article; and concomitantly, for all Hungarian speakers possessive noun phrases such as *a Duna partjai* 'the Danube bank.POSS.PL, i.e., banks of the Danube' and *az Opera színpada* 'the Opera stage.POSS, i.e., the stage of the Opera House' are grammatical, with the definite article housed by the outer D-head of the possessive DP.

16 Not surprisingly (since nothing prevents a dative possessor from being a full-blown DP), for dative proper name possessors, it is possible to associate a (case-concordial) apposition with them:

- (i) láttam [*Kovács Jánosnak* a házát], *a híres karmesternek*
 saw.1SG *Kovács János*.DAT the house.POSS.ACC the famous conductor.DAT

3 Possessed possessors

The recursion restriction in (1) also explains the fact (previously discussed in some detail in Szabolcsi 1981, 1983:94–5, 1994:202–3) that when a possessor is itself a possessive noun phrase, it usually cannot be caseless but must be dative-marked instead. This is true regardless of whether the possessor of the larger noun phrase’s possessor is itself caseless or dative: both of the examples in (28a,b) are ungrammatical; on the other hand, both (28c) and (28d), where the possessor of *szél* ‘rim’ is dative-marked, are grammatical.¹⁷

17 Szabolcsi (in the references cited in the main text) considers the pattern exemplified by our (28a) to be awkward rather than ungrammatical. One of our reviewers (who agrees with the judgement reported in the main text) points out that this pattern occurs in certain idiomatic expressions: *nagyanyád térde kalácsa* ‘(lit.) your grandmother’s kneecap, i.e., your father’s dick’, *foga fehérje* ‘(lit.) one’s tooth’s white, i.e., one’s true colours’, *az ő szeme fénye* ‘(lit.) his eye’s light, i.e., the apple of his eye’. These are entirely frozen expressions (nothing can occur between the two possessed nouns in sequence); it will probably make sense to list them as such.

Another reviewer makes the very interesting observation that the deviance of (28a) is ‘greatly reduced when the whole construction has an overt case suffix’: ⁽²⁾*egy madár ül János kalapja szélén* ‘a bird is sitting on the rim of János’ hat’, is much improved, and *János háza tetején* ‘on the roof of János’ house’ is perfect. Apparently, in the presence of morphological cases, a caseless full-DP possessor can avert a violation of the recursion restriction. The best way of approaching this depends on one’s assumptions regarding the representation of case — in general, and in Hungarian, more particularly. One possibility would be to represent case in the form of a K-head projecting inside the structure of the case-marked DP, say, in the immediate complement of D, as in (i). The alternative is to represent case outside DP, as in (ii) (where case can be represented as either K or P; for the oblique cases, P is the label that we adopted in section 2.1).

- (i) $[_{DP} D [_{KP} K [_{xNP} \dots N \dots]]]$
 (ii) $[_{KP/PP} K/P [_{DP} D [_{xNP} \dots N \dots]]]$

Of these approaches, (i) provides a simple mechanical solution for the contrast between (28a) and ⁽²⁾*János kalapja szélén* ‘on the rim of János’ hat’ if we assume that KP represents a phase: placing a full-DP caseless possessor in the complement of K will then insulate this possessor and protect it from the outer D. No local DP recursion structure arises, and the result is grammatical. (ii) does not provide as direct a window on the contrast between (28a) and ⁽²⁾*János kalapja szélén* ‘on the rim of János’ hat’. But for insight into how this kind of structure could help lift the DP recursion restriction, we can turn to data from Dutch.

While varieties of Dutch spoken in the east of the Netherlands are generally much freer in the realm of external possessor constructions, the standard variety limits the distribution of external possessors in a way that makes direct reference to PP-containment of the possessum. Consider the contrast below:

- | | | | | | |
|-------|----|--|------|----|--|
| (iii) | a. | hij brak [<i>haar</i> schenen] | (iv) | a. | hij trapte/schopte [_{PP} tegen [<i>haar</i> schenen]] |
| | | he broke her shins | | | he kicked against her shins |
| | b. | ⁽³⁾ hij brak <i>haar</i> [de schenen] | | b. | hij trapte/schopte <i>haar</i> [_{PP} tegen [de schenen]] |
| | | he broke her the shins | | | he kicked her against the shins |
| | | both: ‘he broke her shins’ | | | both: ‘he kicked her in the shins’ |

In the a–examples, the possessor *haar* is inside the possessive noun phrase; in the b–sentences, on the other hand, *haar* finds itself outside the possessive noun phrase, in an external possessor construction. The relevant contrast is the one between (iiib) and (iivb). In standard Dutch, the former is unacceptable, but (iivb), in which the possessum is contained in a PP, is perfectly fine. Thus, there is something about PP-containment that makes the external possessor construction grammatical where it would not otherwise be possible.

