

Reconstructing Proto-Ugric and Proto-Uralic Object Marking

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Abstract

This paper demonstrates that syntactic changes in the feature specifications of functional heads can be traced back to undocumented stages of languages. It reconstructs the object–verb relation in Proto-Uralic – by means of the comparative method adapted to syntax. Present-day Uralic languages display differential object–verb agreement and/or differential accusative marking. In double-marking languages, the head licensing object–verb agreement may be different from that licensing accusative-marking. The licensing conditions of object marking are also different across languages. It is argued that the Uralic parent language had both object-verb agreement and accusative assignment licensed by a TP-external functional head with a [topic] feature. The [topic] feature of this head has been reanalyzed as [specific] in Udmurt, and as [definite] in Hungarian – via a natural extension of the content of the notion of topicality. In languages with generalized accusative assignment, i.e., in Hungarian and Tundra Nenets, the licensing of object agreement and accusative marking have been divorced; the latter has come to be associated with *v*.

Keywords: differential object marking (DOM), object–verb agreement, accusative, syntactic reconstruction, comparative method

1. Introduction

According to the Borer–Chomsky Conjecture (Borer 1984), the parametric values of grammars are expressed in the functional lexicon. Under this assumption, syntactic changes involve changes in the feature specifications of functional heads. It is an open question whether changes of this type, affecting features of morphologically real or abstract syntactic heads, can be traced back to undocumented stages of languages (cf. the debate of Harris and Campbell (2002), Lightfoot (2002), Ferraresi and Goldbach (2008), etc.). This paper argues that the reconstruction of the featural content of functional projections is possible, and the method to be employed is a version of the comparative method, where the correspondence set consists of the features licensed by the same functional head across related languages. (The cognateness, i.e., the material identity, of the morphological realizations of the features compared is not required). Linguistic fossils bearing imprints of agreement relations in earlier periods of the given language are also potential sources of reconstruction.

This is illustrated by a case study reconstructing object marking in Proto-Uralic. Present-day Uralic languages display various versions of differential object marking. They differ in whether they mark the grammatical relation ‘object’ by an agreement suffix on the verb, or by a case suffix on the object nominal, or by both, and they also differ in the conditions, i.e., the licensing features, of object marking. In double-marking languages, the head licensing object–verb agreement may be different from that licensing accusative-marking. In order to reconstruct the object–verb relation in Proto-Uralic, correspondence sets will be formed of the heads licensing object–verb agreement and of those licensing accusative-marking in the daughter languages. It will be argued that the syntactic correspondence sets should include not only productive constructions but also linguistic fossils cognate with them.

The languages to be compared are languages of the Ugric, Permic, and Samoyedic branches of the Uralic family. In the generally accepted family tree of the Uralic languages, these subgroups form distant branches, hence their shared properties are likely to have been inherited from the Uralic parent language.

The paper is organized as follows: Section 2 identifies the feature specification of the functional head responsible for object–verb agreement in various Uralic languages. Section 3 searches for evidence of the Inverse Agreement Constraint, a concomitant of object–verb agreement licensed by a [topic] feature. Section 4 examines the feature specification of the functional heads involved in accusative marking in the languages in question. Section 5 points out traces of an Inverse Accusative Marking Constraint, a symptom of accusative licensing by a [topic] functional head. Section 6 sets up the correspondence sets, and reconstructs object marking in Proto-Uralic. Section 7 is a Conclusion.

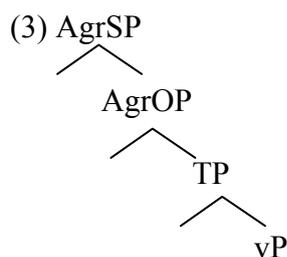
2. Object–verb agreement

The languages of the Ugric and the Samoyedic branches of the Uralic language family all display differential object–verb agreement. The object agreement suffix (OBJ) appears sandwiched between the tense suffix and the subject agreement suffix – see the Hungarian and Khanty examples in (1a,b), unless the object and subject agreement suffixes are represented by a portmanteau morpheme crossreferencing both the subject and the object as in (2a,b).

- | | |
|--|---|
| (1) a. <i>lát-t-á-tok</i> (Hungarian)
see-PAST-OBJ-2PL
'(you _{PL}) saw (it)' | b. <i>we:l-s-e:m</i> (Khanty)
kill-PAST-OBJ-1SG
'(I) killed (it)' |
| (2) a. <i>lát-om</i> (Hungarian)
see-OBJ.1SG
'(I) see (it)' | b. <i>tu-s-t</i> (Khanty)
take-PAST-OBJ.1SG
'(s/he) took (it)' |

Hungarian and Khanty are pro-drop languages, and the covert pronominal subjects and objects can be identified by the agreement suffixes on the verb.

The morphosyntactic structure of the Hungarian verbal projection proposed by Bartos (2001), cited under (3), correctly predicts the order of the morphemes in the finite verb for all the Uralic languages examined in this paper; the V+T+AgrO+AgrS order is the result of verb movement through T and AgrO to AgrS.



In the current version of Minimalism, agreement morphemes are assumed not to project a phrase but to be present in the feature matrix of independently motivated functional heads. Subject agreement is associated with T, and object agreement is associated with v. In the case of the Uralic languages in question, the labelling of the functional heads hosting the subject and object agreement morphemes is less obvious. In most of the languages to be discussed, these heads also have clear discourse functions. In other languages, diachronic changes may have somewhat obscured the original discourse function, extending or restricting its content.

2.1. Object–verb agreement in Hungarian

In Hungarian linguistics, there is a consensus that verbal agreement is elicited by definite objects, however, it is debated whether the relevant notion of definiteness is a syntactic feature (Bartos 1999, 2001) or a lexical property (Coppock and Wechsler 2012). In Bartos's approach, the AgrO head has a [+definite] feature. Bartos assumes the noun phrase theory of Zamparelli (2000), according to which predicative noun phrases only project a NP, indefinite noun phrases project a NumP, and definite noun phrases project a DP. Bartos claims that the Hungarian verb agrees with its object if and only if the object is of the category DP, as in (4a-c).

