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OPERA LINGVISTICA ET LOGICA IN HONOREM BARBARAE PARTEE A DISCIPVLIS  
AMICISQVE ROSSICIS OBLATA

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# Abbreviations

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1	First person	GEN	genitive
2	Second person	I	noun class I
3	Third person	II	noun class II
AA	animate attributive	III	noun class III
ABL	ablative	IN	in
ABS	absolute	INF	infinitive
ACC	accusative	INS	instrumental
ACT	active	IPF	imperfective
AFF	affective	IRR	irrealis
AGR	agreement	IV	noun class IV
ALL	allative	LOC	locative
AOBL	oblique attributive	M	masculine
AOR	eorist	N	noun
ATTR	attributive	NDIR	non-directed
AUX	auxiliary	NEG	negative
CNT	count	NEUT	neuter
COM	comitative	NH	non-human
COP	copula	NOM	nominative
CVB	converb	OBL	oblique
D	determiner	P	adposition
DAT	dative	PA	active participle
DEF	definite	PFV	perfective
DEM	demonstrative	PFX	prefix
DU	dual	PL	plural
EL	elative	POSS	possessive
ERG	ergative	PRED	predicative
F	feminine	PRS	present
FUT	future	PRT	particle

PST	past	TOP	topic
PTCP	participle	TR	transitive
REFL	reflexive	V	verb
SG	singular	VBE	existential verb
SUPESS	superessive	VEXP	experiential verb

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# On how compositionality relates to syntactic prototypes and grammaticalization

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Yury Lander

To Barbara,  
to whom I owe the knowledge of the beauty of compositionality

## 11.1 Introduction<sup>1</sup>

The principle of compositionality, according to which the semantics of a complex expression can be regarded as a function of the meanings of its parts and syntactic relations between them, is central for many semantic theories, including formal semantics (see, e.g., [Partee 1996](#) for brief discussion). Yet it has been severely attacked during the last decades, especially by proponents of *constructional* approaches, who argued that speakers actively use idiomatic, and therefore non-compositional patterns (see discussion in [Kay & Michaelis 2012](#)).

Still, it is obvious that in order to show non-compositionality, construction grammarians often deal with peripheral constructions and/or uses. This is

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<sup>1</sup> This work was supported by a grant from the Russian Foundation for Humanities (RGNF, No. 14-04-00580). Some of the ideas proposed here were earlier presented at a workshop on possessives organized as a part of the Uralic Typology Days (Tallinn, 2009) and at the conference “The typology of morphosyntactic parameters” (Moscow, 2012). I am grateful to the audience of these conferences for discussion and to Ivan Kapitonov and Natalia Tyshkevich for their useful comments on an earlier draft of the paper. All errors are mine.

often accepted by the proponents of constructional approaches themselves. For example, Lakoff (1987: 463) insists that “the category of clause structures in a language is radially structured, with a central subcategory and many noncentral subcategories” and states that there are *central principles* which are only necessary for central subcategories. Among these principles Lakoff (1987: 495) mentions the one according to which “parts of a semantic structure correspond to parts of the corresponding syntactic structure”, an obvious counterpart of the compositionality principle. Since central principles are not given a universal status, compositionality may not work for more peripheral clause structures.

In what follows, I will complement this picture with diachronic speculations. In particular, I will try to make the intuition that compositionality is most expected in “central contexts” (syntactic prototypes) more fine-grained by linking the discussion to diachronic processes and illustrate this by adnominal possessives.

The core part of the paper consists of discussion of syntactic prototypes and grammaticalization (sections 11.2 and 11.3) and the relations between compositionality and grammaticalization (section 11.4 and 11.5). The last section contains conclusions.

## 11.2 The necessity of syntactic prototypes

I assume here that syntactic patterns may be associated with syntactic prototypes (which I understand as certain contexts, or conditions of use).

