

Systemic polyfunctionality and morphology-syntax interdependencies

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1. Systemic polyfunctionality

Cross-linguistically person/number markers (PNMs) in verbal paradigms often exhibit similarities (up to identity) with person/number markers in nominal possessive constructions (Allen 1964, Radics 1980, Siewierska 1998, 2004, among others). For example, Siewierska 1998:17 observes that in her sample of the relevant 157 languages containing both nominal and verbal affixes among the 240 languages examined, “83 per cent of the languages in the sample there is a degree of phonemic correspondence between some of the possessor affixes and some of the verbal person forms. Moreover, in just over half of the languages this correspondence is one of identity or near-identity.” Similar observations hold for subject and object PNMs (e.g. in Bantu), direct and indirect object PNMs (e.g. in Romance), direct objects and preposition complement PNMs (e.g. in Iranian).

Here we will take these similarities to represent a prime example of *systemic polyfunctionality*, the situation where a single set of formatives is deployed in different parts of an inflection system to serve different functions, either across paradigms or within a single paradigm. Systemic polyfunctionality is not limited to the domain of PNMs, but PNM is the domain where it often occurs.

A satisfactory account of polyfunctionality should both *represent* and *motivate* the fact that the same forms are used for different functions. In this talk we will argue that this is best captured by assuming a network of horizontal relations between words sharing exponents for different functions: the same phonological exponents exhibit variation with respect to the values concerning grammatical function and type (*pronominal* versus *agreement*), while person/number features remain invariant across all uses.

The strategy we will adopt is to examine in detail a fragment of Tundra Nenets (Samoyedic) illustrating pervasive polyfunctionality of PNMs (Ackerman & Nikolaeva to appear). We will elucidate the different empirical distributions by presenting an analysis of each construction using a combination of Paradigm Function Morphology for inflection (Stump 2001; Spencer & Stump, ms.) and Sign-Based Construction Grammar (Sag, in press) for syntactic uses of these markers. Starting from these basic constructions, we will then consider the possibility of addressing polyfunctionality through conventional methods of abstraction of common features via multiple inheritance and/or defaults. We will conclude that such methods, while adequate for (re)describing the data, do not do provide insight into the generalizations relating the family of forms. We explore the notion that horizontal relations (Jackendoff 1975, Bochner 1993, Booij 2011, among others) between constructions reflect the effects of diachronic motivation with the observed synchronic variations being a residuum of these effects.

2. Nenets PNM in conventional morphological constructions

We first compare Tundra Nenets verbal and nominal inflection.¹ Table 1 provides inflected forms for the verb *me-* ‘take’ and *te* ‘flow’ in the indicative aorist. Tundra Nenets has 3 distinct conjugation patterns: *Subjective*, reflecting 9 person/number properties of the SUBJ; *Objective*, reflecting 9 person/number properties of the SUBJ and number values for the OBJECT; *Reflexive*, reflecting 9 person/number values of the SUBJ.² While there are dedicated single sets of markers (with some syncretisms) for the *Subjective* (Set I) and *Reflexive* (Set IV) paradigms, there are two sets of markers for the *Objective* paradigms, identified in bold: there is one set for singular objects, and one set for both dual and plural objects.

Indicative aorist for <i>me-</i> ‘take’ and <i>te</i> ‘flow’					
	<i>Subj.</i>	<i>Obj.SG</i>	<i>Obj.DU</i>	<i>Obj.PL</i>	<i>Reflx.</i>
1SG	meø-d ^o m	meø-w ^o	mengaxøyu-n ^o	meyø-n ^o	teyøw ^o q
1DU	me ^o nyih	me ^o myih	mengaxøyu- nyih	mey ^o nyih	tey ^o nyih
1PL	me ^o waq	me ^o waq	mengaxøyu- naq	mey ^o - naq	tey ^o naq

Table 1

Salminen 1997:96 provides a cogent representation for the descriptive syntagmatic generalizations found in e.g., pedagogical grammars, about the inflected words filling cells in Tundra Nenets verbal conjugation paradigms.³ A careful look at Table 2 reveals what Ackerman et. al. 2009 referred to as illustrating the nature of words as *recombinant gestalts*: these are instances where the meaning of the word resides in the configurative pattern of familiar pieces, rather than in sum of individually meaningful pieces. Of particular pertinence is the distribution of stem types and suffix sets for the *Objective* paradigm: the set marking singular objects (II) appears with the general finite stem, while the set marking dual and plural objects (III) occurs with the dual object stem or the special finite stem, respectively.

CONJUGATION	OBJ NUMBER	VERB STEM TYPE	SUFFIX SET
<i>Subjective</i>		General finite stem	I
	<i>sg</i>		II
<i>Objective</i>	<i>du</i>	Dual object stem	III
	<i>pl</i>	Special finite stem	
<i>Reflexive</i>			IV

Table 2

From the perspective of the functions of the markers in sets II and III, they identify, as mentioned previously, the person/number of the SUBJECT and the number of the OBJECT: for both of these grammatical relations they can function as incorporated pronouns.

