

Chapter 4

Demonstratives, possessives, and quantifier expressions in articleless Russian

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There is an ongoing debate in the literature as to whether there is a D-projection for NPs in languages without overt articles. Bošković (2005, 2007, 2009, 2010) claims that there are no determiners in articleless Slavic languages. Pereltsvaig (2007) and many others argue against this claim for Russian. Pereltsvaig assumes that Russian NPs have a DP projection and that demonstratives and possessives are D-level elements in Russian. The contribution of this paper is twofold: I will provide evidence that demonstratives and pronominal possessives in Russian are adjectives, not determiners, and that they occur within NP. However, these facts do not refute the hypothesis that there are functional projections in Russian, at least for some NPs. I will show that Russian has a non-adjectival grammatical expression – *každyj* ‘every’ – that semantically and syntactically behaves like a quantifier and plausibly occurs in some functional projection above NP level. Whether this is a D-position and whether a D-projection is necessary for Russian nominal expressions remain open questions.

Keywords: pronominal possessives, demonstratives, adjectives, determiners, DP-projection in Russian

1 Introduction

This paper is devoted to the discussion of the syntactic category of demonstratives and pronominal possessives in Russian. In languages with overt articles marking (in)definiteness, these expressions are generally considered to be hosted



by DP. Russian does not have articles of this kind. Some linguists argue that the absence of articles in a language signals the absence of a DP-projection for its NPs, and thus, the absence of determiners as a class of grammatical expressions (Bošković 2005, 2007, 2009, 2010). Others (Engelhardt & Trugman 1998, Rappaport 2002, Franks & Pereltsvaig 2004, Trugman 2005, 2007, Pereltsvaig 2007) have argued that demonstratives, pronominal possessives, and quantifier expressions occur in determiner position.

In this paper, I will discuss this question for Russian. I will examine the morphological and syntactic properties of demonstratives, possessives, and *každyj* ‘every’ and argue that while the first two are best analyzed as adjectives, *každyj* is a quantifier filling a functional head position, although there is no direct evidence that it is a determiner.

The literature extensively discusses the contrast between articleless languages (e.g. Serbo-Croatian), which allow for the movement of the leftmost element out of NP and languages with overt articles (e.g. English), in which this is not possible. In English, the movement of the leftmost element in the NP (determiners, possessors, and adjectives) is blocked (the LEFT BRANCH CONDITION; Ross 1986).¹

- (1) a. * Whose_i did you see [t_i father]?
b. * Which_i did you buy [t_i car]?
c. * That_i he saw [t_i car].
d. * Beautiful_i he saw [t_i houses].
e. * How much_i did she earn [t_i money]?

Bošković (2005) shows that a number of Slavic languages that do not have overt articles, namely Serbo-Croatian, Polish, and Czech, allow for the movement of non-constituents out of NP.

- (2) a. Čijeg_i si vidio [t_i oca]?
whose are seen father
‘Whose father did you see?’
b. Kakva_i si kupio [t_i kola]?
what.kind.of are bought car
‘What kind of a car did you buy?’
c. Ta_i je vidio [t_i kola].
that is seen car
‘That car, he saw.’

¹If not indicated otherwise, examples are from Russian or English.

- d. Lijepe_i je vidio [t_i kuće].
 beautiful is seen houses
 ‘Beautiful houses, he saw’
- e. Koliko_i je zaradila [t_i novca]?
 how.much is earned money
 ‘How much money did she earn?’ (Serbo-Croatian; Bošković 2005)

Bošković shows that the two Slavic languages that do have overt articles – Bulgarian and Macedonian – behave like English, disallowing left branch extraction.

- (3) a. *Kakva_i prodade Petko [t_i kola]?
 what.kind.of sold Petko car
 Intended: ‘What kind of a car did Petko sell?’
- b. *Čija_i xaresva Petko [t_i kola]?
 whose likes Petko car
 Intended: ‘Whose car does Petko like?’
- c. *Novata_i prodade Petko [t_i kola].
 new.the sold Petko car
 Intended: ‘The new car, Petko sold.’ (Bulgarian; Bošković 2005)
- (4) a. *Kakva_i prodade Petko [t_i kola]?
 what-kind-of sold Petko car
 Intended: ‘What kind of a car did Petko sell?’
- b. *Čija_i ja bendisuva Petko [t_i kola]?
 whose it like Petko car
 Intended: ‘Whose car does Petko like?’
- c. *Novata_i ja prodade Petko [t_i kola].
 new-the it sold Petko car
 Intended: ‘The new car, Petko sold.’ (Macedonian; Bošković 2005)

Bošković (2005) accounts for this phenomenon by claiming that articleless languages do not have a D-level in their noun phrase structure. Moreover, Bošković argues that all the grammatical expressions that are traditionally analyzed as determiners in languages that have overt articles (e.g. demonstratives, possessives) are adjectives in articleless languages.

(5) shows the examples in (3) replicated in Russian. The situation is not as straightforward as in Serbo-Croatian.

- (5) a. ? Č'ego_i ty videl t_i otca?
whose you saw father
'Whose father did you see?'
- b. Kakuju_i ty kupil t_i mašynu?
which you bought car
'What kind of car did you buy?'
- c. ? Ètu_i on videl t_i mašynu.
this he saw car
'He saw THIS car.'
- d. ? Krasivyje_i my videli t_i doma!
beautiful we saw houses
'What beautiful houses we saw!'
- e. Skol'ko_i ona zarabotala t_i deneg?
how.much she earned money
'How much money did she earn?'

(5b) and (5e) are unconditionally acceptable. (5a), (5c), and (5d) require intonational support (the moved element is strongly stressed) and contextual support. These examples thus still contrast with the examples in Bulgarian, Macedonian, and English, which are completely ungrammatical.

