

RUSSIAN PATTERNS OF FLOATING QUANTIFICATION: (NON-)AGREEING QUANTIFIERS *

ABSTRACT: This paper is a new contribution to the analysis of Russian quantifying phrases. Focusing on floating quantificational structures related to grammatical subjects, I propose that two well-known Russian structures, the so-called *Genitive Initial sentences* and structures including the *agreeing quantifiers vse* ‘all’ and *oba* ‘both’ (Agreeing Floating Quantifiers - AFQ), are in fact instances of Floating Quantification. The analysis I propose is novel since the phenomenon of Floating Quantification has not been related to Russian QPs before.

According to Bobaljik (2003) and Fitzpatrick (2005), Floating Quantifiers (FQ) display two different patterns cross-linguistically: the so-called ‘Japanese’ and ‘English’ patterns. While most languages display only one of these two patterns, I argue that both of them are found in Russian: Genitive Initial (GnI) sentences correspond to the Japanese pattern and Agreeing Floating Quantification (AFQ) to the English pattern.

The paper is organized as follows. Section 1 introduces some assumptions on the structure of Russian QPs. Section 2 provides an overview of the main properties of FQs cross-linguistically. In section 3, I review the main properties of GnI sentences and AFQ; I propose that both are real instances of FQ and show that there is a one-to-one correspondence between the Q-type and the FQ-pattern chosen. In section 4, I argue that the main properties of both FQ-patterns can be reduced to more general structural constraints: restrictions on chain formation and extraction. In particular, I argue that GnI subjects undergo extraction from a bare QP to an A-bar-position, leaving a stranded Q, while a DP subject related to an agreeing Q (*vse* ‘all’ or *oba* ‘both’) moves to an A-position ([Spec, TP]) followed by the acyclic insertion of the Q *vse* or *oba*.

1. ASSUMPTIONS ON THE RUSSIAN QP INTERNAL STRUCTURE

• *Homogeneous vs. heterogeneous QPs:* the Russian quantificational system displays two different types of QPs: a “heterogeneous” pattern and a “homogeneous” pattern (Babby 1987). The first type includes those Qs which take a genitive-marked NP as their complement (1a); the second group is formed by Qs merging with an agreeing NP (1b).¹

- (1) a. [QP Mnogo detej] opozdalo. (Heterogeneous pattern)
many [children]_{GN.PL.} arrived late_{NEUT.SG.}
‘Many children arrived late.’
- b. [QP Vse deti] ljubjat Deda Moroza. (Homogeneous pattern)

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¹ In this paper, QPs are classified in the following way:

- A) With respect to the internal case checking of QPs: *homogeneous* QPs (their internal components agree in case); *heterogeneous* QPs (the Q assigns genitive case to their complement NP).
- B) With respect to verb agreement: [-VAgree] QPs (display default agreement or non-agreement with the verb, as in example 1a in the text); [+VAgree] QPs (display agreement with the verb, as in example 1b).
- C) With respect to the type of Q involved: *agreeing Q* (agrees with an NP, forming a homogeneous QP); *non-agreeing Q* (selects for a genitive NP, forming a heterogeneous QP).
- D) In this paper, I divide Russian FQs into: *GnI sentences* (the floating counterpart of the heterogeneous QP); *AFQ* (structures including the floating agreeing Qs *vse* ‘all’ and *oba* ‘both’).

[all children]_{NOM.PL.} love_{3PL.} Grandpa-Cold
 ‘All the children love Santa Claus.’

As shown in (1a), in a *heterogeneous QP*, the Q does not agree with the complement it selects, but assigns genitive plural case to it. In these structures, the verb shows up as a ‘default’ neuter singular. Non-agreeing Qs include elements of different categories: quantifying nouns, such as *para* ‘a pair’, *kuća* ‘a lot’; quantifying expressions, such as *kot naplakal* ‘very few’ (lit. a cat cried), *s gul’kin nos* ‘very few’ (literally ‘as the pigeon’s nose’); adverbs: *malo* ‘a little / few’, *neskol’ko* ‘some’, *mnogo* ‘many’; and all the numerals, except for *odin* ‘one’ (when they show up in direct or structural cases).

