Microvariation in Finno-Ugric possessive markers[*]

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1.   Introduction

This paper investigates the use of possessive markers in non-possessive contexts in three Finno-Ugric languages, Khanty, Komi, and Mari. I first show that the conditions on these uses differ from language to language, which was not taken into account in previous attempts to model the behaviour of Finno-Ugric possessives (Fraurud 2001, Nikolaeva 2003, Brykina and Sudobina 2005, Gerland 2011, Kuznetsova 2012). I then analyze possessive suffixes in their non-possessive uses as varieties of reference-related markers. Finally, I propose that basically the same semantic mechanisms can handle both non-possessive and proper possessive uses in each language. The main goal of this project is to present new distributional data and an initial formal analysis of the semantics of the 3rd person marker (3SG) in the three languages.

Along with the majority of Finno-Ugric languages, Khanty, Komi, and Mari feature nominal suffixes which inflect for number and person. In the presence of an implied or syntactically overt possessor, the suffix invariably marks features of the latter. That is, we observe head marking of a possessive relation whereby the features of the possessor are expressed in the e(xtended)NP of the possessum.[1]

(1)   Petra-lyn ponm-ys
       Petr-GEN dog-3SG
       'Petr's dog'   [Komi]

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[1]I use Grimshaw's (1991) e(xtended)NP as a noncommittal term to refer to the highest relevant projection in the structure of a nominal expression.

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This paper focuses on those occurrences of possessive suffixes, and, in particular, of the 3SG suffix, which do not imply any possessive relation.[2] In the following Komi example the 3SG suffix *ys* does not cross-reference any eNP whose referent would play the possessor role with respect to the referent of *šond-ys* (here loosely translated as 'the sun'). I will call such occurrences of 3SG *non-possessive uses* throughout this paper.

(2)   Šond-ys dep-š'i-s.
        Sun-3SG dep-DETR-PRT.3SG
        'The sun has set.'   [Komi]

What does 3SG do in (2)? In the next section I present data showing that 3SG does different things depending on the language. In section 3 I discuss some shortcomings of the previous analyses which were based on the assumption that non-posssessive 3SG in Finno-Ugric expresses the same category. Section 4 outlines my proposal for the semantics of 3SG in the three languages. I identify two sources of differences in 3SG distribution: whether its semantics involves a salience-based choice function (Komi & Khanty vs. Mari) and whether the domain of a choice function is restricted to discourse-introduced properties only (Khanty vs. Komi). In section 5 I discuss the semantic relation between non-possessive and possessive uses of 3SG. I conclude that the two types of uses can be modelled using the same semantic mechanisms on the assumption that the salience of objects in the discourse representation is affected by whether they are assumed to be owned by the speaker, the listener, or some other possessor.

2.   Patterns of non-possessive use of 3SG

In this section I show that non-possessive uses form different patterns in different Finno-Ugric languages. The languages in focus are Khanty, in its Shuryshkarski variety, as spoken in the village of Tegi, Khanty-Mansi district of the Russian Federation; Komi Izhem, as spoken in the village of Muzhi in Yamal-Nenets district of the Russian Federation; and Meadow Mari, a dialect of the village of Staryj Torjal of Mari El republic.

At the end of each subsection a table summarizes possible contexts of non-possessive uses. As an heuristic tool, I examine 3SG uses following, loosely, the classification of "definite" contexts of Hawkins (1978). This, as I will show below, by no means implies that 3SG has the same grammatical status as the English definite article. To give a preview of the patterns, in Komi eNP-3SG picks the most salient individual with the relevant property. The pattern in Khanty can be described as that of Komi modulo a condition that only already mentioned individuals are possible referents of eNP-3SG. Finally, in Mari the referent of eNP-3SG has to be picked out a previously mentioned set.

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[2]3SG is not the only suffix with non-possessive uses: 2SG is also used in a range of non-possessive contexts. This paper is chiefly concerned with 3SG as by far the most commonly found in non-possessive uses.