We see that Russian does not block the movement of the leftmost element out of NP providing *prima facie* evidence that the analysis for Serbo-Croatian should hold for Russian, too, i.e. that demonstratives and possessives are adjectives and that Russian NPs do not have functional projections in their structure.

In the rest of this paper, I will discuss these issues more deeply. In section §2, I will provide evidence in support of the adjectival analysis of demonstratives and pronominal possessives in Russian, although they display a number of morphological differences as compared to standard lexical adjectives.

In §3, *každyj* 'every' will be discussed. I will show that *každyj*, while patterning morphologically with adjectives, has the syntax and semantics of a quantifier. This suggests that, despite its adjectival morphology, it is hosted by a functional projection higher than NP, and that at least some Russian NPs have a functional projection.

In the final section, I will discuss the implications of this account and show what further research questions it opens up.

2 Demonstratives and pronominal possessives are adjectives

Notwithstanding that – with respect to the left branch condition – Russian behaves like articleless Serbo-Croatian and not like English, some linguists have claimed that Russian has a D-level and that, analogously to English, demonstratives and possessives are hosted by a D-projection and are not contained within NP.

I will first discuss the morphological data and claims made by Babyonyshev (1997) and Pereltsvaig (2007) that demonstratives and possessives do not have adjectival morphology and should thus be analyzed as determiners. I will then discuss the distributional facts that provide evidence that demonstratives and possessives are adjectives, not determiners.

2.1 Declensional paradigm

Babyonyshev (1997) and Pereltsvaig (2007) claim that demonstratives and pronominal possessives do not have adjectival morphology. This is taken as evidence that these expressions do not have the syntax and semantics of adjectives.

Babyonyshev compares the declensional paradigm of pronominal possessives to that of demonstratives, taking for granted that demonstratives are determiners.

- (6) a. *étot-∅* *Vanin-∅* *krasiv-yj*
 this-M.SG.NOM Vanja-POSS.M.SG.NOM beautiful-M.SG.NOM
 dom
 house.M.SG.NOM
 ‘this beautiful house of Vanja’s’
- b. *ét-u* *Vanin-u* *krasiv-uju* *knigu*
 this-F.SG.ACC Vanja-POSS.F.SG.ACC beautiful-F.SG.ACC book.F.SG.ACC
 ‘this beautiful book of Vanja’s’ (Babyonyshev 1997: 206)

However, as I will show below, there is no reason to assume that demonstratives are determiners.

Pereltsvaig (2007) claims that, morphologically, demonstratives and pronominal possessives relate to SHORT FORM MORPHOLOGY ADJECTIVES (SFM). She argues that, throughout the whole declensional paradigm, demonstratives and possessives often do not pattern with LONG FORM MORPHOLOGY PRONOMINAL ADJECTIVES (LFM), which indicates that these grammatical expressions are not adjectives, but originate outside of NP.

Both SFM and LFM adjectives are syntactically and semantically adjectives. They differ in two respects: first, morphologically, SFM adjectives retained only the nominative case form; second, in terms of distribution, SFM adjectives can be used only predicatively, not attributively, as (7) shows; LFM adjectives can occur attributively as well as predicatively, as in (8). The morphological paradigm of LFM adjectives includes all the six cases (see Table 1).

- (7) a. Ètot park krasiv osen'ju.
this park beautiful.SFM autumn
'This park is beautiful in autumn.'
- b. *Ètot krasiv park naxoditsja okolo našego doma.
this beautiful.SFM park situated near our house
Intended: 'This beautiful park is situated near our house.'
- (8) a. Ètot krasivyj park naxoditsja okolo našego doma.
this beautiful.LFM park situated near our house
'This beautiful park is situated near our house.'
- b. Roza – krasivyj cvetok.
rose beautiful.LFM flower
'The rose is a beautiful flower.'
- c. Nataša byla molodoj i krasivoj.
Nataša was young and beautiful
'Nataša was young and beautiful.'

If we look at Table 1 (based on Pereltsvaig 2007 but extended to include SFM and LFM adjectives), we see that demonstratives and pronominal possessives demonstrate a split: they pattern morphologically with SFM adjectives in the nominative and (partially) in the accusative, but with LFM adjectives in all other oblique cases.

Demonstratives and possessives thus pattern with SFM adjectives in some cases and in others with LFM adjectives. Since both these groups are adjectives semantically and syntactically, this declension pattern cannot be used to claim that demonstratives and pronominal possessives do not have adjectival morphology. It is true that demonstratives and possessives in nominative case can occur attributively, despite the fact that SFM adjectives cannot, but morphology is not a clear indication of syntactic category in Russian.

Pereltsvaig (2007) herself claims that morphology is not indicative of a syntactic category. She claims that in Russian, words like *podležaščee* 'grammatical