Agreeing Qs, on the other hand, agree in case, number and gender with the NP they modify – example (1b). The numeral *odin* ‘one’ and the quantifying adjectives *vse* ‘all’, *oba* ‘both’ are always agreeing Qs, whichever grammatical case they bear. Numerals and some adverbs (*mnogo* ‘many’, *neskol’ko* ‘some’) can agree with the NP they select only in case they are marked with an oblique or inherent case.²

• *Projecting Q vs. N (the “innermost” projection)*: The internal structure of Russian QPs has been investigated in a series of works such as Babby 1987, Franks 1995, Franks & Pereltsvaig 2004, Pereltsvaig 2006, and Rappaport 2002, among others. All these scholars prove that it is the internal structure of a QP that determines its syntactic behaviour in the structure. Specifically, Babby 1987 and Franks 1995 argue that the internal structure of a QP is conditioned by the internal (non-)agreement between its components. Thus, they propose that internal agreement vs. genitive assignment correlates with different QP projections: (i) when the elements in the QP do not internally agree (genitive assignment, example 1a), Q is projected (Q selects for NP), and (ii) when the elements in the QP agree (example 1b), N is projected (QP being a specifier or adjunct to NP).³ Thus, non-agreeing Qs project the heterogeneous QP in (2a), while agreeing Qs project the DP in (2b):

- (2) a. [QP mnogo [NP dete]_{GN.PL}] (Heterogeneous pattern, non-agreeing Q)
 b. [DP \emptyset [NP [QP vse] deti]]_{NOM.PL} (Homogeneous pattern, agreeing Q)

• *Agreement with V [$\pm V$ Agree] (the “outermost” projection)*: Babby (1987), Franks (1995), Franks & Pereltsvaig (2004) and Pereltsvaig (2006) link the structure of the subjects in (2) with verb agreement, proposing that only quantificational subjects that project a DP (with a null D head) can

² Only arguments showing up in nominative or nominative-accusative case follow the non-agreeing pattern exemplified in (1a). When these Qs bear some oblique case, the phrase behaves as a homogeneous QP (i).

- (i) Prepodavatel’ postavil kol mnogim studentam.
 teacher put “fail” [many students]_{DT.PL}
 ‘The teacher gave an F to many students.’

This contrast is the main puzzle for Babby (1987), Franks (1995), and Rappaport (2002). My study focuses on subject QPs and, therefore, I will not address here the homogeneous oblique use of the usually heterogeneous QPs. Object QPs will be also disregarded here.

³ Rappaport (2002) offers an analysis of these agreement differences in minimalist terms. He explains the contrast between the two QP types in terms of valued / unvalued features on Q, following Chomsky (2001). He concludes that Russian Qs can display either a valued or an unvalued case feature, when they enter the structure: a valued case feature on the numeral triggers a heterogeneous QP (genitive assignment), and an unvalued case feature on Q invokes homogenous syntax. This unvalued feature on Q gets valued together with case valuing of the whole DP (nominative, accusative, oblique or inherent case). Genitive assignment in other Russian structures has been independently analysed in similar terms by Bailyn (2004b). In particular, he argues that the Genitive of Negation, comparatives or quantificational objects involving genitive marking reflect a functional feature [+Q] on Q, which is spelled out as genitive case on a related NP. In this paper, I assume that non-agreeing Qs (like example 1a) have a valued case feature from the very beginning, while agreeing Qs (1b) enter the structure with an unvalued case feature. In the case that concerns us (subjects), this unvalued feature is valued with [+nominative], when it is checked by a probe T.

trigger verb agreement. On the contrary, quantificational subjects that do not project DP do not trigger verb agreement. This is also consistent with the proposal about homogeneous vs. heterogeneous patterns represented in (2): only DP subjects can be [+VAgree], so the homogeneous pattern (which is always [+VAgree]) must be a DP (1b, structure 2b). On the contrary, heterogeneous subjects in sentences like (1a) -structure 2a- are [-VAgree] (the verb shows up in the default neuter singular form), which suggests that they are bare QPs.⁴

• *Specificity*: the contrast regarding the presence or absence of a null D head in (2b) correlates with another difference in the interpretation of the nominal expression: Babby (1987) observed that bare QP/NPs are not specific, whereas DPs must be always specific in Russian (see also Franks & Pereltsvaig 2004, Pereltsvaig 2006). Babby’s observation is consistent with the facts in (1): the subject in (1a, structure 2a) *mnogo detej* ‘many children’, for which we have proposed a bar QP is not specific, while the agreeing *vse deti* ‘all the children’ in (1b, structure 2b), a DP, is necessarily interpreted as specific.