- (4) a. Lát-**já**-tok a lányok-at/Mari-t /öt /egy kollégá-m lány-á-t?¹ (Hungarian)
 see-**OBJ**-2PL the girls-ACC/Mary-ACC/her/a colleague-1SG daughter-3SG-ACC
 'Do you see the girls/Mary/her/the daughter of a colleague of mine?'
- b. Lát-**já**-tok mindegyik/valamelyik lány-t?
 see-**OBJ**-2PL each /some girl-ACC
 'Do you see each/some of the girls?'
- c. (Az-t) lát-**já**-tok, hogy esik az eső?
 that-ACC see-**OBJ**-2PL that falls the rain
 'Do you see that it is raining?'

In (4a), the DP category of the objects (a noun phrase with a definite article, a proper name, a personal pronoun, and a possessive construction) is uncontroversial. The definiteness of the determiners *mindegyik* 'each' and *valamelyik* 'some' in (4b) is a historical relic; their *-ik* suffix, a partitivity marker, was originally a 3PL possessive agreement suffix crossreferencing a 3PL pro possessor. That is, the *-ik*-determiners were originally possessive constructions, meaning 'every one of them', 'some of them', and they have preserved the [definite] feature of possessive constructions after they have been reanalyzed as partitive determiners (É. Kiss 2017a). Object clauses, e.g. that in (4c), are assumed to be complements to a pronominal head, which is subject to pro-drop.

Objects of the category NumP or NP elicit no object agreement:

- (5) Lát-tok lányok-at/egy lány-t /néhány lány-t /valaki-t? (Hungarian)
 see-2PL girls-ACC/a girl-ACC/some girl-ACC/somebody-ACC
 'Do you see any girls/a girl/a few girls/somebody?'

Whereas the verb agreeing with a definite object moves up to the functional head hosting the object agreement suffix (and subsequently to the functional head hosting the subject agreement suffix), there is no evidence of the object and the subject moving to the specifier positions of these heads. Both the subject and the object can move to any of the topic, quantifier, and focus slots of the left periphery, or they can remain in postverbal position, where their relative order is free (owing to free linearization in PF, or to scrambling in syntax). That is, they agree with their respective functional heads at a distance.

As shown by (4a), the object agreement suffix does not encode the number of the object, i.e., it has no number feature. However, it is sensitive to the person of the object: whereas a 3rd person object elicits an allomorph of the suffix *-(j)A*, a 2nd person object elicits the object

¹ As shown by Szabolcsi (1994), a possessive construction can also be indefinite if the possessor is extracted from it. In the case of an external possessor, the projection of a DP is not obligatory – at least for some speakers. A remnant possessive construction of the category NumP does not elicit verbal agreement.

- b. ma naŋ-e:n wa:n-s-e:-m
 I you-ACC see-PAST-**OBJ**-1SG
 ‘I saw you.’ (Nikolaeva 1999: 64)

Steinitz (1950), Gulya (1970), as well as Honti (1984) concluded that the Ob-Ugric languages have optional definite-object – verb agreement. However, the optionality of agreement would be at variance with assumptions of generative syntactic theory. Another problem with this generalization is that the agreeing object is sometimes clearly indefinite, for example in (10):

- (10) luw a:moly kalaŋ nú:xəl-s-əlli pa an we:l-s-əlli (Khanty)
 he what reindeer follow-PAST-**OBJ**.3SG and not kill-PAST-**OBJ**.3SG
 ‘He followed some reindeer but did not kill them.’ (Nikolaeva 1999: 65)

The true licensing condition Ob-Ugric object–verb agreement was identified by Nikolaeva (1991, 2001). She showed that an object elicits agreement on the verb if and only if it is contextually activated, i.e., if it is topical. Thus (9a) with the non-agreeing object could answer the questions “What happened?”, or “Who did you see?”, whereas (9b) with the agreeing object would be an appropriate answer to the question “Did you see me?”. (10) could occur in a discourse in which a herd of reindeer (the superset of those referred to in the sentence) has already been mentioned. An object also counts as activated if it has a possessor referentially bound by the preceding subject:

- (11) a:ši_i pro_i pox-əl_i wa:n-s-əlli (Khanty)
 father his son-3SG see-PAST-**OBJ**.3SG
 ‘The father_i saw his_i son.’ (Nikolaeva 1999: 65)

Skribnik (2001), Sipőcz (2013) and Virtanen (2014, 2015) made similar observations about Mansi. In the Eastern Mansi example in (12a), *the arrow* introduces a new referent, so it does not elicit verbal agreement, whereas in (12b), it refers back to a previously mentioned weapon, therefore object–verb agreement takes place:

- (12) a. kom jowt-nyööl wø-s (Mansi)
 man bow-arrow take-PAST.3SG
 ‘The man took a bow and an arrow’ (Virtanen 2014: (17))
- b. täw toonötääätøl nyöö-mø k°än mänømt-øš-øt
 he then arrow-ACC out tear-PAST-**OBJ**.3SG
 ‘He then tore the arrow out.’ (Virtanen 2015: 25)

These data indicate that the feature licensing object–verb agreement in Khanty and Mansi is the topic feature, hence the functional head agreeing with the object in the Khanty and Mansi sentence structure must be specified as [topic].

Whereas in Hungarian, object–verb agreement does not involve any object movement, in Khanty and in Mansi, it does. In the SOV Ob-Ugric sentence, a non-agreeing object is left-adjacent to the verb, however, an agreeing object also precedes the oblique arguments and it can precede adjuncts, as well – obviously because it has been extracted from the vP.

Compare:

- (13) a. (ma) Juwan-a a:n ma-s-əm (Khanty)
 I Ivan-LAT cup give-PAST-3SG

‘I gave a cup to Ivan.’