Table 1: Declension of prenominal possessives and demonstratives

		SG			PL
		Masculine	Neuter	Feminine	
NOM	LFM	<i>krasivyyj</i> ‘pretty’	<i>krasivoe</i>	<i>krasivaja</i>	<i>krasivye</i>
	SFM	<i>krasiv</i> ‘pretty’	<i>krasivo</i>	<i>krasiva</i>	<i>krasivy</i>
	DEM	<i>ètot</i> ‘this’	<i>èto</i>	<i>èta</i>	<i>èti</i>
	PP	<i>mamin</i> ‘mom’s’	<i>mamino</i>	<i>mamina</i>	<i>maminy</i>
GEN	LFM	<i>krasivogo</i>	<i>krasivogo</i>	<i>krasivoj</i>	<i>krasivyx</i>
	DEM	<i>ètogo</i>	<i>ètogo</i>	<i>ètoj</i>	<i>ètix</i>
	PP	<i>maminogo</i>	<i>maminogo</i>	<i>maminoj</i>	<i>maminyx</i>
DAT	LFM	<i>krasivomu</i>	<i>krasivomu</i>	<i>krasivoj</i>	<i>krasivym</i>
	DEM	<i>ètomu</i>	<i>ètomu</i>	<i>ètoj</i>	<i>ètim</i>
	PP	<i>maminomu</i>	<i>maminomu</i>	<i>maminoj</i>	<i>maminym</i>
ACC	LFM	<i>krasivogo/krasivyyj</i>	<i>krasivoje</i>	<i>krasivoju</i>	<i>krasivyx/krasivye</i>
	DEM	<i>ètogo/ètot</i>	<i>èto</i>	<i>ètu</i>	<i>ètix/èti</i>
	PP	<i>maminogo/mamin</i>	<i>mamino</i>	<i>maminu</i>	<i>maminyx/maminy</i>
INS	LFM	<i>krasivym</i>	<i>krasivym</i>	<i>krasivoj</i>	<i>krasivymi</i>
	DEM	<i>ètim</i>	<i>ètim</i>	<i>ètoj</i>	<i>ètimi</i>
	PP	<i>maminym</i>	<i>maminym</i>	<i>maminoj</i>	<i>maminymi</i>
PREP	LFM	<i>krasivom</i>	<i>krasivom</i>	<i>krasivoj</i>	<i>krasivyx</i>
	DEM	<i>ètom</i>	<i>ètom</i>	<i>ètoj</i>	<i>ètix</i>
	PP	<i>maminom</i>	<i>maminom</i>	<i>maminoj</i>	<i>maminyx</i>

subject’ and *skazuemoe* ‘predicate’ morphologically look like adjectives but function as nouns syntactically and semantically. In §3, I will show that *podležaščee* and *skazuemoe* are not the only cases in Russian where adjectival morphology coincides with non-adjectival syntax and semantics: *každyj* ‘every’ has adjectival morphology but is a quantifier semantically and syntactically.

2.2 Evidence that demonstratives and prenominal possessives are adjectives

Closer examination of the distribution of possessives and demonstratives strongly suggests that they are adjectives. We begin by looking at determiners in English to define what properties we would expect Russian D-level elements to have, if they exist.

2.2.1 Prediction 1: Determiners do not co-occur

- (9) a. * this some man
b. * the every student

The sentences in (10) seem to challenge this generalization.

- (10) a. the two students; every two students
b. his every step

In (10a), determiners precede a numeral; numerals are generally assumed to be hosted outside NP. However, Landman (2003, 2004) and Rothstein (2013, 2017) convincingly show that numerals are better analyzed as adjectives that denote cardinal properties of plural individuals. They assume that, in the absence of a lexical determiner, the numeral raises out of the NP into a position in the D-shell in English. If there is a lexical determiner, the numeral stays inside the DP and is interpreted as an adjectival predicate. So, while numerals do not normally permute with other adjectives (11a), they can do so in the presence of a determiner, as shown in (11b).

- (11) a. * Ferocious fifty lions were shipped to the Artis zoo.
b. The ferocious fifty lions were shipped to the Artis zoo.

(Landman 2003: 217)

Following this, in (10a), there is only one determiner (*the* and *every*, respectively), and numerals are interpreted as adjectives.²

(10b) is not a productive pattern, as (12) shows, thus we assume that ‘his every step’ and ‘his every word’ are lexicalized in English and are thus not a counter-example to the claim that determiners do not co-occur.³

- (12) a. * His every book
b. * His every student
c. * His some step
d. * His that step

²Landman (2004) argues that in *every two students*, *every* and *two* form one complex determiner. In any case, there is only one determiner in the sentence, not two determiners that co-occur.

³An alternative explanation for *his every step/book/word* could be that *every* forms a complex determiner with the possessive pronoun. However, as is shown in (12c,12d), other determiners do not follow this grammatical pattern.

2.2.2 Prediction 2: Determiners do not permute with adjectives

Adjectives and determiners are hosted by different projections: determiners are part of DP, adjectives originate within NP. We do not expect to find permutations between different types of expressions.

- (13) * Beautiful this girl

2.2.3 Prediction 3: Determiners are infelicitous in predicate positions

Bare determiners are not expected to be grammatical as predicates since they denote functions and are not semantic predicates. We will look at each of these predictions and check whether they are borne out for demonstratives and pronominal possessives in Russian.

2.2.4 Demonstratives and possessives co-occur

Demonstratives and possessives can co-occur with each other and with *každyj* ‘every’.

- (14) a. Èta mamima stat’ja imela uspex.
 this.F.SG mom.POSS.F.SG article.F.SG had success
 [Literally: This [mom’s article] was a success]
 ‘This article of my mother’s was a success.’
- b. Každaja mamina stat’ja imela uspex.
 every mom.POSS.F.SG article.F.SG had success
 [Literally: every [mom’s-article] was a success.’ (NOT the article of every mother)]
 ‘Every article of my mother’s was a success.’
- c. Každaja èta stat’ja imela uspex.
 every this.F.SG article.F.SG had success
 ‘Every article (out of these) was a success.’

If we assume that demonstratives and pronominal possessives are determiners, then the data in (14) is surprising: they should not be able to co-occur. English translations of the Russian examples provide extra support for this generalization: in English, **this mom’s article*, **every mom’s article*, and **every this article* are ungrammatical. Moreover, *každyj* ‘every’, being a quantifier (the details will be discussed in §3), is not expected to take other determiners as its complement.

This suggests that demonstratives and pronominal possessives are not determiners. They are better analyzed as adjectives – more than one adjective can modify the same noun, and adjectives can be part of an NP complement of a quantifier.

2.2.5 Demonstratives and possessives permute with adjectives

Pereltsvaig (2007) argues for the following word order in Russian: demonstrative – pronominal possessive – (property) adjective – noun. She shows that a property adjective cannot precede [demonstrative + pronominal possessive]:

- (15) a. *Krasivyj ètot Vanin dom.
beautiful.M.SG this.M.SG Vanja.POSS.M.SG house.M.SG
Intended: ‘This house of Vanja’s is beautiful.’
b. *Šerstjanoe èto Vanino pal’to.
woolen.N.SG this.N.SG Vanja.POSS.N.SG coat.N.SG
Intended: ‘This coat of Vanja’s is woolen.’