The main proposal in this paper is that Russian has FQ structures and that Russian FQ patterns are derived from these two QP types: the heterogeneous pattern (2a) gives rise to a floating quantificational structure traditionally called *Genitive Initial* sentences, while the homogeneous pattern (2b) is the basis for what I call *Agreeing FQs* (*vse* ‘all’ and *oba* ‘both’). In order to show this, I first provide in section 2 an overview of the main properties of FQs cross-linguistically and then, in section 3, I compare these properties with the ones of Russian GnIs and the ones involving AFQs.

2. FLOATING QUANTIFIERS CROSS-LINGUISTICALLY

The *main properties of FQs* were described by Kayne (1981) and Sportiche (1988), among others. Bobaljik (2003) lists the most important of these properties:

• An FQ structure consists of a quantified discontinuous DP, whose nominal part appears in its final landing position in the sentence, while the Q stays rightwards (3).

(3) The children (all) would (all) have (all) been (all) doing that.

• The FQ quantifies over the scrambled NP it agrees with (3).
 • The NP antecedent of a floating Q must c-command that Q (cf. Kayne 1981 and subsequent work). Example (4) is ungrammatical because the antecedent NP *my friends* does not c-command the FQ *all*:

(4) * [The mother of my friends;_i] has all_i left. (Kayne 1981)

• FQs display determiner-like agreement with the antecedent DP (Sportiche 1988).

⁴ Besides the two patterns illustrated in (1), there exist in Russian heterogeneous subject QPs with [+VAgree], as shown in (i). Pereltsvaig (2006) posits a DP as their outermost projection. They contrast with examples such as (1a), which are [-VAgree] and analysed by Pereltsvaig as bare or “small” QPs. I generalise the DP structure to homogeneous QPs, which are always [+VAgree]. This paper disregards examples like (i), as they cannot become floating structures -only structures with default neuter V agreement can (ii).

(i) [Mnogo detej] opozdali.
 Many children_{GNPL} came late_{3PL}
 (ii) Detej opozdalo / *opozdali [mnogo].
 children_{GNPL} came late_{NEUTSG} / came late_{*3PL} many

With regard to the major theories about FQ, two different views have been competing since Kayne (1975) and Maling (1976) first called scholars' attention to this phenomenon. These views are known as the '*adverbial*' analysis and the '*stranding*' analysis of FQs.

The *Adverbial Analysis* (Klein 1976, Dowty and Brodie 1984) considers FQs as adverbial elements, which are introduced in the structure as VP-modifiers. Under *Quantifier Stranding*, as put forth by Sportiche (1988), FQs are adnominal elements, attached to a PRO or a trace left by a correferent DP on its movement up.⁵

Bobaljik 2003 and Fitzpatrick 2005 argue that languages choose either one of these FQ patterns or the other. The adverbial analysis is necessary to capture the mechanism of FQs in languages like Japanese, while the stranding analysis is necessary to explain the properties of FQs in languages like English and French. The differential properties between the two structures, the *Japanese pattern vs. the English pattern* have been described in detail by Yamashita (2001) and Bobaljik (2003: 34ff). Here, I will only go through those properties which are crucial for the proposal about Russian FQ I will put forth later:

1) There is a first difference affecting the Q-type usually 'floated'. In Japanese, numerals can float, while in English or French only universal and distributive Qs (such as *all*, *both*, and *each*), are allowed to float (Bobaljik 2003).

2) Japanese bans floating of a Q related to a subject that has undergone a previous movement: Japanese allows FQ with unaccusative or passive subjects (5a) and *in situ* transitive subjects (5b), but not with transitive subjects when the direct object intervenes between it and the floated numeral (5c), as was noted by Miyagawa (1989) and Bobaljik (2003).⁶ English does not display such a restriction: FQ is possible with transitive subjects that have undergone movement to [Spec, TP] or any other previous movement (6).

- (5) a. Gakusei ga kyoo 3-nin kita. (Miyagawa 1989)
 students_{NOM} today 3_{CL} came
 'There came three students today.'
 b. Gakusei ga kyoo 3-nin hon o katta.
 students_{NOM} today 3_{CL} book_{ACC} bought
 'Three students bought the book today.'
 c. *? Gakusei-ga hon-o 4-nin katta.
 students_{NOM} book_{ACC} 4_{CL} bought
 Intended: 'Four students bought books'
- (6) The students (all) would (all) do that.

