Editorial

The editors of FULL are pleased to welcome you to the fourth volume of FULL. Our journal is meant to provide a platform for linguistic research on modern and older Finno-Ugric or other Uralic languages and dialects, comparative research as well as research on single languages, with comparison of just Finno-Ugric languages or comparison across family lines, with formally or empirically oriented papers.

The present issue is a modest publication containing a research article, a book review, and two conference reports. Saara Huhmarniemi & Pauli Brattico's paper titled 'The Finnish possessive suffix' addresses a perennial problem of Finnish syntax, one that has been debated, without resolution, for decades. Previous accounts have treated the possessive suffix in Finnish either as an anaphoric element, or an agreement marker, or a mixture of these two. Bringing new empirical evidence to bear on the issue, this paper puts forward that the third-person possessive suffix is in fact an agreement marker for a null pronominal, one that has both anaphoric and pronominal properties.

Julia Bacskai-Atkari presents a thorough review of volume 14 of the *Approaches to Hungarian* series (John Benjamins). The book includes papers on syntax and phonology, as well as contributions addressing interface phenomena. As it is aptly highlighted by Bacskai-Atkari's review, while the main subject language is Hungarian, many of the chapters apply a contrastive, cross-linguistic analysis, thereby establishing a dynamic and lively discourse with the more general field.

Finally, Ekaterina Georgieva & Nikolett Mus report on an outstanding international conference in Finno-Ugric studies, namely the 12th International Congress for Finno-Ugric Studies (17-21 August 2015, Oulu, Finland), while Péter Koczka provides a summary of one of the workshops organized as part of that congress (Language technology through citizen science).

We wish to thank the anonymous reviewers who generously lent their time and expertise during 2015.

Our papers can be freely accessed and downloaded without any need for prior registration. At the same time, those who register, or have already registered, are provided with the benefit of getting notified of new issues, calls, etc. via the occasional email.

FULL welcomes manuscripts from all the main branches of linguistics, including phonology, morphology, syntax, semantics and pragmatics, employing a diachronic or synchronic perspective, as well as from first language acquisition and psycholinguistics. Whatever the theoretical or empirical orientation of the contributions may be, our leading principle is to maintain the highest international standards.

The Editors

The Finnish possessive suffix *

Saara Huhmarniemi & Pauli Brattico

The Finnish possessive suffix constitutes a perennial problem of Finnish syntax, debated, without resolution, for decades. The phenomenon has been approached from (at least) three different viewpoints. According to the first one, the possessive suffix constitutes a non-finite agreement marker, being regulated by phi-agreement (Agree in the current minimalist theory). The second hypothesis regards it as an anaphoric element, subject to binding theory and the binding conditions. The third analysis regards the possessive suffix as a mixed category, sometimes falling under agreement, other times under binding. All these analyses share a common ground in the claim that the possessive suffix must be c-commanded by its "antecedent", whether by agreement or by binding. In this article, we report anomalous data, which does not fall under any of these views: the possessive suffix need not, in fact, be c-commanded by its antecedent. We provide a descriptive account of these facts by stating that, under certain circumstances, a failed search for a c-commanding antecedent triggers a discourse search as a last resort. We then propose that these facts are indicative of the presence of a null pronominal, a non-finite *pro*, in close proximity of the possessive suffix. In addition, the possessive suffix is an agreement marker for the *pro*-element.

Keywords: *possessive suffix, binding theory, agreement, non-finite agreement, minimalism*

1 Introduction

Finnish has a mechanism for marking person and number agreement not only on finite verbs, but also on nouns, prepositions, adverbs, non-finite verbs and adjective participles. This mechanism is provided by the possessive suffix (Px), a grammatical specimen of Finnish syntax and morphosyntax investigated, without resolution, for several decades.[1] Some examples of the possessive agreement are provided in (1).[2]

* We would like to thank the audience of the SLE2015 workshop *Locally bound possessives as a window on language structure* for insightful comments and questions. The idea of writing a paper about Finnish possessive suffixes arise in the Biolinguistics seminar organized by the Cognitive Science unit in the University of Helsinki. Thank you to Tommi Gröndahl, Jukka Purma and Taija Saikkonen who took part to the seminar. The work by the first author was funded by a grant from Kone foundation.

1 We write Px/1SG to refer to the possessive suffix showing the first person singular form, for instance. The third person Px is ambiguous between singular and plural readings, so it is glossed as Px/3. These agreement markers are typically associated with a DP (determiner phrase) elsewhere in the clause, and such relations are expressed here by means of indices. When two DPs or phrases are co-indexed, they are interpreted as coreferential and, conversely, if the indices are distinct, they are interpreted as disjoint in reference. Since the question of whether these relations encode agreement, binding, or both is controversial, the indices are used in a theory-neutral sense.

2 We use the following abbreviations in this article: A = adjective suffix (participle adjective in this article); ACC=accusative case, e = an empty element or a gap of whatever kind (i.e. PRO, *pro*, trace). ELA = elative case; GEN=genitive case, INF=non-finite verb (any type); KSE=rationale infinitival; MA = MA-infinitival; MA/PTCP=agentive participle; NOM = nominative case, VA/PTCP=VA-participle, PL = plural; *pro*= little-*pro* (empty pronominal); PRO = empty pronominal subject to control; PRT = partitive case; Px = possessive suffix (see note 1); SG = singular; SUP = superlative; VA = VA-infinitival.

(1) a. *Pekka kunnosti ostama-nsa pyörän.*
Pekka.NOM repaired buy.MA/PTCP-ACC.PX/3 bike.ACC
'Pekka repaired the bike he bought.'

b. *Pekka istui minun lähellä-ni.*
Pekka.NOM sat I.GEN near-PX/1SG
'Pekka sat near me.'

c. *Hän löysi pyörä-nsä.*
s/he.NOM found bike-ACC.PX/3
'She found her bike.'

d. *Minä ostin pyörän voidakse-ni matkustella.*
I.NOM bought bike.ACC be-able.KSE-PX/1SG travel.INF
I bought a bike in order to travel.'

e. *Me uskoimme ostava-mme pyörän.*
we.NOM believed buy.VA-PX/1PL bike.ACC
'We believe that we would buy a bike.'

There are currently three schools of thought concerning possessive suffixation in Finnish. According to the first one, the possessive suffix acts as an agreement marker that takes place in non-finite environments, such as adjective participles (1a), postpositions (1b), nouns (1c), and non-finite verbs (1d-e) (Anderson 2005: 235–239, Karlsson 1977, Nikanne 1989, van Steenbergen 1987, 1991). Under this hypothesis, it is the theory of agreement (or Agree, in the current minimalist theory) which carries the burden of possessive suffixation. Another line of thought regards the possessive suffix as an anaphoric element, which puts it under systems of binding, government, and anaphor resolution (Pierrehumbert 1980, Trosterud 1993, Vainikka 1989, 2012). There is evidence in favor of both theories. In fact, some authors have proposed mixed models, in which the possessive suffix can be both, an agreement marker and an anaphoric element, depending on the context (Nelson 1998, Toivonen 2000, Hakulinen et al. 2004). We will return to the details later on.

A common denominator of all of these proposals is that the possessive suffix must be c-commanded by its correlate at the grammatical level, where the behavior of the possessive suffix is overseen. First, within anaphor theories, the antecedent selection follows the standard binding theoretical principles (Chomsky 1980, Reinhart 1983). For example, in sentence (1c), the DP *hän* 's/he' c-commands the DP *pyöränsä* 'his/her bike' that hosts the possessive suffix. (A node c-commands its sister node and all of its sister's descendant nodes. We will return to the exact definition of c-command in section 3.)

(2) *Hän$_i$ löysi pyörä-nsä$_i$.*
s/he found bike-ACC.PX/3
'She found her bike.'

Within agreement theories, it is typically assumed that the controller of agreement occurs at the local specifier position of the head that hosts the agreement marker, creating

a Spec-head agreement configuration. Thus, in the example (3), the pronoun occupies the specifier position of the noun phrase.

(3) *hänen pyörä-nsä*
his/her.GEN bike-PX/3
'his/her bike.'

In this article, we examine data which calls the c-command assumption into question. We show that there are scenarios under which the antecedent does not c-command the possessive suffix. A sample of our data is provided in (4). Notice how in each case the possessive suffix can access a 'wild' antecedent in a way that cannot be easily understood as a form of agreement or anaphor binding.[3]

(4)

a. *Tämä on [[[Jeren$_i$ ottama] kuva] [siskosta-an$_i$ Jadesta]].*
this is Jere.GEN take.MA/PTCP picture sister.of-PX/3 Jade.of
'This is the picture that Jere took from his sister Jade.'

b. *[[Isä-nsä$_i$ veroiseksi] tuleminen] muutti hänet$_i$.*
father-GEN.PX/3 equal.to becoming changed s/he.ACC
'Becoming equal with his father changed him.'

c. *[Kiinnostus toisia-an$_{i+j}$ kohtaan, jota Pekka$_i$ ja Merja$_j$ osoittivat], oli ohimenevää.*
interest each.other.PAR-PX/3 towards which Pekka and Merja showed was fleeting
'The interest in each other that Pekka and Merja showed was fleeting.'

d. *Vanhempana poikana Eesau$_i$ piti huolta, että isä-nsä$_i$ piti hänestä enemmän.*
older.as son.as Eesau.NOM took care that father-NOM.PX/3 liked s/he.of more
'As the older son, Eesau ensured that his father liked him more.'

e. *Äiti-nsä$_i$ lähtee mukaan ja onkin ihan kivaa matkaseuraa.*
mother-NOM.PX/3 goes along and is.3SG.too quite nice travel.company
'His/her mother will come along, and she is quite nice travel company.'

It should be noted that examples (4c-e) are not part of the normative grammar of Finnish. However, according to Hakulinen et al. (2004: §1295), the contextual reference of the possessive suffix is widespread in colloquial speech, newspapers, and magazines. We

[3] The possessive suffix is ambiguous in example (4e). The suffix *-nsA* is used both in the third person singular and plural. Thus, the entity picked up from the context in (4e) can be either singular or plural.

will return to the usage and stylistic and dialectal variation of the lone possessive suffix in section 3.

Let us have a look at some of the possible explanations for (4a-e). One possibility is that the specimens have been misanalysed, and that the correct analysis does not involve a c-command violation. According to this claim, there is an analysis, or a stage in the derivation, where the c-command constraint is in force. We will argue that such analysis is unlikely and thus reject this alternative. The second option is to stretch either agreement theory or binding theory to cover the non-c-command territory exhibited in (4). The problem with this strategy is that new agreement and binding possibilities would open up at once that are simply not attested and would require significant amount of damage control and theory re-crafting. We will therefore not follow this path, although it remains a possibility. A third possibility is to grant the 3rd person possessive suffix a special, perhaps "logophoric" status, and liberate it from the c-command condition. We recommend against this strategy as well, since, as we will show in a moment, in most cases, the possessive suffix *is* related to an antecedent that c-commands it. Thus, we want a theory which keeps the c-command condition as a theorem that is not in force in examples such as (4).

We will show, instead, that the non-c-command antecedents only emerge if no c-command antecedents are found, and that their selection is strongly affected by discourse. Hence, we propose a descriptive 'discourse friendly' rule, according to which, the non-c-command antecedents are selected from the discourse as a last resort *only if* the c-command antecedent search fails (i.e., c-command grammatical antecedents > non-c-command discourse antecedents). This descriptive rule, which, importantly, applies to the behavior of the *finite* null subjects in Finnish (Brattico 2015), leads us to believe that the possessive suffix is always accompanied by a local pronominal element, a non-finite null subject, or specifier.

Thus, instead of placing the burden of antecedent selection on the possessive suffix, we propose that the possessive suffix is a person and number agreement marker for a pronominal element that is located in the specifier of the head bearing the possessive suffix. If so, what kind of null pronominal are we dealing with? We suggest that both PRO-element and the little *pro* are able to license possessive suffixes in Finnish. Finnish is a partial pro-drop language: in finite clauses, 1st and 2nd person subjects can be dropped, but dropping a 3rd person subject is restricted by both syntactic and discourse factors. In finite clauses, the empty subject position contains a little *pro* (e.g. Vainikka & Levy 1999, Holmberg 2010). We suggest that the possessive suffix can be licensed in non-finite contexts by the same pronominal element *pro*. The *pro*-element is located in the specifier/subject position of the head hosting the Px, as in (5). This would explain why it, too, is sensitive to discourse in the selection of its antecedent. Our hypothesis is an elaboration of Vainikka (1989) and van Steenbergen (1991), both of whom have proposed that there exists a non-finite pro-drop phenomenon in Finnish.

(5) *Hän$_i$ löysi [pro$_i$ pyörä-nsä].*
s/he found bike-ACC.PX/3
'She found her bike.'

This article is organized so that section 2 introduces the basic properties of the Finnish possessive suffix and provides an overview of previous accounts. Section 3 discusses contexts in which the Finnish possessive suffix seems to be licensed without a c-commanding antecedent. In section 4, we present evidence for an analysis of the possessive suffix in terms of a pronominal *pro*-element, and section 5 provides the syntactic analysis. Finally, section 6 concludes the article. In addition, this paper is the first part of what was originally a larger work. The second part now constitutes the supplementary material (Brattico & Huhmarniemi 2016), which is available online.

2 Possessive suffix as a phi-agreement marker

We will begin with the agreement hypothesis. According to the agreement hypothesis, the Finnish possessive suffix is a phi-agreement marker licensed by an overt or covert pronominal in the specifier of the relevant head. Section 2.1 discusses the licensing of the Px, and section 2.2 provides some basic arguments for analyzing the Px as a suffix, rather than a clitic. Section 2.3 investigates the phi-feature specification of the possessive suffix.

2.1 Licensing of the possessive suffix

The Finnish possessive suffix attaches itself to nouns, non-finite verbs, prepositions, and adjective participles. In each of these environments, it shows the 1st, 2nd, and 3rd person and singular-plural number feature distinctions, as in (1a-f) (the singular/plural distinction is not manifested in the 3rd person).[4] In these examples, the possessive suffix shares the person and number features with the possessive human pronoun. The possessive suffix will be glossed as Px/phi, where *phi* denotes the person and number features.

(6) a. *minun laukku-ni*
my bag-PX/1SG
'my bag'

b. *sinun laukku-si*
your bag-PX/2SG

c. *hänen laukku-nsa*
his/her bag-PX/3

[4] In addition, the 3rd person suffix has two variants *-nsA* and *-Vn*. For details, see Hakulinen et al. (2004: §95).

d. *meidän laukku-mme*
our bag-PX/1PL

e. *teidän laukku-nne*
your bag-PX/2PL

f. *heidän laukku-nsa*
their bag-PX/3

Examples (7a-b) illustrate contexts where the 3rd person possessive suffix behaves like a reflexive anaphor that takes a DP as a correlate. In addition, the correlate must be local (7c).

(7) a. *Pekka$_i$ korjasi pyörä-nsä$_i$.*
Pekka.NOM fixed bike-ACC.PX/3
'Pekka fixed his bike.'

b. *Kaappi$_i$ löysi paikka-nsa$_i$.*
cupboard.NOM found place-ACC.PX/3
'The cupboard found its place.'

c. **Pekka$_i$ kertoi, että minä korjasin pyörä-nsä$_i$.*
Pekka.NOM told that I.NOM fixed bike-ACC.PX/3

In contrast, 1st and 2nd person possessive suffixes can also access contextual correlates (8a-c). They thus display properties of a pronoun, unlike the third person Px, which cannot normally receive a contextual correlate (d).

(8) a. *Minä$_i$ korjasi pyörä-ni$_i$.*
I.NOM fixed bike-ACC.PX/1SG
'I fixed my bike'

b. *Pekka korjasi pyörä-ni.*
Pekka.NOM fixed bike-ACC.PX/1SG
'Pekka fixed my bike'

c. *Pekka korjasi pyörä-si.*
Pekka.NOM fixed bike-ACC.PX/2SG
'Pekka fixed your bike'

d. **Minä korjasin pyörä-nsä.*
I.NOM fixed bike-ACC.PX/3

In the anaphoric theories of the Px, the 3rd person possessive suffix is treated as a reflexive anaphor that takes a local DP as a correlate (Pierrehumbert 1980, Vainikka 1989, 2012, Trosterud 1993). In examples (6), the correlate is the pronoun in the specifier of the NP, and in examples (7), the correlate is a local c-commanding DP.

In this paper, we argue for the hypothesis that the Finnish possessive suffix is an agreement marker (Anderson 2005: 235–239, Karlsson 1977, Nikanne 1989, and van Steenbergen 1987, 1991). In addition, we borrow the basic idea from van Steenbergen (1991),

in which the Px is licensed by a null pronominal (9). This view is also adopted in Reime (1993), Kaiser (2002) and Vainikka (2012):[5]

(9) *Pekka$_i$ korjasi [$_{NP}$ pro$_i$ pyörä-nsä].*
Pekka.NOM fixed bike-ACC.PX/3
'Pekka fixed his bike.'

A crucial difference between our analysis and that of van Steenbergen (1991) concerns the identity of the null pronoun. Whereas for van Steenbergen (1991), the null pronoun that licenses 3rd person Px is anaphoric, we propose that the null pronoun has both anaphoric and pronominal properties.[6] Indeed, based on the existence of non-c-commanding antecedents, the 3rd person possessive suffix shows mixed properties with regard to anaphoric and pronominal binding. The alternative we want to put forward here is that the mixed binding properties can be accounted for by assuming that the Px can be licensed by a little *pro*. Another motivation for this analysis comes from the fact that the licensing of the possessive suffix in Finnish involves similar pro-drop phenomenon that is found in finite domains, see section 4.2.