For the Hungarian contrast between (28a) and ⁽²⁾*János kalapja szélén* ‘on the rim of János’ hat’, what these Dutch facts could lead us to is the hypothesis that in a structural environment of KP/PP-containment, the caseless full-DP possessor is outside the complex possessive DP. This would certainly be an unusual external possessor construction for Hungarian. While the language is famous for its *dative* possessors’ ability to ‘run away from home’ (Szabolcsi 1983), *caseless* possessors generally cannot escape from the possessive noun phrases that they belong to. But perhaps we could lift this absolute ban on DP-external caseless possessors just slightly, and give K/P the

- (28) a. *[[János kalapja] széle]
 János hat.POSS rim.POSS
 b. *[[Jánosnak a kalapja] széle]
 János.DAT the hat.POSS rim.POSS
 c. [[János kalapjának] a széle]
 János hat.POSS.DAT the rim.POSS
 d. [[Jánosnak a kalapjának] a széle]
 János.DAT the hat.POSS.DAT the rim.POSS
 ‘János’ hat’s rim; the rim of János’ hat’

It is known independently that Hungarian possessive noun phrases with a common-noun or proper-name possessor always trigger definite agreement on the finite verb, even when their possessor and possessum are both indefinite (Bartos 1999, É. Kiss 2002:173). If, as the received view has it, definiteness agreement is correlated with the DP-hood of its controller, this indicates that possessive noun phrases are always outwardly definite in Hungarian.¹⁸

- (29) 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’

Hence, it is highly likely that *János kalapja* ‘János’ hat’ in (28a) is dominated by a DP node. For (28b), the presence of a DP is directly discernible from the obligatory occurrence of the definite article *a* to the right of the dative possessor of *kalap* ‘hat’. By (1), this DP prevents both *János kalapja* and *Jánosnak a kalapja* from being in the caseless possessor position. The recursion restriction thus takes care of the ungrammaticality of (28a) and (28b). That (28c) and (28d) are fine is of course unsurprising: the complex possessor finds itself in the highest specifier position in the complex noun phrase, not c-commanded by the D-head of the possessive noun phrase.

licence to accommodate the caseless possessor of its possessive DP complement in its structural domain. The PPs *János kalapja szélén* ‘on the rim of János’ hat’ and *János háza tetején* ‘on the roof of János’ house’ remain constituents: *János kalapja/háza* is still dominated by the oblique PP; the possessor is external in a very local sense, and due to the general opacity of PP in Hungarian, it cannot escape from the PP leaving the possessive DP far behind.

18 But recall the discussion of Coppock & Wechsler (2012) in section 2.4.1. Bartos (1999:sect. 4.1.2, and references cited there) and Coppock (2011) note that for some speakers, non-specific indefinite objects with a dative possessor *can* combine with indefinite inflection on the verb: see (i). As far as we are aware, the ban on (28a,b) is not subject to speaker variation. The apparent variation with respect to object agreement may indicate that a DP-object does not necessarily trigger definite agreement on the verb. This, in fact, is the conclusion Coppock (2011) herself also arrives at (recall our discussion of Coppock & Wechsler 2012 in section 2.4.1). Viewed this way, the agreement datum in (i) does not undermine the text proposal regarding (28) — though the definiteness agreement in (29) then ceases to provide independent support for it.

- (i) %olvastunk [Péternek öt versét]
 read.PST.1PL.INDEF Péter.DAT five poem.POSS.ACC
 ‘we read five poems of Péter’s’

3.1 The role of φ -feature inflection in labelling

However, though (28a,b) are indeed robustly ungrammatical, it is not true that when a possessive noun phrase in turn serves as the possessor of a larger noun phrase, it can never be caseless. When the internal possessor is non-third person, it freely allows its possessive noun phrase to serve as a caseless possessor. We see this in (30). And from (31) we learn that an overt caseless possessed possessor is grammatical in the third person when there is number inflection.