3) English bans universal and distributive FQs which are related to an element in an A-bar-position (Bobaljik 2003): in (7), the ungrammaticality stems from the fact that the FQ-related DP has wh-moved (7a) or topicalized (7b). In contrast, Japanese does not share this restriction (8):

(Bobaljik 2003)

⁵ There have been many revision works afterwards, many of them supporting stranding, but changing Sportiche's (1988) initial proposal to some degree (Benmamoun 1999, Bošković 2001, McCloskey 2000, and Shlonsky 1991).

⁶ I make the distinction between *in situ* and moved transitive subjects on the basis of examples like (5b) and (5c) respectively, and the ones provided by Yamashita (2001). In fact, I am assuming that the whole QP subject in (5c) moves over the object in order to take scope over it before floating of the Q takes place (for similar facts about scope with QP subject and objects, see Yamashita 2001). On the contrary, in example (5b), where the direct object does not intervene between the subject and the FQ (i.e. the object stays *in situ*), we do not need to posit an extra movement of the QP subject over the object (as the object stays in its original position). Thus, I assume that the subject in (5b) has been extracted directly from its original position, leaving the Q stranded, while in (5c), the subject has moved over the object prior to extraction of the nominal that yields the FQ structure.

- (7) a. * Which professors will Taylor have all met before the end of term?
 b. * These professors, Taylor will have all met before the end of term.
- (8) Donna booru-ga mit-tu [*pro* katta hito]-ni atatta no? (Migayawa 1989)
 which ball 3-CL *pro* bought person-DAT hit Q
 ‘Which three balls hit the person who bought them?’

In the following section, I propose that these two mechanisms are not incompatible and that Russian displays both of them in the form of *Genitive Initial* (GnI) sentences and *Agreeing Floating Quantifiers* (AFQ). I will establish a parallelism between FQs in Russian and in other languages by relating GnIs to Japanese floating numerals and AFQs to English FQs.

3. RUSSIAN FQ-STRUCTURES

Does Russian have FQ structures? Russian displays two types of structures where a Q surfaces separated from the nominal it modifies: *GnI sentences* and *AFQ structures*. GnI sentences are sentences headed by a topicalized genitive NP related to a numeral, adverbial quantifier or quantifying expression that surfaces rightwards (Franks 1995, House 1981). In addition to GnI, there is a second type of sentences where the nominal can appear separated from the numeral, as (10b).

- (9) a. Prišlo [_{QP} malo detej]. (Heterogeneous QP)
 came_{NEUT.3SG} few children_{GN.PL.}
 ‘A few children came.’
 b. Detej prišlo [malo ~~detej~~]. (GnI)
 children_{GN.PL.} came_{NEUT.3SG} few
 ‘Children, there came just a few of them.’
- (10) a. Prišli [_{QP} vse deti]. (Homogeneous QP)
 came_{PL.} [all children]_{NOM.PL.}
 ‘All the children came.’
 b. Deti prišli [vse ~~deti~~]. (AFQ)
 children_{NOM.PL.} came_{PL.} all_{NOM.PL.}
 ‘The children came all.’

I propose that each of these two structures correlate with the two types of Q sentences analysed in section 1 and that they correlate with the two groups of FQ-types proposed by Bobaljik 2003 and Fitzpatrick 2005. GnI structures, such as (9b), are the ‘floating’ counterpart of regular sentences including an internally non-agreeing or heterogeneous QP (9a). I will show that exhibit the same behaviour as Japanese numeral FQs. AFQs, on the other hand, are the floating counterpart of sentences including homogeneous QPs (10a), and are obtained by floating an agreeing Q, like *vse* ‘all’ or *oba* ‘both’ (10b). As will be shown below, they exhibit the properties of English FQs.

In order motivate this proposal, I will first show that GnI and AFQ structures are FQs by comparing their properties with the *general properties of FQs* listed in section 2.⁷

⁷ In section 2, I did not mention a property of FQs detected by Bošković (2004) in many languages: the ban on floating a Q in a theta-position. In fact, Russian FQs can be overtly stranded in theta-role positions, as we will see later. There is, however, a restriction for Russian FQs, dealing with (un)valued case features: whereas subject *vse* ‘all’ and *oba* ‘both’ can be stranded in sentence-final position in passives, existentials and inanimate objects (i), sentence-final *vse* / *oba* referring to an animate object entails a decrease in grammaticality (ii):

- (i) a. Komnaty dolžny byt’ provetreny vse / obe.
 rooms_{NOM.PL.} due to be aired all / both
 ‘The rooms must be all / both ventilated.’
 b. Ego romany ja pročitala vse / oba.