Prototype-based approaches, which state that categories are not homogeneous and consist of prototypes and deviations from prototypes, are widely used in lexical semantics and morphology (see van der Auwera & Gast 2010 for a survey and Kamp & Partee 1995 for an attempt of a formal treatment), but are somewhat less popular in syntax.<sup>2</sup> Nonetheless there exist a number of studies that analyze syntactic patterns in this vein. Probably the most well-known early attempt of this kind is Hopper & Thompson’s (1980) paper on semantic transitivity, where they established the prototype of transitive clauses and described the change in marking transitive clauses in terms of deviations from this prototype. The issue of the syntactic prototypicality was specifically addressed by Ross (1987), Lakoff (1987), Winters (1990) and Taylor

<sup>2</sup> An exception is the discussion of syntactic categories and parts-of-speech. See, for example, Croft 1991 for an example of a (partly) prototype-based approach and Newmeyer 2000 for criticism of treatments of this kind.



(1995, 1998), among many others, see also [Aarts 2007](#) for some discussion. To be sure, these works differ in many respects. Some approaches using the concept of syntactic prototype are typologically-oriented and consider such prototypes universal, while others rely on prototypical effects within a single language. Here I will consider a prototype which pretends to be universal, namely the syntactic prototype of adnominal possessive constructions.<sup>3</sup>

For adnominal possessives, the need in a prototype-based approach is obvious. Consider examples (1a) and (2a) from Udi, a Northeast Caucasian language originally spoken in Azerbaijan, and its Russian (1b), (2b) and English (1c), (2c) equivalents.<sup>4</sup>

- (1) a. andik-i k:ož  
Andik-GEN house  
b. dom Andik-a  
house Andik-GEN:SG  
c. Andik's house
- (2) a. q:onši-n rajon  
neighbor-GEN district  
b. sosed-n-ij rajon  
neighbor-ADJ-NOM:SG district  
c. a neighbor(ing) district

The Udi example (1a) has more chances to be considered a possessive than (2a). The meaning of (2a) is expressed by patterns which are usually not considered possessive in Russian (which uses a construction with a derived adjective) and English (which uses a compound construction or a participle construction). But in Udi the two meanings are expressed by the same pattern. How can we deal with it? One can think of (1a) as being closer to the prototype of adnominal possessives than (2a) (in fact, the same can be said of the Russian and English pairs, even though they employ different constructions). The farther the context is from the syntactic prototype, the more probable is it that a language uses a non-possessive construction for it.

Most prototype-based approaches to possessives proposed a prototype not for the construction but for the possessive relation (i.e. the relation expressed

<sup>3</sup> I should emphasize that I do not consider the prototype discussed below applicable to predicative possession, even though for the sake of simplicity I will use the term 'possessive prototype'.

<sup>4</sup> Abbreviations used in glosses: ACC accusative, ADJ adjectivizer, AOR aorist, DAT dative, DEF definite, GEN genitive, NOM nominative, OBJ object, POSS possessive, PFCP participle function, SG singular.

by the construction); cf. Taylor 1989, 1996, Rosenbach 2002 *inter alia*. However, here I will follow another approach, which presumes that the prototypical context of use of the adnominal possessive includes two components described below (cf. also Lander 2008).

The first component is that the prototypical adnominal possessive is an unmarked construction reflecting the relations between individuals.<sup>5</sup> This idea relies on the work by Partee (1997), Barker (1995) and others, who argued that the possessive relation is normally not provided by the construction but is taken either from the lexical semantics of its participants or from the context. If the possessive relation is specified, e.g., by means of adjectives like *favorite* (but see Partee & Borschev 2000 for a different perspective) or dedicated possessive classifiers (Lichtenberk 1983, Aikhenvald 2000), the construction deviates from the prototype; cf. (3), again from Udi, where the relation is specified by the verb *ak:-i* used in a participial function (Lander 2011).

- (3) bez ak:-i k:ož  
 I:GEN see-AOR(PTCP) house  
 ‘the house where I was seen’

Since individuals are normally associated with nouns, possessives are frequently employed where there is some (unmarked) relation between nouns. However, such constructions need not reflect relations between individuals; cf. non-prototypical constructions like *that idiot of a doctor* (see, e.g., Matushansky 2002). Finally, the concept of individual itself shows prototype-based effects. For instance, events are less prototypical individuals than humans, etc. Therefore the use of possessives with verbal nouns and gerunds like *Peter’s going out* is non-prototypical.

