FROM POSSESSOR AGREEMENT TO OBJECT MARKING IN THE EVOLUTION OF THE UDMURT -*JEZ* SUFFIX: A GRAMMATICALIZATION APPROACH TO MORPHEME SYNCRETISM

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This article argues that morpheme syncretism can arise as a result of structural and functional changes that display features of a grammaticalization process. Our claim is based on a case study analyzing the functional evolution of -*jez*, the third singular possessive agreement morpheme of Udmurt, which appears to function as a nominalizer, to mark contrast, to function as a kind of definite determiner, and to mark accusative case. We argue that these seemingly different roles are instantiations of three major functions: cross-referencing a possessor, encoding partitivity, and marking specific objects, which, in turn, represent subsequent stages of a grammaticalization path. Evidence for the hypothesized changes is provided by parallel developments in the sister languages, primarily Hungarian, the sister language with the longest-documented history.*

Keywords: grammaticalization, morpheme syncretism, Udmurt, Uralic morphosyntax, partitivity, differential object marking

1. INTRODUCTION. Systematic morpheme syncretism, attested most often in inflectional paradigms, is usually analyzed as feature underspecification. Accidental syncretism, that is, the homophony of unrelated morphemes, is generally attributed to some phonological coincidence. This article argues that morpheme syncretism can also arise as a consequence of a series of structural and functional changes that display characteristic features of a grammaticalization process, involving loss of semantic and structural weight and loss of variability (Fischer & Rosenbach 2000, Lehmann 2002:110). The simultaneous persistence of the morpheme variants arising at various stages of this process, that is, the resulting morpheme syncretism, corresponds to the phenomenon of 'layering' in the grammaticalization framework (Hopper 1991).

Our claim is based on a case study analyzing the functional evolution of -*jez*, the third-person singular possessive agreement morpheme of Udmurt. The use of possessive agreement in nonpossessive—mainly determiner-like—functions is a shared property of several Uralic languages (Collinder 1960, Schlachter 1960, Hajdú 1966, Sinor 1978, Csúcs 1980, Rédei 1988, Leinonen 1998, Fraurud 2001, Winkler 2001, 2011, Nikolaeva 2003, Gerland 2014, Janda 2015, Serdobolskaya et al. 2019, etc.). Similar phenomena have also been reported from Turkish and other Turkic languages (Fraurud 2001:249) and from Yucatec Maya (Lehmann 1998). Among the Uralic languages, possessive agreement appears to have obtained the widest range of roles in Udmurt, where the third singular possessive agreement suffix is also said to function as a nominalizer, to mark contrast, to function as a kind of definite determiner, and to mark accusative case. We argue that these seemingly different roles are instantiations of three major functions: cross-referencing a possessor, encoding partitivity, and marking specific objects, which, in turn, represent subsequent stages of a grammaticalization path. We provide evidence for the hypothesized changes from parallel developments in the sister languages, primarily Hungarian, which is the sister language with the longest-documented history.

2. The functions of third singular possessor agreement in udmurt.

2.1. The facts.

(i) In Udmurt, similarly to other Uralic languages, the possessum bears an agreement suffix that encodes the number and person of the possessor (1a,b) (Winkler 2001, Edygarova 2010). Agreement is formal, not notional; hence a numerically modified possessor bearing no plural suffix elicits singular agreement (1c).[1]

(1) a. Maša-len   agaj-**ez**
    Masha-GEN brother-3SG
       'Masha's brother'

   b. nyl-jos-len agaj-**zy**
    girl-PL-GEN brother-3PL
       'the girls' brother'

   c. kyk nyl-len   agaj-**ez**
    two girl-GEN brother-3SG
       'the two girls' brother'

Because of pro-drop, a pronominal possessor does not have to be spelled out unless it is emphatic; its person and number can be reconstructed from the agreement suffix of the possessum, as in 2.

(2) a. (mynam) pi-**je**   (miľam) pi-**my**
    I.GEN   son-1SG   we.GEN son-1PL
    'my son'   'our son'

   b. (tynad)   pi-**jed**   (tiľad)   pi-**dy**
    you_SG.GEN son-2SG   you_PL.GEN son-2PL
    'your_SG son'   'your_PL son'

   c. (so-len)   pi-**jez**   (so-os-len)   pi-**zy**
    she/he-GEN son-3SG   she/he-PL-GEN son-3PL
    'his/her son'   'their son'

The third singular possessive suffix—similarly to the other members of the paradigm—has various allomorphs. The basic variants are *-ez/-jez*, with *-ez* used after consonants (e.g. *Saša-len agaj-ez* 'Sasha's brother') and *-jez* used after vowels (*Saša-len puny-jez* 'Sasha's dog'). The suffix *-yz* , believed to be an archaic variant, appears on certain members of the basic vocabulary, for example, those denoting family relations and body parts (*Saša-len ki-yz* 'Sasha's hand'), after the plural marker (*Saša-len agaj-os-yz* 'Sasha's brothers'), and after the instrumental, elative, translative, and egressive case endings (e.g. *Saša-len agaj-en-yz* 'with Sasha's brother').[2] The *-iz* allomorph is attached to pronouns of all kinds (see a list of them in 7 below), where it is identified as a definiteness suffix by Winkler (2001, 2011), for example.

The relative position of possessive agreement in the morpheme complex of the possessum depends on which case morpheme it cooccurs with (Winkler 2001). The accusative, genitive, dative, ablative, caritive, and approximative adverbial case endings follow the agreement suffix; the instrumental, inessive, illative, elative, and egressive

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[1] Examples with no source are sentences elicited during Orsolya Tánczos's fieldwork in Udmurtia, or provided by our informant Yulja Speshilova. Abbreviations used in glosses are as follows: ABL: ablative, ACC: accusative, ADJ: adjective, CAUS: causative, CNV: connegative (the verb form used with a negative auxiliary), COMP: comparative, DAT: dative, DEL: delative, FUT: future, GEN: genitive, ILL: illative, INE: inessive, INF: infinitive, INS: instrumental, NEG: negative, OBJ: object agreement, PASS: passive, PL: plural, POSS: possessive, POT: potential, PRS: present, PST: past, PTCL: particle, PTCP: participle, PTV: partitive, SBJV: subjunctive, SG: singular.

[2] The allomorph *-yz* also has another, genetically unrelated variant in accusative plural formation, the suffix *-ty*, which is believed to have entered Standard Udmurt from a dialect (see Csúcs 2003).

case endings precede it. The relative order of terminative case and possessive agreement is free. Some case-agreement (or agreement-case) combinations result in further allomorphs of -*ez*/*jez*. Observe, for example, the morpheme complex consisting of an illative case morpheme and third singular agreement.

(3) Mon (solen)   gurt-**a-z**   lykto.
    I   (she/he.GEN) village-ILL-3SG arrive.FUT.1SG
       'I will arrive in his/her village.'

With accusative case, too, only the consonant of the affix is spelled out, which is the same -*z*- in singular and plural third person. Homophony does not arise because the regular -*ez*/*jez* accusative case ending is realized in different forms in singular and plural. (The possessor of the direct object is assigned ablative case, instead of genitive.)

(4) a. Mon Saša-leś   **agaj-z-e**   utćaj.
       I   Sasha-ABL brother-3SG-ACC search.PST.1SG
          'I searched for Sasha's brother.'
    b. Mon so-os-leś   **agaj-z-es**   utćaj.
       I   she/he-PL-ABL brother-3PL-ACC search.PST.1SG
          'I searched for their brother.'

(ii) The suffix -*jez* is also claimed to express contrast, 'a kind of contrastive emphasis whose background need not be expressed explicitly in the context' (Winkler 2001:32; see also Nikolaeva 2003:12). The contrastive -*jez* appears on attributive adjectives, as shown in 5a,b (cited as 26a,b in Nikolaeva 2003).

(5) a. **śöd-ez**   kyšet
       black-JEZ scarf
          'the black scarf'   (Serebrennikov 1963:133)
    b. Buskeľjos-len **badʒ'ym-ez** pi-zy   armiyś   bertiz   ińi.
       neighbors-GEN big-JEZ   son-3PL army.from returned.3SG already
          'The elder son of the neighbors has already returned from army service.'
                                                               (Kel'makov 2001:179)

As explained by Nikolaeva (2003:12), '[5a] indicates that the scarf is black as opposed to other colors, while in [5b] the elder son is implicitly opposed to the younger son(s). There is no such implication in the absence of the possessive affix'.

Whereas attributive adjectives without -*jez* optionally agree in number and do not agree in case with the nominal they modify (6a), *jez*-marked adjectives agree both in case and in number. What is more, when modifying a plural noun, they can bear both the -*es*- plural of adjectives and the -*jos*- plural of nominals simultaneously (6b). The contrastive -*jez* yields the same allomorphs in the context of different case endings that the possessive -*jez* does.

(6) a. badʒ'ym(-eś) gurt-jos-yn
       large(-PL)   village-PL-INE
          'in large villages'
    b. badʒ'ym-eś-jos-**az** gurt-jos-yn
       large-PL-PL-JEZ.INE village-PL-INE
          'in the large villages'

(iii) -*jez* can also appear on pronouns and numerals, and on pronominal and numeral determiners.

(7) a. ta   'this'   ta-**iz**   'this very'
    b. so   'that'   so-**iz**   'that very'
    c. tače   'like this'   tače-**jez**   'like this very'

d.	syče	'like that'	syče-**jez**	'like that very'
e.	kud	'which'	kud-**iz**	'which'
f.	vań	'all'	vańm-**iz**	'all'
g.	tros	'many'	tros-**ez**	'many'
h.	kyk	'two'	kyk-**ez**	'two'
i.	olokud	'any'	olokud-**iz**	'any'
j.	nokud	'no'	nokud-**iz**	'no'
k.	koťkud	'every'	koťkud-**iz**	'every'

Winkler (2001:34) translates the special meaning component of the *jez*-marked demonstrative pronouns with the particle 'very', but apart from this, the literature on Udmurt gives no hint concerning the meaning difference between the *jez*-less and *jez*-marked variants. Our informants found the *jez*-marked variants felicitous in partitive contexts. For example, whereas the universal quantifier of generic statements is *koťkud* (8a), the universal quantifier denoting the members of a contextually given set is *koťkudiz* (8b).

(8) a. **Koťkud** aďami kuloz.
      every   person die.FUT.3SG
        'All men are mortal.'

   b. Tunne viť stuďent ekzamen śotiz.   **Koťkud-iz** öz
      today five student exam   give.PST.3SG all-JEZ   NEG.PST.3SG
         śot.
         give.CNV.SG³
        'Today five students had an exam. Each of them failed.'