2.2 Suffix and clitic analyses

One central question on the Finnish possessive suffix considers its status as a clitic-like element or an inflectional affix. The possessive suffix has been analyzed as an incorporated (Dolbey 1995) or cliticized reflexive pronoun (Pierrehumbert 1980, Nevis 1984, Trosterud 1993). The clitic analysis is supported by the fact that although Finnish implements extensive case and number concord, the possessive suffix occurs only on the head (10a-b). The clitic *-kin*, 'too, also', exhibits similar behavior: it attaches to only one element within an NP (c-d).[7]

(10) a. *nii-ssä punais-i-ssa auto-i-ssa-ni*
those.PL-INE red-PL-INE car-PL-INE-PX/1SG
'in the new red cars'

b. **se-ni punaise-ni auto-ni*
the/that-PX/1SG red-PX/1SG car-PX/1SG

[5] According to Vainikka (1989, 2012), the possessive suffix is itself a Condition C anaphor that must be locally bound. In Vainikka (1989), it is proposed that the possessive suffix is a head of its own projection. In addition, the 1st and 2nd person possessive suffixes are bound by an implicit discourse-related binder in the specifier of the Px-projection. In the 3rd person, this binder is not present and therefore, the Px requires a local antecedent elsewhere in the structure.

[6] Finnish has another null subject pronoun that is able to license the possessive suffix in certain contexts – the null subject PRO of obligatory control structures. The contexts, where the PRO-element occurs together with Px are discussed in section 4.2, example (40).

[7] Further evidence for the clitic analysis is that the possessive suffix occurs after the other inflectional affixes and does not trigger consonant gradation.

c. *se punainen auto-kin*
the/that red car-*kin*
'the new red car too'

d. **se-kin punainen-kin auto-kin*
the/that-*kin* red-*kin* car-*kin*
'the new red car too'

On the other hand, the possessive suffix is more selective for its host than clitics. For example, the clitic *-kin* can attach to the determiner or a regular adjective (11a), which is not possible for the possessive suffix (b).

(11) a. *se-kin punainen auto / se punainen-kin auto*
the/that-*kin* red car the/that red-*kin* car
'the/that red car too'

b. **se-ni punainen auto / *se punaise-ni auto*
the/that-PX/1SG red car the/that red-PX/1SG car

Kanerva (1987) convincingly argues on the basis of phonological, morphological, and semantic evidence that the possessive suffix is a suffix, not a clitic. He points out, for example, that whereas the possessive suffix attaches to the inflecting stem in example (12a) (example (29) from Kanerva (1987)), the question clitic particle *-kO* attaches to the non-inflecting stem (see also Nelson 1998: 196–203).

(12) a. *naise-nsa*
woman-PX/3

b. **naine=nsa*

c. *nainen-ko*
woman-Q

d. **naise=ko*

We follow Kanerva and assume that the possessive suffix is a suffix, not a clitic. Not much hinges on this assumption, however. If it were a clitic, it would still show person and number agreement, requiring some form of agreement between the pronoun and the clitic.

2.3 Phi-features associated with the possessive suffix

Assuming that the Px is an agreement marker in Finnish, which phi-features are involved in agreement? The first point to notice is that overt full DPs do not trigger possessive suffixation in a local configuration. The possessive suffix is only triggered by human pronouns. For example, (13a-c) are ungrammatical.

(13) a. **sen laukku-nsa*
its bag-PX/3

b. **Pekan laukku-nsa*
Pekka's bag-PX/3

c. **vieraiden laukku-nsa*
guests' bag-PX/3

One could therefore propose that the possessive suffix is an agreement marker for the person, number, and *human* feature.[8] We assume this view here.

3 Possessive suffixes without c-command

This section introduces several contexts that contain the 3rd person possessive suffix without a local c-commanding antecedent. We start with an introduction to the c-command relation in section 3.1 and then continue with the data: adjective participles (section 3.2), relative clauses (section 3.3), and clausal domains (section 3.4). The contextual licensing of the possessive suffix is discussed in section 3.5.

3.1 C-command requirement for the possessive suffix

Both the agreement hypothesis and the binding hypothesis of the Finnish possessive suffix have one property in common. Theories of agreement posit a c-command relation between the DP and the agreeing head.[9] The anaphor theories make the same assumption: if the possessive suffix is an anaphor, it will generally require a c-commanding antecedent.

The c-command relation says, in intuitive terms, that a term X c-commands (by definition) its sister node and everything that's inside the sister node. More precisely, we adopt the following definition of the c-command relation (Chomsky 1986):

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[8] There are certain possible counterexamples to this proposal. First, the wh-pronoun *kenen* 'whose' does not trigger the possessive suffix in (8a), although it only refers to humans. Second, in (8b), colloquial *meikäläinen* 'a person like me' replaces the pronoun, but does not permit the possessive suffix (Toivonen 2000: 582–584).

(i) a. *Kenen pyörä(*-nsä) tämä on?*
whose bike-PX/3 this is

b. *Tämä on meikäläisen uusi pyörä(*-ni).*
this is my new bike-PX/1SG
'This is my new bike.'

[9] Within the generative tradition, there are at least two candidate theories on the origin of agreement. According to the Spec-head theory, agreement takes place between a head and a noun phrase/determiner phrase at its Spec (Chomsky 1993). Another alternative, Agree-based theory, is that a head agrees with a DP it c-commands, while the Spec-head configuration arises via movement (Chomsky 2000, 2008). For Finnish, the former option has been assumed by Vainikka (1989), Nelson (1998), the latter by Brattico & Leinonen (2009), Brattico (2012).

(14) **C-command** Node A c-commands node B if and only if

a. A ≠ B,

b. A does not dominate B and B does not dominate A, and

c. every X that dominates A also dominates B.

Dominance Node A dominates node B if and only if A is higher up the tree than B, such that you can trace a line from A to B going only downwards.

The lack of c-command has an effect on grammaticality. This can be seen in examples (15a-c), where the suitable antecedent is embedded within a subject noun phrase, and, hence, does not c-command the possessive suffix. The result is ungrammaticality, or at least a strong feeling of deviance.[10]

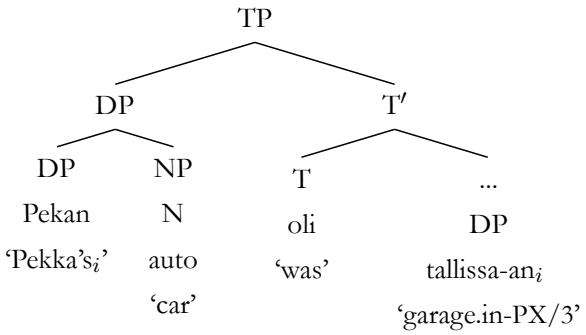
(15) a. *?* [Suunnitelma tavata Pekka$_i$] häiritsi serkkua-an$_i$.*
plan to.meet Pekka disturbed cousin.PAR-PX/3
Intended: 'The plan to meet Pekka disturbed his cousin.'

b. *?* [Lahja Pekalle$_i$] löytyi autosta-an$_i$.*
present to.Pekka found car.from-PX/3
Intended: 'The present for Pekka was found in his car.'

c. *?* [Pekan$_i$ auto] oli koko talven tallissa-an$_i$.*
Pekka's car was whole winter garage.in-PX/3
Intended: 'Pekka's car was in his garage the whole winter.'

To illustrate the lack of c-command, we have included a tree-graph of the example (15c). Here, the correlate is embedded within the subject argument. Whereas the subject DP as a whole c-commands the possessive suffix, the c-command relation cannot be established between the DP *Pekka* and the DP *tallissaan* 'in its garage'.

(16) *?*[Pekan$_i$ auto] oli koko talven tallissa-an$_i$*



[10] Example (15c) is grammatical if we interpret the possessive suffix to refer the whole DP *Pekan auto*, 'Pekka's car', when the meaning of the sentence is 'Pekka's car spent the whole winter in its carage.'

Against this background, examples such as (4), repeated here as (17), where the Px is not c-commanded by its antecedent, seem anomalous. We call them "wild" antecedent possessive suffixes, barring a more detailed understanding of their properties. To our knowledge, these data have not been analyzed before.

(17) a. *Tämä on [[[Jeren$_i$ ottama] kuva] [siskosta-an$_i$ Jadesta]].*
this is Jere.GEN take.MA/PTCP picture sister.of-PX/3 Jade.of
'This is the picture that Jere took from his sister Jade.'

b. *[[Isä-nsä$_i$ veroiseksi] tuleminen] muutti hänet$_i$.*
father-GENPX/3 equal.to becoming changed s/he.ACC
'Becoming equal with his father changed him/her.'

c. *[Kiinnostus toisia-an$_{i+j}$ kohtaan, jota Pekka$_i$ ja Merja$_j$ osoittivat],*
interest each.other.PAR-PX/3 towards which Pekka and Merja showed
oli ohimenevää.
was fleeting
'The interest in each other that Pekka and Merja showed was fleeting.'

d. *Vanhempana poikana Eesau$_i$ piti huolta, että isä-nsä$_i$ piti*
older.as son.as Eesau.NOM took care that father-NOM.PX/3 liked
hänestä enemmän.
s/he.of more
'As the older son, Eesau ensured that his father liked him more.'

e. *Äiti-nsä$_i$ lähtee mukaan ja onkin ihan kivaa matkaseuraa.*
mother-NOM.PX/3 goes along and is.too quite nice travel.company
'His/her mother will come along, and she is quite nice travel company.'

These examples are problematic to the existing analyses for the possessive suffix, provided that we can show that they cannot satisfy the (standard) c-command requirement at any grammatical analysis, and that they are really used in written and spoken Finnish. These matters will occupy us in the next section.

We will now show that the sentences in (17) do not exhibit a c-command relation between the possessive suffix and its antecedent. Establishing this claim will require a moderate level of syntactic analysis of the relevant constructions and the discussion of some of their possible derivational histories. We want to establish that at no point during their syntactic derivation does the standard c-command relation hold.

3.2 Adjectival participles

Let us start with adjective participles (18a-b). The head of an adjective participle is derived by adding a participial suffix to the verbal stem, such as *-mA* in the example (18a) and *-ttU*

in (18b) (Hakulinen et al. 2004: §122).[11]

(18) a. *Tämä on [[Jeren$_i$ ottama] kuva [siskosta-an$_i$ Jadesta]].*
this is Jere.GEN take.MA/PTCP picture sister.of-PX/3 Jade.of
This is the picture that Jere took from his sister Jade.'

b. *Tämä on [[Jerelle$_i$ annettu] kuva [uudesta autosta-an$_i$]].*
this is Jere.to give.VA/PTCP picture new.of car.of-PX/3
'This is the picture of his new car that was given to Jere.'

The participle in example (18a) is referred to as "agentive participle", because the argument must be thematically interpreted as the agent. Example (b) involves a passive form of the VA-participle, and the DP represents the goal. The phrase *Jeren ottama* in (a) can be translated as a participle 'taken by Jere' or as a relative clause 'which Jere took'. However, Finnish adjective participles are not relative clauses, nor do they share a derivational history with them. We will take a moment to show this.

Finnish adjective participles differ from relative clauses in several respects (Karlsson 1973). First, the head of an adjective participle has characteristic properties of a regular adjective. It displays case and number concord with the noun head, and the word order suggests that the construction is a left-adjoined modifier of the noun phrase. In addition, adjective participles have (limited) comparative and superlative forms.[12] Unlike adjective participles, Finnish relative clauses are postnominal. In addition, whereas participles have reduced agreement and tense inflection, relative clauses are standard finite clauses by their grammatical properties.[13]

Finally, adjective participles are constrained by several restrictions not present in relativization (see Karlsson 1973). For example, whereas adjective participles modify only an NP that is interpreted as the subject or object argument of the participle, relative clauses face no such restriction (Hakulinen et al. 2004: §531). For example, relative clauses such as (19)-(20) do not have a parallel participial form.

(19) *puisto, jossa Merja istui (place relativization)*
park where.in Merja.NOM sat
'a park where Merja used to sit'

[11] Finnish has two other types of adjective participles not discussed here, see Hakulinen et al. (2004: §521)

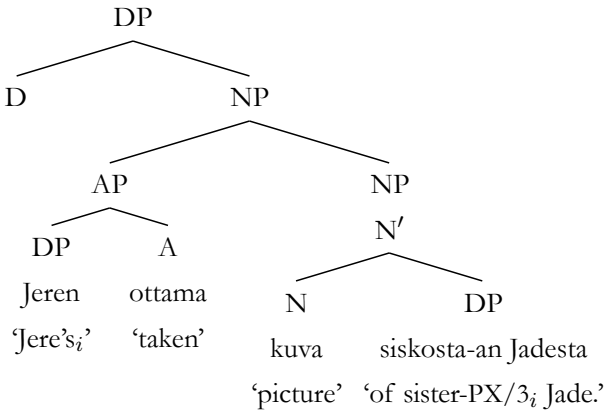
[12] The more lexicalized the participle is, the more permissible it is with the comparative and superlative inflection. In addition, the presence of arguments restricts the ability to inflect in the comparative and superlative. Thus, the following forms are considered grammatical or slightly deviant: *?sinuun rakastuneempi mies* 'a man more in love with you', *minua haittaavin muutos*, 'the change that bothers me most'.

[13] In addition, Finnish adjective participles differ from finite clauses in that they do not involve complementizers or other elements typically associated with C-domain (wh-phrases, left peripheral contrastive focus).

(20) *Merja, jolle annoimme kirjan* *(goal relativization)*
Merja to.which gave.1PL book.ACC
'Merja, to whom we gave a book'

We will adopt an analysis that treats the participle as a left-adjoined modifier. A simplified analysis of the sentence (18a) is given in (21). The DP-modifier *siskostaan Jadesta* is in this example located to the complement of the noun head; another option would be to locate it to an adjunct position. In any case, the DP *Jeren* fails to c-command the possessive suffix, and therefore, the possessive suffix should not be licensed.

(21) *Tämä on [[Jeren$_i$ ottama] kuva [siskosta-an$_i$ Jadesta]].*
this is Jere.GEN take.MA/PTCP picture sister.of-PX/3 Jade.of
'This is the picture that Jere took from his sister Jade.'



We thus believe that the participle constructions presents a genuine puzzle for any theory of the possessive suffix currently on offer. The same reasoning holds for example (18b).

3.3 Relative clauses

Let us now turn to another problematic wild antecedent construction: the relative clause in (17c), repeated here as (22a) (The comparable English example is from Schachter 1973). Example (22b) shows the same phenomenon.[14]

(22) a. *[Kiinnostus toisia-an$_{i+j}$ kohtaan, jota Pekka$_i$ ja Merja$_j$ osoittivat],*
interest each.other.PAR-PX/3 towards which Pekka and Merja showed
oli ohimenevää.
was fleeting
'The interest in each other that Pekka and Merja showed was fleeting.'

[14] Example (22b) is not accepted by all speakers of Finnish.

b. *?Se kuva äidistä-än$_i$, jonka Pekka$_i$ otti vuosia sitten, löytyi*
the/that picture mother.of-PX/3 which Pekka.NOM took years ago found
muutossa.
move.in
'The picture of his mother which Pekka took years ago was found during the move.'

There are alternative ways to analyze these examples. In one analysis, the PP *toisiaan kohtaan* 'towards each other' is a complement of the noun head, and the relative clause is an adjunct modifier. Alternatively, both phrases can be adjuncts. However, in neither of these analysis is the constituent *Pekka ja Merja* able to c-command the possessive suffix.

There is, however, one possible analysis which would allow the antecedent to c-command the possessive: the raising analysis of relativization proposed by Vergnaud (1974), Schachter (1973), Kayne (1994), Bhatt (2002), de Vries (2002), Bianchi (1999, 2000), among others. Manninen (2003) has defended the raising analysis for Finnish relativization. Ignoring minor details and differences among various raising analyses proposed to date, the raising derivation of (22b) goes as follows. The starting point is (23a), where the NP that the relative clause modifies is contained by the relative clause. This construction is expanded into (23b) by two movement steps. The resulting construction is complemented to D, as in (23c).

(23) a. *[Pekka$_i$ oli ottanut [jonka kuvan äidistä-än$_i$]]*
Pekka had taken which picture mother.of-PX/3

b. *[kuvan äidistä-än, jonka ___] Pekka$_i$ oli ottanut ___*
picture mother.of-PX/3 which Pekka had taken

c. *se [kuva äidistä-än$_i$, jonka ___] Pekka$_i$ oli ottanut ___*
the/that picture mother.pf-PX/3 which Pekka had taken
'the picture of his mother which Pekka had taken'

In the raising analysis, the noun phrase has thus been inside the relative clause before landing to the surface position. This means that the possessive suffix can be bound by a c-commanding antecedent in the position where it was initially merged; see configuration (23a). The raising analysis thus explains why the possessive can be 'backward bound' to its antecedent.

There are, however, several problems with this hypothesis, as noted by Huhmarniemi & Brattico (2013). Since the point has been argued in detail elsewhere, we recapitulate the basic findings and refer to the above paper for details. The raising analysis, which assumes that the modified noun phrase is located inside the relative clause, predicts that many of its properties should be determined by what is inside the relative clause. For instance, the hypothesis predicts that the case, polarity, and scope properties of the noun phrase should exhibit traces of its first-Merge position inside the relative clause. Huhmarniemi & Brattico (2013) show that no such evidence exists; all syntactic and semantic properties of the head

are indicative of the fact that it has never been part of the relative clause. They further argue, based on Condition C effects and other evidence, that Finnish relative clauses are right-adjoined to the projectional spine of the noun phrase. However, they do not discuss backward possessive binding in examples such as (22a-b) (neither does Manninen), and so, the mystery remains unsolved.