• As in the FQ structures seen before, GnI and AFQ sentences involve a discontinuous QP, whose nominal part moves, while the Q surfaces rightwards. This is shown in (11):

- (11) a. (Malo) komnat bylo provetreno (malo). (GnI)
 few rooms_{GN.PL} was_{NEUT.3SG} aired (few)
 ‘There were a few rooms ventilated.’
 b. (Vse) komnaty (vse) dolžny byt’ (vse) provetreny (vse). (AFQ)
 (all_{NOM.PL}) rooms_{NOM.PL} (all) due to be (all) aired (all)
 ‘The rooms must be all ventilated.’

• These examples also illustrate another property of FQs: the Q quantifies over the nominal expression it is related to.

• The NP antecedent of the stranded Q must c-command the Q. Whenever this is not met the result is ungrammatical, as shown in (12), where the antecedent NP *kolleg* ‘colleagues_{GN.PL}’ does not c-command the stranded FQ *malo* ‘few’:

- (12) * [Žěny moix kolleg_i] uexalo malo e_i.
 wives_{NOM.PL} my colleagues_{GN.PL} left few
 Intended: ‘The wives of a few colleagues of mine have left.’

• Finally, GnI-related Qs and AFQs display determiner-like agreement with the NP they modify: (i) AFQs agree with the NP (11b); and (ii) GnI sentences preserve the original case relation between the Q and the nominal - genitive assignment, as in (11a).⁸

- (ii) his romans_{ACC-NOM.PL} I read all / both_{ACC-NOM.PL}.
 ‘As for his romans, I read all / both of them.’
 ? Detej ja uvidela vse.
 children_{ACC-GN.PL} I saw all_{ACC-GN.PL}.

I would like to suggest that this may follow from a structural difference in their case checking position. If we assume that nominative case (nominative-accusative on inanimate objects) is checked inside VP; then, Q can be stranded in a post-verbal final positions (Russian verbs undergo short-verb movement, according to Bailyn 1995), as the case features of the DP have been already valued there, and the FQ can get case by multiple agreement with the DP it attaches to, as in example (i). But if accusative-genitive case (animate objects) is checked higher, perhaps in vP, then, the case features of the DP remain unvalued until the whole phrase moves out of VP, so a post-verbal FQ cannot undergo multiple agreement in that position, resulting in the unacceptability of examples like (ii).

⁸ It is not completely true for the numerals *dva* ‘two’, *tri* ‘three’ and *četyre* ‘four’, which assign genitive singular (not plural) to the NP they merge with (Pereltsvaig 1998, Rappaport 2002). There is another characteristic that differentiates them from the genitive plural assigning Qs: they can trigger verb agreement, as in example (i). When they give rise to floating sentences, however, they behave in the same way as the other numerals: they assign genitive plural and obligatorily trigger default agreement with the V (ii):

- (i) [_{DP} Tri studenta] opozdali / opozdalo.
 three students_{GN.SG} arrived late_{MASC.PL. / NEUT.SG}
 ‘Three students arrived late.’
 (ii) Studentov opozdalo [_{DP} tri e].
 students_{GN.PL} arrived late_{NEUT.SG} three
 ‘As for the students, three of them arrived late.’

Even in these cases, case checking (genitive assignment) is preserved when the numerals ‘two, three or four’ float. There is, however, a difference in phi-feature checking (number agreement) between the non-floating (i) and the floating variant (ii). Plural checking of the raised genitive NP in (ii) can be due to the fact that phi-features must be checked in a different position than case, perhaps after the movement has been completed. Plural checking can be the result of extraction of the genitive NP across an AP boundary, which is always genitive plural, even when selected by the Qs *dva* ‘two’, *tri* ‘three’ and *četyre* ‘four’ (iii):

- (iii) [_{DP} Tri umnyx studenta] opozdali.

In section 2, I described four *differential properties* of the English and Japanese patterns of FQ. I will next apply these properties to Russian FQ structures and show that GnIs correspond to the Japanese variant, while AFQ is parallel to English FQ:

1) GnI and AFQ differ from each other regarding the Q-type that lies on their basis: GnI sentences, like Japanese FQs, include numerals and general quantified expressions. AFQs apply only to *vse* or *oba*, the Russian counterparts of English *all* and *both*.