   (iv) *-jez* is also said to have a nominalizing role (Winkler 2001:43) in cases when it appears cliticized to a noun phrase with no overt nominal. In 9–10, it is attached to a possessive construction containing a genitive-marked possessor and an ellipted possessum (Winkler 2001:29, 44).

(9) a. Ivan-len gurt-ez   → **Ivan-len-ez**
      Ivan-GEN village-3SG   Ivan-GEN-3SG
        'Ivan's village'   'that of Ivan'   (Winkler 2001:44)

   b. pios-len gurt-zy   → **pi-os-len-ez**
      boys-GEN village-3PL   boy-PL-GEN-3SG
        'the boys' village'   'that of the boys'

(10) Ta-iz solen   mašina-jez, noš ta-iz   mynam—ojdo mynom
     this-JEZ she/he.GEN car-3SG   but this-JEZ I.GEN   PTCL go.FUT.1PL
         mynam-en-yz.
         I.GEN-INS-JEZ
        'This is his car, and that is my one—let's go with my one!'

The *-jez* suffix appearing on a possessor with no overt possessum cannot be a regular possessive agreement suffix because it is invariant for person and number. In 9b, it fails to agree with the possessor in number, and in 10, it fails to agree with it in person.

   The suffix *-jez* can also 'nominalize' modifiers and determiners other than possessors. In 11a,b, it is attached to adjectives and demonstratives, respectively, which are understood to modify/determine an ellipted nominal head.⁴ As illustrated by 11b, it in-

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³ *Öz* is a negative auxiliary, and the connegative (CNV) is the verb form used with a negative auxiliary.

⁴ A referee suggests that what is going on in these sentences may be the contextual neutralization of parts of speech. Or, alternatively, *-jez* is to be analyzed as an independent pronoun rather than a suffix. However,

teracts with case endings morphophonologically in the same way that the third singular possessive *-jez* does.

(11) a. Ulizy-vylizy   kyk bratjos, pokći-**jez** kuańer, bydʒ'ym-**ez** uzyr.
       lived-were.3PL two brothers young-JEZ poor old-JEZ   rich
           'There lived two brothers, the young one was poor, the old one was rich.'

                                (Serebrennikov1963:133, cited in Nikolaeva 2003, ex. 23a)

    b. Ta-**ze**   jake so-**ze**   mynym byrjono?
       this-JEZ.ACC or   that-JEZ.ACC I.DAT   choose.PTCP
           'Shall I choose this one, or that one?'

The kind of nominal ellipsis that evokes the nominalizing use of *-jez* is particularly common in contrastive contexts; hence *-jez* often plays a dual—nominalizing and contrastive—role.

   (v) *-jez* can also mark object nouns, in which case it is traditionally classified as an accusative case suffix (cf. Serebrennikov 1963, Rédei 2000, Winkler 2001, Csúcs 2003).

(12) Mon ta **kńiga-jez**/ta **kńiga-os-yz** lydʒ'i.
     I   this book-ACC/this book-PL-ACC read.PST.1SG
         'I read this book/these books.'

The *-jez* suffix also appears on the causee argument of causative constructions (for details, see Tánczos 2016).

(13) Maša **nyl-ez**[5] kńiga-jez lydʒ'y-t-iz.
     Masha girl-ACC book-ACC read-CAUS-PST.3SG
         'Masha made the/a girl read the book.'

However, not all objects are marked by *-jez*. It is debated whether *-jez* marks definite objects or specific ones (including specific indefinites), and whether the *jez*-marking of definite/specific objects is optional (Fraurud 2001, Nikolaeva 2003) or a requirement with certain exceptions (Csúcs 2003). In any case, a *jez*-less object is understood to be indefinite.

(14) Mon **kńiga** lydʒ'i.
     I   book read.PST.1SG
         'I read a book.'

The accusative *-jez* has the same morphophonologically determined allomorphs as the possessive *-jez* (except that the *-iz* allomorph appearing on pronouns is missing). For example, the allomorph on objects bearing a plural suffix is *-yz*.

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although Uralic possessive suffixes do originate from the corresponding personal pronouns, reconstructions have shown beyond doubt that they were already enclitics in the Proto-Uralic period (Raun 1988).

   The plausibility of the structural interpretation of the nominalizing effect proposed above, that is, the possibility of suffixation to a noun phrase with an elliptic head, is also supported by parallel data from Hungarian, a sister language. Observe the examples in (i)–(iii): the case suffix is always spelled out on the last phonologically overt element of the noun phrase.

    (i) János három piros almá-t   evett, Éva pedig   négy sárga körté-t.
        John three red   apple-ACC ate   Eve on.the.contrary four yellow pear-ACC
            'John ate three red apples, whereas Eve ate four yellow pears.'
   (ii) János három piros almá-t evett, Éva pedig négy sárgá-t.
            'John ate three red apples, whereas Eve ate four yellow ones.'
  (iii) János három piros almá-t evett, Éva pedig négy-et.
            'John ate three red apples, whereas Eve ate four.'

   [5] The *-jez* suffix on the causee argument in causative constructions is mostly analyzed as an accusative case (see Kozmács 1994). Tánczos (2016), following Fraurud (2001), analyzes it as an associability marker.

(15) Mon ta **kńiga-os-yz** lydʒ'i.
     I   this book-PL-ACC read.PST.1SG
     'I read these books.'

Crucially, however, words taking the archaic *-yz* third singular possessive ending, like *ki-yz* 'his/her hand', are marked by *-jez* as objects. Compare 16a and 16b.

(16) a. Śekyt **ki-jez** operirovať karyny.
     hard hand-ACC to.operate make.PTCP
     'It is hard to operate the hand.'
    b. Solen   **ki-yz** ćeber.
     she/he-GEN hand-3SG nice
     'His/her hand is nice.'

The accusative morpheme appearing after a possessive suffix is a singular *-e* or a plural *-es*, as shown in 4a,b above and 17a,b.

(17) a. Mon **kńiga-d-e**   lydʒ'i.
     I   book-2SG-ACC read.PST.1SG
     'I read your$_{SG}$ book.'
    b. Mon **kńiga-d-es**   lydʒ'i.
     I   book-2PL-ACC read.PST.1SG
     'I read your$_{PL}$ book.'

  (vi) As shown by Winkler (2001), Csúcs (2003), Nikolaeva (2003), and others, an apparently nonpossessive *-jez* can also appear on subjects.

(18) a. Guždor vylyn **turyn-ez** ćeber.
     meadow on   grass-JEZ beautiful
     'On the meadow, the grass is beautiful.'   (Winkler 2001:32)
    b. **Kalyk-ez**   tros.
     people-JEZ many
     'The people are many.'   (Winkler 2001:32)
    c. **Gureź-ez**   ʒužyt.
     mountain-JEZ high
     'The mountain (here) is high.'

It is an open question in what contexts a *jez*-marked subject can appear. According to Nikolaeva (2003), examples like 18a–c are licensed when the subject is available for direct sensory perception, that is, when it is directly identifiable. In fact, the nominalizing and contrastive *-jez* can also appear on subjects—as illustrated by 19, an example from the first available Udmurt text from the end of the nineteenth century. In 19, only the subject of the second clause is contextually identifiable; the subject of the first clause is generic—but both are nominalizations set into a contrast.

(19) **Inmar-kad'-jos-îz** ɵz   bîgatä-no   **täj-kad'-ez**
     god-like-PL-JEZ   NEG.PRS.3 manage.CNV.PL-too louse-like-JEZ
       bîgatoz-a?
       manage.FUT.3SG-Q
     'God-like creatures did not manage [to kill me], will someone like a louse
       manage?'   (Munkácsi 1887, text III/3)[6]

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[6] Occasionally, we cite examples from texts recorded in 1885 by Bernát Munkácsi. Although certain aspects of Udmurt syntax, especially word order, have changed considerably under the influence of Russian in the past 130 years, we see no noticeable differences between nineteenth-century and contemporary texts as regards the distribution and the functions of *-jez*.

As shown by the two clauses of 19, the *-jez* marker of subjects has the same singular and plural allomorphs as the *-jez* marker of objects.

2.2. ANALYSES. Possessive agreement suffixes play similar roles in other Uralic languages as well. The descriptive grammars of these languages take notice of the definiteness-marking role of possessive agreement, but accounts going beyond observations are scarce.

Fraurud (2001) raised—and discarded—the hypothesis that the various functions of the possessive suffix observed in the Uralic languages are stages of a grammaticalization path leading from possessive agreement to a definite article. A grammaticalization process would have the following manifestations: (a) change in form from free morphemes to clitics and affixes, (b) increased discourse frequency, (c) employment of possessive suffixes in certain definite uses, (d) obligatoriness in some of these uses, (e) emergence of new forms of possessive marking gradually replacing the old ones, and (f) loss of essential semantic/pragmatic features. Since the phenomena observed in Udmurt and other Uralic languages satisfy only some of these criteria (b, c, and f), they display a grammaticalization process that is underway at best. However, since there are no historical data testifying to the progression of the change, and since the same stable situation is attested in several Uralic languages, Fraurud considered it more appropriate to describe Uralic possessive agreement in its own terms—as a category with special characteristics distinguishing it from definite articles as well as from possessive marking in languages like English.

Nikolaeva (2003) advanced further arguments against the possibility that Uralic possessive agreement has assumed the function of a definite determiner. First, possessive affixes in the nonpossessive function are compatible with NPs that are unambiguously indefinite. Her Northern Ostyak example can be replaced by an Udmurt sentence.

(20) Mon odig **puny-jez** utćaśko.
    I   one dog-ACC search.PRS.1SG
      'I am searching for a (specific) dog.'   (Tánczos 2016:48)

Second, in at least some of the languages in question the possessive affixes can attach to forms that are not nouns, among them postpositions, participles, and adjectives. (Our informant's interpretations of such examples, however, suggest the presence of an ellipted nominal.) Observe, for example, 21, where *-jez* attaches to a participle.

(21) Parś vandem   siľmy   kyk ľuketly ľukemyn: aśmely   śijon no
    pork slaughtered meat.1PL two part.DAT divide.PASS ourselves.DAT food and
        vuzan ponna. **Vuza-no-jez** ćeberges.
        sell for   sell-PTCP-3SG nice.COMP
      'Our slaughtered porkmeat has been divided into two parts: one is for food
       for ourselves and one is for selling. The one to be sold is nicer.'

Furthermore, one can find possessive affixes on nouns already marked for definiteness, for example, on nouns with a demonstrative determiner, as illustrated above in 12. In Udmurt, *-jez* can also follow a possessive agreement suffix (see 17).