The sum of the evidence is that relative clauses exhibit a phenomenon where the possessive suffix that occurs inside a PP modifying an NP can be bound by an antecedent inside the relative clause. Something establishes a link between them. The link is not operational if the possessive is attached to other elements within the relative clause head.

3.4 Lack of c-command within the clausal domain

In this section, we discuss two types of wild antecedent possessive suffixes, one from colloquial speech and another from normative grammar. In a more colloquial example (24), the correlate is embedded within a DP. In this passive sentence, the DP *Väänäsen urakehitys* 'Väänänen's career prospects' is the direct object argument and the DP *vaimonsa ministeriyteen* 'to his wife's position as a minister' is the indirect object. The antecedent is embedded within the object DP and there is thus no analysis where the c-command relation would hold.[15]

(24) *Väänäsen$_i$ urakehitys oli kytketty vaimo-nsa$_i$*
Väänänen.GEN career.prospect was connected wife-GEN.PX/3
ministeriyteen.
position.as.minister.to
'The career prospects of Väänänen were connected to his wife's position as a minister.'

This example is problematic when we compare it to examples like (15), where the lack of c-command causes ungrammaticality.

The other example of wild antecedent possessive suffix in clausal domain is offered by a normatively well-formed sentence (25). This sentence contains a psych predicate that has a nominative subject Theme and a partitive Experiencer. Assuming that the subject Theme is base-generated higher than the partitive Experiencer, the c-command condition does not hold.[16]

[15] Example (24) is from Hakulinen et al. (2004: § 1448). The lack of c-command in these type of examples was noted in Vainikka (1989: 240, fn.4).

[16] Example (25) is from Palander (1999).

(25) *Voutilaista$_i$ harmittaa ja säälittää kahden entisen seuransa$_i$,*
Voutilainen.PAR is.annoyed and feels.sorry two.GEN former.GEN club.GEN.PX/3
Kuusysin ja KuPS:n nykyinen alennustila.
Kuusysi.GEN and KuPS.GEN present.NOM low.state.NOM
'Voutilainen feels annoyed and sorry about the present low state of his former sport clubs Kuusysi and KuPS.'

However, another analysis for similar constructions is provided by Nelson (2000), where the Experiencer is base-generated higher than the Theme. Under this analysis, example (25) would thus not be problematic. According to Nelson (2000), stative causatives such as *surettaa*, 'to grieve', lack an external argument. She grounds her argument on data from impersonal passivization, binding, case and agentive passivization. We will dedicate the rest of this section to discuss Nelson's analysis. Some of these details are not essential for our main argument and may thus be skipped. However, Nelson's analysis as such provides an important contribution to the syntactic structure of these constructions.

First, word order does not provide direct evidence for either hypothesis; the Theme and the Experiencer seem to be equally valid alternatives for the subject position:[17]

(26) a. *Koirani kuolema suretti minua.*
dog.PX/1SG death(N) grieve.CAUS.PST.3SG me.PAR
'My dog's death grieved me.'
b. *Minua suretti koirani kuolema.*

Data from impersonal and agentive passivization support the lack of an external argument (Nelson 2000). These verbs cannot be passivized, or, if they are, the Experiencer is preserved rather than the Theme. Second, psych predicates cannot be used in agentive participials. These findings can be interpreted as supporting the lack of external argument.

An important source of data that Nelson uses to support the organization of arguments of psych predicates comes from binding. We find the data problematic and provide binding data that points towards a different analysis. For example, Nelson provides the example (27) of reflexive binding Vilkuna (see also 1989: 53). However, to us, this example is marginal.

(27) Nelson (2000: 157)

Mikko-a$_i$ harmitt-i / sure-tt-i itse-nsä$_i$.
Mikko-part annoy.CAUS-PST3SG / grieve-CAUS-PST.3SG self.NOM-PX/3

'Mikko annoyed himself / made himself sad.'

Instead, the data from reflexive binding seems to support the analysis where the Theme c-commands the Experiencer (28a). In addition, example (28b), where the Theme in the subject position is a reflexive pronoun, is ungrammatical.

[17] Example (26a) is from Nelson (2000: 169, example (83)).

(28) a. *Matti$_i$ suretti itseään$_i$.*
Matti.NOM grieved self.PAR.PX/3
'Matti grieved for himself.'

b. **Itsensä$_i$ suretti Mattia$_i$.*
self.NOM.PX/3 grieved Matti.PAR

The most direct support for treating the nominative Theme as the subject, contrary to Nelson's analysis, comes from phi-agreement: these verbs inflect in the person and number of the Theme (18a-c).[18]

(29) a. *Jotkut asiat suretta-vat minua.*
some.NOM things.NOM sadden-3PL me.PAR
'Some things make me sad.'

b. *Sinä olet surettanut minua jo pitkään.*
you.NOM have saddened.2SG me.PAR already long.for
'You have made me sad for a long time already.'

c. *He harmittavat minua sekaantuessaan asioihi-ni.*
they.NOM annoy.3PL me.PAR interfere.INF things-PX/1SG
'They annoy me when interfering with my business.'

Another piece of evidence for treating the nominative element as a subject rather than nominative object is provided by case assignment in the presence of negation. In Finnish, the negation requires that the object argument is in the partitive (30a-b). However, the negation does not change the case of the Theme to the partitive in (c).

(30) a. *Löydettiin avain.*
find.PASS.PST key.NOM
'A key was found.'

b. *Ei löydetty *avain / avainta.*
not find.PASS.PST key.NOM key.PAR
'A/the key was not found.'

c. *Minua ei harmita koira-ni kuolema / *koira-ni*
I.PAR not annoy dog-GEN.PX/1SG death.NOM dog-GEN.PX/1SG
kuolemaa.
death.PAR
'I'm not sorry about my dog's dead.'

Finally, when the subject position is occupied by an expletive, the order Theme – Experiencer in (31a) is less marked than the order Experiencer – Theme in (31b). This supports the analysis where the base-generated order is (31a).

[18] Example (c) is from the Internet.

(31) a. *Sitä suretti Pekka Merjaa.*
EXPL saddened Pekka.NOM Merja.PAR
'Pekka grieved Merja.'

b. *Sitä suretti Merjaa Pekka.*
EXPL saddened Merja.PAR Pekka.NOM

In addition, a reflexive or a possessive suffix can also be bound by the subject Theme also when the subject is in this low position, as in (32a). The same does not hold in (32b). We propose that in (b), we are dealing with wild antecedent Px. These examples show that the binding properties are already present in the base-generated structure, and do not arise (only) from A-movement to the subject position.

(32) a. *Sitä suretti Pekka ?itseään / veljeään.*
EXPL saddened Pekka.NOM self.PAR.PX/3 brother.PAR.PX/3
'Pekka grieved himself / his brother.'

b. *Sitä suretti Merjaa *?itsensä / ?veljensä.*
EXPL saddened Merja.PAR self.NOM.PX/3 brother.NOM.PX/3
'Merja grieved herself/her brother.'

We thus conclude that the nominative Theme is base-generated to a higher position than the partitive Experiencer and is assigned nominative case by the T, which agrees with it in phi-features. We therefore believe that these constructions do provide genuine counterexamples to the generalization that the possessive suffix must be c-commanded by its antecedent.

Finally, it should be noted that the binding of the possessive suffix is possible in both orders. For example, the possessive suffix hosted by the Theme can be bound by the Experiencer (33a) and vice versa (33b).

(33) a. *Mattia$_i$ suretti poikansa$_i$ epäonnistuminen.*
Matti.PAR grieved son.GEN.PX/3 failure.NOM
'Matti grieved for his son's failure.'

b. *[Sairas koira]$_i$ suretti omistajaansa$_i$.*
sick.NOM dog.NOM grieved owner.PAR.3SG
'A sick dog grieved its owner.'

Assuming the two sentences above have the same base-generated order of arguments, the c-command condition is not in force in either sentence. Therefore, the exact structural configuration of the sentence does not really matter; the wild antecedent Px seems to be present in any case.

3.5 Contextual licensing of the possessive suffix

Let us now turn to another class of wild antecedent examples, where the correlate of the 3rd person possessive suffix is either too far (34a) or missing altogether (34b) (see Hakulinen

et al. 2004: §1295, for more examples). We believe that in these sentences, contextual access is necessary to establishing the reference.

(34)

a. *Vanhempana poikana Eesau$_i$ piti huolta, että isä-nsä$_i$ piti hänestä enemmän.*
older.as son.as Eesau.NOM took care that father-NOM.PX/3 liked s/he.of more
'As the older son, Eesau ensured that his father liked him more.'

b. *Äiti-nsä$_i$ lähtee mukaan ja onkin ihan kivaa matkaseuraa.*
mother-NOM.PX/3 comes along and is.3SG.too quite nice travel.company
'His/her mother will come along and she is quite nice travel company.'

The distribution of lone possessive suffixes in constructions such as above is subject to dialectal variation; it is most common in Tavastian dialects (Palander 1999). In the normative grammar, both examples would require the presence of an overt pronoun (hence, *hänen isänsä*, 'his/her father' and *hänen äitinsä* 'his/her mother'). According to Palander (1999), the usage of the overt pronoun with the possessive suffix has developed to a norm slowly from the beginning of the 20th century. The early editions of formal grammar by E.N. Setälä included examples such as *Akka lähti pois, kun miehensä tuli kotiin* 'The wife$_i$ left when husband.Px$_i$ came home' ja *Ei hän taida. Mutta isänsä kyllä taitaa* 'He$_i$ will not. But father.Px$_i$ will'. They were removed in the 1950's as a consequence of the influence of Eastern dialects to Finnish normative grammar (Palander 1999). However, the construction is widespread in colloquial speech.[19]

We investigate the licensing conditions of the possessive suffix in these sentences. Example (34b) does not contain a suitable antecedent, so the c-commanding condition is not met and the antecedent is accessed through context. However, sentence (34a) contains a suitable antecedent *Eesau*, which c-commands the possessive suffix. What makes this sentence exceptional is that the possessive requires a local antecedent, and its licensing cannot normally cross a CP-boundary. For example, sentence (35) is ungrammatical.

(35) **?Merja$_i$ vakuutti että sinä varastit pyörä-nsä$_i$.*
Merja insisted that you stole bike-PX/3
'Merja insisted that you stole her bike.'

[19] A characteristic property of possessive suffixes that access a discourse antecedent is that they are often attached to family terms. However, it should be noted that the phenomenon is not restricted to them; also, other nouns can take a wild antecedent possessive suffix:

(i) *Pekka lähti kotiin. Pyöränsä jäi tänne.*
Pekka left home bike.PX/3 stayed here
'Pekka went home. His bike was left here.'

It is characteristic to sentences such as (34a-b) that the lone possessor occurs in the subject position of a finite clause, and the antecedent is located in the previous clause or, alternatively, in the immediate context. With this respect, the distribution of a lone possessor is similar to the pro-drop of 3rd person pronouns in Finnish (Vainikka & Levy 1999, Holmberg 2005, 2010, Frascarelli 2014). We will later make much use of this observation.

To gather the relevant points, we have argued that the counterexamples to the c-command requirement are real. No grammatical trickery seems to be available to realign these constructions in such a manner that the standard c-command condition could be satisfied. A theory of the Finnish possessive suffix must incorporate a mechanism which allows the possessive suffix to access elements other than c-commanding antecedents.

4 Evidence for the null pronominal

Wild antecedents present a problem for the previous analyses of the possessive suffix. Neither agreement nor binding can accommodate such facts in any trivial way. In this section, we will first look at the behavior of the c-command and non-c-command antecedents in more detail. The purpose of these arguments is to suggest that there is a pronominal element, a null pronoun, in close proximity to the possessive suffix. We will then use the presence of that null pronominal to access the non-c-commanding wild antecedents. Our hypothesis is illustrated in (36), which shows how the hypothetical null pronoun carries coreference.[20]

(36)

a. *Tämä on [[Jeren$_i$ ottama kuva] pro$_i$ siskosta-an Jadesta].*
this is Jere.GEN taken picture sister.of-PX/3 Jade.of
'This is the picture that Jere took from his sister Jade.'

b. *[Kiinnostus pro$_{i+j}$ toisia-an kohtaan, jota Pekka$_i$ ja Merja$_j$ osoittivat],*
interest each.other.PAR-PX/3 towards which Pekka and Merja showed
oli ohimenevää.
was fleeting
'The interest in each other that Pekka and Merja showed was fleeting.'

First, we show that it is always possible to insert a pronoun to the position of a *pro*-element (section 4.1). In section 4.2, we present data that suggest that possessive constructions have similar properties to finite clauses with regard to pro-drop. Section 4.3 addresses 'long-distance' binding domains for Px. The properties of the Px are compared to

[20] We will use a convention whereby the binding properties of various nominal elements are represented by means of indices. Sometimes there are other possibilities besides those we mark explicitly. Thus, the binding relations represented in the examples should be read as a disambiguation device, by which we indicate which of the possible readings we want to draw readers' attention.

pronouns with several respects: binding condition C (section 4.4), quantified noun phrases (section 4.5), sloppy identity readings (section 4.6), and split antecedents (section 4.7). Section 4.8 briefly addresses the logophoric theory of pronouns as an alternative analysis, and in section 4.9, we present our proposal for the last resort mechanism of binding.

4.1 Distribution of pronouns and pro-elements

Here, we will examine the effects of inserting an overt pronoun to the possessive suffix construction. Two things are salient: first, there is always space for an overt pronoun, and second, the overt pronoun, when present, is able to pick up wild antecedents. This is our first clue that the anomalous possessive constructions might in fact contain a pronominal element, a little-*pro*.

(37)

a. *Tämä on [[Jeren$_i$ ottama kuva] hänen$_i$ siskosta-an Jadesta].*
this is Jere.GEN taken picture his/her.GEN sister.of-PX/3 Jade.of
'This is the picture that Jere took from his sister Jade.'

b. *[[Hänen$_i$ isän-sä veroiseksi] tuleminen] muutti hänet$_i$.*
his/her father-GEN.PX/3 equal.to becoming changed him/her
'Becoming equal with his father changed him.'

c. *[Kiinnostus heitä$_{i+j}$ toisia-an kohtaan, jota Pekka$_i$ ja Merja$_j$ osoittivat], oli ohimenevää.*
interest they.PAR each.other.PAR-PX/3 towards which Pekka and Merja showed was fleeting
'The interest in each other that Pekka and Merja showed was fleeting.'

d. *Minä näin [kuvat hänen$_i$ autosta-an jotka Pekka$_i$ oli ottanut].*
I saw pictures his car.of-PX/3 which.ACC Pekka had taken
'I saw the pictures of his car that Pekka had taken.'

e. *Vanhempana poikana Eesau$_i$ piti huolta, että hänen$_i$ isä-nsä piti hänestä enemmän.*
older.as son.as Eesau.NOM took care that his/her father-NOM.PX/3 liked s/he.of more
'As the older son, Eesau ensured that his father liked him more.'

f. *Hänen$_i$ äiti-nsä lähtee mukaan ja onkin ihan kivaa matkaseuraa.*
his/her$_i$ mother-NOM.PX/3 goes along and is.too quite nice travel.company
'His/her mother will come along, and she is quite nice travel company.'

g. *Väänäsen$_i$ urakehitys oli kytketty hänen$_i$ vaimo-nsa*
Väänänen.GEN career.prospect was connected his/her wife-GEN.PX/3
ministeriyteen.
position.as.minister
'The career prospects of Väänänen were connected to his wife's position as a minister.'

It is important to keep in mind that we are *not* claiming that the overt and covert pronouns are the same element. But we are claiming that because there is syntactic space for overt pronouns, and because these overt pronouns can pick up wild antecedents, it is possible to argue that the syntactic slot for an overt pronoun can also be filled by a covert pronoun. Indeed, one important difference between the overt and covert pronouns is that the overt pronoun has an additional reading where the antecedent is accessed from the context. This reading is clearly more difficult to get if the 3rd person pronoun is not pronounced. In our data, reviewed in the earlier chapters, we saw that discourse access for the 3rd person Px is possible, but somehow more restricted.

4.2 The prod-drop phenomenon of the possessive construction

The 1st and 2nd person possessive pronouns can be dropped both in singular and plural (38a-b), while the option is more limited for the 3rd person (38c), which will be discussed later in detail. This phenomenon resembles the Finnish partial pro-drop phenomenon that takes place in finite domains (Vainikka & Levy 1999, Holmberg 2005, Vainikka 2012).[21]

(38) a. *(Minun) auto-ni hajosi.*
my car-PX/1SG broke
'My car broke.'
b. *(Sinun) auto-si hajosi.*
your car-PX/2SG broke
c. *?*(Hänen) auto-nsa hajosi.*
his/her car-PX/3 broke

Consider the fact that the possessive suffix is not restricted to the expressions of possession. Instead, it can be attached to deverbal nouns (39a), prepositions (39b), adjectivals (39c), and non-finite verbs (39d). All person and number variants are possible in these contexts.

(39) a. *(Sinun) siivoamise-si on huolimatonta.*
you.GEN cleaning-PX/1SG is reckless
'Your cleaning is reckless.'

[21] The parallelism between finite and non-finite domains with respect to the antecedent requirement was noted in Vainikka & Levy (1999: 631, fn. 10), but the matter was left for future research.

b. *(minun) lähellä-ni*
I.GEN near-PX/1SG
'near me'

c. *(sinun) siivoa-ma-si huone*
you.GEN clean.MA/PTCP-PX/2SG room
'a/the room cleaned by you'

d. *Pekka lähti (sinun) siivottua-si huoneen.*
Pekka left you.GEN clean.TUA-PX/2SG room
'Pekka left after you had cleaned the room.'