The second component is the reference-point (or anchoring) function of possessives: prototypically they are used in order to establish the reference of the possessum via some relation of it to the possessor, its “anchor” (Keenan 1974, Langacker 1993, 1995, Taylor 1996). If anchoring is successful, we expect the possessum to be definite (or at least specific), cf. Haspelmath 1999. Consequently, indefinite possessa appear in less prototypical contexts. The prototypical possessor in this picture has a somewhat technical role. This makes the constructions which specifically emphasize the relevance of the

<sup>5</sup> We can also take markedness as a gradual concept, as, for example, in Croft 2002. Then, the prototypical adnominal possessive is the most unmarked if compared with other candidates according to variety of criteria such as frequency, paradigmatic complexity, etc. The issue is tricky, however, and I leave it beyond this paper.

possessor (being often diachronically related to the external possession constructions) less prototypical (Lander 2004). Most importantly, however, the possessor should be as topical as it can be, since topical possessors are better anchors due to their high accessibility. In particular, the prototypical possessor should occupy the highest position in the topicality hierarchies (4).

- (4) NP-type: Pronouns > Proper nouns > Common NPs  
Person: 1st and 2nd person > 3rd person  
Animacy: Human > Non-human animate > Inanimate  
Referentiality: Definite > Specific indefinite > Non-specific  
Individuation: Singular > Plural > Mass > Non-individuated

In this perspective, (2a) is less prototypical than (1a): it is not clear whether it refers to a relation between individuals, the possessor is low in most of the hierarchies (4) and the matrix NP is indefinite.

Winters (1990) listed a number of properties of syntactic prototypes. Importantly for us, this list included transparency, which presumably can be related to compositionality. Another relevant property of syntactic prototypes mentioned by Winters is high frequency. This property will become important in the next section.

### 11.3 Grammaticalization and syntactic prototypes

Like many other linguistic concepts, the concept of grammaticalization became vaguer as it became more popular. For a long time, understanding of grammaticalization was based on a definition by Kuryłowicz (1965: 69): “Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from less grammatical to a more grammatical status”. Later it was noticed that grammaticalization usually operates not with morphemes but with constructions (see, for example, Lehmann 2002). Now, if constructions are associated with prototypes, we may hypothesize that the latter affect grammaticalization.

Indeed, there are links between grammaticalization and syntactic prototypes. First, new constructions come from non-prototypical contexts (cf. Company Company 2002). This is due to the fact that the use of a construction in a prototypical context is most frequent and hence the most stable. Second, prototypes are more likely to be separated from other contexts by grammatical means than non-prototypical contexts are.

Two scenarios can be proposed therefore:

- (i) either the prototypical context is separated first, a new construction appears in a non-prototypical context and only then attacks contexts that are closer to the prototype (prototype-marked scenario),
- (ii) or a new construction intrudes into a non-prototypical context even if the prototypical context is not separated (prototype-unmarked scenario).

Both scenarios are observed with adnominal possessives. Sometimes we find that the most prototypical possessives employ a highly grammaticalized construction, and there is another construction which is less grammaticalized and is used in less prototypical contexts. An example is presented by the contrast between the “Saxon genitive” ’s and the “Norman genitive” *of* in English (pronominal possessors are disregarded). The construction with ’s is clearly more archaic, and although the principles that govern the choice between the two constructions are debatable (see, for example, [Deane 1987](#), [Rosenbach 2002](#), [Stefanowitsch 2003](#), [Lander 2004](#)), it is clear that the more grammaticalized “Saxon genitive” construction prefers contexts which are more prototypical for adnominal possessives and the new “Norman genitive” construction easily allows contexts that are less close to the possessive prototype. For example, unlike the “Norman genitive” construction, the “Saxon genitive” construction tends to be definite, allows context-dependent interpretation, and is preferred with more topical possessors.