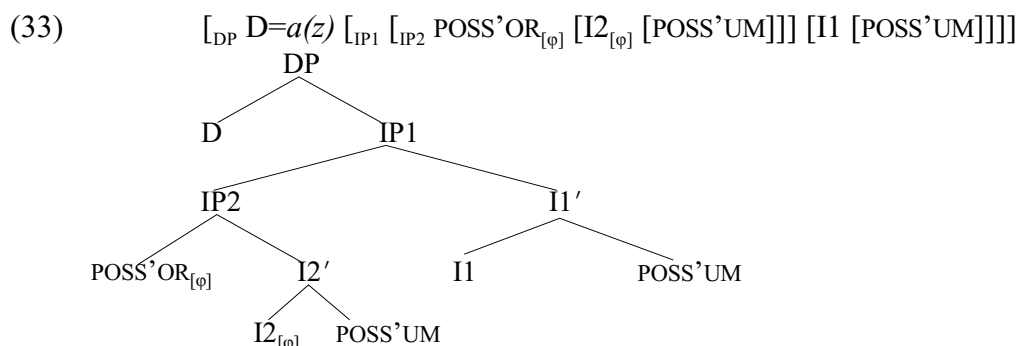
- (30) a. az én kalapom széle
the I hat.1SG rim.POSS
‘my hat’s rim’
b. a te kalapod széle
the you_{SG} hat.2SG rim.POSS
‘your_{SG} hat’s rim’
c. a mi kalapunk széle
the we hat.1PL rim.POSS
‘our hat’s rim’
d. a ti kalapotok széle
the you_{PL} hat.2PL rim.POSS
‘your_{PL} hat’s rim’
(31) a. *az ő kalapja széle
the (s)he hat.POSS rim.POSS
‘his/her hat’s rim’
b. *az Ön kalapja széle
the You hat.POSS rim.POSS
‘Your hat’s rim’
c. az ők kalapjuk széle
the they hat.POSS.3PL rim.POSS
‘their hat’s rim’

For (28a,b) and (31a,b) *versus* (30) and (31c), the descriptive picture that emerges is one emphasizing the role of φ -feature inflection on the head of the possessed possessor (*kalap*): when *kalap* bears φ -feature inflection (as in (30) and (31c)), its projection can serve as the caseless possessor of a larger possessive noun phrase; but when it does not (the *-ja* form in (31a,b) only marks possessedness, no φ -features), it cannot. This suggests that no DP needs to be erected over a possessive noun phrase whose head is endowed with φ -feature inflection cross-referencing its possessor. A possessive noun phrase can be licensed by the φ -feature inflection that it bears (cross-referencing the possessor) OR, if it carries no such inflection, by the projection of a DP at the top of its structure: (32a) and (32b) are structures that can be merged into a larger syntactic structure; (32c) cannot serve as a dependent.

- (32) a. [_{IP} POSSESSOR_[φ] [_I_[φ] [POSSESSUM]]]
b. [_{DP} D [_{IP} POSSESSOR [I [POSSESSUM]]]]
c. *_{[IP} POSSESSOR [I [POSSESSUM]]] (* if merged with an external X)

This picture reminds us of Chomsky’s (2013, 2014) recent discussion of what he calls ‘problems of projection’. An [XP YP] structure formed by Merge of two phrasal constituents cannot be labelled ‘from within’ unless XP and YP happen to share a common set of features

thanks to an agreement relation between XP and YP, with the shared features then labelling the node dominating XP and YP. In (32a), the shared ϕ -features of the possessor in SpecIP and the I-head allow the [XP YP] structure to be labelled, by ϕ . As a result of the fact that the [XP YP] structure in (32a) is successfully labelled, it can be merged into a larger structure — in the case of the examples in (30) and (31c), as the possessor of the possessive noun phrase of *szél* ‘rim’. Because the possessor of *szél* is not itself a DP, a local DP-within-DP recursion violation contravening (1) is averted: (33) is grammatical.



When no ϕ -agreement relation between the possessor and the I-head presents itself, the [XP YP] structure formed by Merge of the caseless possessor in SpecIP cannot be labelled from within. We propose that it must then rely for its licensing on a local dependency between this [XP YP] structure and an external head that is part of the same extended projection (Grimshaw 1991) that YP is also a member of.¹⁹ In the absence of labelling thanks to feature sharing, the [XP YP] structure is incomplete, and must be completed by being included in a larger extended projection that completes the structure, and allows it to distribute externally as a dependent in a different (extended) projection. For the [XP YP] structure at hand, viz., IP, it is the D-head that facilitates the completion of the extended projection. So absent ϕ -agreement between the possessor and the I-head, a DP must be erected on top of IP. (32b) is grammatical and suitable for further application of Merge; (32c) is unusable as a dependent in a larger syntactic structure.

