

**Identity in Form, Difference in Function:
The Person/Number Paradigm in W. Armenian and N.Ostyak¹**

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¹ The W. Armenian data derive from consultation with Araxi Tatoulian and Dikran Karagueuzian: we are grateful to them for their assistance. The N. Ostytak data derive from the fieldwork of one of the co-authors: they are from Irina Nikolaeva's fieldnotes from 1989-1993. The abbreviations used in the text are as follows: PNM = Person/Number marker, SG = singular, PL = plural, GEN = genitive, NOM = nominative, NOMIN = nominalizer, DEF = definite, PERF = perfect, PART = participle, PRES = present, LAT = lative, ABL = ablative, PASS = passive, LOC = locative, RN = relative noun. We would like to thank Chris Barker, Mary Dalrymple, Rob Malouf, John Moore, Eric Potsdam and Masha Polinsky for helpful comments on previous drafts.

Introduction

In this paper we address two large and related issues. First, we inquire into what might motivate certain languages to encode certain notions in particular ways. We do so by focusing on a particular empirical problem. There is an apparently odd strategy used to convey "agentive" pronominal readings in what are traditionally analysed as pronominal relatives in Western Armenian and Northern Ostyak: person/number markers (PNM) construed as pronominal SUBJs appear on the relative noun (RN), rather than on a modifying participle. We argue that this strategy for relatives derives from analogy with the surface form (both phrase structural and morphological) of modified possessive constructions as well with the functional information associated with them. The second issue relates to the first: What sorts of theoretical assumptions are helpful, perhaps necessary, to explain why we find the particular encodings we find? We will argue that the distinction and conflicts between "external structure" (c-(on)stituent structure and morphological expression in Bresnan 1996:34) and "internal structure" (f-(un)ctional structure in Bresnan 1996:34) assumed within LFG helps reveal the motivation for this analogy.

From the perspective of the other papers in the grammaticalization workshop, the present paper can be seen as a companion to the contribution by Vincent and Bojars: whereas they present evidence for the need to posit multiple surface expressions associated with a single functional structure, the evidence here suggests the need to posit a single surface expression associated with multiple functional structures. This latter state of affairs appears to arise from *reanalysis* as characterized in Harris and Campbell 1995:50, following Langacker 1977:58:

Reanalysis is a mechanism which changes the underlying structure of a syntactic pattern and which does not involve any modification of its surface manifestation.

As will be seen, "underlying structure" will be interpreted here as the standard f-structures of LFG.

Western Armenian (Indo-European) and Northern Ostyak (the Ugric branch of Uralic) are geographically and genetically unrelated languages. Each language contains suffixal person/number marking paradigms (henceforth PNM) whose forms appear on nominals and adpositions.² The suffixes in these paradigms arose from the grammaticalization of pronouns. Simplified schemas of the relevant paradigms are presented below, where the person/number of the possessor varies while the number of the possessed element remains in the singular:³

1. Person/Number Marking (PNM) Paradigms

²The presence of PNMs on postpositions is a residue of the diachronic development of postpositions from nouns in apposition possessors within nominal possessive constructions.

³For Ostyak we have simplified forms across nominal declension classes and omitted the paradigms for the dual and plural forms of the possessed entities since they will not play a role here.

W. Armenian: sing. possessed			N. Ostytak: sing. possessed		
	sing.	pl.	sing.	dual	pl.
1	-(^h)s	-'/n	-em	-(^h)m'n-ew	
2	-(^h)t	-'/n	-en	-(^h)n	-(^h)n
3	-'/n	-'/n	-(^h)l	-(^h)n	-el

As can be seen, W. Armenian only has distinctive endings for 1st and 2nd singular: the allomorphic variants *schwa* and *-n* in the rest of the paradigm function as definite markers in the language: there will be pronominal interpretations only for 1st and 2nd SG. PNMs in W. Armenian (WA), but for the full paradigm in N. Ostyak (NO).