2.1 Komi pattern

In Komi the noun has to be marked with 3SG in case the preceding discourse contains eNP (eNP$_1$) which introduces a referent identical to the one that the eNP in question (eNP$_2$) refers to.

(3) Me mun-i   ul'iča kuz'a i   ad'd'-il-i   [pon]$_{eNP_1}$. [Ponm-*(ys)]$_{eNP_2}$
     I   walk-PRT street along and see-ITER-PRT dog   dog-*(3SG)
     kuč'-i-s   uut-ny.
     start-PRT-3 bark-INF
     'I was walking down the street and saw a dog. The dog started barking.' Kashkin
     (2008)   [Komi] ANAPHORIC ANTECEDENT

3SG is likewise strongly preferred in cases where the eNP in question refers to an individual that is part of a previously introduced group (eNP1), as in the following example. This example is especially relevant as it forces us to abandon the hope of treating 3SG in Komi as an equivalent of the Germanic definite article, a hypothesis which has been entertained by a number of authors, as will be discussed in the next section.

(4) Lavka təryt   va-i-sny   [kuim pyzan]$_{eNP_1}$. Ton   mi [yti
     store yesterday bring-PRT-3PL three table   today we one
     pyzan-??(se)]$_{eNP_2}$ n'eb-i-m.
     table-??(3SG.ACC) buy-PRT-1PL
     'Yesterday they brought three tables to (the/a) store. Today we bought one of the
     tables.'   [Komi] KNOWN GROUP

3SG must be also used in case the referent of the eNP in question is unique in a local context situation, (5), or in a global context situation, (6).

(5) Əbes-*(se)   s'ipt-i!
     door-3SG.ACC close-IMP
     'Close the door!' Kashkin (2008)   [Komi] LOCAL UNIQUENESS

(6) Šond-ys dep-š'-i-s.
     Sun-3SG dep-DETR-PRT-3SG
     'The sun has set.'   [Komi] GLOBAL UNIQUENESS

Here is a brief summary of the pattern.

(7) *Licensing contexts of 3*SG *in Komi*

	ANTECEDENT	GROUP	LOCAL UNIQUENESS	GLOBAL UNIQUENESS
Komi	yes	yes	yes	yes

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2.2 Khanty pattern

Below I present Khanty pattern, which substantially differs from both Komi and, as we will see later, Mari. The only context allowing for non-possessive uses is the presence of an anaphoric antecedent.

(8) Vasja [joh]$_{eNP_1}$ hoč'a laəm-yn sevyrm-əs.   [Joh-*(əʎ)]$_{eNP_2}$ iʎ   rakn-əs.
     Vasja tree   at   axe-LOC bring.down-PST tree-*(3SG)   down fall-PST
     'Vasja hit the tree with an axe. The tree fell.'
                                        [Khanty] ANAPHORIC ANTECEDENT I

(9) Ank-əm   mulhatʎ lut-əs   [huʎ]$_{eNP_1}$. C'i [hul-*(əʎ)]$_{eNP_1}$ tamhatʎ lezi.
     moher-1SG yesterday buy-PST fish.   That fish-*(3sg)   today   eat.1PL
     'Yesterday my mother bought a fish. Today we ate this fish.'
                                        [Khanty] ANAPHORIC ANTECEDENT II

Other contexts, such as membership in a previously mentioned group, uniqueness in a local or a global discourse situation, do not license the non-possessive use of 3SG in Khanty.

(10) a. Xoʎəm pur   ne   juxan kimaʎ-ən vuoʎ-ʎ-ət...
         three   woodpecker woman river edge-LOC live-NPST-3PL
         'Three woodpecker women live by the river...'

     b. ...S'aʎta i pur   ne   s'ar-ti   omsəmti-j-əʎ
         then   one woodpecker woman tell.fortunes-INF sit-OBL-NPST.3SG
         '...Then one woodpecker woman sits down to tell fortunes.' [MSU Linguistics
         2011–2012]   [Khanty] KNOWN GROUP – NO

(11) C'i amp-(*əʎ)   takan navar-əʎ.
     that dog-(*3SG) strong run-NPST
     'This dog runs fast.'   [Khanty] LOCAL UNIQUENESS – NO

(12) Vunt jis-teln vuʎ.
     forest forever be.PST
     'The forest has always existed.'   [Khanty] GLOBAL UNIQUENESS – NO

The following table summarizes patterns for both Komi and Khanty.