- b. (ma) a:n Juwan-a ma-s-**e**:-m
I cup Ivan-LAT give-PAST-**OBJ**-3SG
‘I gave the cup to John.’ (Nikolaeva 2001: (40))

(14) a. Äm noun tolmoχ tât-âs-əm (Mansi)
I you-LAT thief bring-PAST-1SG
‘I brought you a thief.’

- b. Äm nenän-mi ti eš-əl möú-**lä**n-əm
I you-ACC this job-INS give-**OJB_{PL}**-1SG
‘I give you this job.’ (Sipöcz 2015: 238)

In (13a) and (14a), the non-agreeing, non-topical object immediately precedes the verb; it is presumably in its base-generated position. In (13b) and (14b), it also precedes the oblique argument. In these sentences, the object, too, appears to be an external argument, which explains its topic interpretation.

Nikolaeva argues that a Khanty object agreeing with the verb is a secondary topic – given that the primary topic is the subject. The subject of the Khanty sentence always functions as a topic. If the agent is to be focussed, the sentence must be passivized. Compare:

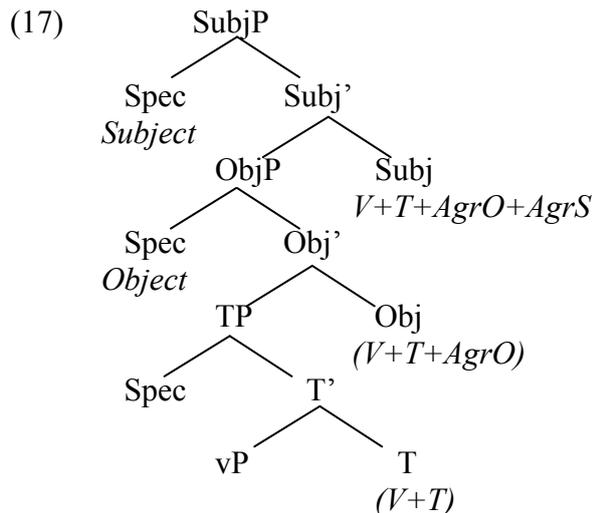
(15) a. (luw) juwan re:sk-əs (Khanty)
he Ivan hit- PAST.3SG
‘He hit Ivan.’

- b. juwan xoj-na re:sk-əs-a
Ivan who-LOC hit-PAST-PASS.3SG
‘Who was Ivan hit by?’ (Nikolaeva 199: 155-156)

(16) a. *xoj tam xu:j an wa:nt-əs (Khanty)
who this man not see-PAST.3SG
‘Nobody saw this man.’

- b. tam xu:j xoj-na an wa:n-s-a
this man who-LOC not see-PAST-PASS.3SG
‘This man was not seen by anybody.’ (Nikolaeva 2001: (28a,b))

The functions of primary and secondary topics do not seem to be completely identical. The primary topic is an aboutness topic, encoding the subject-of-predication function of the grammatical subject also in all-new sentences answering the question “What happened?”, whereas the secondary topic is a familiarity topic, encoding the contextual givenness (D-linking) of the object. The fusion of the functions subject and aboutness topic in a position external to TP has been observed in several languages (see Rizzi and Shlonsky 2007), and the functional head bearing the features [subject] and [aboutness topic], attracting subject-topics to its specifier, has been identified as Subj. On the analogy of SubjP, the projection hosting object-topics will be assumed to have a head with the features [object] and [familiarity topic], and will be labelled as ObjP. The Khanty sentence displaying object agreement is assigned the following structure:



The Khanty and Mansi object agreement suffixes are not sensitive to the person of the object, however, they encode its singular, dual, or plural number:

- (18) a. ma tam kalaŋ we:l-s-Ø-e:-m (Khanty)
 I this reindeer kill-PAST-**OBJ**_{SG}-1SG
 ‘I killed this reindeer.’
- b. ma tam kalaŋ we:l-sə-ŋil-am
 I this reindeer kill-PAST-**OBJ**_{DU}-1SG
 ‘I killed these two reindeer.’
- c. ma tam kalaŋ we:l-sə-l-am
 I this reindeer kill-PAST-**OBJ**_{PL}-1SG
 ‘I killed these reindeer.’ (Nikolaeva 1999: 64)

In sum: the functional head that the object agrees with in the Ob-Ugric languages has a strong [familiarity topic, object] feature complex, eliciting object movement to its specifier position. This functional head also shares the number feature of the object.

2.3. Object–verb agreement in Tundra Nenets

The Samoyedic language with the most thoroughly described syntax is Tundra Nenets (see Nikolaeva 2014). The licensing condition of object agreement is the contextual givenness/topicality of the object. Thus (19a), with no object–verb agreement, answers the question “Who did Wanya hit?” or “What happened?”, whereas (19b) answers the question “What did Wanya do to Wera?”.

- (19) a. Wanya Wera-m ladə°. (Tundra Nenets)
 Wanya Wera-ACC hit.3SG
 ‘Wanya hit Wera.’
- b. Wanya Wera-m ladə°-da.
 Wanya Wera-ACC hit-**OBJ**.3SG
 ‘Wanya hit Wera.’ (Nikolaeva 2014: 2065)

Inherently non-topical objects, among them *wh*-expressions, indefinite and negative pronouns and objects modified by them, as well as objects supplied with the limitative suffix meaning ‘only’, never elicit agreement:

- (20) Wanya Wera-**r'i-m** ladə°/*ladə°-**da**.
Wanya Wera-**LIM-ACC** hit.3SG/hit-**OBJ.3SG**
‘Wanya hit only Wera.’ (Nikolaeva 2014: 205)

These facts suggest that the functional head hosting object agreement has a [topic] feature in Tundra Nenets, as well; it appears to be the same Obj head that we identified in the Khanty sentence. The object tends to be attracted to the specifier of this TP-external functional head in visible syntax. As Nikolaeva (2014: 213) puts it: „object agreement tends to be present when the object is not adjacent to the verb, and a verb-adjacent object typically does not trigger agreement”. However, this is not always so, which is attributed to the influence of flexible Russian word order.