PNM's appear on nominals to indicate the person/number of the pronominal possessor: this will be referred to as the "possessive" reading. Illustrative examples are presented in (2) for both pronominal and lexical NP possessors. As indicated, a possessive 1st sing. pronoun is optional in WA, appearing in the GEN in (2a), while the PNM appears on the possessed element serving as nominal head of the possessive NP construction. In (2b.) there is a lexical NP possessor in the GEN: the DEF inflectional marker is obligatory. In NO, represented by (2c.), the expression of a pronominal possessor for all person/number combinations is associated with the presence of a PNM and the optional presence of a nominative independent pronoun. In contrast, there is no PNM on the head nominal for the expression of a lexical NP possessor, as exemplified by (2d).

2. Possessive readings:

W. Armenian: (WA)

- (a.) (im) hin kirk-'s PRONOMINAL
 1SG-GEN old book-1SG
 `my old book'
- (b.) martun hin kirk'
 man-gen old book-def LEXICAL NP
 `the man's book'

N. Ostyak: (NO)

- (c.) (ma) pu*r's/ nep'k-em PRONOMINAL
 1SG-NOM old book-1SG
 `my old book'
- (d.) xuj pu&r's/ nep'k LEXICAL NP

man old book
 `the man's old book'

Given the optionality of the independent possessive pronoun in examples such as (2a) and (2c), the PNM itself will be interpreted as an incorporated possessive pronoun (following the proposal in Bresnan and Mchombo 1987). As previously mentioned, this pronominal interpretation will be for only the 1st and 2nd sg in WA and the entire PNM paradigm in Ostyak.

We assume here LFG's Relativized Lexical Integrity Principle, cited in (3): (Bresnan 1996:84)⁴

- 3. Morphologically complete words are leaves of the c-structure tree and each leaf corresponds to one and only one c-structure node.

Given this, the constituent structure of the possessive construction can be simply schematized as in (4), using WA as the exemplar: the head nominal is inflected with the 1SG PNM in (4a) and receives a pronominal interpretation, while the head nominal exhibits obligatory DEF inflection with a lexical NP possessor in (4b).

4.

		NP			
	NP		N'		
			AP		N
			A		
(a)	(im)	hin	kirk-'s	PRONOMINAL	
	1SG-GEN	old	book-1SG		
		`my old book'			
(b)	martun	hin	kirk'	LEXICAL NP	
	man-GEN	old	book-DEF		
		`the man's book'			

Each language also employs PNMs to indicate the "agentive" pronominal argument associated with a deverbal form (i.e., a participle) contained in prenominal relative constructions: this will be referred to as the "agentive reading", although it would be more accurate to describe this as a "participant role reading", since, as will be seen, it is not restricted to "agents" but reflects the role of the "highest argument" in the argument structure of participles. Illustrative examples are presented in (5): the WA examples in (5a) for a pronominal and (5b) for a lexical np demonstrate that the use of either the perfect

⁴This is similar to the position independently argued for in Ackerman and LeSourd 1993/1997 and underlying the theory of predicates developed in Ackerman and Webelhuth 1997.

in (5b). Using the Keenan's descriptive term *relative noun* (RN) for the modified head nominal of the relative, we can see that the RN is identified with the OBJ complement of the participle in (5a-c). The NO examples show that the past participle or present participle can be used for a pronominal “agentive” reading in (5d) and a lexical np “agentive” reading in (5e).⁵ The author of the book is unambiguously expressed in the NO sentence (5d), while the owner of the book is left unspecified

It should be obvious that the W. Armenian structures evident in (5a), (5b) formally parallel the possessive constructions in (2a) and (2b), while the N. Ostyak examples in (5d) and (5e) parallel those exhibited by the possessive constructions in (2c) and (2d). In particular, pronominal interpretations are associated with the presence of PNMS in both WA (for 1st and 2nd sg) and NO, while lexical NPS co-occur with obligatory DEF markers in WA and with the absence of PNMS in NO. Given this parallelism we will represent the “agentive” as in (7), using WA as the exemplar (and acknowledging that this is perhaps an odd representation for pronominal relatives).