(13) *Licensing contexts of 3*SG *in Komi and Khanty*

	ANTECEDENT	GROUP	LOCAL UNIQUENESS	GLOBAL UNIQUENESS
Khanty	yes	no	no	no
Komi	yes	yes	yes	yes

2.3   Mari pattern

Mari shows a starkly different pattern of non-possessive 3SG uses from the one we have seen in Komi. To begin with, the presence of an antecedent does not license the non-possessive use.

(14)   Vasja [kniga-m]$_{eNP_1}$ nal-ən.   Tač'e tudo [(tide) kniga-(*ž)-əm]$_{eNP_2}$
        Vasja book-ACC   buy-NARR.3SG today he   (that) book-(*3SG)-ACC
        lud-eš.
        read-PRS.3SG
        'Vasja bought a book. Today he is reading that book.'
                                                [Mari] ANAPHORIC ANTECEDENT – NO

According to my findings, the only necessary and sufficient condition for the non-possessive 3SG use in Mari is the membership of the referent in a previously introduced or otherwise indicated group.

(15)   Vasja [kum kniga-m]$_{eNP_1}$ nal-ən.   Tač'e [ik kniga-ž-əm]$_{eNP_2}$ tude
        Vasja three book-ACC   buy-NARR.3SG today one book-3SG-ACC he
        lud-eš.
        read-PRS.3SG
        'Vasja bought three books. Today he is reading a book (from those).'
                                                [Mari] KNOWN GROUP I

By "otherwise indicated" I mean cases of what seems to be an alternative set associated with contrastive focus in the sense of Rooth (1992). In the following example such a set is evoked by means of a demonstrative *tide*.

(16)   Mem-na-n   škol-na   u,   a   tengeče   alakö   ??(tide) okna-ž-əm
        we-1PL-GEN school-1PL new but yesterday someone ??(that) window-3SG-ACC
        šal-alt-en
        break-DETR-PRT
        'Our school is new, but yesterday someone broke that window.' [pointing to one
        window]   [Mari] KNOWN GROUP II

The presence of a unique individual satisfying the nominal property in either a local or a global situation does not license non-possessive uses in Mari, again, in contrast to Komi.

(17)   Petər-e-za   omsa-(*ž-ə)-m!
        close-IMP-2SG door-(*3SG)-ACC
        'Close the door!'   [Mari] LOCAL UNIQUENESS – NO

(18)   Yara šinga dene keč'-əš-(*še)   onč-aš   og lij
        bare eye   with sun-LAT-(*3SG) look-INF neg be
        'One shouldn't look at the sun with unprotected eyes.'
                                                [Mari] GLOBAL UNIQUENESS – NO

The summary table below makes it clear that the patterns of non-possessive 3SG use are different, and that a hypothesis assuming that in Mari or Khanty 3SG expresses the same category as in Komi would run into empirical inconsistencies. In the next section I review some previous approaches to categorizing non-possessive 3SG, which largely suffered from this very methodological assumption.