In Tundra Nenets, the object agreement morpheme on the verb encodes the number of the object (but not the person). Compare with (19b):

- (21) Wanya wen'ako-x'h lad'ŋa-x'yu-da.
Wanya dog-DU.ACC hit-**OBJ_{DU}-3SG**
‘Wanya hit two dogs.’ (Nikolaeva 2014: 202–206)

In sum: the Obj head involved in object agreement in Tundra Nenets has a strong [familiarity topic, object] feature complex, and also shares the number feature of the object nominal.

3. The Inverse Agreement Constraint

A phenomenon often attested in languages displaying object–verb agreement is the Inverse Agreement Constraint (Comrie 1980):

(22) Inverse Agreement Constraint

An object agreeing with a verb must be lower in the person hierarchy than the subject agreeing with the same verb.

The person hierarchy (called ‘animacy hierarchy’ by Comrie), cited in (23), has been identified as a topicality or topicworthiness hierarchy by Moravcsik (1974), Givón (1975), Kiparsky (2008), and others:

(23) Topicality Hierarchy

1SG > 2SG > 3SG > 1PL > 2PL > 3PL

É. Kiss (2013, 2017b) argues on the basis of crosslinguistic evidence that the Inverse Agreement Constraint is an interface filter which serves to harmonize the structural hierarchy of constituents in the topic domain with the ranking of their referents in the topicality hierarchy. It must have originated in languages like Khanty, where the discourse functions and grammatical functions are fused, with the subject functioning as primary topic, and the object functioning as secondary topic or focus. When both the subject and the object are topicalized, the Inverse Agreement Constraint does not allow the object to be more topical than the structurally more prominent subject. If the object is of a higher person than the

subject, it can only be construed as a focus. Thus the Inverse Agreement Constraint is, in fact, an Inverse Topicality Constraint, and its presence in a language is a concomitant – or a relic – of a sentence structure where both the object and the subject agree with a functional head having a topic feature.

3.1. The Inverse Agreement Constraint in Hungarian

It was claimed in section 2.1 that in Hungarian, all definite objects elicit object–verb agreement. In fact, there are some exceptions to this generalization. Unlike 3rd person pronominal objects, 1st and 2nd person pronominal objects do not trigger agreement. Compare:

- (24) a. János lát-**ja**-Ø őt/öket. (Hungarian)
 John see-**OBJ**-3SG him/them
 b. János lát-Ø engem/minket.
 John see-3SG me/us
 c. János lát-Ø téged/titeket.
 John see-3SG you_{SG}/you_{PL}

Bartos (2001) accounted for this fact by claiming that 1st and 2nd person pronouns are not DPs. Since their referents are always present in the discourse, their existential presupposition need not be expressed in syntax. According to Coppock and Wechsler (2012), the trigger of agreement is a formal [DEF+] feature, which 3rd person pronouns do, whereas 1st and 2nd person pronouns do not have. In the theory of Bárányi (2015a,b), the object and the subject enter into an Agree relation with the same functional head. Since the feature complexes of 1st and 2nd person object pronouns ([speaker, participant, person], and [participant, person], respectively) subsume the [person] feature of a 3rd person subject pronoun, they leave no feature for a 3rd person subject to value, which therefore remains unlicensed.

Certain facts of Hungarian, however, undermine these assumptions. 2nd person object pronouns actually do elicit agreement if the subject is 1st person – see (24b).

- (25) a. Ő lát-Ø téged/titeket. (Hungarian)
 he see-3SG you_{SG.ACC}/you_{PL.ACC}
 ‘He sees you.’
 b. (Én) lát-**I**-ak téged/titeket.
 I see-**2OBJ**-1SG you_{SG.ACC}/you_{PL.ACC}
 ‘I see you.’

A 1st person object never elicits agreement, whether the subject is 2nd or 3rd person:

- (26) a. Ő lát engem.
 he see.3SG me
 ‘He sees me.’
 b. Te lát-sz engem.
 you see-2SG me
 ‘You see me.’

Cases where the subject and the object agree in person but differ in number involve further complications. If the subject is 1SG and the object is 1PL, or, if the subject is 2SG and the

object is 2PL, the verb agrees with the object (27a,b); however, if the subject is 1PL and the object is 1SG, or, if the subject is 2PL and the object is 2SG, there is no object–verb agreement (28a,b).

(27) a. Én minket ajánl-**om** / *ajánl-ok. (Hungarian)
 I us recommend-**OBJ.1SG**/recommend-1SG
 ‘I recommend us.’

b. Te titeket ajánl-**od** / *ajánl-asz?
 you_{SG} you_{PL.ACC} recommend-**OBJ.2SG**/recommend-2SG
 ‘Do you_{SG} recommend you guys?’

(28) a. Mi engem választ-unk / *választ-ju-k.
 we me elect-1PL /elect-**OBJ.1PL**
 ‘We elect me.’

b. Ti téged választó-tok / *választ-já-tok?
 you_{PL} you_{SG.ACC} elect-2SG /elect-**OBJ.2SG**
 ‘Do you guys elect you_{SG}?’

The theories of Bartos (2001), and Coppock and Wexler (2012) cannot predict these facts in a principled manner, and (27) and (28) present a problem for Bárány (2015a,b), too. É. Kiss (2013, 2017b) argues that these data are manifestations of the Inverse Agreement Constraint.

The Inverse Agreement Constraint states that the relative structural prominence of two topics cannot be the opposite of their relative prominence in the Topicality Hierarchy. In fact, as shown by Comrie (1980), languages use various comprised, two-level or three-level versions of the hierarchy in (23); they collapse some adjacent stages. Hungarian segments the hierarchy as shown in (29), which distinguishes three types of discourse referents: the speaker, the non-active participant(s), and those not present:

(29) Topicality Hierarchy for Hungarian

$$1\text{SG} > \left\{ \begin{array}{l} 1\text{PL} \\ 2\text{SG} > 2\text{PL} \end{array} \right\} > 3$$

speaker > participant > non-participant

The Inverse Agreement Constraint combined with the Topicality Hierarchy in (29) correctly predicts the agreement facts illustrated in (24)–(28). A 1SG object is always lower in the Topicality Hierarchy than the subject, hence it never elicits agreement. For a 2nd person object, agreement is only blocked if the subject is 3rd person, or if the object is 2SG, and the subject is 2PL.