7.		NP			
		NP	N'		
			AP	N	
			A		
(a)	(im)	kradz	kirk-' <u>s</u>	PRONOMINAL	
	1SG-GEN	write-PAST.PART	book-1SG		
		`the book I wrote'			
(b)	martun	kradz	kirk-'	LEXICAL NP	
	man-GEN	write-past.part	book-DEF		
		`the book the man wrote'			

It should be observed that the "agentive" pronominal arguments in (5) are not marked on the subcategorizing head of that argument, i.e., the participle, but rather on the head of the syntactic construction, i.e., the NOMINAL. To see this point more clearly it is useful to consider an alternative marking strategy found in Eastern Osytak. This language also reflects a contrast between the "possessive" and "agentive" readings with the use of PNMS: (8) presents the PNM suffix paradigm for singular possessed entities in the Vach dialect of Eastern Ostyak (from Honti 1984):

8.		sing.	dual	pl.
	1	-(<u>'</u> /i/a<)m	-(<u>'</u>)m'n-(o<)P	
	2	-(<u>'</u> /i/a<)n	-(<u>'</u>)t'n	-(<u>'</u>)t'n

⁵Present participles are also possible, but far less attested in the corpora used for the present paper.

3 -(')l -(')t'n -t'l

A Vach Ostyak possessive construction employing the 1PL PNM is presented in example (9), where the PNM appears on the head noun in the possessive reading:

9. Possessive reading in Vach Ostyak: (Teres*kin 1961))

(me&N)		ke*c*a<Nk'	e*pi-V
1PL-NOM	sick		father-1PL
	`our sick father'		

This can be represented configurationally as in (10):

10.

	NP		
	NP		N'
		AP	N
	A		
	(me&N)	ke*c*a<Nk'	e*pi-V
	1PL	sick	father-1PL
	`our sick father'		

To convey an "agentive" reading Eastern Ostyak utilizes a PNM paradigm clearly related to the possessive paradigm. The relevant paradigm is presented in (11):

11.	sing.	dual	pl.
	1 -a<m	-äm'n	-o<P
	2 -än	-in	-in
	3 -äl	-in	-il

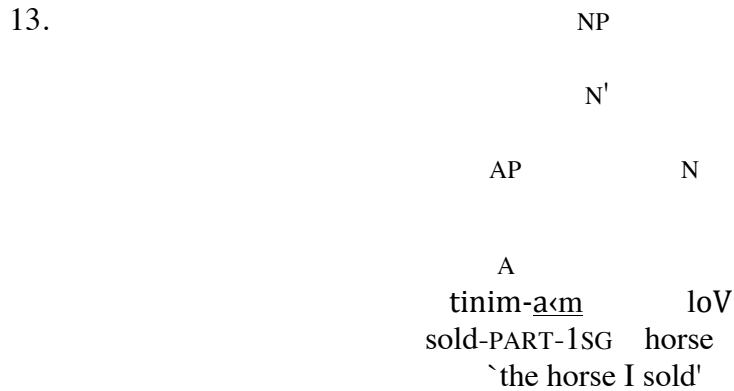
PNMs appear on the participle and indicate the pronominal agent (i.e., highest participant role) of the action denoted by the participle: in contrast to what occurs in NO, the nominal head of the pronominal relative, i.e., `book', does not bear a PNM in this agentive use. This configuration of properties is illustrated in (12):⁶

12. Agentive reading in Vach Ostyak:

⁶As mentioned previously, this is the pattern found in eastern Ostyak as well.

tinim-a<m loV
 sold-PART-1SG horse
 `the horse I sold'

A constituent structure representation can be represented as in (13):



Sigler (1994) demonstrates that the distributional differences between PNMs shown here for NO and Eastern Ostyak, obtain for Western and Eastern Armenian: that is, whereas WA behaves like NO, Eastern Armenian behaves like Eastern Ostyak.

From a descriptive perspective, we can define general schemata for ownership and agentive PNM constructions for W. Armenian and N. Ostyak, referred to as Pattern A versus E. Armenian and Eastern Ostyak, referred to as Pattern B, as in (14).

14. Schemata for the expression of pronominal "possessive" and pronominal "agentive" readings: 1ST & 2ND SG in W. Armenian and all member of the paradigm in N. Ostyak.

Pattern A: W. Armenian/N. Ostyak: Pattern B: E. Armenian/Vach Ostyak

ownership: (NP₁) (MODIFIER) NP₂-PNM (NP₁) (MODIFIER) NP₂-PNM

"agentive": (NP₁) PART NP₂-PNM (NP₁) PART-PNM NP₂-∅

Additionally, we can define schemata for the expression of lexical NPs possessors and "agents" as in 15.