(19)   *Licensing contexts of 3*SG *in Komi, Khanty, and Mari*

	ANTECEDENT	GROUP	LOCAL UNIQUENESS	GLOBAL UNIQUENESS
Khanty	yes	no	no	no
Mari	no	yes	no	no
Komi	yes	yes	yes	yes

3.   Previous treatments

The question about the semantic status of non-possessive uses of 3SG has been discussed at least since Collinder (1955:203) who described 3SG as "an equivalent of the English definite article". The all-pervasive approach to this problem has been to consider non-possessive uses of 3SG in different Finno-Ugric languages simultaneously in order to come up with a unified analysis of this suffix (Fraurud 2001 for (Southern Permyak) Komi and Udmurt, Nikolaeva 2003, Brykina and Sudobina 2005 for Meadow Mari, Komi Pechor, Besermyan, Nganasan, Kuznetsova 2012). That such an analysis would be possible is a natural assumption given that possessive suffixes are cognates in these languages (e.g. 3SG is universally based on a fricative). The following quote from Nikolaeva (2003:135) illustrates this line of analysis and its main conclusions,

> [T]he use of the 3rd person possessive affix in Uralic is comparable to the uses of the definite article in article languages and includes: (i) a direct anaphoric use; (ii) an immediate situation use, and (iii) a larger situation use [...] However, the affix is not obligatory in any of these functions and so has not become fully grammaticalized.

Now, we have seen that, for instance, in Komi, the use of 3SG in the contexts mentioned by Nikolaeva (2003) is obligatory. The difficulty begins once we try to add patterns in Mari into the picture, where, as (14), (17), and (18) show, none of these contexts requires 3SG. The notion of uniqueness has been regarded as central for the non-possessive semantics of 3SG. For instance, Gerland (2011) proposes to treat 3SG as a realization of Relational Suffix which marks either that the "referent is anchored by another, already unique referent" or that the "referent is semantically or pragmatically unique". The data presented in the previous section demonstrate that a uniqueness-based semantics of 3SG makes the wrong predictions for Mari, where the crucial factor is the presence of a group to which the referent belongs. It also fails to predict group-membership uses for Komi. Finally, in Khanty, a uniqueness based approach overgenerates, since only the presence of a discourse antecedent licences a non-possessive use of 3SG.

4.   Analysis: Three relations

A widely accepted Fregean approach to definite articles crucially involves uniqueness pre-supposition: eNP headed by a definite article is said to denote if and only if it is part of the Common Ground that there exists just one individual with the property denoted by the noun. This approach is often complemented with some theory of domain restrictions, since otherwise definite descriptions are predicated to make overly strong claims (Heim 2008 for a discussion). Thus, the presupposition of uniqueness combined with a domain restriction mechanism captures the generalization, which holds in English and a number of other Indo-European languages that have definite articles, that in contexts where there is more than one individual having the property denoted by the noun, the use of the definite article is infelicitous. Clearly then, the use of 3SG in contexts involving group membership, such as (4) in Komi and (15)-(16) in Mari, falsifies the hypothesis that 3SG carries such presupposition.

Observations made in section 2 can be restated as the following working generalizations. 3SG in Komi marks eNP in case reference is made to the most salient individual with the nominal property. In Khanty 3SG marks a noun if the referent is identical to a recently introduced one. Finally, for Mari the generalization is that 3SG marks a noun if the referent belongs to an explicitly invoked set.

In general terms, I propose to model the semantics of 3SG in Komi and Khanty using salience-based global choice function of the type proposed by Von Heusinger (2004). I propose that the semantics of 3SG in Khanty differs from what it is in Komi only in the requirement that the domain of the choice function be restricted to the explicitly introduced individuals. I propose that the semantics of 3SG in Mari differs from its Komi and Khanty counterparts in a more important way: it is not salience-sensitive, but is sensitive to explicitly introduced sets of individuals.

4.1   3SG in Komi

The generalization about the use of 3SG in Komi is that it marks the most salient individual (satisfying the nominal description). For the interpretation of 3SG in Komi I adopt Heusinger's (2004) notion of context-dependent choice function. The role of this function is to pick out of a set an individual which is considered to be the most salient individual having the relevant nominal property. For Von Heusinger (2004) this function is part of the sentence interpretation parameters. Therefore, the output of the function is context-dependent: it returns an individual which is the most salient according to the salience ranking assumed in a given context. [3]

The function denoted by 3SG takes a property of individuals, and returns an individual with the relevant property picked out by the context-dependent choice function.