However, in some languages, the most prototypical possessives are similar in some respects to other unmarked attributive constructions (e.g., adjectival modification) but a distinguished possessive is used in non-prototypical contexts. For example, in Vietnamese both adjectival and possessive modification often remain unmarked. Nonetheless, there is a dedicated possessive marker, whose use with the most prototypical pronominal possessors is restricted, though ([Glebova 1982](#)). This can be explained by a prototype-unmarked scenario, according to which the construction involving overt marking appeared in non-prototypical contexts while the prototypical context had not got any marking distinguishing it from other attributive patterns.<sup>6</sup>

Syntactic prototypes affect grammaticalization in yet another respect. An already grammaticalized construction used in prototypical contexts sometimes

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<sup>6</sup> Alternatively, it may be that the use of the possessive marker in Vietnamese extended from the most prototypical context but remained formally optional in all contexts. Then, the restrictions observed with pronominal possessors can be explained by other factors that lead to the unmarkedness; cf. [Lander 2010](#).

expands to new contexts and even forces out patterns that are less grammaticalized. This expansion should be distinguished from grammaticalization directed towards the prototype. Hence below I will distinguish between two views on grammaticalization:

- *Forward grammaticalization* of a construction is its development towards a syntactic prototype;
- *Backward grammaticalization* of a construction is its development from a syntactic prototype.

We will see later that a single process can be treated as forward grammaticalization and backward grammaticalization at the same time, depending on the relevant syntactic prototype.

## 11.4 Backward grammaticalization and compositionality

Backward grammaticalization extends a pattern to new contexts that are farther from a syntactic prototype due to the pressure of regularity and frequency of morphosyntactic patterns associated with the contexts that are closer to the prototype. Hence backward grammaticalization may result in violating compositionality because of putting the grammatical rules before the semantic transparency.

For adnominal possessives, backward grammaticalization is observed especially in marking definiteness. As said above, the syntactic prototype of adnominal possessives presupposes definiteness of the possessum. Backward grammaticalization can lead to a situation where a semantically indefinite possessive is nonetheless treated as definite by grammar.

For example, [Tucker & Bryan \(1966: 368\)](#) reported that in Komo (Nilo-Saharan) possessives involve marking of the possessum with a demonstrative which usually expresses the distance near the speaker (see also [Otero 2014](#)). Cf. the following examples (as they are given by Tucker and Bryan):

- (5) a. *gùbí ba* 'this house, these houses' ([Tucker & Bryan 1966: 362](#))  
b. *gubí ba kuna* 'house of Kuna' ([Tucker & Bryan 1966: 362](#))

The translations provided for various possessives by [Tucker & Bryan \(1966\)](#) and [Otero \(2014\)](#) do not evidence that such possessives are necessarily definite. However, if the demonstrative is obligatory in Komo possessives (and if it is taken as a marker of definiteness), then they are always “grammatically

definite” irrespective of their semantic definiteness. This can be counted as violation of compositionality.

More obvious examples of this kind are found in Hungarian. Here there are two basic possessive constructions. In both the possessor is cross-referenced on the possessum (sometimes with null suffixes) but the possessor nominal can be either marked with the dative case or remain unmarked. The dative construction as described in detail by Szabolcsi (1994) is less grammaticalized (it allows more syntactic freedom of the possessor) and covers both the prototypical possessive context (although its use is unlikely with pronominal possessors) and many non-prototypical contexts. Curiously, as (6–7) show, the indefinite possessive with the dative behaves as if it were definite, in particular it triggers the definite conjugation marking in the verb, which normally appears with definite objects. Such constructions are non-compositional, presumably because of their non-prototypical nature.