The minimal contrast between (31a,b), on the one hand, and (31c), on the other, now follows directly as an effect of the distribution of ϕ -feature agreement. Because the IP of *kalapjuk* in (31c) can be labelled by the ϕ -features shared by the possessor and I (reflected in the form of the suffix *-juk*; on the syntax of *az ő kalapjuk* ‘their hat’, see Den Dikken 1999, Dékány 2011), this IP can be merged directly as the possessor of *szél*, as in (33). By contrast, because the IP of *kalapja* ‘his/her/Your hat’ bears no ϕ -features cross-referencing those of the possessor (recall that *-ja* is a bare possessive marker, not marked for ϕ), this IP cannot be merged externally: (34a) is ungrammatical because the [XP YP] structure marked here as ‘IP’ is unlabellable.

- (34) a. * $[\text{DP} \text{D}=\text{a}(\text{z}) \text{[}_{\text{IP1}} \text{[}_{\text{IP2}} \text{POSS}'\text{OR} \text{[I2 [POSS}'\text{UM}]]] \text{[I1 [POSS}'\text{UM}]]}]$
 b. * $[\text{DP} \text{D}=\text{a}(\text{z}) \text{[}_{\text{IP1}} \text{[}_{\text{DP}} \text{D} \text{[}_{\text{IP2}} \text{POSS}'\text{OR} \text{[I2 [POSS}'\text{UM}]]] \text{[I1 [POSS}'\text{UM}]]}]$

19 A reviewer asks whether the labelling problem that Chomsky has devoted so much attention to in his recent work, viz. the one posed by [XP TP] structures, can likewise be solved simply by continuing the extended projection, creating CP. We believe that this is indeed the case, and that this is in fact the only way to solve the labelling problem posed by [XP TP] structures in cases in which T and XP are not in a relationship of ϕ -feature sharing. Chomsky takes the labelling problem in [XP TP] structures in which XP does not move out to be resolved through ϕ -feature matching between T and XP. But as is well known, it is not the case that the occupant of SpecTP necessarily matches T’s ϕ -features. This is perhaps clearest in pseudoclefts such as *what hobbles this analysis are the agreement facts*, where the occupant of SpecTP (the free relative *what hobbles this analysis*) cannot match the [PLURAL] feature of T. Here, extended projection to CP is the only remedy for the [XP YP] labelling problem.

A DP must be erected on top of IP to complete the extended projection *before* the possessive noun phrase can be merged as the possessor of *szél* ‘rim’. The structure that then arises is given in (34b). This structure works up to the point at which the extended projection of *szél* is capped off by the necessary DP: at that point, (34b) violates the recursion restriction in (1). With both (34a) and (34b) rejected by the grammar, *az ő/Őn kalapja széle* is declared ungrammatical — which is as it should be.

3.2 *Radical pronoun drop*

One question remains to be addressed. Though (31a,b) are ungrammatical as they stand, they become perfectly fine when the pronominal possessor is dropped, as in (35).²⁰ Why is this?

- (35) a kalapja széle
 the hat.POSS rim.POSS
 ‘his/her/Your hat’s rim’

As far as ϕ -feature inflection is concerned, there is no difference between (31a,b) and (35). The structures in (34) remain just as ungrammatical when the occupant of SpecIP2 is a silent *pro*: these representations are structurally ill-formed; it is hard to see how pro-drop could save them. Our suggestion for (35) will therefore be that it has a structure different from those in (34) — a simpler structure, not containing IP2 at all:

- (36) [DP D=*a* [IP [POSS^{OR} *kalapja*] [I [POSS^{UM} *széle*]]]]

In other words, we represent pronoun-less (35) as a case of *radical* pro-drop: the possessor of *kalap* ‘hat’ is not structurally represented at all, but recovered from the discourse with the help of the fact that *kalap* is adorned with a possessive morpheme. With an appeal to radical pro-drop (which is a phenomenon known to exist in languages like Chinese), the pronoun-less version of (31a,b), given in (35), can be fit into the overall picture. If this appeal is supported (which we hope future research will show), the distribution of radical pro-drop is not confined to languages lacking ϕ -feature inflection altogether: it can also fill pockets of argument drop in ϕ -less environments within systems that otherwise rely heavily on ϕ -feature inflection to license pro-drop.²¹

20 Dropping the possessive pronouns in (30) is grammatical as well, but this introduces no new explanandum, given that pro-drop for first and second person pronouns is generally possible in Hungarian, and does not in any way change the picture painted by (30) as it stands. The remarkable thing for (31a,b) is that here dropping the pronoun has an effect on grammaticality.