Although the Inverse Agreement Constraint is clearly active in Hungarian, it seems to have lost its original function. Hungarian is not a strict SOV language any more; the subject and the object can be topicalized in any order, therefore their relative structural prominence could be harmonized with their relative topicworthiness via movement. What is more, object agreement does not encode the topic function of the object (although it did in Proto-Hungarian – see the discussion of (7a,b), and for more details, É. Kiss (2014)). In Modern Hungarian, the Inverse Agreement Constraint appears to be a linguistic fossil.

3.2. The Inverse Agreement Constraint in the Ob-Ugric languages

The Inverse Agreement Constraint is also attested in Eastern Khanty (the Surgut dialect), but not in Northern Khanty (the Obdorsk dialect studied by Nikolaeva (1999)). In Eastern Khanty, the verb does not agree with 1st and 2nd person objects. (30a,b) contain the same type of contextually given object. In (30a), both the subject and the object are 3rd person, and the object elicits verbal agreement. In (30b), the subject is 3rd person and the object is 1st or 2nd person, and agreement is not triggered. (30c) shows that agreement with a 2nd person object is also impossible when the subject is 1st person – which follows if Khanty uses a two-level Topicality Hierarchy with the 1st and 2nd persons collapsed, i.e., ‘1st/2nd > 3rd’.

(30) a. Vera **lūw-at** wū-λ-təy. (Eastern Khanty)

Vera she-ACC know-PRS-**OBJ**.3SG
 ‘Vera knows her.’

b. lūw **mān-t /nüŋ-at** wū-λ.

he I-ACC /you-ACC see-PRS.3SG
 ‘He sees me/you.’

c. mā **nüŋ-at** wū-λ-əm.

I you-ACC see-PRS-1SG
 ‘I see/know you_{SG}.’ (Márta Csepregi p.c.)

Eastern Khanty is the only Ob-Ugric language in which the Inverse Agreement Constraint is in effect.

3.3. The Inverse Agreement Constraint in Tundra Nenets

The Inverse Agreement Constraint is also active in Samoyedic. The Samoyedic languages appear to employ the same two-level person hierarchy as Eastern Khanty does (1st/2nd > 3rd), as a consequence of which a 2nd person object never elicits agreement, whatever the person of the subject (Nikolaeva 2014: 202). Observe a Nenets and a Selkup minimal pair:

(31) a. Wanya **syita** ladə°-**da**. (Tundra Nenets)

John he.ACC hit-**OBJ**.3SG
 ‘John hit him.’

b. Wanya **syiqm°/syit°** ladə° / *ladə°-da

John I.ACC/you.ACC hit.3SG/hit-**OBJ**.3S
 ‘John hit me/you.’ (Dalrymple & Nikolaeva 2011: 130)

(32) a. Təp **kanap** qontyrtənta /qontyrtentyŋty

he dog. ACC see.FUT.3SG/see.FUT.**OBJ**.3SG
 ‘He will see a/the dog.’

b. Təp **šinty** qontyrtənta / *qontyrtentyŋty

he you. ACC see.FUT.3SG/ see FUT.**OBJ**.3SG
 ‘He will see you.’

(Kuznecova et al. (1982: 235), cited by Dalrymple and Nikolaeva (2011: 199-201))

In sum: the Inverse Agreement Constraint arises in languages where the discourse functions are fused with grammatical functions in a fixed structural hierarchy. The constraint harmonizes the structural ranking of [topic] constituents with the ranking of their referents in

the Topicality Hierarchy; it blocks the topic-marking of an object that ranks higher in the Topicality Hierarchy than the subject. Of the Uralic languages surveyed, the constraint is active in Hungarian, Eastern Khanty and the Samoyedic Tundra Nenets and Selkup. The Topicality Hierarchy assumed in Hungarian is a three-level hierarchy, distinguishing the speaker, the participants of the discourse and the non-participants. The hierarchy in Eastern Khanty and Samoyedic only distinguishes participants and non-participants (1st and 2nd persons versus 3rd person). In Hungarian, the Inverse Agreement Constraint has lost its function; it survives as a linguistic fossil.

4. Accusative marking

In many Uralic languages, the object is the target of differential case marking. Languages of the Balto-Finnic branch, i.e., Finnish, Estonian, Votic, Karelian, Ingrian and Veps treat total and partial objects differently. (This distinction may be historically related to the topic object – focus object distinction, however, this issue is beyond the scope of the present paper.) Ugric and Samoyedic languages, as well as the Permic Komi and Udmurt case-mark topical or definite objects, and leave focussed/indefinite objects unmarked.

4.1. Accusative marking in Hungarian

In Modern Hungarian, there is general object marking; both definite and indefinite, total and partial objects are marked by a *-t* accusative suffix – see the examples in (4)-(5). However, Old Hungarian still displays relics of differential accusative marking. We find a considerable number of unmarked objects, all of which occur in non-finite subordinate clauses (É. Kiss 2014). For example:

- (33) a. [ϕ è **gondoluan**] yme vrnac angala ièlenec nèki (Old Hungarian)
 he this thinking lo Lord's angel appeared him
 'while he was thinking this, lo, the Lord's angel appeared to him.'
 (Munich Codex (1416): 8 verso)
- b. ne fordo'l'lon m̄g [ϕ **kõntosõ feluènni**]
 not turn-SUBJ-3SG back he gown-3SG put.on-INF
 'he should not turn back to put on his gown' (Munich Codex (1416): 30 recto)

The lack of accusative marking on the objects of the non-finite clauses suggests that in Proto-Hungarian, accusative marking was associated with finiteness; it could be licensed by the same functional head that hosted object agreement.