According to Nikolaeva (2003), nonpossessively used third singular possessive agreement has three main functions in Uralic: it expresses (i) identifiability, (ii) associability, or (iii) emphasis and contrast. Identifiability can be based on deixis and situational context, as illustrated by 18a–c. Expressions designating periods of time, such as morning, summer, and year, and bearing the third singular possessive suffix are interpreted in the absence of modifiers as 'this/that morning', 'this/that summer', and 'this/that year'—as explained in connection with 22b by our Udmurt informant.

(22) a. **čukna-jez**   tunne keźyt val.
     morning-JEZ today cold was
       'The morning today was cold.'
   b. **ǯyt-ez**   šuldyr   ortćiz.
     evening-JEZ cheerfully pass.PST.3SG
       'The evening cheerfully passed.'

Possessive agreement can encode an associative relationship with an individual present in the discourse or in the context. In Udmurt, we attest the marking of associative relations with the speaker and the addressee by first and second singular possessive suffixes, as in 23.

(23) Otyn koške   ńi   avtobus-ed.
     there go.PRS.3SG already autobus-2SG
       'Your bus is already going there.'

The emphatic-contrastive function attributed to the third singular possessive suffix by Nikolaeva (2003) is illustrated in examples 5a,b above. Contrastive/emphatic possessive affixes are compatible with indefinite noun phrases as well.

Nikolaeva (2003) also discusses the possible relation between the possessive role and the identifying and associative functions of possessive suffixes. She argues that possessive constructions encode a much wider range of relations in Uralic than in the Indo-European languages: they can express any kind of association between two entities. The possessor must be established prior to the utterance—hence it serves as a reference point for creating mental contact with the possessum. The possessum is identified through its relation to the possessor; that is, by encoding the reference-point relationship, the possessive affix simultaneously also encodes the identifiability of the possessed noun. The contrastive function of the third-person possessive affix is logically independent of its identifiability function; it pertains to the relative salience of the respective concept for the speaker. Nikolaeva claims that it is attested only in the languages of the Volga basin, Udmurt, Komi, and Cheremis, and hence it must be an innovation that developed under the influence of the neighboring Turkic languages.

Gerland (2014) too argues against the hypothesis, raised by Fraurud (2001), that the definiteness-marking function of Uralic possessive agreement is the outcome of a grammaticalization pathway; she claims that it has always been an inherent property of these languages. In these languages, possessive agreement has a relational function: it can establish a link between two entities, or between an entity and the discourse situation (in the case of pragmatically unique referents), or between an entity and world knowledge (in the case of semantically unique referents). The entity marked by possessive agreement is perceived as definite, owing to the definiteness of the possessive pro. The possessive versus definite interpretation of the nominal bearing possessive agreement depends on the context and the noun type. For example, inherently unique concepts invoke the definite reading, whereas relational nouns evoke the possessive interpretation.

In sum: previous analyses have not found sufficient evidence of a grammaticalization pathway linking all of the different roles of possessive agreement in Uralic. They trace the diverse functions of the possessive agreement morphemes back to the fact that the possessive relation is much looser in Uralic than in the Indo-European languages. In Uralic, the possessor is not necessarily an entity; it can also be represented by the discourse situation. The definite interpretation of a noun phrase bearing a possessive agreement suffix is due to the fact that it is anchored to a definite possessor (the empty or implicit pronominal cross-referenced by the possessive agreement suffix).

3. A NEW LOOK AT THE FUNCTIONS OF THIRD SINGULAR POSSESSOR AGREEMENT IN UDMURT. In our view, the different occurrences of the Udmurt *-jez* suffix are manifesta-

tions of three main functions: (i) cross-referencing a possessor, (ii) partitivity marking, and (iii) specific object marking. The -*jez* suffix of indefinite, interrogative, and universal pronouns and determiners and the -*jez* of contrastive adjectives encode the feature [partitive]. The nominalizing role of the suffix is a concomitant of its partitivity-marking function. The -*jez* suffix of the subject also marks the partitivity of its referent. Udmurt is a differential object-marking language; it marks specific objects with the suffix -*jez*. We argue that encoding the phi-features of a possessor, encoding partitivity, and encoding specificity are subsequent stages along a grammaticalization path. The history of Udmurt has not been documented long enough to provide evidence for this process; however, we have evidence from Hungarian, a sister language with an 800-year documented history, where a third-person plural possessive agreement suffix and a third-person singular possessive agreement suffix have undergone similar developments.

3.1. FROM POSSESSIVE AGREEMENT TO PARTITIVITY MARKING. Modern Hungarian has an -*ik* partitivity suffix appearing on indefinite, interrogative, free-choice, and universal pronouns. These pronouns also have *ik*-less versions. The -*ik* suffix assigns a [partitive] feature to them; noun phrases determined by an *ik*-pronoun are understood to denote a subset of a contextually or situationally given set. Compare the examples in 24.

(24) a. egy szó   'one word'
        egy**ik** szó   'one of the words'
    b. valamely, némely szó   'some word'
        valamely**ik**, némely**ik** szó   'some of the words'
    c. mely szó   'what word'
        mely**ik** szó   'which of the words'
    d. bármely, akármely szó   'any word'
        bármely**ik**, akármely**ik** szó   'any one of the words'
    e. minden szó   'all words'
        minden**ik** szó   'each word'
        etc.

Whereas the *ik*-less pronouns and the noun phrases determined/modified by them are indefinite, the *ik*-versions are definite, as is shown by the fact that as objects, they elicit the definite conjugation, involving object-verb agreement. Compare the examples in 25.

(25) a. **Minden** szó-t   hallo-tok?
        every   word-ACC hear-2PL
          'Do you hear all words?'
    b. **Minden-ik** szót   hall-**já**-tok?
        every-IK   word-ACC hear-OBJ-2PL
          'Do you hear each word?'

The -*ik* suffix can also appear on comparative and superlative adjectives. An *ik*-marked adjective can modify an ellipted nominal (marked by Ø).

(26) Melyik autót   vegyem   meg, a **szebb-ik-Ø-et** vagy a
      which   car.ACC buy.SBJV.OBJ.1SG PTCL the nicer-IK-Ø-ACC or   the
         jobb-ik-Ø-at?
         better-IK-Ø-ACC
      'Which car shall I buy, the nicer one or the better one?'

Modern Hungarian grammars categorize -*ik* as a partitivity suffix ('kijelölő jel'). In Old Hungarian documents, however, it is clearly still one of the allomorphs of the third plural possessive agreement morpheme.

    In Hungarian, the possessive relation is marked on the possessum. In the case of a lexical possessor, the possessum bears an invariant possession/possessedness (POSS)

suffix (see 27); in the case of a pronominal possessor, however, an agreement suffix also cross-references the possessor's person and number.[7] If the possessum is in the plural, its plural suffix separates the possession suffix and the agreement suffix marking the person and number of the possessor (28). However, when there is no intervening plural marker on the possessum, possessedness and the person and number of the possessor are often represented by a single portmanteau morpheme (29). Hungarian being a pro-drop language, a pronominal possessor is spelled out only if it is contrasted.

(27) a. a fiú kalap-ja
   the boy hat-POSS
    'the boy's hat'

  b. a fiú-k kalap-ja
    the boy-PL hat-POSS
     'the boys' hat'

(28) a. (az én) kalap-ja-i-m
   the I hat-POSS-PL-1SG
    'my hats'

  b. (a mi) kalap-ja-i-nk
    the we hat-POSS-PL-1PL
     'our hats'

  c. (a te) kalap-ja-i-d
    the you hat-POSS-PL-2SG
     'your_{SG} hats'

  d. (a ti) kalap-ja-i-tok
    the you hat-POSS-PL-2PL
     'your_{PL} hats'

  e. (az ő)   kalap-ja-i-Ø
    the she/he hat-POSS-PL-3SG
     'his/her hats'

  f. (az ő(k)[8]) kalap-ja-i-k
    the they hat-POSS-PL-3PL
     'their hats'

(29) a. kalap-om
   hat-POSS.1SG
    'my hat'

  b. kalap-unk
    hat-POSS.1PL
     'our hat'

  c. kalap-od
   hat-POSS.2SG
    'your_{SG} hat'

  d. kalap-otok
    hat-POSS.2PL
     'your_{PL} hat'

  e. kalap-ja
   hat-POSS.3SG
    'his/her hat'

  f. kalap-juk
    hat-POSS.3PL
     'their hat'

At the beginning of the Old Hungarian period, the third plural possessive suffix had three allomorphs: -ik, -ok, and -ek (Benkő 1992:325, É. Kiss 2018). In early Old Hungarian, a split took place in their distribution: -ok and -ek combined with nominal stems (-ok with back-vowel stems, and -ek with front-vowel stems), whereas -ik appeared on the pronominal, numeral, or adjectival determiner/modifier of elliptic nominals.

The indefinite, interrogative, free-choice, and universal pronouns listed under 24 all existed in Old Hungarian. Whereas their ik-less versions mostly occurred as determiners/modifiers, the ik-versions occurred as heads of possessive constructions—more precisely, as determiners/modifiers of an ellipted possessum. Their third plural possessive suffix cross-references a third plural pro possessor, which invariably has a lexical antecedent in the preceding context. Compare the following Old Hungarian sentence pairs: the ik-less pronouns in the (a) sentences are modifiers of lexical heads, whereas the ik-versions in the (b) sentences behave like nominalized heads of possessive constructions—more precisely, as modifiers of an ellipted possessum, taking on its suffix. Their pro possessor is always coindexed with a preceding noun phrase (marked by italics).

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[7] For further details, see for example Szabolcsi 1983, É. Kiss 2002.
[8] The -k plural suffix of an overt third plural pronominal possessor is dropped.