Examples (39a-d) display the same type of optionality as regular noun phrases: the genitive pronoun can be dropped in the 1st and 2nd person.[22] We seem to have an across-the-board generalization at play, according to which, both non-finite null pronominals and finite null pronominals are subject to the same kind of split between 1st/2nd and 3rd person pronouns. More evidence towards this conclusion is presented in the supplementary material (Brattico & Huhmarniemi 2016), which is available online.

A potential problem for a *pro*-analysis is the fact that there is a class of constructions that do not exhibit the pro-drop behavior. Consider examples (40a-d), where the local pronoun must be absent, and the possessive suffix is mandatory.

(40) a. *Sinä uskoit siivoa-va-si hyvin.*
you believed clean-VA-PX/2SG well
'You believed that you would clean well.'

b. **Sinä uskoit siivoa-van hyvin.*
you believed clean-VA well

c. *Sinä lepäsit siivota-kse-si.*
you rested clean-KSE-PX/2SG
'You rested in order to clean.'

d. **Sinä lähdit hänen siivota-kse-en.*
you left s/he.GEN clean-KSE-PX/3
'You left in order for him to clean.'

These sentences would be problematic, if we were claiming that the possessive suffix can be generated exclusively by the little *pro*. This is not what we claim. Recall that the possessive suffix is also generated by *overt* pronouns; indeed, we think that it can be generated

[22] The TUA-infinitive also has a passive form which does not take the possessive suffix (22) http://katariinanmatkat.kuvat.fi/blog/26/Saksa,+Ranska,+Italia,+Itävalta+25.5.13+-+19.6.13/

(i) *Pysähdyimme heti lähdettyä puoleksi tunniksi Lorelei-neidon luokse.*
stopped.1PL straight leaving.INF half.for hour.for Lorelei-maiden to
'Straight after leaving, we stopped for half an hour to visit the statue of the maiden Lorelei.'

by pronominal elements in general. Thus, we will argue later in section 5.1 that non-finite clauses in (40) are control constructions with an empty PRO-element. The examples above indeed are standard control structures, which, we assume, involve a PRO subject. Finnish control construction has been recently studied by (Brattico 2015).

4.3 Long-distance binding

Another piece of evidence that brings the anaphor analysis of the 3rd person Px into question is long-distance binding, where the binding domain of pronouns and possessive suffixes are partially overlapping (e.g. van Steenbergen 1991). For example, in (41)-(42), the Px is able to refer to the sentence subject past a more local binder (examples are modified from van Steenbergen 1991).

(41) a. *Pekka$_i$ näki Matin$_j$ lukevan kirjaa-nsa$_{i/j}$.*
Pekka saw Matti.GEN read.VA book.PAR-PX/3
'Pekka saw Matti read his book.'

b. *Pekka$_i$ näki Matin$_j$ katsovan häntä$_{i/*j}$.*
Pekka saw Matti.GEN watch.VA him/her
'Pekka saw Matti watch him.'

(42) a. *Pekka$_i$ sanoi Jussille$_j$ Matin$_k$ tulevan katsomaan autoa-an$_{i/?j/k}$.*
Pekka said Jussi.to Matti.GEN come.VA watch.MAINF car.PAR-PX/3
'Pekka said to Jussi that Matti is coming to watch his car.'

b. *Pekka$_i$ sanoi Jussille$_j$ Matin$_k$ tulevan katsomaan häntä$_{i/j/?k}$.*
Pekka said Jussi.to Matti.GEN come.VA wath.MAINF him.PAR
'Pekka said to Jussi that Matti is coming to watch him.'

Because the VA-infinitive hosts tense, the binding relation seems to stretch past a tensed clause and its subject and thus further than the "local domain". Kaiser (2002) proposes that the *pro*-element refers to a local topic, whereas the overt pronoun *hänen*, 'his/her', tends to refer to something else. Nevertheless, in the examples above (as in Kaiser's examples), the correlate is found from the minimal finite clause and the c-command relation is still in effect.

4.4 Evidence from the binding condition C

If the possessive suffix occurs together with a null pronoun, it ought to be possible to detect the presence of such pronouns by means of binding conditions. Pronominal binding, specifically, is regulated by the Condition C, which prevents the pronoun to function as an antecedent for a referential expression it c-commands (Chomsky 1986).

(43) **Binding condition C**
An R-expression is free

If the wild antecedent construction involves a pronominal, it should cause Condition C violations. This prediction is borne out, as shown in (44a-b). In example (44a), the hypothetical pronoun *pro* does not c-command the DP *professori* 'professor', and hence, the coreference is possible. (Recall that we consider the relative clause as a right-adjoined modifier of the noun phrase.) In contrast, example (44b) contains a finite clause in the complement of the noun head. In this sentence, the *pro*-element c-commands the DP and, as expected, coreference is ruled out by Condition C.

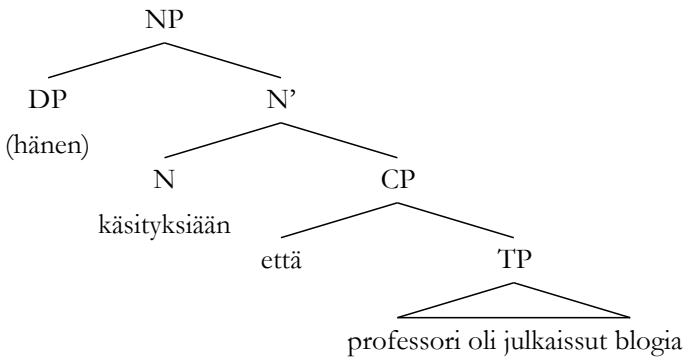
(44)

a. *Niitä pro$_i$ käsityksiä-än, jotka professori$_i$ oli julkaissut blogissa, pidettiin*
those ideas-PX/3 which professor had published blog.in were.regarded
yliopistoon sopimattomina.
university.to unsuitable.as
'His ideas, which the professor had blogged, were regarded as unsuitable for the university.'

b. *pro$_{*i/j}$ Käsityksiä-än, että professori$_i$ oli pitänyt blogia, pidettiin väärinä.*
ideas-PX/3 that professor had kept blog were.regarded wrong.as
'His ideas that the professor had blogged were regarded as wrong.'

The c-command relation in example (44b) is illustrated below. The *pro*-element occupies the specifier position within the noun phrase, and therefore, it c-commands the DP *professori*. In contrast, the relative clause can obtain a higher adjunct position within the NP (see Huhmarniemi & Brattico 2013) and avoid the Condition C violation.

(45) *(hänen) käsityksiään, että professori oli julkaissut blogia*



These data show that the possessive suffix constructions behave as if they would be required to obey Condition C, a condition which restricts pronominal coreference.

4.5 Quantified noun phrases

Another argument in favor of our analysis comes from quantified NPs (QNPs). A pronoun can be bound by a QNP, so that its reference is dependent on a local or nonlocal quantifier. If the wild antecedent constructions emerge due to pronouns, we should obtain such readings with third-person possessive suffixes. This prediction is borne out. (Indices represent binding relations between the quantifier and the pronoun, not coreference.)

(46) a. *Kaikki$_i$ pitivät pro$_i$ kuvasta-an.*
everybody liked picture.of-PX/3
'Everybody liked his picture.'

b. *Jokainen$_i$ mies on pro$_i$ isä-nsä veroinen.*
Every man is father-GEN.PX/3 equal
'Every man is equal to his father.'

c. *Kukaan$_i$ ei pitänyt suorituksesta-an$_i$.*
no-one not liked performance.PAR-PX3SG
'No-one liked his performance.'

Let us then examine sentences where the possessive suffix has a wild antecedent. Examples (47) illustrate binding between a quantifier within an adjoined finite clause and an overt pronoun in the main clause. Examples (47) and (48) show that dropping the 3rd person pronoun does not change the interpretation: the quantifier can still bind something within these constructions, most likely a null pronoun.

(47) a. *Kun jokainen lapsi meni nukkumaan, hänen äiti-nsä luki iltasadun.*
when each child went sleep.to his/her mother-PX/3 read bed.time.story
'When each child went to sleep, her mother read a bed time story.'

b. *Kun jokainen lapsi meni nukkumaan, äiti-nsä luki iltasadun.*
when each child went sleep.to mother-PX/3 read bed.time.story
'When each child went to sleep, her mother read a bed time story.'

(48) a. *Jokainen lapsi meni nukkumaan ja hänen äiti-nsä valvoi.*
each child went sleep.to and his/her mother-PX/3 stayed.awake
'Each child went to sleep, and her mother stayed awake.'

b. *Jokainen lapsi meni nukkumaan ja äiti-nsä valvoi.*
each child went sleep.to and mother-PX/3 stayed.awake
'Each child went to sleep, and her mother stayed awake.'

Thus, overt pronoun and the mere possessive suffix are parallel; in both cases, bound reading is a possibility. This is accounted for if the possessive suffix is accompanied by a null pronoun.

4.6 Sloppy identity readings

When a pronoun is linked with a definite DP, or with a proper name, it can become ambiguous between a referential interpretation and a bound-variable interpretation (Sag 1976, Williams 1977). This happens when a portion of the sentence containing the predicate is deleted elliptically. Example (49) Reinhart (from 1983) shows this effect.

(49) Felix hates his neighbors and so does Max.
Interpretation a) '....Max hates Felix's neighbors.'
Interpretation b) '....Max hates Max's neighbors.'

The sentence has two interpretations, one where the deleted pronoun is linked with Felix (interpretation a) and another, where it behaves like a variable, taking different values depending on the context (interpretation b). The bound-variable interpretation is called the sloppy identity reading. If such effects could be demonstrated with the possessive suffix, this would give further indication of the presence of a pronoun. Example (50) shows that the sloppy identity reading is present with ordinary use of the possessive suffix. Furthermore, example (51) shows that a lone possessive suffix can generate the sloppy identity reading.

(50) *Pekka vihaa naapureitaan ja niin myös Merja.*
Pekka hates neighbors.PX/3 and so does Merja
Interpretation a) '.. Merja hates Pekka's neighbors.'
Interpretation b) '.. Merja hates Merja's neighbors.'

(51) *Pekan äiti ajattelee, että pro lapse-nsa on nero, ja niin ajattelee myös Merjan äiti.*
Pekka's mother thinks that child.PX/3 is genius, and so thinks also Merja's mother
Interpretation a) '... Merja's mother thinks that Pekka's child is a genius.'
Interpretation b) ... Merja's mother thinks that Merja's child is a genius.'

We will return to this topic later, in section 5, when we compare the behavior of the *pro*-element to that of PRO.

4.7 Split antecedents

We will next utilize the fact that pronouns allow split antecedents and argue that certain possessive suffix constructions resemble pronouns in this respect. Examples (52a-d) show that pronouns, both overt and covert, allow split antecedents in Finnish.

(52)

a. *Pekka$_i$ ajatteli Merjan luulevan, että heidän suhteensa oli lopussa.*
Pekka$_i$ thought Merja$_j$ think.INF that their$_{i+j}$ relationship was end.in
'Pekka thought that Merja was thinking that their relationship was finished.'

b. *Pekka$_i$ ajatteli Merjan kuulleen, että he lähtisivätkin jo huomenna.*
Pekka$_i$ thought Merja$_j$ heard.INF that they$_{i+j}$ leave already tomorrow
'Pekka thought that Merja heard that they will leave already tomorrow.'

c. *?Pekka$_i$ kuuli Merjan lähteneen, vaikka pro$_{i+j}$ sopivat lähtevänsä vasta huomenna.*
Pekka$_i$ heard Merja$_j$ left.INF although pro$_{i+j}$ agreed to.leave not.until tomorrow
'Pekka heard that Merja had left, although they agreed on not leaving before tomorrow.'

d. *Vasemmisto$_i$ ja vihreät voivat miettiä sitä, että pro$_{i+j}$ lähtisivät hallituksesta.*
Left$_i$ and Greens$_j$ can think.INF it that pro$_{i+j}$ would.leave government
'The Left and the Greens could think about leaving the government.'

Example (53a) illustrates that the split antecedent reading is present in the third person plural possessive suffix, which is most likely an instance of pro-drop. However, the same reading is present with our 3rd person pro-drop in example (53b). (Although not indicated in glosses, the split antecedent is not the only reading available, but the possessive suffix may pick the antecedents separately.) Examples (53c-e) show that the split antecedent reading can be constructed for our core examples of lone possessive suffixes.

(53)

a. *Minä$_i$ uskoin Merjan/sinun$_j$ ajattelevan, että suhtee-mme$_{i+j}$ oli lopussa.*
I belived Merja.GEN/you.GEN think.VA that relationship-PX/1PL was end.in
'I believe that Merja/you thought that our relationship was finished.'

b. *Pekka$_i$ uskoi Merjan$_j$ ajattelevan, että suhtee-nsa$_{i+j}$ oli lopussa.*
Pekka belived Merja.GEN think.VA that relationship-PX/3 was end.in
'Pekka believed that Merja thought that their relationship was finished.'

c. *Käsitykset toisista-an$_{i,j}$, jotka Merjalla$_i$ ja Pekalla$_j$ oli, olivat vääriä.*
conceptions each.other.of-PX/3 which Merja$_i$ and Pekka$_j$ had, were wrong
'The conceptions of each other that Merja and Pekka had were wrong.'

d. *Merjan$_i$ Pekalle$_j$ antamat kuvat lapsista-an$_{i+j}$ olivat kadonneet.*
Merja.GEN Pekka.to given pictures children.of-PX/3 had disappeared
'The pictures of their children that Merja gave to Pekka had disappeared.'

e. *Isä-nsä$_{i+j}$ veroiseksi tuleminen muutti Pekan$_i$ suhteen Merjaan$_j$.*
father-PX/3 equal.to becoming changed Pekka.GEN relationship Merja.to
'Becoming equal to their father changed Pekka's relationship with Merja.'

In conclusion, several characteristic properties of pronouns are present in constructions that involve a non-c-commanded possessive suffix. This supports the proposal that

there might be a null pronominal in the proximity of the possessive suffix. These data are in agreement with the observation, made earlier, that a c-commanding antecedent is not always required for the 3rd person Px. This is another hallmark of pronominal behavior.

4.8 Logophoric theory of pronouns

Despite the fact that a strong case can be made in favor of the null pronoun hypothesis, there is an alternative that we would like to rule out. The alternative is to regard the non-c-command constructions to reflect 'logophoric' behavior. Clements (1975) shows that in Ewe, a Niger-Congo language, there exists a third type of pronoun side-by-side with reflexives and personal pronouns. This pronoun refers to the person whose speech, thoughts, and more general 'point of view' is adopted in uttering the sentence. Thus, its referential potential is dictated by discourse properties. Such logophors do not require the presence of a c-commanding antecedent. Similar facts have been reported for Japanese (Oshima 1979) and Icelandic (Thráinsson 1976, Sigurdsson 1986), (see Cole et al. 2001: for a review). One could thus analyze Finnish possessive suffixes as logophoric.

There are, however, several points of view which speak against this hypothesis. One is that the Finnish third person possessive suffix does pick up a c-commanding antecedent, if such is present. That is, if a c-commanding antecedent exists, it will provide the referential value for the possessive suffix and prevent logophoric or discourse-oriented interference. This suggests anaphoric behavior in contrast to logophoric behavior. The second problem with the logophoric analysis is that, even if we examine the constructions that lack c-commanding antecedents (e.g., ex. (4)), the antecedents are not determined by any type of 'point of view' analysis. Thus, in examples (4), the antecedent remains the same, irrespective of whether it refers to a person whose point of view is reported.

4.9 Evidence for the last resort mechanism

While an overt pronoun can pick up a discourse antecedent virtually under any circumstances, the null pronominal, that we propose to license the possessive suffix, cannot. There is some type of resistance towards discourse antecedents. This observation will be captured in this section, by showing that the discourse search is triggered as a *last resort* strategy. In other words, it is only in the absence of a c-commanding antecedent that the null pronominal is able to access wild antecedents.[23]

(54) Antecedent condition for null pronominals (Finnish)

[23] The discourse-friendly rule (54) is not meant to be universal. There are languages, such as Chinese, in which c-commanding noun phrases serve as antecedents for null pronouns, but there is no priority between (A) and (B). C-commanding and non-c-commanding antecedents are equally possible, even in the presence of the former (Huang, 2000: 66-67). An alternative conceptualization is to say that in such a language, only rule (B) is in operation, meaning that in these languages antecedent selection is 'discourse-oriented'. In Finnish, option (B) is available as a last resort with limited application.

A null pronominal in Finnish (**A**) must be paired with an overt c-commanding antecedent, but if no such antecedent is found, (**B**) discourse repository is accessed as a last resort.

Rule A is supported by all previous research, which shows that the c-command condition is often a requirement. The B-strategy is partially supported by the data, documented in this article, which shows that discourse antecedents are a possibility. According to (54), their mutual hierarchy is such that B-strategy is only triggered once A-strategy fails. This is shown by the data in (55). Once a c-commanding antecedent is present, wild antecedents disappear. In similar examples examined earlier, no c-commanding antecedent was present, and hence, we witnessed wild antecedents.

(55) a. *Pekka$_i$ myi [[Merjan$_j$ ottamat] kuvat pro$_{i,??j}$ autosta-an].*
Pekka sold Merja.GEN take.MA/PTCP pictures car.of-PX/3
'Pekka sold the pictures of his/??her car that Merja had taken.'

b. *Merja$_i$ näki [kuvat pro$_{i/*j}$ autosta-an jotka Pekka$_j$ oli ottanut].*
Merja saw pictures.ACC car.of-PX/3 which.ACC Pekka had taken
'Merja saw the pictures of her/*his car that Pekka had taken.'

c. *Hän on [[pro$_i$ äiti-nsä näköinen] poika$_i$].*
He is mother-GEN.PX/3 looking boy
'He is a boy who looks like his mother.'

d. *Merja$_i$ uskoi pro$_{i/*j}$ äitinsä tulevan hakemaan hänet$_{i/j}$*
Merja believed mother.GEN.PX/3 come.VA pick.up.INF his/her
iltapäivällä.
afternoon.at
'Merja believed that her mother will come to pick him/her up this afternoon.'