21 On the basis of a set of different data, Bartos (1999:sect. 2.1.1) also argues that Hungarian can feature radical pro-drop in possessive structures. Certain Hungarian idiomatic constructions comprise an animate-denoting noun bearing the possessedness suffix (which marks possessedness but does not express ϕ -agreement with the possessor) and a (negative) adjective modifying the noun (ia). Some related idiomatic constructions feature only a (negative) adjective with the possessedness suffix on it (see (ib), also mentioned in É. Kiss 2013). The idiomatic expressions in (i) are essentially epithets, expressing that a discourse referent can be characterized by the adjective involved in the epithet. As Bartos suggests, these expressions are formally possessive, but there is no possessor represented in the syntactic structure.

- (i) a. az ebadta kölyke a bolond kutyája
 the dog.given kid.POSS the silly dog.POSS
 ‘the misbehaving kid’ ‘the silly dog’

3.3 Conclusion

The general picture that emerges is that, in conjunction with the interplay of ϕ -agreement and extended projection in the licensing of [XP YP] structures, the recursion restriction in (1) adequately explains the complex tangle of possessor recursion facts reviewed in this section. We herald this as support for the recursion restriction in (1).

4 Demonstratives

4.1 Demonstratives as possessors

The contrast in (37) shows that demonstratives can serve as possessors of complex noun phrases if they bear dative case, but not if they are caseless.²²

- (37) a. *ez könyve
this book.POSS
b. ennek a könyve
this.DAT the book.POSS
'the book of this'

We assume that Hungarian free-standing demonstratives are dominated by a DP (see Kenesei 1992:sect. 4, Bartos 1999:sect. 2.4.4); more specifically, following Dékány (2011), we treat them as portmanteaux of N, Dx (a deixis head) and D. Because independently used demonstratives always have D projected, the recursion restriction in (1) prevents them from being used as caseless possessors. The ungrammaticality of (37a) is thus accounted for. Its dative counterpart, which features the demonstrative possessor in SpecDP, is of course well-formed.

4.2 Adnominal demonstratives

When demonstratives are used adnominally (rather than independently) in Hungarian, two patterns present themselves. In one, shown in (38a), the demonstrative precedes the definite determiner and shows case concord with the head noun.

- | | | | | |
|----|----------------|-----------------|---------------|----------------|
| b. | a lustája | a hülyéje | a bolondja | a csórója |
| | the lazy.POSS | the silly.POSS | the fool.POSS | the poor.POSS |
| | 'the lazy one' | 'the silly one' | 'the fool' | 'the poor one' |

22 It has been pointed out to us that (i) is grammatical (for some speakers), in contrast to (37a), which is universally rejected. Bartos (2001a) mentions this contrast, but has no account for it. Szabolcsi (1994) attributes the (limited) acceptability of the plural version to its containing a null noun, which will make *ezek* an adnominal demonstrative rather than a free-standing one; see section 4.2 on adnominal demonstratives. The improvement of (i) compared to (37a) may also suggest a link to the (31a)~(31c) contrast presented in section 3, though it remains unclear to us at this time how such a link could be profitably exploited in the analysis.

- (i) %ezek könyve
this.PL book.POSS

- (38) a. ezt a könyvet
 this.ACC the book.ACC
 ‘this book’
 b. *az ezt könyvet
 the this.ACC book.ACC
 c. *ezt könyvet
 this.ACC book.ACC

In the other pattern, more similar to what we see in English, the demonstrative is case-invariant and does not co-occur with a determiner. This is illustrated in (39a).

- (39) a. e/eme könyvet
 this book.ACC
 ‘this book’
 b. *e/eme a könyvet
 this the book.ACC
 c. *az e/eme könyvet
 the this book.ACC

The two patterns are discrete; they cannot be mixed. Thus, when a case-concordial possessor occurs to the right of the definite article (as in (38b)) or in the absence of a definite article (as in (38c)), the result is ungrammatical. Using of the non-case-concordial demonstrative in combination with the definite determiner likewise yields an ill-formed output, regardless of whether *e/eme* is placed to the left or to the right of the article, as shown in (39b,c).