(30) a. **nemel** terekek fa teteyerewl   azt   orozwa   nyzek
     some Turks tree top.POSS.from that.ACC stealthily watched
       '**Some** Turks watched it stealthily from tree tops'   (Szabatkai (1515), 14)

   b. *Azoc* ke· … èlmenenèc/**nemèl'l'-ic** ǫ faluiaba   dè
     those in.turn left   some-POSS.3PL he village.POSS.3SG.to but
       nemel'l'-ic   ǫ kerèskedeterè
       some-POSS.3PL he search.POSS.3SG.to
       '*Those* in turn left, **some of them** for their village, but **some of them**
       for his search'   (Munich Codex (1416), 27 verso)

(31) a. menden valaki   kerest   kerènd harminc napiglan **valamel**
     every   somebody request.ACC asks   thirty   day.for   some
       istèntǫl
       god.from
       'every person who asks a request of **any** god for thirty days'
                             (Vienna Codex (1416), 145)

   b. *Ez ÿfÿak   kǫzǫl*   kegeglen haa **ualamell-ik-nek**   tǫrtenik
     this young.men among.from in.turn if   some-POSS.3PL-DAT happens
       ual'a   megh korulnia
       be.PST PTCL get.sick.INF.3SG
       '*From among these young men*, in turn, if **any of them** would happen
       to get sick'   (Kazinczy Codex (1525–41), 44 verso)

(32) a. Ime azert   **mel'** keǵetlen ellensege embereknek ez velag
     look therefore what merciless enemy   people.DAT this world
       'Look, **what** merciless an enemy to the people this world is!'
                           (Bod Codex (early 16th c.), 4 recto)

   b. m̄ghaga *monna-ic-nac* azert **mel'l'-ic**   źerèti ǫtet inkab
     told   both-POSS.3PL-DAT that which-POSS.3PL loves him more
       'He asked *both of them* **which of them** loved him more'
                        (Munich Codex (1416), 62 verso)

(33) a. Zabadych engem-eth **mynden** gonoztwl
     save   I-ACC   every   evil.from
       'Save me from **every** evil'   (Munich Record (early 16th c.))

   b. ǫ *alm-a-i-Ø-t*   ǫ hailakaban   megiruā rùuid
     he dream-POSS-PL-3SG-ACC he house.POSS.3SG.INE writing short
       bèzedbè foglala **menden-ik-èt**   egèmbè zoreituā.
       speech.to included every-POSS.3PL-ACC one.to   comprising
       'having written down *his dreams* in his house, he included **every one
       of them** in a short speech comprising them into one.'
                          (Vienna Codex (1416), 148)

In the Middle Hungarian period the *-ik* third plural possessive suffix of pronominals came to be reanalyzed—in fact, grammaticalized—as a derivational suffix expressing partitivity (É. Kiss 2018). (In the case of *ik*-marked adjectives and numerals, this process took place somewhat earlier, still in the Old Hungarian period, before the sixteenth century.) As a consequence of the reanalysis, *ik*-marked pronouns started appearing in determiner/modifier positions in seventeenth- to eighteenth-century texts (34a), and they could also take on an additional, productive possessive agreement suffix (34b).

(34) a. **minden-ik Farizeus** tsak a′ maga szemtelen dolgait
     every-PTV Pharisee only the own impertinent matter.POSS.PL.ACC
       láthattya   vala
       see.POT.3SG be.PST
       'each Pharisee could see only his own impertinent matters'
                                (Vajda 1773:116)

    b. **minden-ik-ünk**   azon   igyekezik, miként az érdemekben el
        every-PTV-POSS.1PL that.for strives   how   the merits.in   PTCL
           nyerhesse   az elsöséget
           gain.POT.SBJV.3SG the lead.ACC
        'each of us strives how to gain the lead in merits'   (Báróczi 1775:6)

What made the reanalysis of a third plural possessive suffix into a partitivity marker possible was the fact that the pro possessor cross-referenced by the suffix was phonologically empty; hence it could be understood as an implicit possessor absent in syntax, reconstructable only from the context or the situation. The possessive relations corresponding to 'some of them', 'which of them', 'each of them', 'the nicer one of them', 'the better one of them' all represent subset-set relations. The replacement of the third plural pronominal possessor with a general partitivity suffix preserves the information that the given set forms part of a superset, but the superset is not identified by the suffix (it can be inferred from the context).

    This change affected only the *-ik* allomorph of Old Hungarian possessive agreement; *-ok* and *-ek* have preserved their possessive agreement category. The functional split of the allomorphs was motivated morphophonologically. In Hungarian practically all inflectional suffixes participate in vowel harmony (they have front-vowel and back-vowel variants), which is not necessarily true of derivational suffixes. As opposed to the harmonizing *-ok/ek* allomorphs, the *-ik* suffix could combine with front- and back-vowel stems alike (cf. *szebb-ik* 'more beautiful one' vs. *jobb-ik* 'better one'); hence it was an appropriate candidate for the status of derivational suffix. The claim that *-ik* has become a derivational suffix is also supported by the fact that its distribution is not only categorially but also lexically constrained.

    The reanalysis of *-ik* from a third plural possessive agreement morpheme into a derivational suffix displays crucial symptoms of grammaticalization. The following diagnostics of grammaticalization emerge from the literature (cf. Fischer & Rosenbach 2000, Lehmann 2002, etc.): loss of weight (semantic bleaching, phonological erosion, loss of syntactic scope), increase in bondedness, and decrease in paradigmatic and syntagmatic variability. The evolution of the *-ik* suffix shows the majority of these features: loss of weight (semantic bleaching owing to the loss of referential index and the loss of phi-features, that is, the loss of referential identifiability; loss of syntactic scope in the extended projection of the noun phrase), loss of paradigmatic variability (the elimination of harmonizing allomorphs), and loss of syntagmatic variability (its distributional possibilities being restricted to pronouns, numerals, and comparative adjectives); see Figure 1.
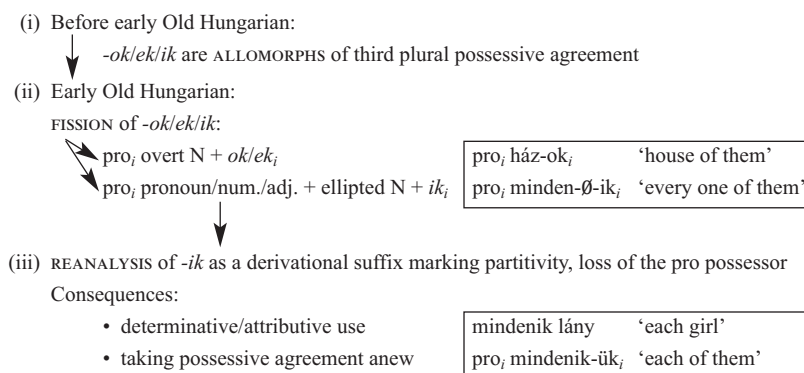
(i) Before early Old Hungarian:
      ↓ *-ok/ek/ik* are ALLOMORPHS of third plural possessive agreement

(ii) Early Old Hungarian:
    FISSION of *-ok/ek/ik*:
      pro$_i$ overt N + *ok/ek$_i$* | pro$_i$ ház-ok$_i$ 'house of them'
      pro$_i$ pronoun/num./adj. + ellipted N + *ik$_i$* | pro$_i$ minden-Ø-ik$_i$ 'every one of them'

(iii) REANALYSIS of *-ik* as a derivational suffix marking partitivity, loss of the pro possessor
     Consequences:
        • determinative/attributive use | mindenik lány   'each girl'
        • taking possessive agreement anew | pro$_i$ mindenik-ük$_i$ 'each of them'

FIGURE 1. The grammaticalization path of *-ik*.

The Hungarian possession suffix -*ja*/*je*, marking the presence of a lexical possessor or (when followed by a phonologically null third singular agreement suffix) the presence of a third singular pro possessor, is undergoing a similar grammaticalization process. It can be attached to an adjective, in which case it nominalizes the adjective and assigns the feature [partitive] to it.
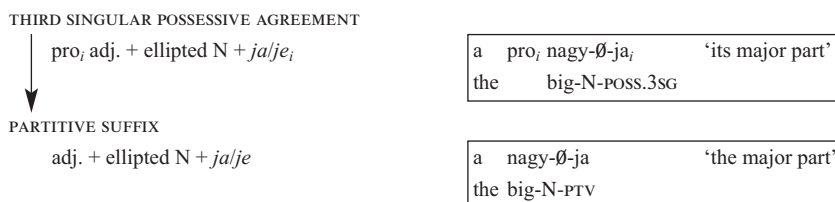
(35) a. Almát   termesztenek. **A nagy-já-t** eladják, **a puhá-já-ból**
     apple.ACC grow.3PL   the big-PTV-ACC sell.OBJ.3PL the soft-PTV-from
          almalét   csinálnak.
          juice.ACC make.3PL
       'They grow apples. The big ones they sell, from the soft ones they make apple juice.'

     b. A diákok   most érettségiznek. **Az okos-abb-ja**   egyetemre
       the students now   graduate   the smart-COMP-PTV university.to
          megy, **a gyengé-bb-je** szakmát   tanul.
          go   the weak-COMP-PTV vocation.ACC learn
       'The students are now graduating from high school. The brighter ones go to university, the weaker ones learn a vocation.'

The *ja*-marked adjectives in 35a could also be analyzed as proper possessive constructions containing an ellipted nominal head and a pro possessor coreferent with *alma* 'apple' in the preceding sentence (*a pro$_i$ puhá-Ø-ja$_i$*). *Alma* is used as a material name, hence is in the singular, and the construction *a pro$_i$ puhá-Ø-ja$_i$* means 'the soft kind of it'. In 35b, however, the implicit possessor is clearly plural; hence if the suffix on the adjectives were a possessive agreement morpheme coindexed with a plural pro, it would be the plural -*juk*/*jük*. The derivational suffix status of this type of -*ja*/*je* is also indicated by the fact that it is not fully productive: it does not sound acceptable with every adjective in the positive degree (see e.g. 36).

(36) Sokan eljöttek az előadásra. ?A **fiatal-já-nak**   tetszett, *az **idős-é-nek**
     many came   the show.to   the young-PTV-DAT pleased the old-PTV-DAT
          nem.
          not
       'Many people came to the show. The young ones liked it, the old ones didn't.'

In the case of the partitive -*ja*/*je*, too, the starting point of the grammaticalization process must have been the possessive construction, with a pro possessor having its phi-features cross-referenced by the possessive suffix. This pro could be reinterpreted as an implicit possessor with no syntactic representation, which resulted in the reanalysis of the agreement suffix as a partitivity marker encoding no specific phi-features; see Figure 2. Originally, it must have marked only entity-partitivity, that is, a part-whole relation between the referent of the *ja*/*je*-marked expression and an entity present in the situation or the context; however, since this entity could also be a group, it could easily be interpreted as the marker of an implicit subset-set relation as well. The nominalizing effect of the partitive -*ja*/*je* has been inherited from the original possessive suffix. The possessive -*ja*/*je* can combine only with a nominal head; hence an adjective merging with -*ja*/*je* is assumed to be the modifier of an ellipted noun. Despite its category change and function change, the partitive -*ja*/*je* has preserved this property.