However, the facts are more complex than Pereltsvaig suggests. If a demonstrative shifts to the left periphery, pronominal possessives can permute with adjectives:

- (16) a. èta Mašina šerstjanaja jubka
this Maša.POSS.F.SG.NOM woolen skirt.F.SG.NOM
‘this woolen skirt of Maša’s’
b. èta šerstjanaja Mašina jubka
this woolen Maša.POSS.F.SG.NOM skirt.F.SG.NOM
‘this woolen skirt of Maša’s’

However, when either a demonstrative or a possessive occurs (but not both), either of them can permute with adjectives:

- (17) a. Dlinnyj ètot razgovor vymotal ego.
long.SG.M.NOM this.SG.M.NOM conversation.SG.M.NOM exhausted him
‘This long conversation exhausted him.’
b. Ètot dlinnyj razgovor vymotal ego.
this.SG.M.NOM long.SG.M.NOM conversation.SG.M.NOM exhausted him
‘This long conversation exhausted him.’
(18) a. Mamina novaja rabota svjazana s putešestvijami.
mom.POSS.F.SG new job connected with travelling
‘Mom’s new job involves travelling.’

- b. Novaja mamina rabota svjazana s putešestvijami.
 new mom.POSS.F.SG job connected with travelling
 ‘Mom’s new job involves travelling.’

This suggests that only one permutation is allowed. We assume that demonstratives and possessives both occur in the left periphery of the adjectival field with the demonstrative naturally at the outer edge. If either a possessive or a demonstrative occurs, but not both, a lower adjective can permute with the left periphery adjective as in (17) and (18). However, if the demonstrative and possessive both occur, an adjective can only permute with the lower left peripheral element, the possessive, as in (16b).⁴ It is, however, impossible to have two permutations, either the possessive permuting with the demonstrative to give the order POSS-DEM and then have the property adjective permute with the demonstrative to give POSS-ADJ-DEM, or to have the adjective permute first with the possessive and then with the demonstrative to give ADJ-DEM-POSS.

Moreover, demonstratives and possessives can permute with numerals – another piece of evidence showing that demonstratives and prenominal possessives do not behave like determiners:

- (19) a. Èti tri slučaja xorošo zadokumentirovany.
 this.PL.NOM three case.SG.GEN well documented
 ‘These three cases are well documented.’
 b. Tri èti slučaja xorošo zadokumentirovany.
 three this.PL.NOM case.SG.GEN well documented
 ‘These three cases are well documented.’
- (20) a. Dva papinyx velosipeda stojali na balkone.
 two dad.POSS.PL.GEN bicycles stood on balcony
 ‘Two of Dad’s bicycles were on the balcony.’
 b. Papiny dva velosipeda stojali na balkone.
 dad.POSS.PL.NOM two bicycles stood on balcony
 ‘Dad’s two bicycles were on the balcony.’

If, following Khrizman (2016), we assume that in Russian, numerals are born as adjectival predicates that denote cardinal properties, the above permutation facts are explained, since adjectives can permute.

⁴At the moment, I do not have an explanation for why the permutation between the two left peripheral elements (the order POSS-DEM) is not allowed.

Demonstratives and possessives can permute with adjectives and numerals. These data might lead us to assume that Russian grammar allows for permutations that are not available in other languages (and, as we saw, some linguists explain these data by claiming that Russian does not have a D-level in its noun phrase structure). However, *každyj* ‘every’ behaves as we would expect from a grammatical expression hosted higher than NP – it cannot permute either with demonstratives and possessives or with any other adjectives. This suggests that *každyj* is a functional head generated outside NP, unlike demonstratives and possessives which are left peripheral within the NP. We return to a discussion of *každyj* in §3.

- (21) a. * mamina každyja stat’ja
 mom.POSS.F.SG every.F.SG article.F.SG
 Intended: ‘every article of mom’s’
 b. * èta každyja stat’ja
 this.F.SG every.F.SG article.F.SG
 Intended: ‘this every article’
 c. * novaja každyja stat’ja
 new.F.SG every.F.SG article.F.SG
 Intended: ‘every new article’

So far we have seen that the first two of our three predictions about the grammatical behavior of determiners are not borne out: prenominal possessives and demonstratives can co-occur with each other and *každyj* ‘every’; demonstratives and possessives can permute with adjectives. Thus, the adjectival analysis seems to better account for the grammatical behavior of demonstratives and possessives.

In the next subsection we look at the third prediction, which concerns the possibility of demonstratives and prenominal possessives occurring in predicate position.

2.2.6 Evidence that possessives and demonstratives are grammatical in predicative positions

In general, we would not expect bare determiners to appear in predicate position. Predicates denote sets. In a sentence like *My mother’s bicycle is black*, the adjectival predicate *black* or *be black* denotes a set and the sentence asserts that my mother’s bicycle is a member of that set. Within the framework of the theory of generalized quantifiers (Barwise & Cooper 1981), a determiner is a function

from sets to generalized quantifiers (sets of sets), or more intuitively, a relation between sets. With this, we would not expect determiners to appear in predicate position, since it makes no sense to predicate a relation between sets of an individual.

However, demonstratives and possessives are grammatical in predicative positions in Russian both when they appear bare and in combination with a noun.

2.2.6.1 Bare demonstratives and possessives as copula predicates

If we assume that demonstratives and pronominal possessives are determiners, we would predict that they should be ungrammatical as predicates when they occur bare – analogously to *every/some/the/this* etc. in English.

However, in Russian, bare demonstratives and possessives can occur as predicates.