(20) $[\![3SG]\!] = \lambda P_{<e,t>} . F_c(P)$ [Komi]

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[3] I do not attempt here to operationalize the notion of salience and simply assume, following Von Heusinger (2004:312), that a salience hierarchy is determined based on "a bundle of different linguistic and extralinguistic factors".

The following is a toy example with the eNP *ponm-ys* (≈"the dog").

(21) $[\![dog\ 3SG]\!]^{F_c} = [\![3SG]\!]^{F_c}([\![dog]\!])$ = the most salient dog in the context c

What makes 3SG on this approach different from specific indefinites on the analyses involving choice functions (Reinhart 1997, Matthewson 1998, Kratzer 2003 a.o.) is that F_c reflects the contextually determined salience ranking. For a given nominal extension such function always returns a particular individual – the most salient one in a given context.

    eNP with 3SG always receives referential reading in the sense of Donnellan (1966). As the following pair shows, in contrast to the definite article in the translation, 3SG appears only in case the speaker means a particular mountain.

(22)   a.   Petja kaji-s   med ŝuŝyd gura.
              Peter climb-PRT most high   mountain
              'Peter climbed the highest mountain.'

         b.   Petja kaji-s   med ŝuŝyd gura-se.
              Peter climb-PRT most high   mountain-3SG.ACC
              'Peter climbed the highest mountain.' (Consultant's comment: specifically
              that mountain)

Somewhat problematic for this proposal are 3SG uses in contexts where the referent belongs to a group, such as (4). Tentatively, they may be accommodated on the assumption that there can be a "salience tie", which means that more than one individual can be referred to using a given eNP-3SG.

    As the data from Mari and Khanty show, if we were to extend the semantics in (20) to 3SG in those languages, our model would severely overgenerate. This means that we need to modify (20) for Mari and Khanty to exclude certain contexts. For instance, one series of contexts to be excluded in Khanty are the ones where there is no discourse antecedent.

4.2   3SG in Khanty

The central component in the semantics of 3SG in Khanty seems to be an anaphor-antecedent relation. Recall that it is not possible to use eNP-3SG in Khanty to refer to individuals that were not mentioned previously. Provided we can define a salience ranking in such a way that the relevant antecedent referent will come out as the most salient individual (with the relevant property), the semantics of 3SG in Khanty differs minimally from that of Komi 3SG: all we need to do is to restrict the domain of the 3SG-function to sets introduced in the discourse.[4]

    The domain of the property argument of the function denoted by Khanty 3SG is restricted to properties that are introduced in the discourse ($Dd(iscourse)_{<e,t>}$). Otherwise it is identical to (20). The function outputs the most salient individual with the relevant property *among those introduced in the discourse*.

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[4]For instance, Von Heusinger (2004) proposes that indefinites update the global choice function to the effect that the referent of an indefinite becomes the most salient individual (with respect to the relevant property).

(23) $[\![3SG]\!] = \lambda P_{<e,t>} \in Dd_{<e,t>} . F_d(P)$ [Khanty]

(24) $[\![tree\ 3SG]\!]^{F_d} = [\![3SG]\!]^{F_d}([\![tree]\!])$ = the most salient tree among those mentioned in the discourse

4.3   3SG in Mari

Finally, what seems to be of crucial importance for the non-possessive use of 3SG in Mari is the presence of an explicitly invoked set out of which the referent is picked. Pre-theoretically, in Mari the choice of the referent is made based not on salience, by rather on the membership in a (salient) set. That is, we have a different sort of context-dependency than in Komi and Khanty: instead of a salience ranking of individuals, the context provides a membership set (if any).

I model this by introducing a silent set pronoun in the LF of 3SG, whose denotation serves as an argument of the 3SG-function. I assume that the set variable is assigned a value by a contextual assignment function. This cannot be just any set, however. We saw that in Mari the relevant set is either a group explicitly introduced in the previous discourse, or an alternative set associated with contrastive focus. The latter scenario is illustrated in (16) and also in (25-b) below.