- (6) Csak egy diáknak két dolgozatát talált-a / \*talált  
 only one student-DAT two papers-ACC found-3SG:OBJ.DEF / \*found  
 jutalomra méltónak a zsüri  
 of.prize worthy the jury  
 ‘The jury found only one student’s two papers worthy of a prize.’ (Kiss 2002: 173)
- (7) Chomsky-nak nem olvast-ad vers-é-t  
 Chomsky-DAT not read.PST-2SG.OBJ.DEF poem-POSS-ACC  
 ‘You haven’t read any poem of Chomsky’s.’ (Szabolcsi 1994: 226)

Chisarik & Payne (2001) showed a similar phenomenon for the construction with the unmarked possessor. Here the non-obligatory correlation between pronominal possessors and definiteness appeared to be presented as if it were obligatory, as indicated by the fact that the definite article became obligatory even with indefinite possessives.

- (8) az-én egyik lány-om  
 the-I one daughter-POSS.1SG  
 ‘a daughter of mine’

However, Chisarik and Payne argued that the definite article in this construction had been reanalyzed as a marker of possessor. If this is the case, compositionality was recovered, since there is no need to postulate a “false” marker of definiteness in patterns like (8). Similarly, the “demonstrative” *ba* in Komo possessives can be described as a possessive marker and not a demon-

strative anymore. This means that a language may “repair” the violation of compositionality resulted from backward grammaticalization.

## 11.5 Forward grammaticalization and compositionality

Forward grammaticalization also normally involves a stage when a given item (a word, a morpheme or a construction) starts to be used in contexts which do not correspond to its original semantics and hence violates compositionality. However, the subsequent development of a construction can be regarded as rehabilitation of compositionality.

Heine (1997: 144) observes that adnominal possessives usually arise from one of the following five “conceptual schemas” listed below: (i) Location schema ‘Y at X’, (ii) Source schema ‘Y from X’, (iii) Goal schema ‘Y for/to X’, (iv) Companion schema ‘X with Y’, (v) Topic schema ‘(As for) X, X’s Y’. Leaving aside the last schema for a moment, grammaticalization of adnominal possessives could be represented in the following way. At some time, a pattern which was earlier intended to express one of the schemas (i)-(iv), is used non-compositionally for the expression of some other relation. The subsequent increase in regularity of the construction should correlate with the expansion of a construction from contexts farther from the possessive prototype to more prototypical contexts. While the construction is grammaticalized this way, it gets more chances to become compositional, i.e. to be interpreted not as a location/source/goal/companion construction used in a special way but as a possessive construction. Then, a new construction may be compositional even if its use is restricted to non-prototypical contexts. The main factor that goes against this is that a construction may have not lost the relations to its previous use and is still felt as its non-compositional extension (see Section 11.4).

This poses an interesting problem. The extension of a construction to new contexts may be regarded as backward grammaticalization but its development towards another prototype can be thought of as forward grammaticalization. As announced earlier, this means that the notions of forward grammaticalization and backward grammaticalization should not be considered two different kinds of grammaticalization, since they always exist in relation to some syntactic prototype.

Curiously, the Topic schema proposed by Heine does not fit the picture, since its development into a possessive construction does not start from non-prototypical contexts. I hypothesize that its appearance as a possessive is usually related to the separation of the prototypical possessive context from

other contexts and reflects not much semantic evolution but the reanalysis of a syntactic structure.

## 11.6 Conclusion

I conclude that it is most reliable to look for compositionality in the contexts corresponding to syntactic prototypes. In non-prototypical contexts we can find constructions resulted from backward grammaticalization either in respect to its former prototype or in respect to its present prototype. Semanticists should thus not be afraid of finding non-compositionality in some contexts, because it can be diachronically motivated. In fact, the picture described above also explains the intuition I began this paper with: non-compositional constructions are peripheral.

This is not to say that compositionality cannot be found in non-prototypical contexts. Here one can remember, for example, various studies of the Russian genitive of negation construction, a pattern where a subject-like argument or an object-like argument is marked with genitive rather than with nominative or accusative. This construction is likely to deviate from basic clausal syntactic prototypes, yet as shown by [Partee, Borschev, et al. \(2011\)](#), it may follow the compositionality principle.

An important conclusion of this paper is that languages aspire to be compositional, both in forward grammaticalization and at the last stages of backward grammaticalization, even though their aspiration cannot be realized because of permanent changes.



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