Rule (54) does not impose locality conditions on the selection of the antecedent. We did not propose any such locality limits because "long distance" antecedents are also possible, as we saw in section 4.3. Incidentally, this is yet another feature which suggest that there is a null pronoun. Antecedents of pronouns, unlike the antecedents of reflexive pronouns, for example, are not limited by grammatical locality.

The two strategies listed in (54) are based on two different computational mechanisms. The first strategy is based on c-command and operates in narrow syntax/LF interface and generates bound readings. Thus, quantifier-variable constructions of several types are possible, such as (56a). The second strategy accesses discourse and is sensitive to discourse properties, such as topicality or discourse salience. This mechanism cannot generate quantifier-variable readings (b-c).

(56) a. *Kukaan$_i$ ei hyväksynyt väitettä että pro$_i$ on huono työntekijä.*
no-one.NOM not accepted claim that is bad emloyee
'No-one accepted the claim that s/he is a bad employee.'

b. **Kukaan$_i$ ei hyväksynyt väitettä. Hän$_i$ on huono työntekijä.*
no-one not accepted claim. s/he is bad employee
'*No-one$_i$ accepted the claim. She$_i$ is a bad employee.'

c. **Mitä tulee häneen$_i$, kukaan$_i$ ei ole huono työntekijä.*
what comes s/he.to no-one not is bad employee
'*As with her$_i$, no-one$_i$ is a bad employee.'

5 An analysis

Our hypothesis thus far is that the possessive suffix is an agreement marker, agreeing in both person and number features of a local pronominal element. When the possessive suffix emerges in isolation, it is accompanied by a null pronoun. Furthermore, the null pronoun can be linked to its antecedent by one of the two ways (54): (A) by searching for a c-commanding antecedent, generating a bound reading, or (B) by searching the discourse, generating an independent reference reading. The data shows, we think, that any rule for the antecedent selection must be discourse friendly in the sense that it must contain a clause that permits discourse search. But what kind of null pronominal behaves in this way? In this, last section, we discuss some of the possibilities and suggest that the element is the little *pro*. However, we will not address the matter in detail here, but see the supplementary material (Brattico & Huhmarniemi 2016).

5.1 Comparison of *pro*-element to PRO in Px-constructions

We think that the putative null pronominal exhibits both anaphoric and pronominal properties. It is anaphoric because it is strongly related to a possible c-commanding antecedent (rule A). It is also pronominal because it may access the discourse, much like an overt pronoun (rule B). But unlike overt pronouns, the discourse search is conditioned by the failure of the anaphoric search. What is this null pronoun? One possibility is PRO, which occurs in various control structures, and little *pro*, which appears in the subject position in finite clauses. Let us start this section by observing that there is a case to be made for both.

It is well-known that the English PRO, when occurring in the absence of an antecedent, will generate a generic reading that can be further interpreted on the basis of the discourse (e.g., *to be always late is impolite*). Notice that the generic reading disappears once there is an antecedent (e.g., *John wants to be always late* cannot obtain the generic reading). This is reminiscent of (54), although the details are, of course, different. For example, in Finnish the generic reading emerges differently (Holmberg 2010). Yet, there is a similarity here that might not be entirely coincidental; one type of reading emerges once the more preferable one fails.

Another fact that speaks in favor of positing PRO is that the possessive suffix is a non-finite agreement marker, and PRO is normally assumed to occur in non-finite contexts.

So it makes sense to assume that the null pronoun that occurs inside the non-finite contexts examined in this paper is PRO. A potential complication in this direction is that no published research on Finnish control exist to date, so the hypothesis would remain a conjecture.

Even if, prima facie, one could be tempted to posit that the possessive suffix is an agreement marker for PRO, similar discourse antecedent properties have been reported for the Finnish little *pro* as well. Even if the Finnish third-person little *pro* normally requires a c-commanding antecedent, it can live without one (Holmberg 2010, Frascarelli 2014), and when it occurs without a c-commanding antecedent, we observe similar reluctance to search the discourse. Discourse options are more marginal, more peripheral, in some sense. In short, here too, we find something similar to (54). In fact, a possible interpretation of the facts is that (54) is a more general property of null pronouns, which means that we cannot use this property alone to distinguish PRO and *pro* – if there indeed is a distinction to be made.

What we can do, however, is to document certain important differences between lone possessive suffix constructions and certain standard control structures. Recall from section 4.6 that the lone possessive suffix construction can generate sloppy identity readings, which we used to argue that there indeed is a pronoun in close proximity to the possessive suffix. Standard control structures, such as the A-infinite or the VA-infinitive, cannot generate sloppy readings. This is illustrated in (57). Example (58) displays the PRO-element in VA-infinitive, which causes possessive inflection on the non-finite verb.

(57) *Pekka haluaa PRO syödä kalaa, ja niin haluaa myös Merja.*
Pekka wants eat fish, and so also wants Merja
*Interpretation a) '... Merja wants Pekka to eat fish.'
Interpretation b) '...Merja wants Merja to eat fish.'

(58) *Pekka tiesi PRO haluava-nsa kotiin, ja niin tiesi myös Merja.*
Pekka knew want.INF-PX/3 home.to, and so knew also Merja
*Interpretation a) '... Merja knew that Pekka wanted to go home.'
Interpretation b) '...Merja knew Merja wanted to go home.'

While the status of the Finnish obligatory control PRO remains a subject of debate, these data show that overt pronouns and PRO contrast with respect to their ability to generate sloppy identity readings.

In a similar vein, control PRO does not allow split antecedents in Finnish, as shown in (59a-c). As we saw in section 4.7, when the possessive suffix is an agreement marker for the *pro*-element, it patterns with pronouns and not with the obligatory control PRO-structures.

(59) a. *Pekka$_i$ tiesi että Merja$_j$ haluaa PRO$_{*i+j}$ lähteä.*
Pekka knew that Merja wants leave.INF
'Pekka knew that Merja wants to leave.'

b. *Pekka$_i$ käski Merjan$_j$ PRO$_{i+*j}$ lähteä.*
Pekka told Merja.to leave.INF
'Pekka told Merja that he wants to leave.'

c. *Pekka$_i$ ajatteli Merjan$_j$ haluavan PRO$_{*i+j}$ lähteä.*
Pekka thought Merja.GEN want.VA leave.INF
'Pekka thought that Merja believed that they'd leave.

d. *Pekka$_i$ halusi Merjan$_j$ tietävän PRO$_{*i+j}$ lähtevän-sä.*
Pekka wanted Merja.GEN know.VA leave.VA-PX/3
Intended: 'Pekka wanted Merja to know that they would leave.'

What these data show is that the lone possessive suffix construction is not similar in its properties to standard control constructions. Perhaps the lone possessive suffix construction is "more pronominal", or more independent, than strict control structures. Indeed, as reported in Brattico (2015), who presents an analysis of the Finnish control, the null subjects in standard control constructions in Finnish cannot pick up discourse antecedents; they *must* pick up structural, c-commanding antecedents.

There is another crucial fact which suggests that the lone possessive suffix construction is equipped with the little-*pro* and not PRO. Finnish little *pro*-constructions are characterized by the property that the *pro* occurs in positions where overt pronouns occur (vice versa is not true). This was shown in section 4.1. This is not true for standard control structures, which often (but not always) lack the ability to host an overt pronoun (60).

(60) *Pekka halusi (*Merjan) lähteä.*
Pekka.NOM wanted Merja.GEN leave.INF
'Pekka wanted Merja to leave.'

Finally, and most importantly, the conditions for pro-drop seem to be identical for finite *pro* and the null pronoun in lone possessive suffix constructions, as we proposed in section 4.2 and have argued in the supplementary material (Brattico & Huhmarniemi 2016).

5.2 Non-finite *pro*-element

While finite *pro* occurs in the subject position of a finite clause, the non-finite *pro* must occur in the specifier position of the grammatical head manifesting possessive agreement. That is, it occurs in the specifier position of noun heads, adjective heads, adverbs, some non-finite verbs, and adpositions. It establishes an agreement-type of relation with the head, which then manifests possessive agreement. As in the case of finite pro, agreement is a necessary condition for the occurrence of the non-finite pro; when an overt pronoun is present, overt

agreement on the head is (often) optional. This is shown in (61).[24]

(61) a. **(minun) auto (colloquial)*
my car
'my car'

b. *(minun) auto-ni*
my car-PX/1SG
'my car'

The constitution of the *pro*-element itself is controversial, very little studied for Finnish, and hard to nail down due to its lack of phonological substance. Holmberg (2010), for example, assumes that it lacks a definiteness value and seeks for an antecedent to provide one. This is one possibility. We agree with this assessment at least in the sense that it cannot be a covert version of the overt third person pronoun; instead, it is a special entity that is marked for special interpretation and phonological weakness already in the lexicon.

Toivonen (2000) criticizes the pro-drop hypothesis on two grounds. She first points out (p. 593) that the covert null pronominal that occurs together with the possessive suffix cannot be a phonologically null copy of its overt counterpart. It follows, therefore, that we require two lexical entries for two distinct third-person pronouns, overt (with normal pronoun properties) and covert (with the anaphoric properties mixed in). Toivonen regards this as a problem. While the claim itself is true, we do not see why it is problematic. On her own theory, it is the possessive suffix itself that has two lexical entries (one for agreement, another for being a subject bound reflexive pronoun). In addition, there is much evidence that two lexical entries are required in any case. Not only is the interpretation of the overt and covert pronouns different, but overt pronouns can also express or carry several grammatical features that the covert null pronoun counterparts cannot, as shown in Brattico (2015).[25] These include honorific meaning, focus interpretation, human feature specification, different binding conditions, direct access to discourse and definiteness – all lacking from the covert counterpart. All this is independent of the theory of the possessive suffix; it is already required for the theory of finite pro-drop. We therefore believe that any theory will be forced to recognize that the overt and covert third person pronouns are two distinct grammatical entities. Perhaps Holmberg, for example, is right in that the covert version lacks a definiteness value. This would make its grammatical constitution different from that of its overt counterpart.

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[24] The argument is present in full in the supplementary material (Brattico & Huhmarniemi 2016). There, we argue that null subjects in Finnish are subject to the following condition, which provides a more detailed formal analysis: "A null subject (=pro) is licensed by phi-agreement with its head H, it satisfies the EPP feature of H (if any) and looks for an antecedent, if it is in the 3rd person. Selection of H is not restricted to the finite domain." See the material for details.

[25] Also reported in "A comment about the hän/___ problem" found from finnishsyntax.wordpress.com.

Another problem, according to Toivonen (2000), is that while the possessive suffix cannot agree with an overt nonhuman pronoun (62a), it can agree with a null pronoun whose antecedent is nonhuman, as in (62b).

(62) a. *sen paikka*-nsa*
it.GEN place-PX/3
'its place'

b. *Se löysi paikka-nsa.*
It.NOM found place-ACC.PX/3
'It found its place.'

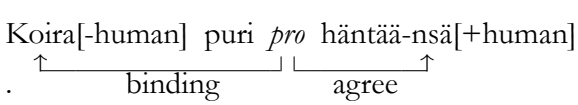
Toivonen says that there is no "natural way" to account for this, but we think there is – the two processes are different. The first is morphosyntactic agreement between the pronoun (whether null/non-null), which is sensitive to the human/nonhuman distinction. The second is an antecedent/control relation between a null pronoun and its antecedent, and this relation is not sensitive to the human/nonhuman distinction. There is independent evidence for this contention: in all constructions involving the possessive suffix and a null pronominal, even in the cases of what appears to be examples of standard obligatory control, the human/nonhuman distinction plays no role. Some examples of standard control are provided in (63a-b). They all involve the possessive suffix and an antecedent link between the suffix and a nonhuman antecedent/controller.

(63) a. *Koira osoitti PRO tunteva-nsa minut.*
dog.NOM indicated know.VA-PX/3 me.ACC
'A/the dog indicated that it recognized me.'

b. *Auto kiihdytti PRO luisuakse-en tieltä hetkeä myöhemmin.*
car accelerated slide.KSE-PX/3 road.from moment later
'A/the car accelerated in order to slide from the road a moment later.'

Thus, the morphosyntactic agreement relation between the possessive suffix and the element in its specifier is sensitive to the human/non-human distinction. However, this feature does not participate in the antecedent selection (or establishing the reference) for the null pronominal, see example (64) below. We believe this is because the null pronominal itself is unable to establish an independent reference, thus the human feature is not used in computing its referential properties. The situation is different for overt pronouns, which can refer independently.

(64) *Koira puri [pro häntää-nsä].*
dog bit tail-PX/3
'A/the dog bit its tail.'



Toivonen (2000) presents a split analysis, according to which, the third-person possessive suffix has two entries in the lexicon. When the Px occurs together with an overt pronoun, it represents an agreement marker for that pronoun, exactly as it does under our analysis. When it occurs without an overt pronoun, the possessive suffix itself represents a morphologically bound reflexive pronoun that is furthermore bound to a subject. Nothing occurs in the specifier position of the head carrying the possessive suffix; it is either empty or not projected at all.

We believe that the wild antecedent constructions could be explained, in theory, by developing a discourse-friendly theory of reflexive pronouns and thus only by revisiting Toivonen's hypothesis that the possessive reflexive pronoun is always bound to the subject inside the minimal tensed domain. (One problem of this analysis, though, is that it misses the parallelism between finite pro-drop and non-finite pro-drop, making their near-total identity an accident.) Our attempts at this direction nevertheless lead into a problem.

The problem is that Toivonen's analysis is presented within the framework of LFG, a theoretical framework for grammatical analysis which has no phonologically null elements in its arsenal (in the generative theory, in contrast, the issue is framed as an empirical problem requiring argumentation on a case-by-case basis). This explains in part why, according to Toivonen, there is no null pronoun at the specifier of the head carrying the possessive suffix. We believe that our data suggests that there is a null pronoun. But upon closer look, the issue is not that simple to solve. At LFG, there is a deeper level of grammatical representation (f-structure), into which morphologically bound material (such as the possessive suffix) is mapped in the same way as independent words (such as overt pronouns). They both become 'possessor pronouns' at that deeper level of grammatical analysis and are thus virtually equivalent in grammatical function. What we regard as a null pronoun is much like an abstract possessor pronominal at LFG's f-structure. This makes it very hard to compare the two approaches empirically.

Moreover, the f-structure and its elements (abstract features such as definiteness, human/nonhuman, binding features, "subject binding", indexes, plus/minus signs, '*pro*', linking rules, and such) are phonologically abstract, much like phonologically null elements in the generative theory are. Therefore, because both theories work with abstract notions and are theoretically quite powerful, it is possible to rewrite our entire analysis in the LFG framework by making similar adjustments to the theory of finite pro-drop. Our analysis, were it captured in terms of such LFG, would say that whatever element captures the equivalence between the possessive suffix and the overt pronoun at the abstract f-structure must capture the equivalence between finite agreement and finite pro-drop, presenting a unifying account of pro-drop in this language, and thus, explaining the parallelism between the finite and non-finite cases. We think that this would not violate any a priori maxims of LFG; if anything, the approach would seem to agree with the basic tenets of LFG.

In addition, if the data reported in the early portion of this paper is correct, such an LFG analysis would need to revisit the assumption that the reflexive pronoun is necessarily bound to a subject in the minimal tensed domain. That can be achieved in principle by

changing the LFG's SB ("subject binding") feature of the corresponding abstract entries. We believe it would be possible to achieve all this within the LFG, which makes the debate non-empirical.[26]

6 Conclusions

Previous accounts on Finnish possessive suffixes have treated the suffix either as an anaphoric element, or an agreement marker, or a mixture of these. A common denominator with the approaches is the assumption that the possessive suffix is licensed by a c-commanding element, a pronoun, or a noun phrase. In addition, whereas 1st and 2nd person possessive suffixes have the ability to refer outside the sentence, the third person possessive suffix behaves like a reflexive anaphor.

In this paper, we have presented data that suggest that the distribution of the third-person possessive suffix is richer than previously thought. We have discussed several examples where a suitable c-commanding antecedent is missing and the third-person possessive suffix appears to be licensed contextually.

Based on the evidence from the distribution of the third-person possessive suffix, anaphor and quantifier binding, sloppy identity readings, and split antecedents, we propose that the third-person possessive suffix is an agreement marker for a null pronominal that has both anaphoric and pronominal properties. We suggest, tentatively, that the null pronominal in question is a pro-element.

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[26] On the other hand, we disagree with Toivonen's claim that the possessive data provides strong theory-independent motivation for LFG. She rules a uniform analysis, according to which the possessive suffix is always an agreement marker, as a priori unable to account for "all the facts" (p. 607). We think this is too strong, although it might trivially be true of some such unifying accounts. The second argument is that the LFG analysis uses syntactic assumptions that are motivated independently. This is a valuable point, but also something a useful and insightful syntactic analysis in whatever syntactic framework simply cannot decide to ignore. For example, it is paramount to our analysis that the finite and non-finite pro-drop phenomena are seen as parallel. The third argument is that her theory is simpler, because it involves less "complicated syntactic machinery" with "highly articulated theory of the lexicon", and is therefore a priori to be preferred. Our view is that this issue is non-empirical; what in the generative analysis, such as in ours, is seen as a phonologically null element can, in an LFG framework, be captured by means of abstract syntactic structures, i.e. f-structures, where similar equivalences are captured. It might be that one analysis can be rewritten in the other framework without any loss of simplicity.