(25)   a.   Petər-e-za   omsa-(*ž-ə)m!
             close-IMP-PL door-(*3SG-)ACC
             'Close the door (you guys)!'

       b.   Omsa-ž-əm   petr-e!
             door-3SG-ACC close-IMP
             (Both the window and the door are open) 'Close the door (not the window)!'
                                                                                        [Mari]

Notice also the word order difference: the form *omsa-ž-əm* is contrastively focalized in (25-b) and occupies the initial position. I argue that the focus alternative set in the classic sense of Rooth (1992) is what becomes the value of the set argument of 3SG in this case. In the absence of such a set, the use of 3SG is infelicitous.

In view of the requirement that there be an explicitly indicated set, I propose that the domain of the set argument in the function denoted by Mari 3SG is restricted to the sets already introduced in the discourse. I also assume that the domain of discourse sets involves only non-singletons. The 3SG-function given below takes a set and a nominal property and returns a property to belong to the relevant set and to have the relevant property. Now, we need to distinguish sets as referents of eNP from sets as denotations of bare nominals, in order to draw the right distinction between the behaviour of 3SG in Khanty and Mari. I represent the domain of "referent-sets" as Sd(discourse)$_{<e,t>}$.[5]

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[5]Of course, this is just a shortcut for a model-theoretic difference between the two kinds of objects. That there is a difference and that nouns denote more complex object than just sets of individuals is not an unusual assumption in the recent literature on the eNP semantics (e.g. the situation semantics approach of Elbourne (2008) whereby nouns denote functions from situations to properties of individuals.)

(26) $[\![3SG]\!] = \lambda C_{<e,t>} \in Sd_{<e,t>} \, . \, \lambda P_{<e,t>} \, . \, \lambda x \, . \, P(x) \, \& \, x \in C$

Below I illustrated this for the eNP *pyrysše* ($\approx$ 'a cat among those').

(27) $[\![cat \; 3SG \; C_1]\!]^g = [\![3SG]\!](g(1))([\![cat]\!]) = \lambda x \, . \, x$ is a cat that belongs to a previously mentioned set of cat

Unlike in case of salience-based global choice functions which are central to the 3SG semantics in Komi and Khanty, here we obtain just a property to belong to such and such set. The individual argument, I assume, gets existentially bound at some level. This is similar to what was proposed by Gillon (2006) for specificity markers in Skwxwú7mesh, except that for Gillon (2006) the set variable ranges over all sets and the existential quantification is done via an existentially bound choice function.

The ground covered by non-possessive 3SG in Mari seems to be somewhat similar to the role of partitive constructions in some Indo-European languages. Falco and Zamparelli (2013), building on Enç's (1991) insight, develop the notion of P(artitive)-specificity, which is essentially covert partitivity, involving syntactic ellipsis of a full-fledged partitive construction, as illustrated below for the English example *John bought ten cheap pens yesterday, but **two** did not write well*. Here the first NP is always phonologically null, while the embedded DP, which denotes the set of which the referent of the whole expression is a member, undergoes ellipsis.

(28)   Two $_{NP1}\emptyset_{pens}$ ~~[of [the $_{NP2}$[ten pens]]]~~

An analysis of this type seems to not be available for Mari where, to my knowledge, there is no overt construction that could serve as a basis for non-possessive 3SG marking. It is impossible to express a set-membership relation with an overt genitive construction, as (29-c) shows.

(29)   a.   Rveze-vlak juštə-aš   kaj-en-ə.
              boy-PL   splash-INF go-PST-3PL
              'The boys went to splash (in the river).'

         b.   Kum rveze-že ij-ən   mošt-en ogətəl.
              three boy-3SG swim-PCP can-PCP NEG.PST.3PL
              'Three boys (of those) did not know how to swim.'

         c.   *Kum rveze-vlak-ən rveze-že ij-ən   mošt-en ogətəl.
              three boy-PL-GEN   boy-3SG swim-PCP can-PCP NEG.PST.3PL
              Intended: 'Three of those boys did not know how to swim.'