Unlike the -*ik* suffix, -*ja*/*je* has not lost its original third singular possessive agreement function; it has extended it by a new role. The fact that the two functions have not been differentiated phonologically suggests that the grammaticalization of -*ja*/*je* into a

THIRD SINGULAR POSSESSIVE AGREEMENT

pro$_i$ adj. + ellipted N + *ja/je$_i$*

a	pro$_i$	nagy-Ø-ja$_i$	'its major part'
the		big-N-POSS.3SG	

PARTITIVE SUFFIX

adj. + ellipted N + *ja/je*

a	nagy-Ø-ja	'the major part'
the	big-N-PTV	

FIGURE 2. The grammaticalization path of *-ja/je*.

partitivity marker is less advanced than that of *-ik*. This conclusion is also supported by the fact that an adjective supplied with the partitive *-ja/je* must still be analyzed as a nominal projection, whereas an *ik*-marked adjective or pronoun can also function as the attribute or determiner of a lexical noun.

The facts of Udmurt summarized in §1 under (i)–(iv) are parallel to those observed in Hungarian. Like in Hungarian, the pronominal possessor in Udmurt possessive constructions is subject to pro-drop, because the suffix *-jez* cross-references its phi-features on the possessum. This is what opens the way to reanalysis: the phonologically empty pro can be identified with an implicit possessor absent in syntax, and *-jez* can be reinterpreted as a general partitivity marker.

Originally the *-jez* suffix appeared attached to an adjective or a determiner when the nominal head of the possessive construction was ellipted, as in example 11, repeated here as 37.

(37) Ulizy-vylizy   kyk bratjos, pokći-Ø-**jez** kuańer, bydʒʼym-Ø-**ez** uzyr.
       lived-were.3PL two brothers young-Ø-JEZ poor   old-Ø-JEZ   rich
          'There lived two brothers, the young one was poor, the old one was rich.'
                                                      (Serebrennikov 1963:133, cited in Nikolaeva 2003, ex. 23a)

In such cases, the nominal is ellipted because it is given information; the adjective represents the noun-phrase-internal focus. This is the source of the contrastivity of *-jez*. The referent of the ellipted noun phrase modified by the *jez*-marked adjective is assumed to be a member of a set of similar referents that differ only in the property denoted by the adjective. Hence the property denoted by the adjective contrasts the referent with the other referents of this set.

In 37, the possessor of the *jez*-marked adjectives cannot be a pro because a plural pro possessor coreferent with *kyk bratjos* 'two brothers' would elicit the third plural agreement suffix *-zi*. The referent to which the *jez*-marked element bears a part-whole relation is implicit, and *-jez* is no longer a third singular possessive suffix but a partitivity marker. Whether the *jez*-marked element is the possessum of a syntactically given possessor or represents a part of an implicit referent reconstructable from the context or the situation, it denotes an entity; that is, it is interpreted as a noun phrase with an ellipted head—hence the nominalizing effect of the contrastive *-jez*.

In the case of indefinite, interrogative, and universal pronouns, partitivity means that the set denoted by the pronoun is a subset of a contextually given set. Udmurt indefinite, interrogative, and universal pronouns all have *jez*-marked partitive variants. The meaning difference between the *jez*-marked and *jez*-less variants, shown by the pair list in 7 above, corresponds to the meaning difference of the Hungarian *ik*-marked and *ik*-less pronouns. The minimal pair in 8 above illustrated that generic statements can only be formulated with the *jez*-less pronoun *koťkud* 'all, every'; *koťkud-iz* is used to refer to the members of a familiar, deictically or contextually given, set. Here is another pair of

examples, involving *tros* and *tros-ez* 'many'. *Tros* in 38a is a counting quantifier, whereas *tros-ez* in 38b has a partitive reading.[9]

(38) a. **tros** kyj-jos: śöd ďźyr-o-jez no, čuž ďźyr-oj-ez no …
   many snake-PL black head-ADJ-JEZ too yellow head-ADJ-JEZ too
   'There are many snakes: black-headed ones, yellow-headed ones … '
   (Badretdinov 2007:9)

   b. Kazań-yn han-jos kivalty-ku, arća udmurt-jos pölyś **tros-ez**
   kazan-INE khan-PL reign-PTCP Arsk Udmurt-PL among many-JEZ
   bigerm-i-zy.
   become.tatar-PST-3PL
   'Among the Arsk Udmurts, many became Tatars during the reign of khans in Kazan.' (*Udmurt dunne*, 4 August 2009)[10]

Similarly to Hungarian *ik*-pronouns and *ik*-marked adjectives, Udmurt adjectives and determiners bearing *-jez* can modify overt, lexical nominals. Interestingly, whereas determiners and attributive adjectives in Udmurt show no obligatory number agreement and no case agreement with the nominal head, *jez*-marked determiners and adjectives determining/modifying an overt nominal bear the same number and case morphemes as the nominal, as in 39.

(39) a. ta-os-a-**z** gurt-jos-y
   that-PL-ILL-JEZ house-PL-ILL
   'to those houses'

   b. badʒ'ym-jos-a-**z** gurt-jos-y
   big-PL-ILL-JEZ house-PL-ILL
   'to the big houses' (Riessler 2016:130)

According to Riessler (2016), the agreement in number and case between the partitive-marked determiner/modifier and the head noun is evidence of a former appositive relation between them (a view in accordance with Emonds's (2012) derived-nominal analysis of agreeing adjectives). The structure in which the *jez*-marked determiner or adjective modifies an overt noun was originally an appositive construction combining a *jez*-marked ellipted nominal and a lexical noun phrase. Example 39a, for example, must have meant something like 'to those ones, to houses'. In present-day Udmurt, there is no syntactic or prosodic evidence of apposition; that is, the appositive structure must have been reanalyzed as a single noun phrase displaying determiner/adjective agreement.[11]

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[9] In Hungarian, the partitive *sok* 'many' and the counting *sok* are distinguished by their structural positions (see Szabolcsi 1997).

[10] Source: Udmurt National Corpora (http://web-corpora.net/UdmurtCorpus/search/?interface_language=en)

[11] In Hungarian, we have evidence of a development similar to that illustrated in 39c. In Middle Hungarian, the demonstrative determiner formed an appositive construction with the noun phrase it modified. They were occasionally separated by intervening material as in (i), but in Modern Hungarian they form a single nominal projection with the demonstrative acting as an agreeing DP-specifier, as in (ii); see Egedi 2018.

   (i) Middle Hungarian
   ar-rul is az bibliá-nak **rész-é-rűl**
   that-DEL too the Bible-DAT part-POSS-DEL
   'about that part of the Bible, too'

   (ii) Modern Hungarian
   a Bibliá-nak **ar-ról** a részé-**ről** is
   the Bible-DAT that-DEL the part-DEL too
   'about that part of the Bible, too' (Pázmány (1613), 473)

In Hungarian, the evolution of *-ik* from a possessive agreement suffix into a partitivity marker has been identified as a grammaticalization path because it involves loss of weight (the loss of referential index and the loss of phi-features; loss of syntactic scope), the loss of paradigmatic variability (the elimination of certain allomorphs), and a decrease in distributional possibilities. These properties also characterize the evolution of *-jez*, which we therefore also regard as a grammaticalization process.

In sum: the Udmurt contrastive *-jez* suffix has covered a grammaticalization path leading from possessive agreement marking to partitivity marking, as shown in Figure 3, similar to those of the Hungarian *-ik* and *-ja/je* suffixes. The path that *-jez* has covered is in between those covered by *-ik* and *-ja/je*: *-jez* can be attached to a pronoun or adjective modifying a lexical head like *-ik*, but it remained phonetically identical with the possessive original like *-ja/je*.

(i) THIRD SINGULAR POSSESSIVE AGREEMENT WITH AN OVERT OR COVERT N:

| pro$_i$ det./adj. N + *jez*$_i$ | pro$_i$ pokći pi-jez$_i$ | 'the young son of him' |
| pro$_i$ det./adj. [$_N$ Ø] + *jez*$_i$ | pro$_i$ pokći Ø-jez$_i$ | 'the young one of him' |

(ii) PARTITIVE SUFFIX:

det./adj. [$_N$ Ø] + *jez*:		
in appositive structure:	pokći Ø-jez	'the young one [of those]'
	pokći Ø-jez, aďami	'the young one [of those], a man'
on agreeing det./adj.:	pokći-jez aďami	'the young man [of those]'

FIGURE 3. The grammaticalization path of *-jez* from possessive agreement to partitive marking.

3.2. FROM PARTITIVITY MARKING TO OBJECT AND SUBJECT MARKING. The next phase in the evolution of *-jez*, from partitivity marking to object and subject marking, is intertwined with the evolution of differential object marking in Udmurt.

Some form of differential object marking is attested in most of the present-day Uralic languages. Its function has been discussed most thoroughly in connection with Khanty (Ostyak) by Nikolaeva (2001) (see also Dalrymple & Nikolaeva 2011, Bárány 2015a,b; as well as Skribnik 2001, Sipőcz 2015, and Virtanen 2015 on Mansi; É. Kiss 2013a, 2017 on Hungarian; Nikolaeva 2014 on Tundra Nenets; and Klumpp 2008 on Komi). As shown by Nikolaeva (2001), Khanty is a strict SOV language, where the subject also functions as the primary topic of the sentence. If the underlying subject is the intended focus, the obligatory coincidence of the subject and topic roles is achieved by passivization. The object is either focus or topic. (According to Nikolaeva (2001), it is a secondary topic with respect to the subject-topic, which is always present, and is primary to the object-topic in linear order and structural prominence.) As a focus, the object immediately precedes the verb, but follows the VP adjuncts in an [S (Adv) [$_{VP}$ O V]] structure. As a topic, it can precede VP-adjuncts; that is, it is extracted into VP-external position in an [S O (Adv) [$_{VP}$ V]] structure. Topical oblique internal arguments can also be promoted to object role and be preposed in front of the VP. Object marking, which is manifested in Khanty by an object agreement morpheme on the verb, encodes the topicality (the contextual givenness/specificity and the VP-external position) of the object. In some Uralic languages, such as Eastern Mansi, the topicality of the object is also marked on the object itself by a morpheme analyzed as an accusative case suffix. In example 40, the object of the main clause is new information, hence unmarked, eliciting no verbal agreement, whereas the object of the nonfinite clause is contextually given, hence accusative-marked, eliciting verbal agreement.