To account for these patterns, we need to first of all be explicit regarding the functional sequence of the complex noun phrase. Following Den Dikken’s (2010) discussion of the parallels between the extended projections of N, P and V, we assume that a functional head for Aspect is projected close to the lexical root. This projection harbours event aspect or ‘Aktionsart’ in the clausal domain, and number in the nominal domain. On top of this aspectual projection, a head for Deixis (customarily called T in the clause) is merged. The extended projection is topped off in the clausal case by C, and in the nominal case by D.

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

Demonstratives systematically belong to the DxP portion of the structure of the extended noun phrase. Hungarian case-concordial adnominal demonstratives are like free-standing demonstratives in being full DPs. If they were to stay in their base position, SpecDxP, they would violate the recursion restriction in (1): we would be dealing with a full-blown DP immediately embedded below D. To avoid a clash with (1), case-concordial demonstratives move to SpecDP (as argued originally in Dékány 2011).²³ Thus, the recursion restriction explains the well-known fact that Hungarian case-concordial demonstratives precede and cannot follow D, as shown by the contrast between (38a) and (38b).

23 We add in passing that Cinque (2005) demonstrates that within the functional sequence of the noun, only constituents containing an N-head can be moved. This in conjunction with the mobility of Hungarian case-agreeing demonstratives within the nominal extended projection indicates that these demonstratives must bottom out in an N-head.

The fact that (38c) is also ungrammatical, and contrasts with the *non*-case-concordial cases in (39a), rounds out our perspective on demonstratives and the noun phrases containing them. We assume, again with Den Dikken (2010), that DxP is strictly dependent on D (or, in the clause, on C): DxP cannot survive without a local D (or C). So whenever an extended noun phrase contains a demonstrative, it must be as large as a DP. The D-head of that DP may very well be silent; but it must be structurally present, because without it, DxP would not survive. Against this background, we can explain the ungrammaticality of (38c) as follows.

We just hypothesized that a D-head must be present outside DxP. The phrasal case-concordial demonstrative would have to raise out of D's c-command domain to avert a violation of the recursion restriction. But there is no overt definite determiner in (38c) — and quite independently, we know about occupancy of SpecDP in Hungarian that it requires the presence of an overt determiner in the D-head in order to be legitimate:

- (41) Jánosnak *(a) könyve
 János.DAT the book.POSS
 ‘János’ book’

So (38c) presents a no-win situation for the demonstrative: as a DP, it must escape the c-command domain of the outer D-head in order to avoid a violation of the recursion restriction; but because the outer D-head is silent, it does not license an overt specifier for movement. There is no way to avoid disaster: whether it stays *in situ* or raises to SpecDP, inevitably something major will go awry for the case-concordial demonstrative in (38c).

Not so for the non-case-concordial demonstratives in (39a), *e* and *eme*. These never occur in pre-determiner positions and do not have free-standing, independent uses. They have no phrasal distribution. All the evidence suggests that they are exponents of the Dx-head in the extended projection of the noun, lower than D (cf. (40b)): for instance, D=*a(z)* and Dx=*e/eme* embrace a pronominal possessor or a high modifier (*az én eme három könyvem* ‘the I this three book-1SG, i.e., these three books of mine’; *a tegnap befejezett eme három jelentés* ‘the yesterday finished this three report, i.e., these three reports finished yesterday’). The non-case-concordial demonstratives are also dominated by a DP: recall that DxP cannot survive without a local D. But for the non-case-concordial demonstratives, the DP that dominates them is the DP of the entire complex noun phrase. No illegitimate recursive DP-within-DP structure arises, therefore, and (39a) is well-formed. Because *e* and *eme* are exponents of Dx and not base-generated in SpecDxP, they do not have the capacity to undergo phrasal movement, by themselves, to SpecDP, which explains why (39b) is no good. They *can*, however, raise to D and legitimate the absence of a lexical determiner. The ill-formedness of (39c) tells us that, when nothing linearly intervenes between D and Dx, raising the non-concordial demonstrative to D (or, put differently, having the D and Dx heads ‘spanned’ by *e/eme*) is optimal in Hungarian.