In (29-c) the only available interpretation of 3SG is the possessive one: the sentence means that three boys that are owned by some other boys did not know how to swim. This brings us to a more general discussion of the relation between non-possessive and possessive 3SG uses.

5.   Interaction with possessivity

In the previous section I proposed a formal semantics of 3SG on its non-possessive uses in Komi, Mari, and Khanty.

The choice-function approach allows one to see the commonality behind 3SG uses in these language, which is a natural wish given that it is hardly a coincidence that the three languages use cognate suffixes to mark some non-possessive category, as in (1). Obviously, another non-accidental fact is that this suffix is actually used to express proper possessive relations. A natural question to ask then is what is the relation between semantics of possessivity proper and semantics of non-possessive 3SG as laid out in previous sections?

In Germanic languages the prenominal possessor is used only for *functional* possessive relations, that is, those that relate an owner to the maximal individual satisfying the nominal description (Partee 2006, Barker 2008 a.o.). For instance, *my two daughters* in English is felicitous as long as the maximal set of speaker's daughters has two members. That is, it cannot be used when there are four daughters altogether. For relations whereby a possessor is potentially related to multiple possessums a prepositional partitive construction is used (*two of my daughters*). This is not the case in the languages considered here: in Mari it is possible to use the form *ik üdər-em* (one daughter-1SG) even if the speaker has more than one daughter. It seems that we can say that the role of the possessive suffix is to pick an individual out of a set of individuals with the relevant property belonging to some person. For instance, the role of a 1SG suffix in dog-1SG is to pick an individual out of a set of dogs belonging to the speaker.

To capture non-functionality of the possessive relation marked by the possessive suffixes, as well as to establish a connection between possessive and non-possessive uses of 3SG, as a working hypothesis, I propose to treat possessive markers just like 3SG markers in each language, with additional provisions for the restrictions on the relevant set.

Recall that in Komi the 3SG-function picks out the most salient individual according to a given contextual salience ranking. For the treatment of possessors I propose just one additional assumption, namely, that individuals owned by the speaker and by listener occupy the top-most and the second top-most ranges on the salience ranking, while all other individuals have lower ranks. While the 3SG-function picks an individual out of those within the lower range, I propose that $[\![1SG]\!]$ and $[\![2SG]\!]$ pick individuals out of ranges that include individuals associated with the speaker and the listener, respectively. In fact, assuming that the prominence of any person/object in the discourse universe promotes individuals owned/associated with that person/object up the prominence ranking, 3SG in Komi on possessive and non-possessive uses can have exactly the same semantics: the most salient individual within the "3SG" range may be there because it is owned/associated with some already salient individual. In the latter case we get a "possessive" reading.

The following exemplifies the proposal for the 1SG maker, where the subscript c/1 on the salience-based choice-function indicates that the function corresponds only to the top-most range of the discourse-given salience ranking.

(30) $[\![1SG]\!] = \lambda P_{<e,t>} . F_{c/1}(P)$ [Komi]

Applying this to a toy example, we get the following.

(31) $[\![dog\ 1SG]\!]^{Fc/1} = [\![1SG]\!]^{Fc/1}([\![ponm]\!]) =$ the most salient dog among the individuals owned by the speaker (i.e. among the individuals at the top of the ranking)

I propose the same for Khanty.

    Finally, the semantics of possessivity markers in Mari has to make appeal to an explicitly given set if we want to keep parallel with the semantics of Mari 3SG. Technically this can be done by associating each form in the paradigm with corresponding restrictions on the domain of the set argument. This is exemplified below for 1SG. This time the subscript d/1 indicates that the domain of the set variable is restricted to the sets whose members are owned by the speaker.