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BOOK REVIEW

Approaches to Hungarian 14: Papers from the 2013 Piliscsaba Conference (Amsterdam: John Benjamins, 2015, 296 pages)

Julia Bacskai-Atkari

The volume, edited by Katalin É. Kiss, Balázs Surányi and Éva Dékány, contains selected papers from the 11th International Conference on the Structure of Hungarian (ICSH11), held in Piliscsaba in 2013. The volume contains 11 papers altogether, while, as pointed out by the editorial Introduction, there were 34 papers (either in the form of talks or posters) presented at the conference itself, and 16 papers submitted (p. 4). This translates to a 68.75% acceptance rate, which is fair, especially when taking into consideration that the presented papers had already been pre-selected for the conference. In line with the general nature of the ICSH conference, the papers cover a wide range of topics related to the structure of Hungarian, and the authors apply various frameworks, too. As seems to be generally true for the ATOH series (as well as ICSH), papers on syntax dominate the volume; nevertheless, several papers are concerned with issues related to the interfaces, and there are some purely phonological investigations as well. While the main subject language is of course Hungarian, it is a pleasure to see many of the papers applying a contrastive, cross-linguistic analysis, thereby establishing a very dynamic and lively discourse with the more general field.

Since there is no overarching topic other than the subject language being Hungarian, nor is more or less the same issue addressed by several authors, the articles are simply listed alphabetically by author. I am also going to follow this method in the discussion of the individual articles below.

The first article presents joint work by **Gábor Alberti, Judit Farkas and Veronika Szabó**, who show that a Hungarian nominal head may, contrary to previous assumptions (such as that of Szabolcsi & Laczkó 1992), have a phonologically non-empty complement zone, provided that certain conditions are met. A standard argument against the possibility of complements following nominal heads is the unavailability of "noun + complement" strings in a focus position (based on p. 9, ex. 6a):[1]

(1) *[*A kalapja Péternek*] *veszett el.*
the hat.POSS.3SG Peter.DAT lost away
'It is Peter's hat that has been lost.'

The standard assumption is that the bracketed string in (1) cannot form a constituent because it is not licensed to appear in the focus position, which is a single, non-iterable position that may accommodate one constituent only. As demonstrated very convincingly by Alberti, Farkas and Szabó, such a stance is not tenable since it results from a logical fallacy: while it is certainly true that a string occupying the focus position

[1] Abbreviations: 1 = first person, 2 = second person, 3 = third person, ACC = accusative, DAT = dative, INSTR = instrumental, PL = plural, POSS = possessive, PRT = particle, REL = relative, SG = singular, SUBJ = subjective conjugation, SUP = superessive.

must form a constituent, it is not true vice versa, that is, not all constituents are licensed to appear in the focus position. They show that right branching phrases in general are not permitted in the focus position, such as nominal heads together with relative clauses or non-finite clauses.

Given the unsuitability of focus as a constituent test, they propose two alternatives. On the one hand, nouns with complements are licensed as titles (e.g. *Death in Venice*, p. 20, ex. 17a), and the entire title behaves as a single constituent in a clause: the complement cannot be separated from the noun head, and case suffixes are thus attached to the end of the entire title. However, as the authors themselves note (p. 21), titles are indeed special and should be accompanied by other constituency tests. It is worth mentioning at this point that the authors seem to be oblivious to the fact that titles generally behave like a single nominal constituent (as they denote a book, short story etc.), even though they are underlyingly not nominal. Consider for instance the title *Légy jó mindhalálig* 'Be Faithful Unto Death' (Zsigmond Móricz), which is an entire clause, hence making it into a title inevitably involves some kind of (abstract) nominalisation. An even better example is perhaps Søren Kierkegaard's *Enten – Eller* 'Either/Or' (Hungarian: *Vagy-vagy*), where the elements would not normally be string-adjacent, while they can clearly function as a constituent as parts of a title. This may indicate that titles probably turn almost any string into a syntactic constituent.

On the other hand, the authors propose a second constituency test, which is related to contrastive topics, as opposed to foci: that is, the answer to a *wh*-question is not exhaustive, but merely names an example. It is possible for the bracketed constituent in (1) to undergo left dislocation: the constituent is preceded by a clause-initial *(na) például* '(well) for instance', and immediately followed by the resumptive pronoun *az* 'that'. The contrastive topic position is similar to the focus position in that it may host only a single constituent: however, it also tolerates right-branching constituents, as opposed to the latter. The introduction of this test is justly considered by the authors to be the most important contribution of the paper, and subsequent research will hopefully recognise its merits, too.

Finally, the authors provide an explanation for the ban on right-branching constituents in the focus position: the focus projection is a volume-sensitive phrase, which does not license a *big* syntactic constituent (e.g. an XP with a visible head and complement) in its prehead (specifier) position. This restriction follows from a modified version of Hinterhölzl's (2010) weight condition, and the authors point out a crucial cross-linguistic difference between Germanic and Hungarian: while the Germanic pattern can be explained by weight, Hungarian cannot, chiefly because weight is connected to stress, and stress falls regularly on the right in Germanic and on the left in Hungarian. Hence the weight condition in itself could not rule out the appearance of a stressed, big XP in a prehead position in Hungarian.

András Bárány's article addresses the issue of the presence/absence of agreement with personal pronouns in the Hungarian objective paradigm. The problem has long been known in the literature: while personal pronouns are assumed to be definite, the objective paradigm (associated with definite direct objects) does not uniformly arise with pronominal direct objects in Hungarian (based on pp. 37–39, exx. 1 and 6):

(2) *Látsz* *egy kutyát /* *engem.*
see.2SG.SUBJ a dog.ACC I.ACC
'You see a dog / me.'

While third person pronouns do trigger the objective paradigm, first person pronouns do not: as shown in (2), the grammatical configuration is the subjective paradigm, which hence patterns with indefinite nominal expressions.

Second person pronouns show the same behaviour with third-person subjects: however, with a first person singular subject the agreement morpheme on the verb is exceptionally *-lak/-lek*, hence different from the first person singular subjective (*-Vk*) and objective (*-Vm*) in its morpho-phonological form. The potentially ambiguous status of the *-lak/-lek* suffix has led many previous analyses to assume that it is part of the subjective paradigm (e.g. Coppock 2013, Coppock & Wechsler 2010). This is complemented by the fact that the morpheme is divisible into an *-l-* second person marker and the regular *-Vk* first person singular ending in the subjective paradigm, as pointed out by Den Dikken (2006). Bárány argues that the morphological structure is irrelevant as far as the synchronic system on the syntactic level is concerned; it is not (or, rather, no longer) transparent for the speakers. Bárány's analysis at this point hence avoids the common fallacy of previous analyses, namely the assumption that morphological divisibility implies transparency for the speakers: transparency is not the same as linguistic analysis. Hence there is no reason to assume that *-lak/-lek* belongs to the subjective paradigm synchronically, and Bárány successfully shows that treating it as part of the objective paradigm has clear advantages, in that it makes the system simpler (and hence more transparent for the language learner).

The divisibility of the *-lak/-lek* morpheme still implies that historically it was either part of the subjective paradigm, or the relation between the two paradigms was different. While I do agree that diachronic concerns should not be used as arguments for (or against) a synchronic system, I do not think the problem that the *-lak/-lek* morphemes seem to be a remnant of a previous system should be overlooked. In other words, if Bárány assumes that this morpheme has undergone reinterpretation in its status, not only the original system but also the mechanism and the reasons driving this change should be addressed. This is especially relevant because the change in question should follow from more general properties of the language, which would bring us closer to answering why the present-day Hungarian system is as it is. Providing an answer to these questions is truly not the task of Bárány's present article, but some of the questions related to diachronic change should at least have been raised, as the article otherwise indeed provides fundamentally important conclusions for further research.

The main point of the analysis is that the subjective paradigm with personal pronouns is the result of inverse agreement. The verb as a probe agrees with its object first, and if it has unchecked features, the same probe agrees with the subject: this gives rise to the objective paradigm, where the subject has more features than the object. However, if the subject has fewer features, which arises when its number is higher than that of the object, there is no unchecked feature left on the probe: therefore, a second probe has to be inserted. Since (Modern) Hungarian is a language that spells out the second (higher) probe, the verbal morphology will make reference only to the subject, as opposed to the objective paradigm. Bárány here makes use of Béjar & Rezac's (2009) analysis, providing an appropriate cross-linguistic context for the Hungarian system, and contributing to the general study of verbal agreement paradigms.

The third article was written by **Zsuzsanna Bárkányi and Zoltán G. Kiss**, and it is devoted to the issue of voicing assimilation before sonorants in Hungarian and Slovak. The observation is that word-final voiceless obstruents, such as /t/, are not voiced before a sonorant, such as /m/ or /l/, in Hungarian, but they are in Slovak, as in (3) below (based on p. 72, ex. 7b):

(3) a. /tm/ → [tm]: *két mag* 'two seeds' (Hungarian)
b. /tm/ → [dm]: *brat má* 'brother has' (Slovak)

This difference is supposed to correlate with the cross-linguistic observation that sonorants can voice a preceding word-final obstruent if obstruents are otherwise devoiced in a word-final position, which is the case in Slovak but not in Hungarian. The authors not only present experimental evidence for this claim but their results also allow for some fine-tuning of the data, and point to further research questions that future experiments should address.

The experimental results show that in an utterance-final position, Hungarian exhibits a clear voicing duration contrast between the obstruents /t/ and /d/ but not between the fricatives /s/ and /z/: an utterance-final /z/ is hence phonetically devoiced, contrary to previous assumptions (e.g. Siptár & Törkenczy 2000). This does not mean the loss of a phonological contrast, though, as other cues (such as consonant duration, vowel duration, and the ratio of the two) are maintained. However, it indicates the first step of a process that diachronically may lead to the word-final consonant becoming targetless, which process has already taken place in Slovak (p. 89). Regarding obstruents, Hungarian has clearly not neutralised the underlying voicing properties, hence word-final voiceless obstruents are actively devoiced: as such, they resist coarticulatory assimilation from a following sonorant, which is passively voiced. Bárkányi and G. Kiss argue that sonorants are passively (and not actively) voiced in Slovak as well: however, word-final voiceless obstruents are targetless with respect to voicing, and hence they may undergo coarticulatory assimilation. The authors claim that this assimilation is not effected by the sonorant following the obstruent but rather by the vowel preceding it (p. 88). The argumentation is a little cryptic at this point, but it seems to be the case that phonetic assimilation comes from the vowel, whereas it is phonologically interpreted as regressive assimilation initiated by the sonorant, on a par with regressive assimilation processes induced by obstruents.

While the experiments show various significant differences with respect to the acoustic properties of voiced and voiceless obstruents (and fricatives) in various contexts, it can still be concluded that regressive voicing assimilation is a fully phonologised process in both languages under scrutiny, precisely because various acoustic cues are responsible for encoding a phonological property or contrast. In Hungarian, pre-sonorant voicing does not pattern with either pre-voiced or pre-voiceless obstruent voicing but it does not constitute an intermediate category either: the sonorant has simply no phonological effect on the voicing of the preceding consonant. In Slovak, pre-sonorant voicing patterns with pre-voiced obstruent voicing, hence it again does not constitute an intermediate category. Pre-sonorant voicing may be an intermediate category in other languages, and the fact that it is not the case in Hungarian and Slovak follows from general properties of these languages.

The experiments were carried out on a relatively low number of participants (6 speakers for each language), and as Bárkányi and G. Kiss note, individual differences may cause statistically more significant differences than they would with a higher number of speakers. Nevertheless, the findings still appear very robust, which would not be the case if the acoustic differences in questions were less clear, hence the authors' conclusions are convincing. Apart from pointing out the necessity of counter-checking the results with more speakers, they also very precisely pinpoint the research questions that perception

experiments should address, which seems to be a very exciting and promising continuation of their present investigation.

Éva Dékány and Veronika Hegedűs examine the issue of variation in word order and extraction properties of P elements. Hungarian postpositions are traditionally classified into two major groups: ones that take morphologically unmarked complements and ones that take oblique-marked complements, as in (4a) and (4b), respectively (pp. 95–96, exx. 1 and 2):

(4) a. *a patak mellett*
the brook next.to
'next to the brook'
b. *a patak-on túl*
the brook-SUP beyond
'beyond the brook'

Postpositions like *mellett* 'next to' resemble case suffixes in that they must always immediately follow the noun. Postpositions like *túl* 'beyond', however, may strand the complement by moving to a verbal modifier position, and they may also be stranded if the complement moves to the left periphery of the clause; furthermore, such P elements may appear in a prepositional position. Dékány and Hegedűs refine these long-established generalisations by showing that while suffix-like postpositions indeed do not show word order variation, case-assigning Ps may but do not necessarily take part in movement operations leading to surface word order variation. In particular, they show that a P element has to be case-assigning in order to have a particle use or undergo P-stranding, but case assignment is not a sufficient condition in itself, as many case-assigning Ps do not take part in the relevant operations. In turn, it is argued that the ability to be used as a particle and to be stranded is a prerequisite for the prepositional use, which is again not a shared property of all the P elements that may be used as particles or undergo stranding.

Case-assigning Ps seem to represent a closed class, and by carefully examining the behaviour of each element, the authors avoid the fallacy of previous accounts, which assumed that all members of this class behave in the same way. Yet the data so far are exclusively based on the authors' own judgements, as previous studies conducted by Dér (2012, 2013) involving both a corpus and a questionnaire survey did not examine all the word order variations under scrutiny. Since the judgements are not always categorical either, and the authors themselves indicate that there might be some dialectal and/or idiolectal variation, it would have been vital to run at least an acceptability experiment. The authors' judgements seem to match their own predictions perfectly, and while the predictions are indeed sensible, some bias in the judgements still cannot be excluded, which is impossible to check for the non-Hungarian reader. It is also left unclear whether future experiments are planned.

Dékány and Hegedűs convincingly argue that the differences in the behaviour of Ps stem from the differences in syntactic positions. Suffix-like Ps, see (4a), are generated in K, which is the head immediately above the DP, and subsequently they move to Place/Path, hence they have both suffix-like and postposition-like properties. While this at first suggests that true case suffixes do not undergo movement to Place/Path (p. 106), the authors later assume (p. 109) that case suffixes also undergo this movement. This is unfortunately left unexplained, raising the question what the difference between true case suffixes and Ps generated in K are. Apart from the fact that the authors seem to assume

that there is a difference between the two, the data in the article suggest that only true case suffixes may remain in K and tolerate base-generated Place/Path heads above them, while case-like Ps do not. Case-assigning Ps are either base-generated in Place/Path or in a higher projection, the head of pP: in the latter case, extraction patterns are allowed, since the minimal unit that can be extracted is PlaceP/PathP. A subset of P elements generated in p may even move to the topmost projection, the head of CP_{PP}, which is the only head-initial projection in the PP-domain: these elements can appear as prepositions. The distinction between Place/Path and p heads is also tied to general grammaticalisation processes, and the fact that some P elements are between the two categories in terms of their behaviour can be explained by the gradient nature of syntactic change.

Marcel den Dikken investigates the issue of marking inalienable and alienable possession in the Hungarian noun phrase. He focuses on a systemic morphological difference that certain nouns show with inalienable (5a) and alienable (5b) possession (based on p. 132, ex. 13 and p. 139, ex. 21):

(5) a. *a szoba ablak-a*
the room window-POSS
'the room's window'
b. *Mari ablak-ja*
Mary window-POSS
'Mary's window'

As demonstrated, nouns like *ablak* 'window' may take both the simple form of the possessive marker *-a/-e* (the choice of the vowel depending on whether the stem has palatal or velar vowels), or the more complex *-ja/-je*. The choice is not entirely free, though: Den Dikken argues that *-a/-e* is used in inalienable possession, while the *-j-* forms occur in alienable possession. This matches the descriptive, typological generalisation of Haspelmath (2008), according to which always the morphologically simple form (possibly even zero) is associated with inalienable possession, if a language has an adnominal alienability split. In Den Dikken's analysis, the difference in the presence/absence of the *-j-* element lies in an underlying syntactic difference: the *-j-* element is analysed as a separate morpheme, which heads a functional projection, and serves as a LINKER.

The analysis heavily relies on Den Dikken's (2006) theory, according to which all predication relations are generated in a Relator Phrase (RP): in canonical predication, the subject is the specifier and the predicate is the complement, while in reverse predication, the subject is the complement of the R head and the predicate is the specifier. Canonical predication may yield the same predicate–subject surface word order as reverse predication if an additional layer (FP) is generated: the predicate moves to the specifier of FP, and the F head is filled either by the relator moving up or by a separate F head that is joined by the upward movement of the R head. In possessive constructions, the possessor is the predicate and the possessum is the subject: inalienable possession demonstrates the reverse predication order, while alienable possession is associated with the canonical order (and the projection of the FP layer).