Unmarked objects practically disappeared from Hungarian by the 16th century – whereas differential object–verb agreement has survived up till now. This split suggests that object–verb agreement and accusative marking are not two sides of the same relation anymore; they involve different functional heads. I assume that accusative marking came to be generalized to all objects when accusative licensing was taken over from a TP-external functional head by v.

Further facts indicating that Proto-Hungarian displayed differential accusative marking subject to an Inverse Accusative-Marking Constraint will be discussed in Section 5.

4.2. Accusative marking in Ob-Ugric

In Eastern Mansi, the object is case-marked iff it is topical, in other words, if it is contextually given (Virtanen 2014, 2015; Sipőcz 2015). Compare the objects in the two clauses of (34): the object is contextually given, hence case-marked, only in the second clause.

- (34) jänii lyüüly wöär-s-øm, wisy **kom-mø** jät tât-øs-**løm**. (Eastern Mansi)

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)

Though the literature on Mansi often relates accusative assignment with definiteness (cf. Havas 2008), in fact, definite objects, among them pronouns and possessive constructions, can also be caseless if they introduce a new referent into the discourse. For example:

(35) soolyøsy-toågl-äǟt k°ās køsm-ø̄s
 stoat-costume-3SG although start.searching-PRET.3SG
 ‘Even though he starts searching for his stoat leather costume’ (Virtanen 2010: 19)

In the great majority of cases, an accusative-marked object elicits verbal agreement, and an object eliciting verbal agreement is marked accusative. The sporadic mismatches may not be real counter-examples. For example, in example (36) the object eliciting verbal agreement may be a covert pro; the unmarked object following the verb can be an afterthought.

(36) wisy-kom kontø-s-tø jäg-ø taro-täǟm neepøx (Eastern Manysi)
 young-man find-PRET-**OBJ**.3SG father-3SG send-PTCP letter
 ‘The young man found the letter sent by his father.’ (Virtanen 2010: 24)

I conclude that in Eastern Mansi, the functional head licensing accusative case is the same head that hosts the object agreement morpheme, presumably a TP-external Obj bearing the features [familiarity topic, object], and the objects assigned accusative case are those attracted to Spec,ObjP, participating in object–verb agreement. That is, object–Obj agreement involves both the valuation of the [topic, object] features of Obj, and the licensing of the accusative feature of the object nominal.

In Khanty, and in Northern Mansi, only pronominal objects are marked by a case morpheme; the accusative morpheme of lexical nouns is phonologically null. This situation does not provide sufficient evidence to identify the functional head licensing accusative case. It could be *v*; but the obligatory case-marking of pronominal objects may also be a consequence of the grammaticalization of the frequent [topic] feature of pronouns in a structure where object–verb agreement and accusative assignment are manifestations of the same specifier-head relation in an ObjP.

4.3. Accusative marking in Udmurt

The Permic languages of the Uralic family, Udmurt and Komi, have not been discussed in the previous sections so far because they show no object–verb agreement, and, consequently, they do not have the Inverse Agreement Constraint, either. However, they do display differential accusative marking (see Rédei (2000), Csúcs (2004), and Tánčzos (2016) on Udmurt, and Klumpp (2008) on Komi). Udmurt marks specific objects, including definite objects (among them personal pronouns, demonstratives, and proper names), and specific indefinites – irrespective of whether they are topics or foci (see Tánčzos (2016), É. Kiss and Tánčzos (2017)). Compare the minimal pair in (37). The definite objects in (37a) bear an accusative suffix, whereas the indefinite object in (37b) is unmarked.

(37) a. Mon ta kńiga-**jez** /ta kńiga-os-**yz** lydʒ’-i. (Udmurt)
 I this book-ACC/this book-PL-ACC read-PRET.1SG
 ‘I read this book/these books.’

b. Mon kńiga lydʒ’-i.

I book read-PRET.1SG
'I read a book.'

The case-marked plural in (38a) is understood to be generic, whereas the caseless plural in (38b) is interpreted as existential:

- (38) a. Ug jaratky d'eŕekt'ivnoj roman-jos-yz.
NEG.PRS.1SG like.CNV.SG detective novel-PL-ACC
'I don't like detective novels.'
- b. D'eŕekt'ivnoj roman-jos ŕed'ti bibliot'ekayś.
detective novel-PL find.PST.1SG library.ABL
'I found detective novels in the library.' (Tánczos and É. Kiss 2017: (50)-(51))

An object represented by an inherently definite noun phrase always receives accusative case:

- (39) a. Mon *ton/ton-e magazinys adz'i.
I you/you-ACC shop.ABL see.PST.3SG
'I saw you in the shop.' (Tánczos 2016: 45)
- b. Mon *Saša/Saša-jez magazinys adz'i.
I Sasha/Sasha.ACC shop.ABL see.PST.3SG
'I saw Sasha in the shop.'

A case-marked indefinite object, e.g. that of (40), is understood to be specific.:

- (40) Mon odig puny-jez utcaśko.
I one dog-ACC search.PST.1SG
'I am searching for a (specific) dog.' (Tánczos 2016: 47)

These data indicate that the functional head licensing accusative case in Udmurt has the feature [specific]. The most likely candidate for such a feature specification is a TP-external Obj head. This Obj head is phonologically null in Udmurt; there is no O-V agreement morpheme on the verb. The [specific, object] feature complex of Obj is strong in the grammar of conservative speakers (although this is changing in the Russified, flexible-word-order language of the younger generations).

4.4. Accusative marking in Tundra Nenets

In Tundra Nenets, all objects are accusative-marked according to Nikolaeva (2014: 61).² Observe again the examples of Section 2.3., e.g., the minimal pair in (19), rewritten here as (41):

- (41) a. Wanya Wera-m ladə°. (Tundra Nenets)
Wanya Wera-ACC hit.3SG
'Wanya hit Wera.'
- b. Wanya Wera-m ladə°-da.
Wanya Wera-ACC hit-OBJ.3SG

² Tundra Nenets imperatives also allow nominative objects (Nikolaeva 2014: 60) - which may be a morphological idiosyncrasy or a relic of a former stage of grammar.