(32) $[\![1SG]\!] = \lambda C_{<e,t>} \in S_{d/1<e,t>} . \lambda P_{<e,t>} . \lambda x . P(x)\ \&\ x \in C$ [Mari]

The interpretation of the expression *pyrysəm* ('a cat of mine') then comes out as follows.

(33) $[\![cat\ 1SG\ C_1]\!]^g = [\![1SG]\!](g(1))([\![cat]\!]) = \lambda x .$ x is a cat that belongs to a previously mentioned set of cats that belong to the speaker

So far the proposed difference in possessive semantics between Komi and Mari is not justified by any empirical facts. It is simply the most economical solution theoretically to have basically the same semantics of a marker in both possessive and non-possessive uses in a given language. In turn, the difference in non-possessive semantics between Komi and Mari is justified by starkly different distributional patterns.

    What are distributional predictions made by the proposed difference in possessive semantics? It follows from my proposal that, for instance, eNP-1SG in Komi could not be marked, in addition, by 3SG (even if we put the type-mismatch aside): the referent picked out by $[\![1SG]\!]$ is always more salient than the referent picked out by $[\![3SG]\!]$, by virtue of the inherent properties of the salience ranking: individuals associated with the speaker occupy the top-most range. In contrast, in Mari the property of belonging to an already mentioned set (the denotation of eNP-3SG) is independent from the property of belonging to the set of objects owned by the speaker (the denotation of eNP-1SG).

    At this point we can make the following distributional prediction: 3SG should be able to co-occur with 1/2 possessive suffix in Mari but not in Komi. The prediction is borne out, as the following contrasting pair illustrates.

(34)   Uškal-em-že šiž-eš   što məj tud-əm užal-em
    cow-1SG-3SG feel-PRS.3SG that I   he-ACC sell-PRS.1SG
    'A cow of mine (among those) feels that I'm going to sell her.'
    (Context: I have four cows. I want to sell one of them)   [Mari]

(35)   Sy-a   mösk-(*ym)-ys čuvstvujt-ö, myj me möd-a   sij-ö
    that-NOM cow-(*1SG)-3SG feel-PRS.3SG that I   want-PRS.1SG that-ACC
    vuzoo-ny
    sell-INF

'That cow (*of mine) feels that I want to sell her.'
(Context: I have four cows. I want to sell one of them)   [Komi]

6.   Concluding remarks

In this paper I examined patterns of non-possessive uses of 3SG in Komi, Khanty, and Mari, and proposed that the suffix encodes different reference-related categories: salience-based in Komi and Khanty and set-membership based in Mari. I also showed that it is possible to capture possessive semantics using the same mechanisms.

The hypothesis that on proper possessive uses the possessive markers have almost the same semantics as 3SG on non-possessive uses makes the right prediction about seemingly independent patterns of (non)co-occurrence of 3SG with a possessive suffix proper. The key to the unified treatment of the semantics of possessive and non-possessive uses of 3SG in Komi and Khanty was the proposal that the place of an individual on the salience ranking is affected by whether it is owned/associated with the speaker, or the hearer, or else some other salient individual. In other words, I proposed that the salience ranking relevant for the semantics of possessive suffixes is partially derived from the hierarchy of "possessors". Assuming that $[\![1SG]\!]$ and $[\![2SG]\!]$ are associated with specific ranges on the ranking (individuals owned by the speaker/listener), while $[\![3SG]\!]$ covers the rest, it is unsurprising that it is 3SG that is used in both possessive and non-possessive contexts.

It needs to be noted that the analysis of the semantics of 3SG in Komi and Khanty remains incomplete without an articulated theory of the dynamics of the prominence ranking in the discourse and, specifically, how the salience of individuals (possessors) translates into the salience of objects they own. It would also need to be spelled out what exactly it means for a set to be explicitly indicated (Mari): while the generalization is simple enough (set as a referent of a previously mentioned eNP or a focus-invoked alternative set), it is not immediately clear how to capture this in a unified manner.

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