15. "agentive" readings in Pattern A:

W. Armenian:

N. Ostyak:

ownership:	NP ₁	(MODIFIER)	NP ₂ -DEF	NP ₁	(MODIFIER)	NP ₂
"agentive":	NP ₁	PART	NP ₂ -DEF	NP ₁	PART	NP ₂

The schemata in (14) and (15) yield the generalizations in (16):

- (16) (a.) By hypothesis, the PNMs function pronominally.
 (b.) The pronominal PNM is identified with the SUBJ complement of the participle and the RN with the OBJ.
 (c.) The possessive construction in each language representing Pattern A is formally identical to the relative construction for expressing both pronominals and lexical NPs.

There is one large diachronic question raised by these constructions. This is formulated in (17):

17. What are the paths of development that account for the similarities and divergences in expression displayed by Patterns A and B?

This clearly presupposes a comprehensive description of both of these constructions in each of the languages and is a task well-beyond the scope of a short paper. We focus here on certain aspects of the development of the grammaticalization of pronouns: their uses for "possessive" and "agentive" readings, their morphological distribution, and their particular encoding within larger constructions.

There is a sense, we believe, in which Pattern B seems more intuitive than Pattern A for the expression of a participant role of the participle, i.e., the "agentive" reading: the PNM is located on the wordform whose argument (and grammatical function) requirements it appears to satisfy. Given this "naturalness" hypothesis, we would like to focus on what seems the less intuitive encoding exemplified by Pattern A. Since Patterns A and B both exist within related languages it would seem reasonable to inquire why an apparently less attractive option is taken at all. In other words, why do we find Pattern A? Let's examine Pattern A more closely.

Categoriality of the Participle

The participles heading pronominal relatives can be modified by VP adverbs in both WA and NO. In (18a) the VP adverb *arakoren* 'quickly' modifies and must immediately precede the participle in WA, while in (18b) the adverb *atmes* 'badly' modifies the participle in NO: this type of modification suggests that the participles are verbal.

18. W. Armenian:

- (a.) (ku) arakoren pndradz kirk-´t
 you-2SG.GEN quickly search-PAST.PART book-2SG
 `the book you quickly looked for'

N. Ostyak:

- (b.) nan atmes pon-em tutjux-en ma a&n tulem
 2SG.NOM badly put-PAST.PART wood-2SG 1SG not take-1SG
 `I won't take the wood you put badly

In addition, these participles retain their argument structure and can appear with the same complements with which they co-occur when they act as predicates in finite clauses. In (19a.) we see that in W. Armenian both the sentence adverb `yesterday' and the indirect object governed by the three-place predicate `give' appear in the prenominal relative. Similarly, in (b.) we see that the relative contains an indirect object governed by the three place predicate `give', while in (c.) there is a locative which has scope only within the relative.

19. W. Armenian

- (a.) (im) hima dÂun dvadz nver's
 1SG.GEN yesterday boy-DAT given-PAST.PART letter-1SG
 `the letter I gave to the boy yesterday'

N. Ostyak:

- (b.) lu&w po&x-a mij-'m an-'l
 he-NOM boy-LAT give-PAST.PART cup-3SG
 `the cup he gave to the boy'
- (c.) jos-na us/'-m mir-'l ol'Nna po&t'rt's
 road-LOC meet-PAST.PART people-3SG about told-3SG
 `he told about the people he met on the road'

Thus far we have seen evidence that these entities are verbal. This leaves open the possibility that as modifiers of the head noun they are either verbal nouns (gerunds) or adjectives. Since the PNMs in Pattern A do not appear on participles in prenominal relatives, it might be thought that there is a morphological restriction against their combination with the category represented by participles: in fact, when PNMs do co-occur with participles, the participles are nominal. This nominal use of participles can be seen in (20). When the PNM appears directly on the participle in WA, as in (20a), this has the force of altering its category, so that it becomes, for want of a better term, a "nominalized participle". The nominal status of such forms is particularly evident from the fact that they can bear the plural marker characteristic of nominals as, in (20b). Similarly in NO, the PNM can appear with a participial form as a "nominalized participle": in this language, unlike in WA, there is an explicit nominalizing suffix that appears on the participial stem, as in (20c.).