(40) Khanty

jänii *lyüüly* wöär-s-øm,   wisy **kom-mø** jåt tåt-øs-**l**-øm.

big mistake make-PST-1SG young man-ACC with bring-PST-OBJ-1SG

'I made a big mistake when I took the boy with me.'   (Virtanen 2015:36)

As argued in É. Kiss 2013a, 2017, differential object marking encoding the secondary topic status of the object is subject to an inverse topicality constraint in many languages. The constraint does not allow a secondary topic to be more prominent than the primary topic of the same clause in the person hierarchy 1SG > 1PL > 2SG > 2PL > 3SG > 3PL. This hierarchy has been claimed to represent a topicality/topic-worthiness hierarchy (Moravcsik 1974, Givón 1975, Kiparsky 2008, etc.). What the inverse topicality constraint ensures is that the structural hierarchy of the topicalized constituents should not contradict their ranking in the topicality hierarchy. An object that is of a higher person than the topicalized subject of the same clause cannot be topicalized; it can only be construed as a focus. Various Uralic languages, among them Hungarian, have preserved this constraint or the relics of this constraint. In Hungarian, for example, first- and second-person objects cannot elicit object-verb agreement (41). As is also clear from 41a, the first- and second-person singular object pronouns do not receive the accusative *-t* suffix—unlike the third-person object pronouns in 41b (É. Kiss 2017).[12]

(41) a. Péter lát-Ø   *engem*/*téged*.

Peter see-3SG me   /you

'Peter sees me/you.'

   b. Péter lát-**ja**-Ø   **ő-t** /**ő-k-et**.

Peter see-OBJ-3SG he-ACC/he-PL-ACC

'Peter sees him/them.'

Differential object-verb agreement, differential accusative marking, and the inverse topicality constraint represent different aspects of the same grammatical system, which serves to encode the topic versus focus role of the object and, more generally, the information structure of the clause. Although none of the present-day Uralic languages has preserved all three of these ingredients, each ingredient has survived in more than one language, which suggests that they can be reconstructed to Proto-Uralic (É. Kiss 2017). Differential object-verb agreement has survived, for example, in Khanty, Mansi, and the Samoyedic languages, and differential accusative marking has survived in Eastern Mansi and Komi, whereas the inverse topicality constraint has survived in Hungarian, Eastern Khanty, and the Samoyedic languages.

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[12] The first- and second-person singular pronominal objects bear a first singular and second singular possessive agreement suffix, respectively, preceded by a *-g-* of unclear (perhaps epenthetic) function.

(i) en-g-em   té-g-ed

I-*g*-POSS.1SG   you-*g*-POSS.2SG

'me'   'you_SG-ACC'

They can receive an accusative *-t* only in some dialects (*engem-et*, *téged-et*). The possessive suffix of Hungarian pronominals is of Uralic inheritance. The first- and second-person plural pronouns have also preserved it before the accusative case ending, as in (ii). In some dialects, the first-person plural pronoun bears a first plural possessive ending in its basic nominative form as well, as in (iii).

(ii) mi-nk-et   ti-tek-et

we-POSS.1PL-ACC   you-POSS.2PL-ACC

'us'   'you_PL-ACC'

(iii) mi-nk

we-POSS.1PL

'we-NOM'

In the system that can be reconstructed to Proto-Uralic (É. Kiss 2017), and which has partially been preserved in present-day Uralic languages, the object is marked by a case suffix and by verbal agreement if it is topical. A topical object is specific, having a referent identical with, or representing a subset of, a previously introduced referent, and it occupies a VP-external topic position in sentence structure. The semantic-pragmatic content of topicality is familiarity, which corresponds in present-day Khanty to contextual activation (Nikolaeva 2001). A definite noun phrase introducing a new referent into the domain of discourse does not trigger agreement—as shown by the minimal pair in 42.

(42) a. Q: What happened?
        A: ma tam kalaŋ   *we:l-s-əm*.   (Khanty)
            I   this reindeer kill-PST-1SG
            'I killed this reindeer.'
     b. Q: What did you do to this reindeer?
        A: ma tam kalaŋ   **we:l-s-e:m**.
            I   this reindeer kill-PST-OBJ.1SG
            'I killed this reindeer.'   (Nikolaeva 2001, ex. 14)

Agreeing objects in Nenets must also be specific, that is, contextually given.[13]

(43) **Wera-m**, xīb'a lad∘ə-da?   (Tundra Nenets)
     Wera-ACC who hit-OBJ.3SG
       'Who hit Wera?'   (Nikolaeva 2014:208)

In Hungarian, object-verb agreement has been generalized from topical objects to all definite objects, irrespective of their structural position. In Old and Middle Hungarian texts, however, we can still find sporadic examples of topical specific indefinite objects triggering verbal agreement (see É. Kiss 2015:58). The pronoun *ki* 'who', for example, is indefinite; it serves as the kernel of all indefinite pronouns, for example, *minden-ki* 'everybody, lit. every-who', *vala-ki* 'somebody, lit. some-who', *bár-ki* 'anybody, lit. any-who', and when used as an object, it elicits no verbal agreement. When *ki* functions as a relative pronoun, it refers back to a previously introduced referent, and it occupies a topic position (Kenesei 1994:304). In Old and Middle Hungarian, the topicality of the relative *kit* 'whom' occasionally still results in object-verb agreement, as in 44.

(44) Old Hungarian
     Kit   Amasias kiral auag pap   gakorta **getre-tt-e-Ø**   čapasockal
     whom Amasias king or   priest often   torture-PST-OBJ-3SG blows.with
        'whom king or priest Amasias often tortured with blows'
                                                             (Vienna Codex (1416), 214)

In Modern Hungarian (and in the majority of Old and Middle Hungarian cases, as well), verbal agreement is elicited by definite objects, whether they convey given or new information.

(45) János **kinek   a   könyvé-t veszített-e-Ø** el?   (Hungarian)
     John who.DAT the book-ACC lost-OBJ-3SG PTCL
        'Whose book did John lose?'

The differential accusative marking preserved in Eastern Mansi and Komi has attrited in some of the Uralic languages and has been generalized in others. In Khanty, for example, only objects represented by personal pronouns are case-marked. In Hungarian, accusative marking has been extended from topical objects to all objects (É. Kiss

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[13] As the subject question in 43 illustrates, objects in Nenets—unlike Khanty objects—can also function as primary topics.

2013b)—except for first- and second-person singular objects as a relic of the inverse topicality constraint.[14] Thus the hypothesized system of differential object-verb agreement and differential accusative marking inherited from Proto-Uralic has evolved in Hungarian as in Figure 4.
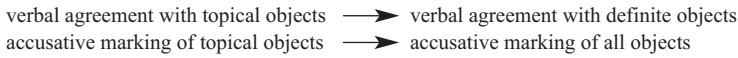
verbal agreement with topical objects ⟶ verbal agreement with definite objects
accusative marking of topical objects ⟶ accusative marking of all objects

FIGURE 4. The evolution of differential object marking in Hungarian.

These processes, too, can be regarded as instances of grammaticalization. Object-verb agreement and accusative marking, originally motivated by discourse factors, came to be dependent on formal syntactic conditions, showing an increase in obligatoriness and paradigmaticity, which is a further symptom of grammaticalization processes, according to Lehmann (2002).

We argue that Udmurt shares the property of differential object marking: it displays differential accusative marking, and its accusative suffix is -*jez*. The suffix -*jez* replaced the lost Proto-Permic accusative marker *-*m*. Csúcs (2005) assumes that the third-person singular possessive suffix (more precisely, its reconstructed form *-*es*/-*is*) was already used to mark definite objects in the Proto-Permic language, and it grammaticalized as the suffix of accusative case from that function.

In present-day Udmurt, not only contextually activated objects must be *jez*-marked but also uniquely identifiable objects, whether they are contextually given or new, among them proper names, personal and demonstrative pronouns, and lexical objects bearing a possessive agreement suffix, as is seen in the examples in 46.

(46) a. Mon *ton/**ton-e**   magazinyś adʒ'i.
        I   you/you-ACC shop.ABL   see.PST.3SG
          'I saw you in the shop.'
     b. Mon *Saša/**Saša-jez**   magazinyś adʒ'i.
        I   Sasha/Sasha.ACC shop.ABL   see.PST.3SG
          'I saw Sasha in the shop.'
     c. Mon *so   kńiga/**so(-ze) kńiga-jez** utćaj   otyn.
        I   that book/that-ACC book-ACC search.PST.1SG there
          'I searched for that book.'

The accusative ending of the demonstrative in 46c is optional. The caseless demonstrative is a simple determiner ('that book'), whereas the accusative-marked demonstrative forms an appositive construction with the *jez*-marked nominal ('that one, the book').

Generic objects, such as that in 47a, are also marked by -*jez*, as opposed to existential objects, such as that in 47b.

(47) a. Ug   jaratky   **ď'eť'ekť'ivnoj roman-jos-yz**.
        NEG.PRS.1SG like.CNV.SG detective   novel-PL-ACC
          'I don't like detective novels.'
     b. *D'eť'ekť'ivnoj roman-jos* śeď'ti   biblioť'ekayś.
        detective   novel-PL find.PST.1SG library.ABL
          'I found detective novels in the library.'

---

[14] The generalized accusative suffix of Hungarian, -*t*, is different from the -*m* object marker reconstructed for Proto-Uralic. According to Beke (1931), it derives from the second singular possessive morpheme—which suggests that the evolution from possessor marking to accusative marking to be reconstructed for Udmurt took place in Hungarian, as well.

We also find specific indefinite objects marked by *-jez* (Tánczos 2016:44–48), as in 48.

(48) Mon odig **puny-jez** utćaśko.
    I   one dog-ACC search.PRS.1SG
    'I am searching for a (specific) dog.'

The causee argument of causative constructions also tends to be *jez*-marked (as was illustrated in 13 above), obviously because it is specific/familiar in practically all conceivable situations.

These examples indicate that the licensing condition of object marking in Udmurt is based on a broader concept of familiarity/specificity than the licensing condition of object marking preserved in Khanty; an object is *jez*-marked not only when its referent is contextually activated or present in the discourse situation but also when it is part of the universe of the discourse participants. The topic position of the object, however, is no longer a condition of *jez*-marking. That is, accusative marking in Udmurt has undergone a further change (similar to, though not quite identical with, that attested in Hungarian): in addition to extending the notion of specificity to unique objects and generics, Udmurt has also extended accusative marking from topical specific objects to all specific objects.

What makes *-jez* suitable for the role of specific object marking is that the semantic-pragmatic content of specificity/familiarity subsumes partitivity. According to Enç (1991:7), specific noun phrases triggering differential accusative marking in Turkish are interpreted semantically as partitive—given that a noun phrase is specific if its referent is in a subset-superset relation with a referent that is already present in the domain of discourse.[15] (In the case of definite noun phrases, this condition is trivially satisfied, as a set is a subset of itself.) Specificity is a wider notion than partitivity inasmuch as a noun phrase counts as specific also when its referent bears a subset relation to a referent not present in the domain of discourse but present in the universe of the discourse participants.