2) GnI subjects undergo the same restriction as their Japanese counterparts: they are licensed with unaccusative and passive subjects (13a), but never when the subject has previously moved to a higher position (13b) or is transitive (13c).⁹ The control sentence showing that heterogeneous QPs can move to [Spec, TP] when FQ is not involved is in (14) -compare with (13b):

- (13) a. Vozmožnostej bylo predloženo tol'ko [pjat' e].
possibilities_{GN.PL.} was proposed only five_Q
'There were only five possibilities proposed.'
- b. *Vozmožnostej [pjat' e] bylo predloženo e.
possibilities_{GN.PL.} five was proposed
- c. *Studentov kupilo (mnogo) ètu knigu [mnogo e].
students_{GN.PL.} bought a lot this book a lot
Intended: 'A lot of students bought this book.'
- (14) [Pjat' vozmožnostej] bylo predloženo.
five possibilities_{GN.PL.} was proposed

Russian AFQs, on the other hand, follow the 'English' pattern and do not display this constraint. As (15) shows, they can strand a Q in any intermediate position that has been occupied by a transitive subject:

- (15) Studenty (vse) ljubjat (vse) prepodavatelja (vse).
students_{NOM} all_{NOM} love all_{NOM} teacher all_{NOM}
'The students all love the teacher.'

3) Russian AFQs ban universal FQs related to a neat A-bar-position. This is the behaviour of English FQs. Example (16a) shows the unavailability of wh-movement of an AFQ-related DP. The control sentence –where A-bar-movement is not involved- is (16b):

- (16) a. *Kakie deti (vse) prišli vse?
which_{NOM.PL.} children_{NOM.PL.} came all_{NOM.PL.}
Intended: 'Which of the children were the ones that came all?'
- b. Malen'kie deti prišli vse.
[small children]_{NOM.PL.} came all_{NOM.PL.}
'The small children came all.'

Russian GnI subjects, on the other hand, are like Japanese FQs (and unlike English FQs) in that they can be moved further to an A-bar-position (17).

three intelligent_{GN.PL.} students_{GN.SG.} arrived late_{MASC.PL.}
'Three intelligent students arrived late.'

⁹ I assume that Russian transitive subjects always undergo an intermediate movement to a vP layer before they move to TP (as subjects of causative verbs do), unlike Japanese transitive subjects, which can move or stay *in situ* (see footnote 6). Thus, the transitive subject in (13c) is parallel to the subject in (13b) –and to the Japanese subject in (5c)-, in that it moves prior to extraction.

- (17) Kakix jablok bylo malo?
 [what apples]_{GN.PL.} was few?
 ‘Which kind of apples there was a few of?’

4) Finally, we can add another distinction between GnI and AFQ comparing them with FQs in other languages: in section 1, it was argued that heterogeneous QPs (such as GnI-related QPs) are bare QPs, while homogeneous QPs (AFQ phrases) are, in fact, DPs with a null D head. Note the parallelism with the cross-linguistic FQ structures: split nominals or split numerals, like GnIs, are usually found in languages which can display bare NPs –with no overt D- (Japanese), whereas languages displaying full DPs, similarly to AFQ, belong to the second pattern of floating quantification (English, French, Spanish).

With this background in mind, in the next section I offer a new account of Russian GnI sentences and AFQ quantification.

4. AN ANALYSIS OF RUSSIAN FQ-STRUCTURES

So far we have established that Russian GnI sentences (derived from heterogeneous bare QPs) follow the Japanese pattern of split numerals, and that AFQs (which stem from homogeneous DPs, including an agreeing Q) reproduce the properties of English FQs.

I will propose that there are 3 different factors that determine the FQ pattern of Russian quantificational structures and their properties: (i) their internal structure, (ii) the type of movement their nominal undergoes, and (iii) whether the Q forms a constituent together with the NP from the beginning or whether it is acyclically inserted. The main proposal of this paper can be summarized as follows:

1) *GnI sentences* consist on split bare QPs, whose nominal part (genitive NP) is extracted to an A-bar-position by long-distance extraction, leaving stranded the Q head. The nominal part attaches to TP to check a [topic] feature, as has been proposed for A-bar-subjects in Romance and Greek by Belletti (1990) and Alexiadou & Anagnostopoulou (1998). Extraction takes place from the base position (a single-membered or trivial chain) directly to an A-bar-position. The derivation is offered in (18):

- (18) [XP Detej [TP [VP [VP prišlo [QP malo [NP ~~detej~~]]]]]]

2) *AFQ sentences* involve an agreeing DP, which moves to an A-position by successive cyclic movement to check an [EPP] feature. A related agreeing FQ is acyclically inserted and attached to a copy left by the DP on its movement up. This mechanism has been proposed by Bošković (2004) for English-like Floating Quantification.¹⁰ The movement of the subject (and the late insertion of a Q) creates a non-trivial chain with two copies of the subject. The derivation of Russian AFQs is illustrated in (19).