- (22) a. Vanino pal'to bylo èto.
 Vanja.POSS.N.SG coat.N.SG was this.N.SG
 'Vanja's coat was this one.'
- b. Èto pal'to bylo Vanino.
 this.N.SG coat.N.SG was Vanja.POSS.N.SG
 'This coat was Vanja's.'

Pereltsvaig (2007) does not consider these data to be an argument in support of the adjectival analysis. She claims that demonstratives and pronominal possessives are not directly predicative, they are part of an NP with a phonologically null noun (following the syntactic analyses of Babby 1975 and Bailyn 1994 of LFM and SFM adjectives in Russian: they claim that SFM adjectives are directly predicative, while LFM adjectives are used attributively with a null noun).

What the extension of Babby's (1975) and Bailyn's (1994) analysis shows us is that demonstratives and possessives behave exactly like all other LFM adjectives: they can occur attributively and predicatively (if you like, with a null noun). Thus, this cannot be taken as evidence that they are not adjectives.

Moreover, Partee & Borschev (2003) show that possessives in this position are used attributively (i.e. with a null noun) only when they occur in the instrumental case. When they take the nominative case they are predicates of type $\langle e, t \rangle$. Let us look at this claim in more detail.

Adjectives, nominals, and demonstratives with pronominal possessives can take both instrumental or nominative case when they occur as predicates:

- (23) a. Èto pal'to bylo Vaninym/Vanino.
this coat was Vanja.POSS.M.SG.INS/NOM
'This coat was Vanja's coat.'
- b. Nataša byla krasivoj/krasivaja i nadmennoj/nadmennaja.
Nataša was pretty.F.SG.INS/NOM and arrogant.F.SG.INS/NOM
'Nataša was pretty and arrogant.'

Partee & Borschev show that when a possessive pronoun occurs as a predicate in the instrumental case, combining it with a nominal expression is grammatical. On the other hand, when the possessive pronoun occurs as a predicate in the nominative case, it cannot combine with nominals:

- (24) a. Èta strana byla kogda-to mojej (stranoj).
this country was long ago my.POSS.INS country.INS
'This country was once mine.'
- b. Èta strana byla kogda-to moja (*strana).
this country was long ago my.POSS.NOM country.NOM
'This country was once mine.'

Partee & Borschev argue that, in examples like (24a), the possessive is part of an NP with a null noun, but in (24b) it is a predicate of type $\langle e, t \rangle$, contra Pereltsvaig (2007).

My informants find *bare* demonstratives as predicates quite marginal. On the other hand, prenominal possessives behave as predicted by Partee & Borschev (2003):

- (25) a. Èta kniga byla kogda-to mamina (*kniga).
this book was long ago mom.POSS.NOM book.NOM
'This book was once my mom's book.'
- b. Èta kniga byla kogda-to maminoj (knigoj).
this book was long ago mom.POSS.INS book.INS
'This book was once my mom's book.'

It seems to be the case that the split we found in §1 between cases where the possessive patterns morphologically with SFM and cases where it patterns with LFM adjectives has semantic effect when bare demonstratives and possessives occur as copular predicates. In (25a), the possessive has the morphology of SFM adjectives and is semantically a predicative expression. In (25b), *maminoj* morphologically patterns with LFM adjectives and can combine with a noun. Despite

the fact that different declensional paradigms signal different semantic interpretation in this specific position, both SFM and LFM adjectives are semantically and syntactically adjectives. Thus, demonstratives and possessives pattern with adjectives in their grammatical behavior. They do not behave like determiners, which are simply ungrammatical as sentential predicates.

2.2.6.2 Demonstratives and possessives under the scope of measure operators

It is still possible to try and argue that demonstratives and possessives head DPs, and that in predicative position, with a null N as complement, they shift from arguments to predicates, as is assumed in English examples like *The guests are the boys from my class* (e.g., Partee 1987). In this section, we argue against this analysis for Russian.

If we were to assume that demonstratives and pronominal possessives are hosted by a D-projection, then there would be two possible interpretations for the DP that they are part of: the DP either denotes an individual of type e or a generalized quantifier of type $\langle\langle e, t \rangle, t\rangle$. As argued in Landman (2003), generalized quantifiers cannot be ‘lowered’ to a predicative type and are, consequently, infelicitous in predicative positions:

(26) * A singer is every boy.

This effectively rules out analyzing possessives and demonstratives as heading DPs of type $\langle\langle e, t \rangle, t\rangle$ in Russian, since then we would not expect them to be able to lower to the predicate type $\langle e, t \rangle$. Expressions of type e denoting an individual can shift to predicative interpretations of type $\langle e, t \rangle$ denoting the property of being that individual (with the type shifting operation IDENT of Partee 1987). If pronominal possessives and demonstratives are determiners and can occur as predicates when combined with a noun, then they have an interpretation as an expression of type e , which can be shifted with Partee’s operation to a predicate of type $\langle e, t \rangle$.

Against this background, let us look at two measure prefixes in Russian. Filip (2005) analyzes the prefixes *na-* and *po-* as measure phrases and claims that their nominal arguments are predicative NPs with non-specific indefinite interpretation. *Na-* and *po-* first combine with a property-denoting nominal argument (of type $\langle e, t \rangle$) and only after this grammatical operation the expression is able to combine with a verbal root.

(27) a. Ivan navaril varen’ja.
 Ivan NA.boil jam.GEN
 ‘Ivan made a lot of jam.’

- b. Ivan pojel varen'ja.
Ivan PO.eat jam.GEN
'Ivan ate some jam.'

Both in (27a) and in (27b) the mass predicate *varen'ja* 'jam.GEN' combines with a measure operator. *Na-* incorporates a measure function that identifies quantities of jam that are large relative to the context. *Ivan navaril varen'ja* 'Ivan NA.make a lot of jam' denotes a maximal event of cooking a lot of jam with Ivan being the agent of the event.⁵ *Po-* incorporates a measure function that identifies quantities of jam that are greater than null, but small: in (27b), Ivan ate some jam, not a lot of it.