As was illustrated in 18–19 above, *jez*-marking can also target subjects. The *jez*-marked subjects cited in the literature and those occurring in our corpus all involve topical subjects. The *jez*-marking of topical subjects is not general though. It is attested when the subject is in a part-whole relation to a previously mentioned referent, that is, when it is partitive, as illustrated by the following nineteenth-century example.

(49) sokĭ ad'amilän ńań tuž udaltoz   vĭläm - užаtäk veś
    then man.GEN grain very grow.FUT.3SG be.PST.3SG workless whole
          kuro-ez-no, **šep-ez**-no čisto ńań luoz   vĭläm.
          stem-JEZ-too ear-JEZ-too all   grain become.FUT.3SG be.PST.3SG
    'At that time, people's grain would yield very much, without work the
    stem and the ear would become full of grains.'   (Munkácsi 1887, text III/4)

-jez is also common on the subjects of locative sentences, whose referent is in a part-whole relation with the location—as was seen in 18a above and also illustrated in 50. Example 50a would be appropriate in a situation where the question under discussion is which of the attributes of a city the given city has.

(50) a. Kar-yn **zoopark-ez** vań.
      city-INE zoo-3SG   is
       'In the city, a zoo exists.'   (Edygarova 2015:276, ex. 15)

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[15] The term 'specific' also has other meanings; see Farkas (2002), who distinguishes partitive, epistemic, and scopal specificity.

    b. Sad-yn   **pispu-os-yz** śaśkajaśko.
      garden-INE tree-PL-JEZ blossom.PRS.3PL
         'In the garden, the trees are blossoming.'

In 18b,c, repeated here as 51a,b, the referents of the subjects represent part of the physical environment of the discourse (according to Nikolaeva (2003), they are available for direct sensory perception).

  (51) a. **Kalyk-ez**   tros.
      people-JEZ many
         'The people (here) are many.'   (Winkler 2001:32)
    b. **Gureź-ez**   žužyt.
      mountain-JEZ high
         'The mountain (here) is high.'

The fact that Udmurt employs the third singular (rather than third plural) possessive suffix for the marking of partitivity may have facilitated the extension of partitivity marking to this type of part-whole relation.

    We assume that the partitive *-jez*—while preserving its partitivity-marking role—has passed through a grammaticalization path similar to the evolution of Hungarian object-verb agreement and accusative marking, as in Figure 5.
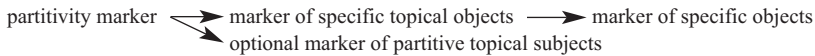
FIGURE 5. The grammaticalization path of *-jez* from partitivity marking to specific object marking.

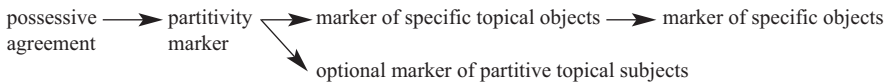The complete grammaticalization path covered by *-jez* is summarized in Figure 6.

FIGURE 6. The grammaticalization path of *-jez* from possessor marking to specific object marking.

The stages of the grammaticalization process that served as input to reanalysis or reinterpretation (possessor marking and partitivity marking) also persist in their original functions. This does not hold of the stage of marking specific topical objects, which underwent widening, as a result of which the new function subsumed the previous role.

    The question still remains of whether grammaticalization is the only possible explanation of the Udmurt and Hungarian phenomena presented above. Can it not be the case that the possessive relation was already a multifunctional relation in Proto-Uralic, and the various functions of possessive agreement in present-day Udmurt, Hungarian, and many other Uralic languages continue the original situation—as was suggested by Fraurud (2001) and Gerland (2014)? We believe that the changes documented in the written history of Hungarian clearly demonstrate that the nonpossessive functions of possessive agreement evolved in the course of time. The fact that *-jez* is not the original accusative morpheme inherited from Proto-Uralic also supports the assumption that it assumed its object-marking role as a result of function extension. The parallelism of the developments attested in several Uralic languages must be due to the fact that these Uralic languages all share the condition of the change from possessor marking to general partitivity marking: the possibility of the pro-drop of a pronominal possessor, whereby it becomes silent, hence ignorable.

    4. CONCLUSION. This article has argued that the seemingly different roles that the suffix *-jez* plays in Udmurt grammar descend from the same ancestor and represent subse-

quent stages along a developmental path. The primary function of -*jez* is to cross-reference a third singular possessor on the possessum. The evolution of additional functions must have been set off by the fact that the possessor can be a phonologically empty pro, which could easily be reinterpreted as an implicit possessor not represented syntactically, causing the -*jez* suffix to be reanalyzed as a partitivity marker. When attached to the determiner or modifier of an ellipted nominal, the partitive suffix assumed a contrastive interpretation. On objects and subjects, it marked topicality, that is, contextual givenness and specificity. Topical object marking has evolved into specific object marking—with no respect to the discourse status of the object.

We have argued that the developmental path of -*jez*, leading from possessive agreement through partitivity marking to specific object marking, represents a grammaticalization process. This possibility was already raised by Fraurud (2001), but she discarded it for two reasons. First, the process does not display every characteristic feature of grammaticalization. The starting point of a typical grammaticalization path is a lexical item, which develops into a grammatical function word, undergoing semantic bleaching, morphological reduction, and phonological erosion on the way, and becoming obligatory in specific contexts. Indeed, the starting point of the change we have surveyed is not a lexical word but an agreement suffix; however, it is a suffix cross-referencing a lexical noun phrase, encoding its phi-features. That is, although it is not a lexical item with a rich descriptive content, it is a morpheme having person and number features, capable of coreferring, assumed to be cognate with the third singular personal pronoun (Kozmács 2006). The Uralic possessive agreement suffix occupies a prominent structural position in the extended nominal projection that is comparable to the position of I/Agr in the extended verbal projection (cf. Szabolcsi 1983). In the course of its developmental path, -*jez* has undergone semantic simplification (loss of phi-features), morphological reduction (loss of some allomorphs), and—at least during the change from possessor marking to partitivity marking—loss of scope in the extended nominal projection. It has become obligatory in some of its new roles; for example, specific existential and universal pronouns, denoting subsets of a contextually given set, or objects that are necessarily specific for semantic or contextual reasons (e.g. proper names or causee arguments in causative structures) are obligatorily *jez*-marked.

The other reason why Fraurud (2001) believed the grammaticalization hypothesis to be unverifiable was that the history of Udmurt has not been known long enough for any changes to be documented. The sister languages she examined provide no clues for the reconstruction of a developmental path, either. Fraurud did not, however, study Hungarian. We have shown that Hungarian, a sister language with an 800-year documented history, does provide evidence of changes similar to the two phases of the hypothesized evolution of the Udmurt third singular possessive agreement suffix. In the historical documents of Hungarian, we can keep track of how the third-person possessive agreement developed into a partitivity marker, and how object marking (via object-verb agreement), first targeting topical (i.e. contextually given) specific objects, came to be extended to all definite objects, with no regard to their structural position and information status.

If our analysis is tenable, it means that the notion of grammaticalization can be extended to a further area of diachronic linguistics: cases of apparently accidental morpheme syncretism can be explained as outputs of a 'layered' grammaticalization process, whose intermediate stages have also been preserved.

<div style="text-align:center">SOURCES</div>

BADRETDINOV, ULFAT. 2007. *Čušjal vordiśke veńjostek: Povestjos, verosjos, pjjesaos* [A hedgehog is born without spikes: Stories, novels, plays]. Iževsk: Udmurtia.

BÁRÓCZI, SÁNDOR. 1775. *Erköltsi levelek*. Vienna: Trattner.

Bod Codex. Early 16th century. *Bod-kódex*, ed. by István Pusztai. Facsimile. Budapest: Magyar Nyelvtudományi Társaság, 1987.

Kazinczy Codex. 1526–1541. *Kazinczy-kódex*, ed. by Zsuzsa Kovács. Budapest: Magyar Nyelvtudományi Társaság, 2003.

Munich Codex. 1416/1466. *Müncheni kódex*, ed. by Antal Nyíri. Critical edition with the corresponding Latin text. Budapest: Akadémiai Kiadó, 1971.

Munich Record. Early 16th century. Magyar nyelvemlék a XVI. század elejéről a Bajor Nemzeti Könyvtárban [Hungarian language record from the beginning of the 16th century in the Bavarian National Library], by Gábor Sarbak. *Magyar Nyelv* 101.147–61, 2005.

MUNKÁCSI, BERNÁT. 1887. *Votják népköltészeti hagyományok*. Budapest: Magyar Tudományos Akadémia.

PÁZMÁNY, PÉTER. 1613. *Igazságra vezérlő kalauz*. Pozsony. *Igazságra vezérlő kalauz*, ed. by Ignác Kiss. Budapest: M. Kir. Tud.-egyetemi Nyomda, 1897.

SZABATKAI, MIHÁLY. 1515. Cantio Petri Berizlo. *A magyar világi líra kezdetei*, ed. by Rabán Gerézdi, 64–66. Budapest: Akadémiai Kiadó, 1962.

Udmurt dunne. Newspaper. 4 August 2009.

VAJDA, SÁMUEL. 1773. *A mi urunk Jesus Kristusnak élete*. Pozsony: Landerer.

Vienna Codex. 1416/1450. *Bécsi kódex*, ed. by Gedeon Mészöly. Budapest: MTA, 1916.

REFERENCES

BÁRÁNY, ANDRÁS. 2015a. Inverse agreement and Hungarian verb paradigms. *Approaches to Hungarian 14: Papers from the 2013 Piliscsaba Conference*, ed. by Katalin É. Kiss, Balázs Surányi, and Éva Dékány, 37–64. Amsterdam: John Benjamins.

BÁRÁNY, ANDRÁS. 2015b. *Differential object marking in Hungarian and the morphosyntax of case and agreement*. Cambridge: Cambridge University dissertation.

BEKE, ÖDÖN. 1931. A magyar tárgyrag eredetéhez [On the origin of the Hungarian accusative suffix]. *Magyar Nyelvőr* 60.63–64.

BENKŐ, LORÁND. 1992. *A magyar nyelv történeti nyelvtana II/1*. Budapest: Akadémiai Kiadó.

COLLINDER, BJÖRN. 1960. *Comparative grammar of the Uralic languages*. Stockholm: Almqvist och Wiksell.

CSÚCS, SÁNDOR. 1980. *Chrestomathia Votjacica*. Budapest: Tankönyvkiadó.