- (19) [TP [DP Deti] [VP [DP (vse) [DP ~~deti~~]] [VP prišli [DP vse [DP ~~deti~~]]]]]

In the following pages, I develop this proposal by explaining the way these two patterns are derived and offer an analysis of the different properties they exhibit with respect to movement, landing positions and feature checking:

¹⁰ Fitzpatrick (2005) equates the adverbial analysis of FQs and the ‘English’ pattern. The account presented here supports Bošković’s (2004) special view of stranding, which preserves the adverbial nature of FQs (late insertion) and the possibility of agreement between an FQ and its related NP (attachment of Q to a copy of NP).

4.1. Extraction and chains

Stepanov (2001) gives a complete picture of the extraction mechanisms within the minimalist program. He relates extraction to Chomsky's (1995) Chain Uniformity Condition in the following way: extraction from the higher link of a formed chain is banned, because the link gets modified and becomes non-identical with the previous link. This type of extraction produces an improper chain and leads to a violation of the Chain Uniformity Condition.

As is well-known, in many languages extraction to an A-bar-position out of a subject is impossible. Stepanov (2001) accounts for this effect by saying that, in English, the subject moves from [Spec, vP] to [Spec, TP], creating a non-trivial chain consisting of two copies of the subject. Extraction takes place from one of the links of that chain (the higher one, in a cyclic derivation) and this operation modifies one of the links, leading to a violation of Chain Uniformity. Extraction to an A-bar position out a subject is possible (there are no 'subject condition' effects) when the subject does not raise out of its base-generated position: in this case, the subject forms a trivial (single-membered) chain. Modifying the (only) link by extraction does not lead to a Chain Uniformity violation.

In the following two sections, I will link this proposal to Russian FQs to derive their syntactic properties. GnI subjects will be proved to move from a single-membered chain, and AFQ structures will be related to non-trivial chains disallowing extraction.

4.2. The syntactic derivation of GnIs

I have already proposed that Russian GnI phrases are split QPs, with the NP nominal part extracted to an A-bar-position directly (long-distance extracted), without any intermediate landing position, as represented in (18), repeated again for convenience:

- (18) [XP Detej [TP [VP [VP prišlo [QP malo [NP ~~detej~~]]]]]]

I want to show that the properties of GnI can be derived from the general constraints on extraction. Split nominals in Slavic have been studied in connection to short and long-distance extraction (Bošković 2005, Grebenyova 2005): Russian can 'split' an NP and left-branch extract only a part of it, stranding lower the other part (only the NP or only the AP). In (20a), an NP is topicalized, leaving its adjectival modifier stranded below. In (20b), the adjectival modifier has been focussed while the NP it modifies stays in situ.

- (20) a. Mašinu ja kupil krasnuju.
car ACC.FEM.SG. I bought red ACC.FEM.SG.
'The car I bought was red.'
b. KRASNUJU ja kupil mašinu.
'It was red that I bought the car.'

The raised NP and AP in (20) have been extracted out of a direct object. But Russian cannot split a nominal and extract one of its members when this nominal is a transitive subject (21a). The control sentence for other subjects is the existential in (21b), which is a grammatical utterance:

- (21) a. *KRASIVAJA pričesivala svoi volosy Vasilisa.
beautiful NOM combed her hair Vasilisa NOM
Intended: 'There was beautiful Vasilisa combing her hair.'
b. KRASIVAJA žila na svete Vasilisa.
beautiful NOM live in the world Vasilisa NOM
'There lived in the world beautiful Vasilisa.'

This is the property we detected before in the case of GnI sentences. Consider examples (13a-c) again, repeated here as (22a-c). They show that extraction of a GnI from a passive subject is possible (22a), but extraction from a previously moved subject (22b) or a transitive one is ruled out (22c).

- (22) a. Vozmožnostej bylo predloženo tol'ko pjat'.
 possibilities_{GN.PL.} was proposed only five_Q
 b. * Vozmožnostej (pjat') bylo (pjat') predloženo.
 possibilities_{GN.PL.} (five_Q) was (five_Q) proposed
 c. * Studentov kupilo ètu knigu mnogo.
 students_{GN.PL.} bought this book a lot

On the other hand, Slavic splits allow A-bar-extractions out of subjects (Grebenyova 2005, Bošković 2005). Example (23) illustrates A-bar-extraction of an AP out of an NP:

- (23) [Na skol'ko krasivuju] Ivan kupil [e mašinu]? (Grebenyova 2005)
 how much beautiful_{ACC.FEM} Ivan bought car_{ACC.FEM}
 'How beautiful a car did Ivan buy?'