‘Wanya hit Wera.’ (Nikolaeva 2014: 206)

The object bears accusative case both in (41b), where the verb agrees with the object, and in (41a), where the verb shows no object agreement. That is, object marking is divorced from object–verb agreement, which is licensed by a [topic] feature shared by the object nominal and a TP-external Obj head. The situation is similar to that attested in Hungarian; the functional head responsible for accusative assignment must be *v*.

Summarizing Section 4: the Uralic languages examined display various versions of differential accusative marking. In Eastern Mansi, accusative marking and object–verb agreement are manifestations of the same specifier–head relation in the projection of an Obj head with a [topic, object] feature specification. In Udmurt, the Obj head licensing accusative case has the feature complex [specific, object] instead. In Hungarian and Tundra Nenets, accusative marking targets all objects, hence the functional head licensing accusative case cannot be an Obj head which enters into Agree only with objects bearing a [topic] or a [definite] feature, respectively; it must be *v*.

5. The Inverse Accusative-Marking Constraint (Person-Case Constraint)

5.1. The Inverse Accusative-Marking Constraint in Eastern Mansi

In Eastern Mansi, differential object–verb agreement and differential accusative marking go together; they are licensed by the same Obj head specified as [topic, object]; they are two sides of the same coin. Therefore, it seems reasonable to assume that the Inverse Agreement Constraint, too, has a counterpart, an Inverse Accusative-Marking Constraint, which prevents the accusative marking of an object that is of a higher person than the subject. Indeed, in Eastern Mansi, 1st and 2nd person objects cannot receive an accusative morpheme, e.g.:

(42) a. **öän-øm** jål-ääl-ääløn. (Eastern Mansi)
I-1SG down-kill-IMP.OBJ.2SG
‘Kill **me!**’

b. Om **nää-n** jorøl tåt-øs-løm tøg.
I you-2SG on.purpose bring-PAST-OBJ.1SG here
‘I brought **you** here on purpose.’ (Virtanen 2014: (15), (42))

(The object pronouns in (42a,b) bear possessive endings. Possessive suffixes in Uralic can have a determinative/partitive role (Nikolaeva 2003, É. Kiss & Tánzos 2017); their presence or absence is independent of the object function and of accusative assignment.)

Interestingly, not only 1st and 2nd person objects but also objects anchored to a 1st or 2nd person possessor are caseless:

(43) **ääk-øm** komøly woåxtl-øs-løn! (Eastern Mansi)
uncle-2SG how leave-PAST-OBJ.2SG
‘How could you leave **your** uncle!’ (Virtanen (2014: (21))

The reason must be that the possessum is in most cases a part or a belonging of the possessor, hence a possessum with a 1st or 2nd person possessor is identified with a discourse participant, and is, therefore, subject to the Topicality Hierarchy and the Inverse Accusative-Marking Constraint.

Restrictions similar to the Inverse Accusative-Marking Constraint of Eastern Mansi have been reported from several unrelated languages under the name Person-Case Constraint. É.

Kiss (2017) argues that the Person-Case Constraint, the Inverse Accusative-Marking Constraint and the Inverse Agreement Constraint are manifestations of the same Inverse Topicality Constraint:

(44) ***Inverse Topicality Constraint***

The hierarchy of topicalized constituents in the same - external or internal - structural domain should not contradict their ranking in the Topicality Hierarchy of discourse participants.

5.2. The Inverse Accusative-Marking Constraint in Hungarian

In Hungarian, accusative marking by a *-t* suffix has been generalized to all objects – as was discussed in Section 4.1, therefore we would not expect the Inverse Accusative-Marking Constraint to be in effect. Surprisingly, 1SG and 2SG objects bear no case suffix. (The 1st and 2nd person objects both in the singular and in the plural bear the same determinative/partitive possessive suffixes that are also present on the Mansi pronouns in (42).) Compare the paradigm of pronominal objects:

(44) SG1:	eng-em	PL1:	mi-nk-et (Hungarian)
	I-1SG		we-1PL-ACC
SG2:	tég-ed	PL2:	ti-tek-et
	you _{SG} -2SG		you _{PL} -2PL-ACC
SG3:	ő-t ’	PL3:	ő-k-et
	(s)he-ACC		(s)he-PL-ACC

Not only the 1SG and 2SG objects receive no case suffix; lexical objects with a 1st or 2nd person possessor can also be caseless:

- (45) a. Megjavított-ák az autó-m(-at) /autó-d(-at). (Hungarian)
 repaired-3PL the car-1SG(-ACC)/car-2SG(-ACC)
 ‘They repaired my car/your car.’
- b. Megjavított-ák az autó-nk(-at) /autó-tok(-at).
 repaired-C the car-1PL(-ACC)/car-2PL(-ACC)
 ‘They repaired my car/your car.’

In every other case, the omission of the accusative suffix makes the sentence sharply ungrammatical, in fact, incomprehensible. Compare with (45):

- (46) **Megjavított-ák az autó-ja /autó-juk.
 repaired-V the car-3SG/car-3PL
 ‘They repaired her car/their car.’

The lack of accusative marking on objects related to 1st and 2nd person discourse referents cannot be accidental; it must be a consequence of the Inverse Accusative-Marking Constraint. That is, although Hungarian has no differential accusative marking, it has preserved the Inverse Accusative-Marking Constraint as a relic of a former stage of the language where accusative marking still encoded the topic function of the object.

6. The correspondence sets

The question that has motivated the survey of the data of modern Uralic languages in Sections 2-5 is how Proto-Uralic marked objects; whether it used head-marking (i.e., object-verb agreement), or dependent marking (i.e., accusative assignment), or both; whether object-marking was general or differential; and in case it was differential object marking, what were its licensing conditions. In structural terms: which functional head was responsible for object marking in the Proto-Uralic sentence, and what was its feature specification like. In order to answer these questions, we set up correspondence sets from the relevant data of present-day Uralic languages. We assume that the functional head licensing object–verb agreement is Obj; however, the Obj heads of the languages in question may differ in whether they enter into an agreement relation with [topic] or [definite] objects, i.e., whether bear the feature [topic] or [definite]. (They also differ in which phi-features of the object they encode; these differences, however, do not seem significant in the present context; they reflect the impoverishment of a phi-feature or another.) As argued in Section 3.1, the presence of the Inverse Agreement Constraint is also regarded as evidence (or a fossilized relic) of an Obj head bearing the features [topic, object].