CSÚCS, SÁNDOR. 2003. A votják tárgyról [On the Votjak object]. *Nyelvtudományi Közlemények* 100.126–36.

CSÚCS, SÁNDOR. 2005. *Die Rekonstruktion der permischen Grundsprache*. Budapest: Akadémiai Kiadó.

DALRYMPLE, MARY, and IRINA NIKOLAEVA. 2011. *Objects and information structure*. Cambridge: Cambridge University Press.

É. KISS, KATALIN. 2002. *The syntax of Hungarian*. Cambridge: Cambridge University Press.

É. KISS, KATALIN. 2013a. The inverse agreement constraint in Uralic languages. *Finno-Ugric Languages and Linguistics* 2.2–21. Online: http://real.mtak.hu/id/eprint/7055.

É. KISS, KATALIN. 2013b. From Proto-Hungarian SOV to Old Hungarian Top Foc V X*. *Diachronica* 30.202–31. DOI: 10.1075/dia.30.2.03kis.

É. KISS, KATALIN. 2015. A tárgyas ragozás kialakulása [The evolution of the objective conjugation]. *Magyar történeti mondattan*, ed. by Katalin É. Kiss, 53–59. Budapest: Akadémiai Kiadó.

É. KISS, KATALIN. 2017. The person-case constraint and the inverse agreement constraint are manifestations of the same inverse topicality constraint. *The Linguistic Review* 34.365–96. DOI: 10.1515/tlr-2017-0004.

É. KISS, KATALIN. 2018. Possessive agreement turned into a derivational suffix. *Boundaries crossed, at the interfaces of morphosyntax, phonology, pragmatics and semantics*, ed. by Huba Bartos, Marcel den Dikken, and Tamás Váradi, 87–105. Dordrecht: Springer.

EDYGAROVA, SVETLANA. 2010. *Kategorija possessivnosti v udmurtskom jazyke* [The category of possession in the Udmurt language]. Tartu: Dissertationes Philologiae Uralicae Universitatis Tartuensis.

EDYGAROVA, SVETLANA. 2015. Negation in Udmurt. *Negation in Uralic languages*, ed. by Matti Miestamo, Anne Tamm, and Beáta Wagner-Nagy, 265–91. Amsterdam: John Benjamins.

EGEDI, BARBARA. 2018. Word order change at the left periphery of the Hungarian noun phrase. *Word order change* (Oxford studies in diachronic and historical linguistics), ed. by Ana Maria Martins and Adriana Cardoso, 88–104. Oxford: Oxford University Press.

EMONDS, JOSEPH. 2012. Blackjack! 21 arguments that agreeing adjectives are derived nominals. *Of grammar, words, and verses: In honor of Carlos Piera*, ed. by Esther Torrego, 171–200. Amsterdam: John Benjamins.

ENÇ, MÜRVET. 1991. The semantics of specificity. *Linguistic Inquiry* 22.1–25. Online: https://www.jstor.org/stable/4178706.

FARKAS, DONKA F. 2002. Specificity distinctions. *Journal of Semantics* 19.213–43. DOI: 10.1093/jos/19.3.213.

FISCHER, OLGA, and ANETTE ROSENBACH. 2000. Introduction. *Pathways of change: Grammaticalization in English*, ed. by Olga Fischer, Anette Rosenbach, and Dieter Stein, 1–37. Amsterdam: John Benjamins.

FRAURUD, KARI. 2001. Possessive with extensive use: A source of definite articles? *Dimensions of possession*, ed. by Irène Baron, Michael Herslund, and Finn Sørensen, 243–67. Amsterdam: John Benjamins.

GERLAND, DORIS. 2014. Definitely not possessed? Possessives with non-possessive function. *Frames and concept types: Applications in language and philosophy*, ed. by Thomas Gamerschlag, Doris Gerland, Rainer Osswald, and Wiebke Petersen, 269–92. Dordrecht: Springer.

GIVÓN, TALMY. 1975. Topic, pronoun, and grammatical agreement. *Subject and topic*, ed. by Charles N. Li and Sandra A. Thompson, 149–88. New York: Academic Press.

HAJDÚ, PÉTER. 1966. *Bevezetés az uráli nyelvtudományba*. Budapest: Tankönyvkiadó.

HOPPER, PAUL J. 1991. On some principles of grammaticalization. *Approaches to grammaticalization, vol. 1: Theoretical and methodological issues*, ed. by Elizabeth Closs Traugott and Bernd Heine, 17–35. Amsterdam: John Benjamins.

JANDA, GWEN EVA. 2015. Northern Mansi possessive suffixes in non-possessive function. *Journal of Estonian and Finno-Ugric Linguistics* 6.243–58. DOI: 10.12697/jeful.2015 .6.2.10.

KEL'MAKOV, VALERIJ. 2001. O kategorii opredelennosti/noepredelennosti v udmurtskom jazyke (K postanovke voprosa) [On the category of definiteness/indefiniteness in the Udmurt language (Asking the question)]. *International Symposium on Deictic Systems and Quantification in Languages Spoken in Europe and North and Central Asia: Abstracts*, ed. by Bernard Comrie et al., 179–81. Izhevsk: Udmurt State University.

KENESEI, ISTVÁN. 1994. Subordinate clauses. *Syntax and semantics, vol. 27: The syntactic structure of Hungarian*, ed. by Ferenc Kiefer and Katalin É. Kiss, 275–353. San Diego: Academic Press.

KIPARSKY, PAUL. 2008. Universals constrain change, change results in typological generalizations. *Linguistic universals and language change*, ed. by Jeff Good, 23–53. Oxford: Oxford University Press.

KLUMPP, GERSON. 2008. *Differentielle Objektmarkierung und Informationsstruktur in Dialekten des Komi*. Munich: Ludwig-Maximilians-Universität München Habilitationsschrift.

KOZMÁCS, ISTVÁN. 1994. A votják műveltető szerkezetekről [On causatives in Votjak]. *Folia Uralica Debreceniensia* 3.41–46.

KOZMÁCS, ISTVÁN. 2006. A birtokos személyragozás és a birtokos szerkezetek [Possessive agreement and possessive constructions]. *Uralisztika Uráli nyelvészet*, ed. by István Kozmács, 41–65. Budapest: Bölcsész Konzorcium.

LEHMANN, CHRISTIAN. 1998. *Possession in Yucatec Maya*. Munich: LINCOM Europa.

LEHMANN, CHRISTIAN. 2002. *Thoughts on grammaticalization*. 2nd revised edn. Erfurt: Seminar für Sprachwissenschaft der Universität.

LEINONEN, MARJA. 1998. The postpositive particle *-to* of Northern Russian dialects compared with Permic languages (Komi Zyryan). *Studia Slavica Finlandensia* 25.74–90.

MORAVCSIK, EDITH. 1974. Object–verb agreement. *Working Papers on Language Universals* 15.25–140.

NIKOLAEVA, IRINA. 2001. Secondary topic as a relation in information structure. *Linguistics* 39.1–49. DOI: 10.1515/ling.2001.006.

NIKOLAEVA, IRINA. 2003. Possessive affixes in the pragmatic structuring of the utterance: Evidence from Uralic. *International Symposium on Deictic Systems and Quantification*

in Languages Spoken in Europe and North and Central Asia: Collection of papers, ed. by Pirkko Suihkonen and Bernard Comrie, 130–45. Izhevsk: Udmurt State University, and Leipzig: Max Planck Institute for Evolutionary Anthropology. [Page numbers cited from manuscript version of paper.]

Nikolaeva, Irina. 2014. *A grammar of Tundra Nenets*. Berlin: De Gruyter Mouton.

Raun, Alo. 1988. Proto-Uralic comparative historical morphosyntax. *The Uralic languages: Description, history and foreign influences*, ed. by Denis Sinor, 555–75. Leiden: Brill.

Rédei, Károly. 1988. Die syrjänische Sprache. *The Uralic languages: Description, history and foreign influences*, ed. by Denis Sinor, 111–30. Leiden: Brill.

Rédei, Károly. 2000. Még egyszer a permi accusativusról. *Nyelvtudományi Közlemények* 101.125–29.

Riessler, Michael. 2016. *Adjective attribution*. Berlin: Language Science.

Schlachter, Wolfgang. 1960. *Studien zum Possessivsuffix des Syrjänischen*. Berlin: Akademie.

Serdobolskaya, Natalia; Timofey Arkhangelskiy; and Maria Usacheva. 2019. Grammaticalization of possessive markers in the Beserman dialect of Udmurt. *Linguistic possession: New insights from the languages of Europe and North and Central Asia*, ed. by Lars Johanson, Irina Nevskaya, and L. F. Mazzitelli. Amsterdam: John Benjamins, to appear.

Serebrennikov, Boris A. 1963. *Istoricheskaja morfologija permskix jazykov* [The historical morphology of Permic languages]. Moscow: Akademija Nauk.

Sinor, Denis. 1978. The nature of possessive suffixes in Uralic and Altaic. *Linguistic and literary studies in honor of A. A. Hill, vol. 3: Historical and comparative linguistics*, ed. by Mohammad Ali Yazayery, Edgar C. Polomé, and Werner Winter, 257–66. The Hague: Mouton.

Sipőcz, Katalin. 2015. Tárgyjelölés a manysi ditranzitív szerkezetekben [Object marking in Mansi ditransitive constructions]. *Nyelvelmélet és dialektológia 3*, ed. by Katalin É. Kiss, Attila Hegedűs, and Lilla Pintér, 234–45. Budapest: Szent István Társulat.

Skribnik, Elena. 2001. Pragmatic structuring in Northern Mansi. *Congressus Nonus Internationalis Fenno-ugristarum, Pars IV. Dissertationes sectionum: Linguistica III*, ed. by Tönu Seidenthal. Tartu: Tartu University.

Szabolcsi, Anna. 1983. The possessor that ran away from home. *The Linguistic Review* 3.89–102. DOI: 10.1515/tlir.1983.3.1.89.

Szabolcsi, Anna. 1997. Strategies for scope taking. *Ways of scope taking*, ed. by Anna Szabolcsi, 109–54. Dordrecht: Kluwer.

Tánczos, Orsolya. 2016. *Causative constructions and their syntactic analysis*. Budapest: Pázmány Péter Catholic University dissertation.

Virtanen, Susanna. 2015. *Transitivity in Eastern Mansi*. Helsinki: University of Helsinki dissertation.

Winkler, Eberhard. 2001. *Udmurt*. (Languages of the world/materials 212.) Munich: LINCOM Europa.

Winkler, Eberhard. 2011. *Udmurtische Grammatik*. Wiesbaden: Harrassowitz.

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