20. W. Armenian:

(a.) lvatsadz-´s aÂdod-e
 wash-PAST.PART-1SG dirty-COP-3SG
 `the thing I washed is dirty'

(b.) lvatsadz-ner-´s aÂdod-en
 wash-PAST.PART-PL-1SG dirty-COP-3PL
 `the things I washed are dirty.'

N. Ostyak:

(c.) [lu&w ma xo*s!a-em la*sk-´m-´t-l} a*n jo*xt-´s
 he 1-SG at-1-SG throw-PAST.PART.-NOM-3SG not come-3SG
 `the thing he threw at me did not reach me.'

PNMs can only occur on nominals in these languages. In addition, nominals cannot modify other nominals, while adjectives can. Consequently, the absence of PNMs on participles in their attributive use, suggests that these participles are construed as verbal adjectives.⁷

Voice of the participle

Thus far we have provided examples where the participle is transitive: the relativized nominal corresponding to the OBJ argument of the participle and the PNM corresponding to a pronominal interpretation of the SUBJ argument of the participle. For example, we had pronominal interpretations for the SUBJ arguments of the participles in (19), with a construal of the RNs as identified with the OBJs of the participle. These attributions of grammatical functions to the information associated with the relativized noun and the PNM are consistent with the active representations for the participles previously presented in (6).

The active status of these participles is also evidenced by the fact that RN can be identified with the SUBJ complement of the participle, leaving an OBJ complement within the relative. This is illustrated in (21), where a lexical NP serves as the value for the SUBJ argument of the participle. (21a.) shows that when the SUBJ is relativized the OBJ remains in the relative: in WA, as mentioned previously, the head is always marked by a definite marker. The analogous NO example in (21b) reprises an important difference between WA and NO with respect to lexical versus pronominal expression for both possessors

⁷These entities are clearly "mixed categories" of the sort recently investigated in such works as Malouf 1996 and Bresnan 1997.

and “agentives”: unlike in WA, the NO PNM does not appear when a lexical NP is identified with the SUBJ complement of the participle.

21. W. Armenian:

- (a.) [kirk-´ kr-adz] mart-´
 book-DEF write-PERF.PART man-3SG (cf. 5a)
 the man who wrote the book'

N. Ostyak:

- (d.) [nep´k xans-´m} xuj
 book write-PAST.PART man (cf. 5e)
 `the man who wrote the book'

We have suggested that in certain instances the PNMs should be interpreted as pronominals identified with the SUBJ argument of the participle. We have also seen that when a lexical NP is interpreted as the SUBJ, there is no PNM, modulo the requirement in WA that a DEF marker always appear on the head. If there is functional parity between a PNM interpreted as a SUBJ (i.e., the book I wrote - examples (5)) and a lexical NP interpreted as a SUBJ (examples (21)) we would expect there to be some behavioral parallels exhibited by the pronominals and lexical NPs. One type of parallelism comes from reflexive binding. Consider the following data in this connection. (22a) and (22b) illustrate the binding facts in main clauses: in (22a) the lexical NP SUBJ binds the reflexive complement of the adposition, while in (22b) this relation obtains between the independent pronoun SUBJ and the reflexive complement of the adposition. (22a') represents the binding relation in a pronominal relative containing a lexical NP RN identified with the SUBJ complement of the participle: it parallels the relation observable in (22a.), since the nominal `man' is the value of the binder in both cases. Crucially, the binding in (22b') also parallels what we observed in (22b.): the PNM in (22b') exhibits the same binding relation to the reflexive pronoun as the independent pronoun in (22b.) This parallelism between the behaviors of lexical NPs and PNMs with respect to binding suggests that they are associated with the same grammatical function: specifically, they both serve to supply a value for the SUBJ argument of the participle, in a manner to be made precise below. Similarly, with respect to the OBJ of the participle, we can see that it is internal to the relative in (22a'), while it is not in (22b.): this complementary distribution dependent on the lexical NP versus pronominal expression of the SUBJ, suggests that the overt nominal in (22a') and the relativized nominal in (22b') are both identified with the same function. In particular they are both identified with the OBJ argument: again in a way to be made precise below. The preceding discussion leads to the conclusion that the participles are transitive and active.