4.3 *On case concord*

One last comment is due in this section about the two different types of demonstratives in Hungarian: the concordial and non-concordial ones. The distribution of these two types of demonstratives suggests, as we argued in the previous subsection, that the former are phrasal (originating in SpecDxP) while the latter are exponents of the Dx-head. It seems to us that their case-concord behaviour can be tied directly to this difference.

We assume that in the complex noun phrase, only the nominal core and the D-head are specified for case. Any other element inside the complex noun phrase that bears a case morpheme formally matching that of D and N must have obtained its case in a relationship of concord with something that inherently bears a case feature. Predication relations routinely give rise to case concord. With the Dx-head as a RELATOR (Den Dikken 2006) of a predication relation between the terms in its complement and specifier positions, as in (42), the phrasal demonstrative in SpecDxP serves as a predicate of the NumP in the complement of the Dx, which is in possession of a case feature.²⁴ The fact that the phrasal demonstrative in (42) shows the same case as its subject (i.e., NumP) now falls out as a familiar case of case concord under predication.

$$(42) \quad [_{\text{DP}} D_{[\text{accase}]} [_{\text{DxP}} \text{CASE-CONCORDIAL DEM}_{[\text{accase}]} [_{\text{Dx}} [_{\text{NumP}[\text{accase}]} \dots]]]]$$

The non-case-concordial demonstratives are Dx-heads, not themselves in a predication relation with the nominal core, hence not in a concord relationship with it either. Case concord is the reflex of a relation between two phrases; heads show no case concord. For Hungarian, this is perhaps particularly evident: though Hungarian has plenty of cases and marks cases profusely in its morphophonology, the definite and indefinite articles of the language exhibit no case concord, because they are heads.

By this logic, the fact that *ezt a könyvet* ‘this book’ in (38a) shows case concord shows that *ezt*, the case-concordial demonstrative, must be phrasal. That, in turn, sets a chain of events in motion that explains why (38a) is grammatical while (38b) and (38c) are not.

5 On the external definite article of possessive noun phrases

Our discussion so far has focused mostly on Hungarian. For English-type possessive noun phrases such as (43), with the possessor in SpecIP below D, satisfaction of the recursion restriction in (1) requires that the definite article *the* NOT form a constituent with *man*: if it did, that would make *the man* a DP in an immediate self-embedding recursion configuration.

$$(43) \quad \text{the man's coat}$$

So by the logic of the discussion in this paper (recall esp. section 2.5), *the* in (43) must be the exponent of the outer D-head in the structure of the possessive noun phrase as a whole:

$$(44) \quad [_{\text{DP}} D=\textit{the} [_{\text{IP}} [_{\text{POSS'OR}} \textit{man}] [I='s [_{\text{POSS'UM}} \textit{coat}]]]]]$$

5.1 Possessor extraction

The non-constituency of *the man* predicts its non-extractability. And indeed, sentences of the type in (45) are generally impossible in English: (45a) is a failed attempt at promoting the possessor of *coat* to subject in a *tough*-movement construction, and (45b) shows that promotion of the possessor to subject also fails in the passive.²⁵

24 The structure in (42) represents a ‘reverse predication’ relation, or ‘predicate-specifier structure’, in the sense of Den Dikken (2006).

25 The examples in (45) were carefully constructed to ensure that the ‘remnant’ possessive noun phrases are (as they ought to be) in a case-licensed environment: the complement of transitive *find* in (45a), and the complement of *in* in (45b). Simpler sentences such as **the man was killed's son* (cf. *the man's son was killed*) would be trivially ungrammatical given the inability on the part of the passive participle in English to case-license its complement.

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

There can be no doubt that strings like *the man* can subextract from complex noun phrases, even definite ones:

- (46) a. the man is easy to find newspaper articles about
 b. the man is tough to witness the constant public humiliation of

There can also be no doubt that the so-called genitival marker 's occupies a head position — probably a relatively low one in the complex structure of the possessive noun phrase (the I-head in our earlier structures). So the possessor should logically be able to strand the genitival marker. And indeed, Kayne (1989:5) suggests that *wh*-possessors can to some extent escape from a possessive DP in English, stranding the genitival marker: his constructed example is reproduced in (47a). Radford (1981:526) shows, giving (47b) as an attested example, that *I think* can squeeze itself in between *who* and the genitival marker.

- (47) 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

The work done by Gavruseva (2000) and Gavruseva & Thornton (2001) on child English has shown that such splits are found in the elicited production of 3 to 6 year-old children acquiring English natively and as a second language: some examples from their work are given in (48).