In Hungarian, the vowel portion of the possessive marker (*-a/-e*) is taken to be the R head and the *-j-* as a linker. Den Dikken convincingly argues that this kind of split has ample cross-linguistic support, yet it is also true that some languages demonstrate this split far more clearly than Hungarian does. In particular, the appearance/absence of *-j-* is largely phonologically conditioned, as Den Dikken himself acknowledges, and hence in

many cases *-j-* is not morphemic: the analysis only applies to a particular subset of nouns that do show alternation with *-j-*. However, alternation does not always strictly follow the pattern predicted by the theory: as Den Dikken notes, the noun *kar* 'arm' takes the *-j-* form even in inalienable possession, and the *-j-*less form appears only in the lexicalised case when referring to a faculty of a university (and actually a few others, e.g. *angyalok kara* 'the chorus of angels'). Moreover, there seem to be alternations that show the same split but with different ways of distinction: for instance, *ajtó* 'door' is *ajta-ja* in inalienable possession (e.g. the door of a house) and *ajtó-ja* in alienable possession (e.g. Mary's window). Both forms contain *-j-*, possibly for purely phonological reasons, yet there is distinction in the final vowel of the stem: the vowel *-ó* is preserved with alienable possession, and it changes to *-a* in inalienable possession. The latter may be some sort of lexicalisation, raising the question whether inalienable possession is more prone to lexicalisation than alienable possessive forms, which are also more productive. These questions should have been addressed in order to provide a fuller picture of what is really going on in the Hungarian possessive paradigm of the type under scrutiny.

Mária Gósy and Péter Siptár examine the phonetic properties of the Hungarian vowel /a:/, which is the lowest vowel in the Hungarian vowel system, and traditionally considered to be a back vowel as far as its phonological status is concerned. Its status within the Hungarian vowel system (phonological) can be determined by two major points. On the one hand, /a:/ is the long pair of /ɔ/, a back unrounded vowel, as in (6a); on the other hand, /a:/ is the back vowel pair of /e:/, a front vowel, as in (6b) below (based on pp. 149–150, exx. 1 and 2):

(6) a. *nyár* /a:/ 'summer' – *nyarak* /ɔ/ 'summers'
b. *fej-nél* /e:/ 'at head' – *láb-nál* /a:/ 'at foot'

The long–short alternation demonstrated in (6a) regularly involves a length difference between the two members of such pairs and possibly also a difference in height, but a front–back difference is not attested in any other pair. Hence treating /a:/ as a front vowel as opposed to its short counterpart /ɔ/ would be a serious problem for the phonological system. On the other hand, suffixes like *-nál/-nél* 'at' in (6b) obey vowel harmony rules when attaching to the stem, and this comes in a back–front fashion. While it is possible for certain suffixes to have a rounded–unrounded distinction in the front vowel on top of the basic back–front distinction (as in *-on* vs. *-en/-ön* 'on'), it is not attested in any of the suffixes that there is no back vowel counterpart at all. Hence treating /a:/ as a front vowel would seriously affect an otherwise regular system.

Hence there seems to be good reason to treat /a:/ a back vowel phonologically; the reason why the question arises at all is that regarding its phonetic status, /a:/ has long been claimed to be realised more to the front of the oral cavity (Bolla 1995, Szende 1999, Kovács 2004 among others). While the findings of previous studies may appear to be robust, Gósy and Siptár point out (p. 152) that a more careful investigation is needed in order to arrive at conclusive evidence. In particular, more recent studies typically concentrate on the speech production of female speakers only and all realisations of /a:/ are involved, including atypical (e.g. reduced) realisations. As far as investigations from the 20th century are concerned, the methodology is even more problematic since these studies involve only one or two speakers and read speech.

Gósy and Siptár have therefore carried out an empirical study to gain a more accurate picture. Their methodology can only be praised: they chose a high number of

speakers (n = 28), both females and males (14 and 14 each), all of them belonging to approximately the same age range (22–28, which is an ideally small range). The produced speech was spontaneous, and altogether over 600 realisations of [a:] were examined in each gender group. Moreover, special care was taken to select only typical occurrences of [a:], hence not ones that may be reduced, and only first or second syllable occurrences of the vowel were involved.

Given all this, the results are especially convincing. The absolute second formant values for the female speakers are actually higher than what was established in previous studies, suggesting even stronger evidence that [a:] is phonetically a front vowel (at least for females). However, what really matters is how the second formant values of [a:] relate to that of the vowels [ɛ] and [ɔ]: it is found that females' [a:] vowels are close to their realisations of [ɛ], while males' [a:] vowels are closer to [ɔ]. In short, phonetically [a:] is a front vowel for female speakers and a central vowel for males: at the same time, both genders show considerable inter-speaker variation (4 groups of speakers can be identified for females and 3 for males). At any rate, the authors conclude that /a:/ is phonetically changing form a back into a front vowel, while it is phonologically still best treated as a back vowel: this also increases the abstractness of the phonological system of Hungarian vowels, since the phonological status of /a:/ is increasingly not matched by its phonetic status.

The seventh paper in the volume was written by **Tamás Halm**, and it investigates the relationship between the distribution of Hungarian free choice items (FCIs) and aspect, in particular elements located in an AspP such as verbal particles. Hungarian regularly exhibits the following difference (based on p. 198, ex. 1):

(7) a. **Bármit* *olvasok*.
anything.ACC read.1SG
'I read anything.'
b. *Bármit* *el-olvasok*.
anything.ACC PRT-read.1SG
'I read anything.' (telic)

While the episodic sentence in (7a) is a hostile environment for FCIs (cross-linguistically), the presence of the verbal particle *el* in (7b) makes the sentence perfectly acceptable. Regarding the morphological structure of the FCI itself, it is made up of the element *bár* 'even though' and a *wh*-element (such as *mi* 'what'); furthermore, *bár* can be substituted by the element *akár* 'even', without causing any change in the distribution of the FCI.

Halm addresses the question of what the exact contribution of the verbal particle is, and he provides an overview of all the contexts that do or do not license FCIs. While in many respects Hungarian FCIs pattern with their well-known cross-linguistic counterparts (e.g. English *any*), it is shown that Hungarian FCIs are not licensed in generic contexts (at least not without the presence of a verbal particle). Halm adopts the view that in characterising sentences, genericity is achieved by the presence of a generic quantifier, which is either an adverb (such as *usually*) or a phonologically null GEN operator. Under the dependent indefinite analysis adopted here (Giannakidou 1997, 2001, Giannakidou & Quer 2013), FCIs are bound and hence licensed in generics by a generic quantifier. Halm argues that the difference between English (and several other languages such as Greek) on the one hand and Hungarian on the other stems from a difference that is essentially lexical in nature: while the languages belonging to the former

group all have a silent GEN operator, Hungarian does not, and hence (7a) is ruled out since the FCI cannot be licensed.

Unfortunately, Halm does not even consider the question of what happens if a generic adverb such as *általában* 'usually' is used in constructions like (7a): if genericity can indeed be encoded by an overt adverb, it should also be able to license the FCI. This is true even if one adopts the view that genericity is primarily pragmatic in Hungarian because the adverb should overwrite the episodic interpretation. The contrast seems to be valid if the sentence is in the past tense and a verbal particle is present (p. 173): Halm argues that the variant without the adverb is ambiguous between an episodic and a generic reading, while the variant with an adverb such as *gyerekkoromban* 'as a child' (lit. 'in my child age') unambiguously triggers a generic reading. Interestingly, the difference in terms of available readings is also paired up with an acceptability difference: the ambiguous variant is degraded, while the one where only the generic interpretation is licensed is fully acceptable. Since this difference is not shown to hold in any tense other than the past, it remains unclear whether and to what extent tense has an effect here. This would have been interesting especially because Halm otherwise shows that the presence/absence of the verbal particle in itself is not directly related to tense: one can find minimal pairs for all tenses where the presence of the verbal particle is needed to license the FCI. Related to this, Halm convincingly argues that while genericity is clearly governed by pragmatic factors in the absence of a verbal particle, the presence of a verbal particle is associated with genericity by way of the particle carrying a generic operator; in turn, the generic operator can license an FCI represented as an intensional indefinite.

Anikó Lipták presents new results concerning the issue of sluicing in Hungarian relative clauses, a phenomenon that seems to be a unique property of Hungarian, yet may help in understanding the exact conditions on sluicing better. Relative sluicing is illustrated in (8) below (based on p. 189, ex. 5):

(8) *Ismerőssel* *eggyel* *találkozott,* *mulatságosnak* *találta,* *hogy*
acquaintance.INSTR one.INSTR met.3SG funny.DAT found.3SG that
éppen *azzal,* [$_{RC}$ *akivel* ~~*találkozott*~~].
just that.INSTR REL.who.INSTR met.3SG
'Acquaintances, (s)he met only one, and (s)he found it funny that (s)he met whoever (s)he did.'

The sole remnant of the relative clause is the relative pronoun itself, which also bears nuclear stress in this case; the rest of the clause undergoes ellipsis. The full clause would also be grammatical, but then nuclear stress falls on another element than the relative pronoun, in this case the verb. Lipták convincingly shows that the surface structure of (8) can indeed be derived only from ellipsis: the string of a demonstrative + relative pronoun is not attested as a constituent in any independent environment, and the two may be discontinuous: for instance, a lexical verb may appear in between the two. In addition, relative sluicing shows the availability of distributive readings and the traits of antecedent-contained deletion, which can only be explained if one adopts an underlyingly clausal structure.

Apart from relying on native judgements, Lipták has carried out an extensive corpus search (using the Hungarian National Corpus), and most of her examples are taken from there. Using corpus examples is advantageous in itself, and it is actually vital regarding the structure under scrutiny: the corpus results clearly show that relative sluicing is indeed a productive phenomenon in Hungarian. In other words, providing an

answer to the question why constructions like (8) exist is not merely an issue of a marginal possibility in the language, but it rather concerns a phenomenon that can be regarded as established as sluicing generally is.

The importance of Lipták's findings can easily be recognised when considering the general literature on sluicing. The established view is that sluicing happens in *wh*-interrogatives, leaving a *wh*-element as a remnant, as in Merchant (2001). That this cannot be the full picture was already shown by Van Craenenbroeck & Lipták (2006): they found that Hungarian and several other languages permit remnants other than *wh*-phrases, such as focussed constituents or quantificational expressions. They argued that the [E] feature responsible for sluicing is not universally equipped with a [+wh,+Q] feature but there are languages where sluicing is associated with a more general operator feature, call it [+Op]. What qualifies as operator movement is subject to cross-linguistic variation. The novelty of Lipták's paper is that relative operators may also be sluiced remnants: while this may not seem surprising as relative operators also undergo operator movement, note that Hungarian relative operators move higher in the clause (to the Spec of a CP) than all other operators that may be sluiced remnants. Lipták argues that the syntactic licensing of sluicing is precisely this similarity of operators, which is satisfied in Hungarian and in Gungbe. In addition, she shows that there is also a prosodic licensing: the remnant has to bear stress, and this is possible in sluicing constructions only if it is attested in certain non-sluiced clauses, which is satisfied in Hungarian but not in other languages. (Gungbe is a tone language, where the stressed/unstressed distinction is not applicable this way.) The uniqueness of Hungarian relative sluicing hence falls out naturally from the system of independent, more general criteria that hold cross-linguistically. Considering all this, it can only be hoped that Lipták's contribution will be appropriately recognised by future research.

The ninth paper, written by **Valéria Molnár**, compares instances of cataphoric propositional pronoun insertion (CPPI) in complex sentences in Hungarian and German, and argues that the insertion or the absence of the cataphoric pronoun cannot be fully determined by the matrix verbal predicate. In neutral contexts (that is, in sentences that answer a question like *What happened?*), Hungarian demonstrates the following pattern (based on p. 211, exx. 3 and 4):

(9) a. *Péter* ***azt*** *mondta, hogy gyakran találkoznak munka után.*
Peter it.ACC said.3SG that often meet.3PL work after
'Peter said that they often meet up after work'.
b. *Péter (**azt*) *bánja, hogy elfogadta a meghívást.*
Peter it.ACC regrets that accepted.3SG the invitation.ACC
'Peter regrets that he has accepted the invitation'.

The cataphoric propositional pronoun *azt* 'it/that' in Hungarian is licensed if the matrix verb is assertive, as *mond* 'say' in (9a), but not when the matrix verb is factive, as *bán* 'regret' in (9b). By contrast, the same neutral contexts in German result in the opposite pattern: the cataphoric propositional pronoun *es* 'it' is not licensed with assertive matrix verbs like *behaupten* 'claim', while factive verbs such as *bedauern* 'regret' license it.

Molnár follows Lipták (1998) in assuming that the cataphoric propositional pronoun is base-generated in the [Spec,CP] position of the subclause: this position is available if there is an edge feature (EF) in the subclause. In turn, the edge feature in Hungarian is present if the subclause is predicative, which is satisfied in the case of assertives, which select for a predicative clause as a complement. On the other hand, if

the subclause is focussed or it contains a focussed constituent, it becomes predicational, as focussing is associated with predication. This explains why the difference between (9a) and (9b) does not carry over to non-neutral cases. The differences among various clause types with respect to predicativity are also supported by ample evidence from extraction patterns.

In German, the EF (and the corresponding [Spec,CP] position) is available in evaluable clauses; following Brandtler (2012), Molnár assumes that evaluability is a notion that involves both assertivity and factivity. Hence, the German version of both (9a) and (9b) involve an EF: however, this does not guarantee that the pronoun *es* 'that' is licensed to get lexicalised in both cases and it is only factives that allow *es* to be overt. This explains why the pattern in German is exactly the mirror image of the Hungarian one regarding neutral contexts. In non-neutral contexts, the focussing of (or in) the subclause makes *es* ungrammatical, while the backgrounding of the subclause always licenses an overt *es*. Molnár argues that the *es* appearing in these latter cases is anaphoric, as opposed to the cataphoric *es* used in cases like (9b): the two pronouns are only morphophonologically identical. This is perhaps the most important finding of Molnár's paper: the distribution of German *es* would otherwise be almost impossible to account for in a principled way, while separating the two pronouns is not only theoretically advantageous but can also be supported by independent arguments. Arguments come not only from German but can be supported cross-linguistically, since the Hungarian instances of anaphoric *azt* 'it/that' behave in a similar way.

The differences with respect to (9) between the two languages are hence more complex than constituting simply mirror patterns, and the questions that arise on both sides are quite different, rendering Molnár's presentation and analysis sometimes a bit dense. Nevertheless, the mechanisms underlying the various patterns are comparable and the results are altogether convincing.

György Rákosi examines the behaviour of certain psych verbs in Hungarian, and provides evidence from binding patterns that the two arguments of such verbs are merged freely in the structure, rather than conforming to a strict hierarchy of arguments. In particular, he examines stative object experiencer verbs, such as *aggaszt* 'worry' and dative experiencer verbs, such as *tetszik* 'appeals to'. The special properties of experiencer predicates has been known in the literature since Postal (1971), and it has been found that forward binding patterns (e.g. *??John appeals to himself*) are ungrammatical or at least seriously degraded in English, the reason behind which is that target/subject matter arguments are generated lower than the experiencer argument, and the binding configuration where the experiencer is bound by the target/subject matter is degraded. The mirror backward binding configuration is impossible to test in English as reflexives are not licensed as nominatives (e.g. **Himself appeals to John*), which is a criterion holding independently of experiencer constructions.

Hungarian offers a good comparison, since reflexive pronouns are fully available in the nominative, too. Previous findings (e.g. É. Kiss 1994) all point to the conclusion that there is some asymmetry attested with experiencer verbs, in that backward binding is always acceptable, while forward binding may range from acceptable to ungrammatical, depending on the speaker and the particular verb. As Rákosi shows, however, this is rather the result of a methodological problem. If one considers examples with reciprocals (such as *egymást* 'each other'), the judgements clearly improve for forward binding, resulting in full acceptability for most speakers. Reciprocals are not different from reflexives as far as their strict syntactic structure is concerned; the difference affects rather interpretation, in that the reciprocal anaphor can be referentially identical to the

subject argument, that is, they both refer to the same real-world individuals. While this is generally not the case with reflexives appearing out of context, Rákosi demonstrates convincingly that examples such as (10) may indeed converge (p. 259, ex. 25):

(10) a. *Mindenki aggasztja önmagá-t.*
everyone.NOM worries himself-ACC
'Everyone worries himself.'
b. *Mindenki-t aggaszt önmaga.*
everyone-ACC worries himself.NOM
'His own self worries everyone.'

Examples like (10) are available in contexts where different aspects of the same individual are discussed (for instance, a person X as an average human being versus the same person X in his profession). Rákosi's judgements here are backed up with corpus data (with the relevant context), hence examples like (10) are not merely the results of theoretical papers but are in fact used by speakers. It is a pity, though, that the URL does not work anymore.

Rákosi shows that the availability of both the forward binding order, (10a), and the backward binding order, (10b), is restricted to object experiencer and dative experiencer verbs, but not if the verb is transitive, such as *lát* 'see', where the experiencer subject is generated externally, rendering only the forward binding pattern possible. Hence, there seems to be ample evidence that the experiencer verbs in question have a structurally different argument structure, whereby the arguments (both generated internally) may merge in either of the two possible orders. The findings modify the picture of base-generation in the Hungarian VP in that even though hierarchical generation still remains the norm (as opposed to German, see Fanselow 2001, 2003), a subset of verbs should rather be analysed as involving free generation.

In the last paper, **Irene Vogel, Angeliki Athanasopoulou and Nadya Pincus** present the results of their cross-linguistic study regarding Hungarian, and provide empirical evidence for the exact acoustic properties of prominence at both the lexical and the sentential level. The importance of their findings lies primarily in the fact that previous studies made assumptions about Hungarian word stress and focal stress based purely or predominantly on impressionistic assessments (see also Blaho & Szeredi 2011).

The main hypothesis of Vogel, Athanasopoulou and Pincus is the Functional Load Hypothesis (FLH), which predicts that a certain property used for making phonological contrasts will not be a decisive factor in marking stress on either the lexical or the sentential level. Regarding Hungarian, the prediction is that since duration (length) is a distinctive feature for vowels (and consonants), word stress and focus will not be determined by length, as it would blur the contrast established by length otherwise. This hypothesis is confirmed by the results of the experimental study, which also shows that the primary cue for marking stress is pitch, hence F0.