22. (a.) mart´j inkzinkinj hamar krets kirk´
 man-DEF self-DAT for wrote-3SG book-DEF
 `the man wrote the book for himself

- (b.) yes inkzinkisj hamar kretsi kirk'
 1SG self-DAT-1SG for wrote-1SG book-DEF
 `I wrote the book for myself'
- (a.) [kirk' inkzinkinj hamar kradz} mart'i
 book-DEF self-DAT for written-PAST.PERF man-DEF\
 `the man who wrote the book for himself'
- (b.) [inkzinkisj hamar kradz} kirk's
 self-DAT for written-PAST.PERF book-DEF
 `the book I wrote for myself'

Though the examples we have provided thus far involve transitive verbs, it turns out that both WA and NO permit many sorts of elements to be relativized. In fact, any argument and many adjuncts can be relativized. Some representative examples are provided for W. Armenian in (23) and for N. Ostyak in (24). In (23a.) the RN identified with an indirect object, in (23b.) with case governed oblique complement, in (23c.) with a locative complement, and in (23d.) with a time adjunct.

23. • Indirect OBJ: (cf. example 19a.)

- (a.) [(im) hima naver' dvadz] dÂas
 1SG.GEN yesterday letter-DEF given-PAST.PART boy-1SG
 `the boy I gave the letter to yesterday'

- case governed OBL complements: *antsnil* `pass by' governs ABL case

- (b.) (im) antsadz dun's
 1SG.GEN pass-PAST.PERF house-1SG
 `the house I passed'

- OBLLOC:

- (c.) (im) pnagadz] dun's
 1SG.GEN live-PAST.PERF house-1SG
 `the house I lived in'

- ADJ:

- (d.) (im) z&oÂov' xarnadz or's
 1SG.GEN meeting-ACC disturb-PAST.PERF day-1SG
 `the day I disturbed the meeting'

In (24a.) the RN is identified with a locative ADJ, in (24b) with a goal ADJ, and in in (24c) with an instrument ADJ.

24. • ADJ_{LOC}

(a.) ma ta&pl'lt-'m ur-em jo&xan tamp9ina ul
 1SG.NOM lost-PAST.PART forest-1SG river behindbe-3SG
 `the forest where I got lost is behind the river.'

- ADJGOAL

(b.) takan rupit-'m ox-lam ta*p'ls'm
 hard work-PAST.PART money-1SG lose-PAST-1SG
 `I lost the money I worked hard for.'

- ADJINST:

(c.) na&N jont's-ti} sux'm-l-an xoj-na tusaj't?
 2SG sew-PRES.PART thread-PL-SG who-LOC bring-PASS-3PL
 `who brought the threads you are sewing with?'

As can be seen, all of the constructions presented above have "agentive" pronominal readings for the PNMs. Given our previous conclusion that such readings correspond to an identification with the SUBJ of the participle, these constructions all contain active participles.

In contrast to active participles, pronominal relatives headed by passive participles, do not ever appear with pnms interpreted "agentively". The data in (25) demonstrate the behavior of passive participles. In WA passive participles are marked by the suffix -v-. In (25a) we can see that the agentive argument is realized as an oblique complement in the ABL(lative) case, as is typical for the passive agents in WA. In NO, there are no morphologically passive participles, although there are passive verbs: consequently, voice is evident only from the configuration of arguments co-occurring with the participle. In (25b) we see that the agentive argument is realized as a LOC(ative) marked nominal, as is appropriate for passive agents in NO. In addition, though not illustrated here, NO has a restriction against pronominal passive agents with morphologically passive verb forms and this restriction obtains for these relative constructions as well: there cannot be LOC case-marked pronominals internal to pronominal relatives in this language.

25. W. Armenian:⁸

(a.) intsme kr-v-adz kirk'
 1SG-ABL write-PASS-PERF.PART book-DEF
 `the book written by me'

krvadz A[PART] `written < AG, PAT >'

⁸Note that these constructions are able to have indefinite heads, in contrast with the pronominal relatives with agentive "readings".

OBLABL SUBJ

N. Ostyak:

- (b.) [xuj-na xans-´m nepek
 man-LOC write-PAST.PART book
 `the book written by the man']

PNMs can appear on relativized nouns modified by passive participles: in this instance, they receive only "possessive" interpretations, as illustrated in (26).