- (48) a. who do you think 's coin is in the box?
 b. who do you think 's fish is in the cradle?
 c. who do you think 's Spiderman saved cat?
 d. who do you think 's sunglasses Pocahontas tried on?

We strongly suspect that cases like (47) and (48), to the extent that they work, do not involve possessor extraction but base-generation *cum* resumption instead. The 's in these sentences is likely to be a reduced pronoun (i.e., a weak form of genitival *his*). Jespersen's (1927: 111) example in (49), cited by Radford (1981:526), suggests that possessive *who* can indeed co-occur with a resumptive genitival pronoun.

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

The weak form of the genitival pronoun *his* is 's. It has been suggested that the so-called genitive of Modern English is quite generally a reduced *his*. We do not believe that this is correct overall, and align ourselves more closely with the approach to genitival 's taken in Bernstein & Tortora (2005), which assimilates it to a copula (see already Den Dikken 1999, and also Den Dikken 2006). But of course it is entirely possible that *some* surface tokens of 's are reduced pronouns. This is what we think applies to the cases in (47)–(48). If so, these sentences are irrelevant to the question of whether *the man* can subextract from *the man's coat*.

Even if they do actually involve extraction with stranding of the genitival marker, however, (47)–(48) remain irrelevant to the question of whether *the* and *man* in (43) form a constituent. The examples in (47)–(48) all involve just the bare *wh*-word *who*, whereas our example in

(43) features the string *the man*. The literature to our knowledge does not report on 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 (things like *the president, I think 's coat is on the chair* or *which man do you think 's coat is on the chair?*). If these meet with native speaker approval, they can be analysed in terms of resumption. If they are bad, they pattern with (45).

Importantly, for (45), resumption is not available, for independent reasons: there is generally no resumption in *tough*-movement or NP-raising constructions. The fact that these examples are irredeemable thus confirms — entirely independently of what might be going on in (47) and (48) — that *the man* in (43) is not a constituent (see (44)), as predicted by the recursion restriction in (1).

5.2 Outward definiteness

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 (43) is outwardly definite, hence cannot serve as the associate of *there*, whereas *a man's coat* can. In this respect, (50a) patterns just like (50b).

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

With *the* in (43) occupying the D-head of the possessive noun phrase as a whole, there can be no question that *the man's coat* distributes externally like a noun phrase headed by *the*. There are, to be sure, ways in which this result can be derived with *the man* sitting integrally in a specifier position in the possessive noun phrase: feature-percolation mechanisms could be resorted to for this purpose, for instance. But absent a proper understanding of how 'percolation' works, such mechanisms will not be explanatorily adequate. An analysis that treats *the* in (43) as the head of the possessive DP explains (50a) in just the same way as we customarily explain (50b): *there* cannot take a definite DP as its associate.

6 Conclusion

In this paper we have argued that 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 an asymmetric 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, if condition (i) is not met, (ii) the lower instance of α must be silent.

We have argued that the fact that Hungarian interrogative, distributive, relative, and demonstrative pronouns can be dative possessors but cannot fill the caseless possessor position can be directly derived from the recursion restriction. Hungarian dative possessors are PPs sitting in the SpecDP of the possessum, not c-commanded by the D-head of the complex noun phrase; so they do not fall under the purview of (1): they can be of any size. Possessors unmarked for case correspond to a nominal category rather than a PP, and they sit in SpecIP, within the local c-command domain of the possessum's D. On the assumption that DP is a phase (supported here if the argumentation in this paper is on target), caseless possessors are thus subject to the recursion restriction: they must be smaller than DP. Interrogative, distributive, relative, and demonstrative pronouns are excluded from the caseless possessor position because they all project up to DP.

Exploring the repercussions of the recursion restriction in the Hungarian DP, we proposed that possessed possessors instantiate Chomsky's (2013, 2014) '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 — a D head in the cases at hand.

Along the way, we have come across a challenge for the view that all and only DPs trigger definiteness agreement on the verb in Hungarian, suggested that Hungarian features radical pro-drop, and found reasons to believe that in English-type possessive noun phrases of the type *the man's coat*, the definite article occupies the D-head position of the entire complex DP and does not form a constituent with the possessor.

Together, the restriction in (1) and its counterpart, the familiar condition on copy deletion in (2), form a tandem that robustly and reliably constrains a fundamental property of natural language: recursion.

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