Compare the verbal subparadigm with the subparadigm for the type N_{POSSESSED} in Table 3. The PNM in the possessive paradigm are identical to those in the Objective conjugation, but here they

¹ The examples presented here are from Salminen 1998 and, therefore, use his orthographic system, which is described in both Salminen 1998 and 1997.

² Conjugation class is determined by a mixture of transitivity, lexical semantics, and lexical stipulation (see Tereshchenko (), Kortvely (2005), and Khanina (2007) for further discussion.

³ We adapt his schema in Table 2.

function as pronominal person/number markers of the POSS-or argument and number markers for the POSS-ed. Though not detailed in Table 3, there are different paradigms of exponents depending on the case of the possessed noun, i.e., Table 3 present the Nominative forms for 1 person POSS-ors and 3 numbers of the POSS-ed.

Nominative case for type N_{POSS} of <i>tí`reindeer'</i>			
	POSS-ed .SG	POSS-ed.DU	POSS-ed.PL
1SG	te- w ^o	tex ^o yu- n ^o	tí- n ^o
1DU	te- myih	tex ^o yu- nyih	tí- nyih
1PL	te- waq	tex ^o yu- naq	tí- naq

Table 3

A comparison between Tables 1 and 2 demonstrates that sets II and III are used with words bearing two-place relations, i.e., transitive verbs and possessed nouns, invariantly marking the person/number of one valent and only the number of the other. These markers can represent incorporated pronominals or agreement and, hence, are of type *pro* or *agr*. The variation evident between these uses concerns their mapping to the grammatical functions and semantics characteristic for combination with specific lexical categories: person/number indexes the SUBJ or POSS-or, while number indexes the OBJ or POSS-ed.

In addition to the uses identified in Tables 1 and 3, the PNMs also designate the pronominal GROUND argument with postpositions, as in (1), and the person/number pronominal for only SUBJECTs with inflectable non-finite verbs heading non-finite clauses, as in (2).

1. n'a^o-n'i wəsadey^oq
to-**1sg** turn.refl.3sg
'He turned to me.' (Tereshchenko 50)
2. [xon'o-qma-x^odə-n'i] səwən^o wirmabərŋa-q
sleep-perf.an-abl-**1sg** eye.pl.1sg hardly.open-3pl
'After/because I have slept, my eyes hardly open.' (Tereshchenko 63)

Beyond the similarities and differences exhibited by these of PNMs, in contrast to their uses with finite verbs and possessed nouns, there is another dimension of polyfunctionality that needs to be addressed: the exponents for 1SG in (1) and (2) are the ones found in the genitive singular paradigm of PNMs for possessed nouns.

Given this array of distributions, the challenge is to provide an explicit account of the polyfunctionality. Assuming a framework combining an SBCG for syntax and PFM for inflectional morphology (Bonami & Webelhuth, in press), we will develop an analysis that captures the commonality between the inflection system of the different categories through the postulation of a list-valued AGR feature: a single set of rules of exponence realize AGR across categories, while each category assumes a different mapping between AGR and semantic roles or grammatical functions. The crucial observation is that it is the introduction of a parochial feature, rather than the postulation of a common supertype with or without associated default information, that captures the commonality between categories.

3. Nenets PNMs in an unconventional syntactic construction

Having provided an approach to the inflectional use of PNMs across categories, we will extend the empirical challenge to the use of these polyfunctional markers in an unusual syntactic construction: this is the morphology-syntax interdependency in the title. In particular, we demonstrate their function in a typologically unusual non-subject prenominal relative clause construction that appears to exist only in several genetically related and unrelated languages of Eurasia (see Ackerman & Nikolaeva and other references on PRC). This syntactic construction is typified in (3) with relativized OBJECTS:⁴ (3a) contains a singular modified noun, (3b) a dual one, and (3c) a plural one.

- 3a. [t'ey°h xada-wi°] te-da
yesterday kill-PART.PERF reindeer-3SG
'the reindeer Wera killed yesterday...'
- b. [xada-wi°] wen'ako-x°yu-t° n'ah si°rŋa-d°m
kill-PERF.PART dog-GEN.DU.2SG at-PP look-1SG
'I am looking at the dogs (DU) you killed.'
- c. [xada-wi°] tı-d° moneŋŋa-dəm-c°
kill-PART.PERF reindeer-ACC.PL.2SG see-1SG-PAST
'I saw the reindeer (PL) you killed.'

In (3) the modified nouns are inflected with nominal possessive markers, but in these constructions the markers indicate the person/number properties of the SUBJECT of the verbal modifier as well as the number properties of its relativized OBJECT complement. As with the verbal markers, the sets of exponents for singular possessed nouns contrasts with a single set that covers both dual and plural possessed nouns, though the identity of these latter markers is obscured owing to the fact that (3b) and (3c) belong to different case paradigms. This distribution and use of these markers suggests that the analysis of the morphology of these polyfunctional markers should be able to motivate its redeployment in these unusual relative clauses.

These data distributions suggest the importance of analogical extensions for polyfunctionality and raise questions concerning whether hierarchies and defaults are the appropriate tools to model systemic relatedness among polyfunctional forms.

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⁴ We have previously seen only the nominative forms of PNMs for possessed names, while (3b) and (3c) provide their ACC and GEN case variants.

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