Demonstratives and possessives can occur under the scope of the prefixes *na-* and *po-*.

- (28) a. My najelis' Natašinyx pirogov.
we NA.eat Nataša.POSS.PL.GEN pies.PL.GEN
'We ate a lot of Nataša's pies.'
- b. On s udovol'stvijem pojel maminyx kotlet.
he with pleasure PO.eat mom.POSS.PL.GEN chops
'He ate some of mom's chops with pleasure.'
- (29) a. Mama nasmotrelas' ètix novostej i teper' bespokoitsja za
mom NA.watched this.PL.GEN news and now is.worried for
nas.
us
'My mother has watched the news and now she is worried about us.'
- b. My pojeli ètix kotlet i otravilis'.
we PO.ate this.PL.GEN chops.GEN and got.poisoned
'We ate some of these chops and this made us sick.'

It is worth mentioning that the possessives and demonstratives do not undergo a change of meaning when they occur in this position. In (28), *Natašinyx* 'Nataša's' and *maminyx* 'mom's' can describe either the pies and chops cooked or possessed by the women. This does not differ from the interpretation of possessives in argument position. The same holds for (29): demonstratives are used in their true demonstrative meaning. This contradicts the claim in Kagan & Pereltsvaig

⁵Note that this event can consist of multiple events of cooking some small amount of jam and then these smaller events get accumulated into a bigger maximal event (Filip & Rothstein 2006).

(2014) that if a demonstrative occurs in predicative position, it undergoes a meaning shift, loses its demonstrative meaning, and is equivalent to ‘such’ or ‘of this type’.

I assume with Filip (2005) that the prefixes in (28) and (29) operate on the demonstrative/possessive plus noun, which is a predicate of type $\langle e, t \rangle$. Now, if we need to assume that demonstratives and possessives are D-level elements, then we must assume that they are part of a DP of type e denoting an individual and shifted by IDENT to type $\langle e, t \rangle$. But then we would expect that the same shift could felicitously shift normal nominal expressions of type $\langle e, t \rangle$ under the scope of the measure prefixes *na-* and *po-*. This prediction is not borne out. Proper names that inherently denote individuals are infelicitous under the scope of measure prefixes with indefinite interpretation.

- (30) a. *My nasmotrelis’ Nataši.
 we NA.watched Nataša.GEN
 Intended: ‘We watched Nataša a lot.’
 b. *My poslušali Nataši.
 we PO.listen Nataša.GEN
 Intended: ‘We listened to Nataša for a while.’

The infelicity of proper names in this position shows that the suggestion that, maybe, demonstratives and pronominal possessives can occur under the scope of measure prefixes because some shifting operation is untenable.⁶ These expressions can occur as predicates because they are adjectives and originate within NP, not DP.

⁶It has been brought to my attention by an anonymous reviewer that for some speakers some proper names *can* occur under the scope of measure prefixes:

- (i) a. My načitalis’ Mariny Cvetaevoj.
 we NA.read Marina.GEN Cvetaeva.GEN
 ‘We read a lot of Marina Cvetaeva’s poems.’
 b. ? My počitali Vojny i mira.
 we PO.read War and peace.GEN.SG
 ‘We read ‘War and Peace’ for a while (probably, some pages).’

For my informants, the combination of *po-* and a proper name in the genitive is infelicitous. (i.a) is felicitous, but has a very specific interpretation: it denotes poems written by Cvetaeva. Only a very restricted group of proper names can occur in this position: authors of works of art. They can be reinterpreted as a set of the author’s creations and can thus shift independently from an argument of type e to a predicative expression of type $\langle e, t \rangle$. As such a shift is not freely available for proper names (see (30)), these data cannot be considered a counterexample to the argument in §2.2.6.

2.2.7 Evidence from existential sentences

In English, DPs with demonstratives and possessives are definite expressions. They are infelicitous in existential sentences, a standard test for definiteness (Mil-sark 1977, Bach 1987).

- (31) a. There is a pig in the garden.
b. There were three sailors standing on the corner.
c. There are many solutions to this problem.
d. * There is every tiger in the garden.
e. * There are all solutions to this problem.
f. * There are my mom's portraits in every room of our house.
g. * There are these genes in human beings.

If we assume that demonstratives and possessives in Russian are determiners, then we would expect them to be associated with definiteness and be ungrammatical in existential contexts. However, this prediction is not borne out. Both demonstratives and pronominal possessives can occur in existential sentences. (32a) and (32b) contrast with the infelicitous (31f) and (31g), respectively.

- (32) a. V každoj komnate našego doma est' mamin portret.
in every room our house is/are mom.POSS.M.SG portrait
'There is a portrait of my mother in every room of our house.'
b. Est' eti geny i u človeka.
is/are these genes and at humans
'Humans also have these genes.'

Padučeva (2000) claims that in Russian, too, the subjects of this kind of existential sentences are indefinite NPs. If so, it must be the case that demonstratives and pronominal possessives in this position are (part of) indefinite NPs, which they are if they are adjectives modifying a noun within NP, but not if they are determiners mapping nouns onto either expressions of type e or $\langle\langle e, t \rangle, t \rangle$.

2.2.8 In sum

In this section we have given several arguments that show that demonstratives and possessives do not behave like determiners and that their grammatical behavior is better explained within the adjectival analysis. Demonstratives and

prenominal possessives can co-occur, they permute with adjectives, they are felicitous in predicative positions, and they are felicitous in existential sentences. Even morphologically they pattern with adjectives: either SFM or LFM adjectives. However, a match in the morphological paradigm does not seem to be a necessary condition – there are expressions in Russian in which adjectival morphology coincides with non-adjectival syntax and semantics.