If a language licenses object-verb agreement and accusative marking under the same conditions, the null hypothesis is that object agreement and accusative case are manifestations of the same relation, involving the same Obj head. If the licensing conditions of accusative marking are different from those of object–verb agreement, the functional head licensing accusative marking must be other than Obj. The likely candidate in the theoretical framework assumed in this paper is v. The presence of the Inverse Accusative-Marking Constraint in a language is evidence (or a fossilized relic) of accusative marking by an Obj head bearing the features [topic, object].

The data surveyed in Sections 2-5 can be arranged into the following correspondence sets:

Type of evidence	Functional head licensing object–verb agreement		Functional head licensing accusative marking	
	direct evidence	Inverse Agr. Constraint	direct evidence	Inverse Acc.-Marking Con.
Hungarian	[definite, object]	[topic, object]	v	[topic, object]
Eastern Mansi	[topic, object]		[topic, object]	[topic, object]
Eastern Khanty	[topic, object]	[topic, object]	?[topic,object]/v	
Northern Khanty	[topic, object]		?[topic,object]/v	
Udmurt	?[specific, object]		[specific, object]	
Tundra Nenets	[topic, object]	[topic, object]	v	
Proto-Uralic	[topic, object]		[topic, object]	

In Eastern Mansi, the Khanty dialects, and Tundra Nenets, the functional head entering into agreement with the object has the feature [topic]. The Inverse Agreement Constraint provides evidence that the functional head agreeing with the object originally bore the feature [topic] in Hungarian, as well. By the documented period of the language, its [topic] feature changed into [definite], but traces of the original condition can still be pointed out (recall the discussion of (7a,b)). The reanalysis of the topicality condition of object–verb agreement into a definiteness condition has been attested in other languages, as well – see, e.g., Givón (1975). Hence both Uralic diachronic data and cross-linguistic parallels suggest that the original feature

specification of the functional head responsible for object-verb agreement in Proto-Uralic was [topic, object].

Of the languages examined, only Eastern Mansi provides direct evidence of accusative licensing by a functional head specified as [topic, object]; however, we have reason to assume that accusative case was licensed by a head with the [topic, object] features in Hungarian, too. First, in the earliest Old Hungarian documents, there are still many examples of non-finite clauses with a caseless object, which indicates that Proto-Hungarian was a differential accusative marking language. Furthermore, Hungarian displays a fossilized Inverse Accusative-Marking Constraint, which is evidence that accusative used to be licensed by a functional head with [topic] and [object] features. Consequently, the generalized accusative marking licensed by *v* that is attested in Modern Hungarian and Tundra Nenets must be an innovation, i.e., the original version in the correspondence set is differential accusative licensing by a functional head with [topic, object] features. In Udmurt, the [specific] feature of the functional head licensing accusative marking is a natural extension of the former [topic] feature; in Udmurt, not only contextually given elements count as topical, i.e., familiar, but also those present in the domain of the discourse or in the universe of the discourse participants.

The correspondence sets contain data from three different branches of the Uralic family, hence the reconstructed common antecedent of their present systems of object marking is assumed to represent Proto-Uralic object marking.

7. Conclusion

The reconstruction carried out above has led to the conclusion that the Proto-Uralic parent language had differential object-verb agreement and differential accusative marking licensed under the same condition, the topicality (i.e., the D-linking) of the object. Object-verb agreement and accusative marking involved object movement into a TP-external position, identified as the specifier of a functional head with strong [topic] and [object] features. These features are still strong in the conservative Uralic languages with a strict SOV word order. In some of the Uralic languages, we attest the gradual loosening of word order, and the emergence of the possibility of long distance agreement.

The [topic] feature of the TP-external functional head responsible for object marking has been reanalyzed as [specific] in Udmurt, and as [definite] in Hungarian – via a natural extension of the content of the notion of topicality. In Hungarian and Tundra Nenets, the [topic] and [accusative] features have been divorced; accusative licensing has been associated with *v*, and accusative assignment has been generalized to all objects.

Our case study has shown that the comparative method of historical linguistics, involving the compilation of lists of cognate structures, their arrangement into correspondence sets, and the comparison of the alternatives on the basis of their frequency and on the basis of theoretical considerations, can be employed in syntactic reconstruction.

The reconstructed forms have to be evaluated typologically. The type of differential object marking we have reconstructed for Proto-Uralic is wide-spread across language families. Dalrymple & Nikolaeva (2011) pointed out differential object-verb agreement encoding the topicality of the object in dozens of languages from several language families. Differential accusative marking has also been associated with the topicality, specificity, or animacy of the object in various languages, including Spanish, Catalan, the Indo-Aryan Sinhala, Turkish, Greek, Albanian, Hebrew, Bantu, Hindi, and others (cf. Givón 1975, Enç 1991, de Hoop 1996, Aissen 2003, Mahajan 1992, Danon 2006, Kallulli 2016, Manzini and Franco 2016 etc.). The reconstructed Proto-Uralic structure and its variants in the daughter languages are in line with Dalrymple and Nikolaeva's (2011) diachronic generalization: „Marked objects are associated with the information-structure role of topic. Where the direct connection

between marked objects and topicality has been lost through grammaticalization, marked objects in some languages become associated with semantic features typical of topics (animacy, definiteness, specificity)” (Dalrymple and Nikolaeva 2011: 2).

The typological confirmation of the hypothesized Proto-Uralic structure provides evidence of the success of the reconstruction; it shows that the comparative method can be employed in the reconstruction of syntactic structures and can lead to plausible hypotheses.

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