26. W. Armenian:

- (a.) [intsme kr-v-adz] kirk-´t
 1SG-ABL write-PASS-PERF.PART book-DEF
 `your book written by me']

N. Ostyak:

- (b.) po&x-na luNt-´m nep´k-em pas*anelti ul
 boy-LOC read-PAST.PART book-1SG table on is-3SG
 `my book read by the boy is on the table.'

All of the data concerning participial modifiers presented so far can be stated as the conditions on the interpretation of PNMS in (27):

27. A PNM is interpreted "agentively" and pronominally iff

- (a) the relativized nouns is identified with a NON-SUBJECT complement of the participle
 (b) the SUBJ complement of the participle is not satisfied internal to the domain defined by it.

For example, the phrases in (23) and (24), as well as, all of the examples with relative nominals identified with the obj of the participle (e.g., the examples in (5)) all comport with this condition: they have non-subject relative nouns and missing subjs identified with pronominal interpretations of the pnms. Conversely, the phrases containing passive participles (e.g., 26) and phrases where the relative noun is identified with the SUBJ of the participle (e.g., 21) do not meet these conditions: when pnms occur in them, they occur with only a "possessive" reading.

The Proposal

Previously we saw that there was a striking parallelism between the surface form of the possessive construction and the “agentive” pronominal relatives. The parallels are summarized in (28):

28. "agentive reading" "possessive reading"

W. Armenian:

LEXICAL NP	nominal head-DEF NP-GEN	nominal head-DEF NP-GEN
PRONOMINAL	nominal head-PNM (1 &2) (pro-GEN)	nominal head-PNM (pro-GEN)

N. Ostyak:

LEXICAL NP	nominal head-∅ NP-NOM	nominal head-∅ NP-NOM
PRONOMINAL	nominal head-PNM (pro-NOM)	nominal head-PNM (pro-NOM)

The identity of surface expression for possessives and pronominal relatives is obvious and striking. Since it is our contention that the possessive construction served as a model for the “agentive” pronominal relative we will provide an analysis of possessive constructions where the possessed head noun is modified by a simple adjective. We present both its external (c-structure and morphological encoding) as well as its internal (f-structure) representations. After presenting this, we will demonstrate how “agentive” pronominals constitute an almost trivial variation on the internal representation of ordinary possessives. Using WA for purposes of illustration, consider the possessive construction in (2a.), reproduced as (29):

29.

(im)	hin	kirk- <u>s</u>
1SG-GEN	old	book-1SG
`my old book'		

Following a tradition within LFG (see Bresnan & Mchombo 1987 and Dahlstrom 1991 among others) we will assume that the PNM is an "incorporated pronoun" and that the word *kirk-s* `book-1sg' has lexical representation such as in (30):

30. kirk-s N `book < POSS >'
 POSS PRED = `pro'
 PERS = 1
 NUM = SG

The appropriate f-structure representation for (29) will be as in (31), where we have chosen to represent the combinatory requirements of adjunct modifiers in terms of syntactic selection for expository purposes, though a semantic representation may be more appealing. GF_x is intended to be a variable for whatever function the possessive NP has in the matrix clause.

31. F-structure for (29):

The pronominal value of the POSS argument associated with the possessive construction is supplied by the lexical specification that the PNM functions as a pronominal. In addition, the SUBJ requirement of the ADJ is satisfied by identifying the SUBJ with the PRED value of the GFx associated with the head of the possessive construction. These identifications, as well as the ones we will see below, can be enforced by inside out functional uncertainty within LFG, but we will leave precise statement of the conditions for another forum.

We have already seen in (28) that “agentive” pronominal relatives have external structure that is identical to that of possessive constructions. We reproduce a relevant W. Armenian example for illustration in 32.

32.

(im)	kr-adz	kirk- <u>ʹ</u> s
1SG-GEN	write-PERF.PART	book-1SG
`the book I wrote'		

For purposes of expediency we will assume that the lexical representation for *kirkʹs* `book-1SG' is as in (30). The core of the f-structure for the possessive and "agentive" pronominal relatives consequently remains the same, as seen in (33):

33. F-structure for "agentive" pronominal relative:

The main difference between the f-structure representation for possessive constructions and the f-structure representation of “agentive” pronominal relatives is that the active participle is associated with two complements that requiring values, specifically, a SUBJ and some other function: the active participle finds both values in the relativized noun. The PNM has the same pronominal status it has in possessive constructions, but in the "agentive" construction it satisfies the SUBJ requirement of the participle, while the relativized noun supplies the value for the non-SUBJ.⁹ The main point is this: we see here, in effect, a redeployment of internal or functional structure distinctions while maintaining external or c-structure encoding in tact. In this sense, W. Armenian and N. Ostyak appear to be make a motivated choice of encoding for "agentive" pronominal relatives.