Vogel, Athanasopoulou and Pincus also hypothesised that the primary cue for lexical stress and for sentential stress are different. A common fallacy of previous studies was exactly the confounding of the two, that is, word stress was frequently tested in focus positions. In order to tell the two kinds of stress apart, the authors examined stressed and unstressed syllables (containing either short or long vowels) in focused and non-focused positions as well. The Hungarian stimuli that the participants had to read out fall into four target types (based on p. 273, Table 1):

(11) a. CV́CVCV /katona/ 'soldier'
b. CV́CVCV /babuka/ 'little baby'
c. CV́:CVCV /ku:pokat/ 'cones.ACC'
d. CV́CV:CV /lazi:tok/ 'I relax'

Each target was presented both in a focused and in a non-focused position, yielding altogether 8 types of environments for a single vowel that can be realised both as short and long. All the target items conform more or less to a strict CVCVCV structure, and the vowel under scrutiny was always in an open syllable. Word stress falls predictably on the first syllable in Hungarian, and word stress is assumed to be binary (stressed vs. unstressed), hence the second syllables can be considered unstressed.

Regarding previous research on Hungarian, the main finding of the study presented by Vogel, Athanasopoulou and Pincus is that F0 is the most important factor in marking stress both on the lexical and on the sentential level. At first, this seems to be a contradiction to the initial hypothesis, according to which the two kinds of stress should be distinct. However, the authors show very convincingly that pitch plays a crucial role in a different way in each case. While it is true that the pitch of the vowel of the first syllable is regularly higher than the pitch of the vowel of the second syllable, comparing the pitch pattern in focused and non-focused positions reveals a contour difference. In non-focused conditions, the contour is essentially flat, that is, the pitch of the first vowel is only slightly higher than that of the second. By contrast, in focused conditions, there is a clear falling contour, hence the first vowel is higher in pitch than the second one, and measuring the contour within the individual vowels also shows a clearly falling contour. This is achieved by the first vowel having a higher pitch on average in focused than in non-focused conditions, and the second vowel having slightly lower average pitch in focused than in non-focused conditions. Cross-linguistically, the overall relatively slight differences between stressed and unstressed vowels is tied to the observation that the occurrence of stressed syllables in predictable in Hungarian, as opposed to Spanish, for instance.

In sum, volume 14 of the *Approaches to Hungarian* series presents a nice collection of interesting studies that are relevant both for scholars working (or planning to work) on Hungarian and for ones who would like to gain some cross-linguistic insight into particular research questions. Apart from the individual papers being generally well written, the quality of the publication is satisfactory, even if not without some imperfections. There are few typos and mistakes, distributed quite unevenly, which suggests that proofreading was not carried out in a fully professional way and the responsibility of the authors was higher than would be optimal. Some inconsistencies should have been eliminated, the burden of which lies not only with the editors but also with the publisher. For instance, the affiliation is provided for some of the authors but not for others; equally disturbing is the placement of acknowledgements, which is the first (starred) footnote for some of the papers, whilst it is placed at the very end of the article for others. The bibliographies were not checked carefully either: there seems to have been no consensus on which words to be capitalized in English titles, and whether to provide a translation for book titles in other languages (for instance, Hungarian). Some of the examples (and occasionally tables) are split at page breaks in a most unfortunate way.

Apart from such issues, however, the book is an important contribution to linguistics and to several subfields thereof, and overall it was a very enjoyable, good read.

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CONFERENCE REPORT

The 12th International Congress for Finno-Ugric Studies 17th - 21st August 2015. Oulu, Finland

Ekaterina Georgieva & Nikolett Mus

1 Introduction

The 12th International Congress for Finno-Ugric Studies was one of the major events in Finno-Ugristics this year. The Congress provided the opportunity for presenting recent research on Finno-Ugric languages from both a descriptive and theoretical point of view.
It was organised by the University of Oulu, Finland in August 2015. The programme of the five-day congress consisted of plenary talks, 21 symposia and thematically organised sessions. The participants at the Congress represented different universities and research institutes from Hungary, Finland, Estonia, the Russian Federation, Austria, Germany, the United States, the United Kingdom, the Netherlands.[1]

The Congress provided excellent opportunity for dissemination of recently conducted research in the field of Finno-Ugric Studies and for collaboration between researchers of Finno-Ugric Studies. The Congress has a long history. The first Congress was organised by the Hungarian Academy of Sciences in Budapest in 1960. Since then the Congress has been held every five years in different cities in Finland, Hungary, Estonia and Russia (Budapest 1960, Helsinki 1965, Tallinn 1970, Budapest 1975, Turku 1980, Syktyvkar 1985, Debrecen 1990, Jyväskylä 1995, Tartu 2000, Yoshkar-Ola 2005, Piliscsaba 2010).

The latest edition of the Congress continued the line of the previous meetings by including a great variety of topics regarding the linguistic description of the Finno-Ugric languages both from a descriptive, as well as from a theoretical perspective. Moreover, linguistics was not the only research field at the Congress; literature, archaeology, ethnology and cultural studies received attention, as well.

Here we will briefly summarise the plenary sessions and the symposia. Then we will turn to two thematically chosen workshops, namely the two joint syntactic workshops, which we will review in greater detail.

2 Plenary session

Seven plenary talks were given at the Congress. They meant to cover current topics connected to Finno-Ugric Studies, for example language endangerment as discussed by Lyle Campbell & Bryn Hauk (Hawai'i at Mānoa) in their plenary talk entitled *Language endangerment and endangered Uralic languages*. The second plenary talk given by Cornellius Hasselblatt (Groningen) was connected to cultural studies (*The Finno-Ugric message: Literary and cultural contributions of our discipline*). Permic Studies were also represented in the plenary session by the third plenary speaker, Jevgeni Tsypanov (Syktyvkar), who gave a talk entitled *Modified model of linguo-ethnogenesis of the Permian people*. Valter Lang (Tartu) discussed archeological issues in his talk *Formation of Proto-Finnic – an archaeological scenario from the Bronze Age – Early Iron Age.* In her talk *The ditransitive constructions of the*

[1] The programme and the abstract book can be downloaded from the official website of the event: http://www.oulu.fi/suomenkieli/fuxii/englanti/etusivu

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Ob-Ugric languages Katalin Sipőcz (Szeged) gave an overview of the ditransitive constructions from a typological perspective. Zoltán Nagy (Pécs) gave a talk on cultural anthropology and more specifically on Khanty identity (*The labyrinth of identity: Khanty ethnic identity, its alternatives, and their place in the discourses of identity*). Kaisa Rautio Helander (Kautokeino) emphasized the role of one of the most current topics in sociolinguistics, namely linguistic landscapes with regard to the revitalisation of the Saami language (*Saami language toponymy in linguistic landscapes: The function of place-names in language policy*).

3 Symposia and sessions

The workshops and symposia held at the Congress covered a large scale of topics connected to the Finno-Ugric and Uralic Studies, for instance there were symposia on multilingualism (*Multilingual practices and code-switching in Finno-Ugric communities, Multilingualism and multiculturalism in Finno-Ugric literatures*), language technology (*Computational Uralistics, Language technology through citizen science* and *Archives enriching the present cultures of the Northern peoples*), historical linguistics (*Linguistic reconstruction in Uralic: Problems and prospects*). Furthermore, Finno-Ugric literature, ethnology, cultural studies were also represented at the symposia and sessions. Here we will review two of the workshops which dealt with the syntactic description of the Uralic languages.

3.1 Syntactic Structure of Uralic Languages

The first syntactic workshop was organised by Anders Holmberg (Newcastle University), Balázs Surányi (RIL HAS & Pázmány Péter Catholic University), Orsolya Tánczos (RIL HAS & Pázmány Péter Catholic University).

The two-day workshop aimed at shedding light at the syntactic properties of Finno-Ugric and Uralic languages both within one language and cross-linguistically. One of the goals of the workshop was to provide theoretical accounts for syntactic phenomena in these languages and to describe their syntax from a synchronic and/or diachronic perspective.

Two keynote speakers gave talks at the workshop. The first one was Katalin É. Kiss (Budapest) who discussed the Old Hungarian syntax as a link between Modern Hungarian and the other Modern Ugric languages. The second keynote speaker was Irina Nikolaeva (London) who introduced the complex focus construction in Tundra Nenets (Northern Samoyedic).

Then the symposium moved to discussing case studies on Finnish, Estonian, Hungarian, as well as on small Finno-Ugric languages such as Meadow Mari, Moksha and Northern Sámi. Central topics covered by the talks at the workshop were anaphoric dependencies, agreement, differential object marking, case systems and DP-structure.

Saara Huhmarniemi (Helsinki) proposed that movement to subject position in Finnish is triggered by discourse features. Anna Volkova (Moscow) discussed two reflexives in Meadow Mari and argued for a modular approach to binding. While András Bárány (Cambridge) contrasted two types of differential object marking observable in the Uralic languages, Svetlana Toldova (Moscow) focused on differential object marking in Moksha. Marta Ruda (Krakow) suggested that definite-plural-object drop in Hungarian is motivated morphologically and is not due to semantic recoverability. Mark Norris (Oklahoma) provided an account for the agreement in the Estonian negated clauses in the framework of Distributed Morphology. Phil Crone (Stanford) dealt with First conjunct agreement in Finnish. Farkas et al. (Budapest–Pécs) compared the syntactic properties of single event nominals and complex event nominals in Hungarian. Peter Svenonius (Tromsø) investigated the syntactic behaviour of the comitative-

marked adjuncts in Northern Sámi. Éva Dékány (Budapest) exemplified the quantificational case in three Finno-Ugric languages: Inari Sami, Estonian and Finnish. Tommi Gröndahl (Helsinki) examined the Finnish distance-neutral demonstrative with respect to the structure of the DP. Saara Huhmarniemi & Gisbert Fanselow (Helsinki, Potsdam) offered a new analysis for the split noun phrase constructions in Finno-Ugric languages. Kaiser et al. (Southern California, Tartu, Manchester) conducted a survey with Estonian speakers on the interplay between case, animacy and number and how these factors determine the interpretation of grammatical roles.

The workshop provided space for fruitful discussion and collaboration between researchers. The organisers of the symposium announced their decision to turn this meeting into regular event held every two years.

3.2 The Syntax of Samoyedic and Ob-Ugric Languages

The second workshop was organised by Larisa Leisiö (Kone Foundation & University of Tampere) and Irina Nikolaeva (SOAS, London). The goal of the one-day event was to discuss the syntax of the languages belonging to these two branches of the Uralic language family and to shed light on the syntactic variation, possible genetic heritage and language contact in the domain of syntax.

The talks at the symposium investigated the non-finite clauses, object-verb agreement and object marking, focus structures and possession. Zsófia Schön (Munich) compared finite and non-finite strategies for encoding adverbial subordinate clauses in three Khanty dialects. Márta Csepregi (Budapest) exemplified different patterns of denoting the subject in the Surgut Khanty non-finite clauses. Bernadett Bíró et al. (Szeged, Tampere) discussed the object-verb agreement and object marking in Mansi and in Northern Samoyedic languages. Melani Wratil (Düsseldorf) gave a talk on the relationship between differential object marking and the object agreement in the Samoyedic languages. Nikolett Mus (Budapest) examined the word order and the syntactic position of interrogative phrases in transitive content interrogatives in Ob-Ugric and Samoyedic languages. Alexey Kozlov & Ivan Stenin (Moscow) provided a morphosyntactic and semantic analysis of the Tundra Nenets focus intraclitics. Finally, Gerson Klumpp (Tartu) demonstrated the use of possessive suffixes in Kamas.

The two syntax workshops organised a joint poster session, as well. The posters dealt with other syntactic phenomena, such as information structure (Erika Asztalos: *Identificational focus in Udmurt*, Sachiko Sosa: *The preferred morphosyntactic patterns in Surgut Khanty discourse*), non-finite and relative clauses (Ekaterina Georgieva: *Null and overt pronouns in the Udmurt non-finite clauses*, Eszter Ótott-Kovács & Ekaterina Georgieva: *Syntactic similarities between the non-finite clauses in Udmurt and Tatar*, Maria Privizentseva: *Free relatives in Moksha*), impersonal constructions (Nikolett F. Gulyás: *3PL and non-finite impersonal constructions: A functional approach*) and clitic-climbing (Kata Kubínyi: *Possessive clitic climbing as a pattern of agreement with the possessor in Permic and Mari postpositional phrases*).

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CONFERENCE REPORT

Language technology through citizen science
19 August 2016, Oulu, Finland

Péter Koczka

The workshop titled Language technology through citizen science was organized within the 12th Congress for Finno-Ugric Studies held in Oulu in 2016 (for more details see the conference report on the Congress in the present volume). Following the First International Workshop on Computational Linguistics for Uralic Languages held in January 2015 in Tromsø, the section had mostly familiar faces. Its aim was to bring together researchers working on computational approaches to working with the Finno-Ugric languages. All of them exhibit rich morphological structure, which makes processing them challenging for state-of-the-art computational linguistic approaches, many are endangered and the majority also suffer from a lack of resources. That is why the varying subjects and project presentations never failed to mention the importance of open sourcing tools and making other resources publicly available.

The series of ten presentations started with Jeremy Bradley from the Ludwig Maximilian University of Munich, who introduced the term "nerdview" to the audience, by which he meant that open source or open access material does not necessarily provide access to all audiences if the user interface is not easy to use. That is the reason behind his newly fashioned web site presented here, the Mari Web Project.

Next, Jussi-Pekka Hakkarainen from the National Library of Finland presented the Digitization Project of Kindred Languages, in which the main goal is to create and digitize materials in the Uralic languages as well as develop tools to support linguistic research and citizen science. Through the project, researchers will gain access to new corpora to which all users will have open access regardless of their place of residence. The project's objective is to make sure that the new corpora are made available for the open and interactive use of both the academic community and the language communities as a whole. Since the Uralic related texts consists of around 200 000 pages, "nichesourcing" was used, a specific type of crowdsourcing where tasks are distributed amongst a small crowd of scientists.

Tommi Jauhiainen and Heidi Jauhiainen from the University of Helsinki described a tool under development which aims to collect webpages written in Uralic languages (except for Finnish, Estonian and Hungarian) and publish the links on a portal for researchers. To achieve this, the Heritrix open source web crawler is being used with addition of a language identifier trained for 350 languages (of which 34 are Uralic) to filter out the needed webpages. The automated crawling and filtering system is also intended to build sentence, clause and word corpora.

The Aanaar Saami e-lexicography presentation by the members of the University of Tromsø (Trosterud et. al) shed light on the odd situation of a language with only approximately 450 speakers, yet with a rich lexicographic tradition but without any electronic dictionaries. To create the desired e-dictionaries (Aanaar Saami-Finnish and North Saami-Aanaar Saami), the creation of a North Saami-Aanaar Saami transfer lexicon was necessary, which was achieved by combining two dictionaries (North Saami-Finnish and Aanaar Saami-Finnish) and pivoting via Finnish. The e-dictionaries can serve

as helping tools for language learners, as facilities for lexicon research and practical lexicography. Notably, they plan to use it as the lexicographical foundation for machine translation programs for Aanaar Saami and for further language revitalisation work in written Aanaar Saami.

Kanner et al. introduced the possibilities offered by virtual wiki platforms in a way to create terminology and lexicography work. This is applied in two projects, the Bank of Finnish Terms in Arts and Sciences (BFT) and the lexicographical wiki platform. The Bank of Finnish Terminology in Arts and Sciences (BFT, tieteentermipankki.fi) is a database of Finnish scholarly and scientific terminology for all academic disciplines practiced in Finland. The BFT is maintained by limited crowdsourcing using wiki software, it consists of a multilingual extensive terminology and it is freely available to all researchers. Their future plans include opening the interface and its contents in English and, for example, in kindred languages of Finnish as well.

Tommi Pirinen from the Dublin City University explained his project, Omorfi. The tool is a freely available open source analyser with a lexical database that consists of all sorts of lexicographical information usable for large variety of computational linguistics and general applications requiring processing of Finnish word-forms in context. The data in the database is sourced from the Research Institute of Languages in Finland as the Nykysuomen sanalista, from open source project by language enthusiast engineers from the Joukahainen project and data from the massively crowd-sourced Wiktionary project. The Omorfi tool can be used for more than morphological analysis of Finnish, it could be the engine behind user-facing applications such as spellcheckers and other tools not solely designed for linguists.

Sven-Erik Soosaar from the Institute of the Estonian Language presented language technology tools developed for Tundra Nenets, which include spell checking and e-learning tools. Most of the aforementioned applications are hosted in the University of Tromsø's Oahpa! environment. The word analyser and generator are developed in twolc, but the dialectal variability should be taken into account, since spelling rules of Nenets are not strict and dialectal pronunciation is reflected in written language, which appears to be a serious obstacle along with the very limited amount of machine readable texts available in the language.

Jeremy Bradley described what benefits the computational linguistic tools and complex annotated corpora can offer for linguistic research. Presenting this, the usage of participial verbal forms in postpositional constructions, a well-documented feature of Mari and many of its neighbours, was chosen.

As a closing of the day, Rueter et al. introduced the development of a sandbox for open transducer technology. The objective is to raise the general public's awareness of such tools' existence, especially open-source ones, such as the Helsinki Finite-State Transducer (HFTS). However, being aware of certain tools does not mean they are available to everyone. Teachers can face administrative difficulties when trying to introduce something new, or they are simply not allowed to install applications in their environments. To solve this issue, the sandbox under development will be available on-line, accessible through any web browser. This way transducers can be created and used without installing the slightest bit of extra software.

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