If we only look at demonstratives and possessives, it seems promising to extend to Russian also Bošković's (2005) claim that in articleless Serbo-Croatian there is no DP-projection and, thus, all the expressions that are determiners in languages with articles are adjectives. However, this does not seem to be the case. In the next section, we will look at *každyj* 'every'. I will provide evidence that it combines adjectival morphology with the syntax and semantics of a quantifier. Consequently, I will claim that at least some NPs in Russian have a functional projection.

3 *Každyj* 'every' is a quantifier

Každyj 'every' is a good example of an expression for which participating in an adjectival morphological paradigm is no clue to its syntactic or semantic category. *Každyj* patterns with LFM adjectives throughout its whole declensional paradigm (see Table 2).

However, syntactically and semantically, *každyj* does not behave like an adjective.

We have already observed above that *každyj*, unlike demonstratives and possessives, cannot permute with adjectives.

- (33) a. *každaja novaja rabota*
 every new job
 'every new job'
 b. **novaja každaja rabota*
 new every job

Každyj cannot permute with numerals. It can only occur in the left periphery.

- (34) a. *Vrač rekomendoval kormit' rebënka každye tri časa.*
 doctor recommended to feed baby every three hours
 'The doctor recommended to feed the baby every three hours.'
 b. **Vrač rekomendoval kormit' rebënka tri každye časa.*
 doctor recommended to feed baby three every hour

Table 2: Declensional paradigm of *krasivyy* and *každyj*

	SG			PL
	Masculine	Neuter	Feminine	
NOM	<i>krasivyy</i> ‘pretty’ <i>každyj</i> ‘every’	<i>krasivoe</i> <i>každoe</i>	<i>krasivaja</i> <i>každaja</i>	<i>krasivye</i> <i>každye</i>
GEN	<i>krasivogo</i> <i>každogo</i>	<i>krasivogo</i> <i>každogo</i>	<i>krasivoj</i> <i>každoj</i>	<i>krasivyx</i> <i>každyx</i>
DAT	<i>krasivomu</i> <i>každomu</i>	<i>krasivomu</i> <i>každomu</i>	<i>krasivoj</i> <i>každoj</i>	<i>krasivym</i> <i>každym</i>
ACC	<i>krasivogo/krasivyy</i> <i>každogo/každyj</i>	<i>krasivoe</i> <i>každoe</i>	<i>krasivuju</i> <i>každuju</i>	<i>krasivyx/krasivye</i> <i>každyx/každye</i>
INS	<i>krasivym</i> <i>každym</i>	<i>krasivym</i> <i>každym</i>	<i>krasivoj</i> <i>každoj</i>	<i>krasivymi</i> <i>každymi</i>
PREP	<i>krasivom</i> <i>každom</i>	<i>krasivom</i> <i>každom</i>	<i>krasivoj</i> <i>každoj</i>	<i>krasivyx</i> <i>každyx</i>

Každyj co-occurs with demonstratives and pronominal possessives and cannot permute with either of them.

- (35) a. *Každaja mamina stat’ja imela uspex.*
 every mom.POSS.F.SG article.F.SG had success
 ‘Every article of my mother’s was a success.’
- b. *Každaja èta stat’ja imela uspex.*
 every this.F.SG article.F.SG had success
 ‘Every article (out of these) was a success.’
- c. * *mamina každaja/èta každaja*
 mom.POSS.F.SG every/this.F.SG every

(36) shows that, unlike adjectives, *každyj* cannot be a copular predicate. (37) shows that, unlike nouns modified by adjectives, NPs containing *každyj* cannot be copular predicates either.

- (36) a. *Èti krasnye tufli – novye.*
 this.PL red.PL shoe.PL new.PL
 ‘These red shoes are new.’

- b. * Èti novye studenty – každyj.
 this.PL new.PL student.PL every.SG
- (37) a. Èti molodye ljudi – novye studenty
 this.PL young.PL people new.PL.NOM student.PL.NOM
 professora Petrova.
 professor.GEN Petrov.GEN
 ‘These young people are new students of professor Petrov.’
- b. * Èti molodye ljudi – každyj student
 this.PL young.PL people every.SG.M.NOM student.SG.M.NOM
 professora Petrova.
 professor.GEN Petrov.GEN

Adjectives in Russian get nominalized: they retain adjectival morphology but syntactically function as nominals. These nominalized adjectives can pluralize (as in 38) and be modified by other adjectives (as in 38b and 38c) and numerals (as in 38).

- (38) a. V ètom predloženíi dva skazuemyx.
 in this sentence two predicates.ADJ.PL.GEN
 ‘There are two predicates in this sentence.’
- b. Dlja krest’janina vesennjaja posevnaja byla i ostaëtsja
 for peasant spring seeding.ADF.F.NOM was and remains
 glavnoj zabotoj.
 major concern
 ‘The spring seeding process was and remains the peasant’s main concern.’
- c. Na vtorom ètaže naxodilas’ prostornaja učitel’skaja.
 on second floor was.situated spacious teacher’s.ADJ.SG.F.NOM
 ‘A spacious teachers’ room was situated on the second floor.’

When *každyj* appears bare, the only possible interpretation for it is ‘every person’ (similar to *everyone* and *everybody* in English).

- (39) Každyj *(mig) nesët v sebe smysl i krasotu.
 every moment carries in itself meaning and beauty
 ‘Every moment is full of sense and beauty.’

When *každyj* appears bare, it cannot pluralize or be modified by adjectives.

- (40) a. * *Každye nesut v sebe smysl i krasotu.*
every.PL carry in itself meaning and beauty
Intended: ‘Everyone carries meaning and beauty in themselves.’
- b. * *Talantlivyj každyj nesët v sebe smysl i krasotu.*
talented every carries in self meaning and beauty
Intended: ‘Everyone talented carries meaning and beauty in themselves.’