⁹The POSS function seems "semantically bleached" in the "agentive" use, no longer indicating possession but rather some type of generalized relational notion.

In addition, another point becomes evident from our proposal: this is either a real result or an artifact of the proposal. On the present account, the SUBJ argument of an active participle is identified with the POSS function for pronominals, and either the head of the relative or the possessor for lexical NPs. Similarly, the subj function of a simple adjective used attributively, is identified with the modified head nominal. In other words, it turns out on this proposal that the SUBJ argument of both simple attributive adjectives and participles cannot be satisfied locally. This is formulated in (34):

34. Constraint against local satisfaction for SUBJ of attributive modifiers:

The SUBJ complements of attributive modifiers must be identified with a function outside of their local domain.

In sum, the strategies for the encoding of possessive readings versus those for "agentive" readings in the languages we have referred to as Patterns A and B seem to represent a competition between external and internal aspects of grammatical marking. Pattern B, where the "agentive" pronominal is marked on the participle, i.e., on its subcategorizing head, may seem a more sensible strategy since such languages mark distinct functions with distinct forms and maintain a local relation between a subcategorizing head and its complement. On the other hand, this leads to a proliferation of c-structure encodings, i.e., a difference between possessive constructions and "agentive" pronominal relatives, despite a common interpretation of PNMs for possessive constructions and relative constructions, and to a widening of the categorial distribution of the PNMs to include adjectives. In contrast, W. Armenian and N. Ostyak, as exemplars of Pattern A, exploit internal or functional aspects of encoding, while limiting the number of external structures required. This leads to a somewhat less intuitive distribution of the PNMs in Pattern A than found in Pattern B, but to a pattern that is nonetheless systemically motivated. With respect to Pattern A, these languages (1) utilize the pronominal status of PNMs in possessive constructions as well as (2) the nature of the relation between adjunct modifiers and their heads. With respect to the first property, the PNM retains its pronominal function in "agentive" readings, appearing parasitic on the pronominal status of PNM in possessive constructions. With respect to the second property, the participle is assimilated to the class of nominal modifiers and exhibits the sort of function sharing behavior evident for simple adjunct modifiers. Naturally, the greater complexity of the active participles with respect to their grammatical function requirements compared to simple adjective entails differences in function sharing: on the other hand, the claim that the SUBJ of the participle is identified with the POSS function seems a quite natural relation, given the generally observed similarities between SUBJs and POSSessors. This too seems to be a functionally motivated convergence of properties. In fact, the correspondence seen here is reminiscent of Allen's (1964) findings that "the subject of (primarily perfective) transitive sentences is both formally and semantically correlated to the possessor in

possession-sentences or possessive constructions.” (Radics 1982:467). Indeed, Allen himself cites data from Armenian in partial support of this claim.

We have examined here in detail only certain representative languages representing pattern A: there are others exhibiting greater variety in their encodings. In preliminary work to date, it appears that languages of Pattern B predominate. We have not addressed here an analysis for the more prevalent encoding attested by Pattern B. We plan to examine these patterns more closely in future work. What does seem evident from these preliminary results, however, is that the grammaticalization of pronouns which changes them into members of an inflectional paradigm continues in an intriguingly restricted fashion, leading to two particular interpretations of these markers (possession and “agentive”) and two attested encodings.

The relevance of these constructions to grammaticalization, we suggest, is that analogy based on c-structure encoding and constraints on morphological distribution continue the path of grammaticalization for independent pronouns and lead to economy in the number of constructions contained in a grammar, while the independence of c-structure from function permits principled differences to obtain despite identity in c-structure expression. The relevance of this grammaticalization story to linguistic theory, we suggest, is that the formal machinery of linguistic theories should be able to address constructional, systemic properties of grammar that appear to motivate the specific encodings attested in synchronic grammars. A principled distinction between representations for external structure and internal structure as done in LFG seems to be an illuminating theoretical move.

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