So, syntactically, *každyj* does not pattern with adjectives. It behaves like a functional element hosted outside NP. Semantically, *každyj* denotes a relation between sets, like *every* in English: in (41) it expresses the subset relation between the set of students and the set of individuals who passed the exam. This means that *každyj student* ‘every student’ is a generalized quantifier that denotes the set of all sets of which *every student* is a member.

- (41) a. *Každyj student sdal ètot ekzamen.*
every student passed this exam
‘Every student passed this exam.’
- b. * *On/oni byl/byli ne dovolen/dovolny rezul’tatom.*
he/they was/were not satisfied.SG.M/PL result.INS
Intended: ‘He was/they were not satisfied with the result.’

We cannot use a pronoun to refer to individual students, as (41b) shows, because generalized quantifiers are quantifiers, not referential expressions.

Despite the fact that *každyj* ‘every’ has adjectival morphology, it is semantically and syntactically a quantifier, not an adjective. Consequently, it has to be hosted by a functional projection higher than NP. I conclude that there is at least one non-adjectival element that originates outside NP in Russian.

4 Further issues and conclusion

In this paper I have claimed that there is good reason to assume that demonstratives and pronominal possessives in Russian are adjectives, generated and interpreted within NP, not DP. They can permute with adjectives, occur in predicative positions, co-occur with each other, and be preceded by numerals. This kind of grammatical behavior cannot be explained if one assumes that demonstratives and possessives are determiners. I have argued further that demonstratives and possessives do have adjectival morphology, albeit a combination of LFM and SFM

morphology, and that in any case, adjectival morphology is not an indication of adjectival syntactic status since *každyj* participates in the full LFM morphological paradigm but is clearly a quantifier and not an adjective.

There is one aspect in which prenominal possessives (but not demonstratives) do show behavior which is not characteristic of adjectives: they are apparently able to provide an argument for event nominals as in (42).

- (42) a. Mamino postojannoje vyraženie
 mom.POSS.N.SG.NOM constant.N.NOM expression.N.NOM
 nedovol'stva
 displeasure.N.GEN
 ‘mom’s constant expression of displeasure’ (Babyonyshev 1997: 205)
- b. * Èto postojannoje vyraženie nedovol'stva
 this.N.SG.NOM constant.N.NOM expression.N.NOM displeasure.N.GEN
 Intended: ‘this constant expression of displeasure’

Examples like (42a) have, in the past, formed part of an argument that prenominal possessives need to be analyzed as determiners (e.g. Babyonyshev 1997), analogously to *John’s performance of the symphony*, where *John’s* has been analyzed as a determiner satisfying an argument of the event nominal *performance*.

However, as we have seen, prenominal possessives behave like adjectives both semantically and syntactically. It is thus incumbent on the semanticist to provide an account which will explain the data in (42). One such account is provided in Gepner (2021) where it is claimed that prenominal possessives are adjectives that modify a relation via saturating an argument of this relation. While it is beyond the scope of this paper to review that account here, we justify this approach by noting other cases of interaction between modifiers and argument modification. Landman (2000) proposes an analysis of subject oriented adverbs like *reluctantly* in which the adverb modifies a relation between the event argument of the verb and an argument of the verb. Partee & Borschev (1999) show that *favorite* can express a relation between an individual and an N denotation. This suggests that complex relations involving argument saturation are possible between adjectives and the nouns they modify.

We saw in §3 that the fact that prenominal possessives and demonstratives are adjectives does not mean that noun phrases in Russian do not have a DP projection. There is evidence that there exists at least one non-adjectival expression that has to be hosted by a projection higher than NP: the quantifier *každyj* ‘every’. In contrast to demonstratives and prenominal possessives, *každyj* behaves like a grammatical expression hosted by a higher functional projection: it must be in

the left periphery in the noun phrase, it does not allow for permutations, and it is infelicitous in predicative positions, just like the English quantifier *each*. Further research is required to check whether there are other quantifiers in Russian which have the same properties. Possible candidates are *mnogie* ‘many (people)’ and *nemnogie* ‘few (people)’. These two expressions have adjectival morphology, can occur bare or with a nominal; e.g. *mnogie kompanii* ‘many companies’ and *nemnogie universitety* ‘few universities’. The fact that *každyj* ‘every’ is a functional element and originates outside NP is not enough to claim that it has to be hosted by DP. Moreover, it cannot be taken for granted that all NPs in Russian must have a functional projection. *Prima facie* evidence that this does not have to be the case comes from the conjunction examples in (43).

Following Partee (1987), we assume that only expressions of the same semantic type can be coordinated. If we could freely coordinate *každyj* ‘every’ with other nominal expressions, it would provide *prima facie* evidence that all nominal expressions in Russian have a functional projection of the same type. However, the examples in (43) show that this is not the case. The sentences in (43) are not strongly infelicitous. However, native speakers try to ‘make them better’ by replacing *každyj* by *vsě* ‘all’, which also has very different semantic properties in English (see Dowty 1987, Dowty & Brody 1984).

- (43) a. ? *Každyj student i dekan byli na konferencii.*
every student and dean were on conference
‘Every student and the dean were at the conference.’
- b. ? *Každyj student i tri prepodavatelja byli na konferencii.*
every student and three teachers were on conference
‘Every student and three teachers were at the conference.’
- c. ? *Každyj student i Mašiny odnoklassniki byli na konferencii.*
every student and Maša.POSS.PL classmates were on conference
conference
‘Every student and Maša’s classmates were at the conference.’

At this stage of the research it remains an open question whether a D-projection is necessary for a Russian nominal expression.

Abbreviations

1/2/3	first/second/third person	M/F/N	masculine/feminine/neuter
ACC	accusative	NOM	nominative
ADJ	adjective	PL	plural
DAT	dative	POSS	possessive
GEN	genitive	PREP	prepositional
INS	instrumental	SFM	short form morphology
LFM	long form morphology	SG	singular

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