The same property characterizes Russian GnI sentences: GnI phrases can move to A-bar-positions, as split nominals do. Example (17) is repeated here as (24):

- (24) Kakix jablok bylo malo?
 [what apples]_{GN.PL.} was few_Q?

I argue that GnI subjects follow the pattern of extraction described by Stepanov (2001). A single-membered chain (a trivial chain) can be modified by extracting something from the higher (and only) link without violating chain uniformity. If GnI subjects follow this pattern, as represented in structure (18), the facts introduced previously can be easily accounted for:

- a) A GnI-NP cannot move prior to wh-extraction, because extraction from a derived position (a non-trivial chain) leads to a Chain Uniformity violation. Therefore, GnIs must move directly to the landing A-bar-position in order to allow extraction. This makes extraction to a related A-bar position possible, as shown in example (24).
 b) GnI phrases cannot be extracted from transitive subjects or any other subject that has moves prior to floating, as it would produce a non-trivial chain and, therefore, a violation of the Chain Uniformity condition. This accounts for the ungrammaticality of examples (22b-c).

Another argument in favour of direct long-distance extraction of GnI phrases lies on independent evidence from Russian QPs. It is generally assumed that Russian non-agreeing bare QPs check no case feature and, consequently, have no need to move to [Spec, TP] (see section 1). In fact, there is a close relation between the position of Russian QP subjects and [+VAgree]: subjects in [Spec, TP] can trigger agreement with V or not (depending on specificity), as in (25a), while QPs in a lower position (VP-internal) do not agree with the verb (25b).¹¹

- (25) a. [_{QP} P'jat' detej] opozdalo / opozdali.
 five children_{GN.PL.} arrived late_{NEUT.SG. / MASC.PL.}
 'Five children arrived late / The five children arrived late.'
 b. Opozdalo / * opozdali [_{QP} p'jat' detej].
 arrived late_{NEUT.SG. / * MASC.PL.} five children_{GN.PL.}

¹¹ I assume that structures with a [-VAgree] subject have their EPP feature checked by a null category, triggering a default neuter singular form in the verb.

If a heterogeneous [-VAgree] QP subject moves, it must move somewhere else (not to [Spec, TP]) and check some feature other than EPP. This is the case of GnI sentences: they obligatorily move, but never trigger V agreement (26). In section 4.4, I will show that they move to an A-bar position to check a [topic] feature.

- (26) Detej opozdalo / * opozdali [_{QP} p'jat' e].
 children_{GN.PL.} arrived late_{NEUT.SG.} / * MASC.PL five

4.3. The syntactic derivation of AFQ structures

Russian AFQ structures display a very different FQ pattern: they are triggered by the successive-cyclic movement of a subject DP to an A-position (to check an [EPP] feature), and the late (acyclical) insertion of an agreeing FQ in some intermediate landing position of the moved DP. It was represented in structure (19), repeated here as (27):

- (27) [_{TP} [_{DP} Deti] [_{VP} [_{DP} (vse) [_{DP} ~~deti~~] [_{VP} prišli [_{DP} vse [_{DP} ~~deti~~]]]]]]

This corresponds to the English pattern of FQ-DPs, proposed by Bošković (2004). Unlike GnI sentences, there is no extraction in these structures, but only the usual successive-cyclic movement of a DP subject followed by the late insertion of an adverbial element (the FQ). Hence the properties of AFQ listed in sections 2 and 3 (examples 16a and 15, illustrative of AFQ structures, are repeated below as 28 and 29):

- (28) * Kakie deti (vse) prišli vse?
 [which children]_{NOM.PL.} came all_{NOM.PL.}
 (29) Studenty (vse) ljubjat (vse) prepodavatelja vse.
 students_{NOM.PL.} love teacher all_{NOM.PL.}

An AFQ-related subject DP reaches its higher position ([Spec, TP]) after successive-cyclic movement through the positions a regular subject passes by, creating a non-trivial chain with two or more copies of that subject (in the sense of Stepanov 2001). These copies are not identical once an agreeing FQ is inserted in an intermediate landing position of the subject-movement. Now the contrast in grammaticality between examples (28-29) follows straightforwardly:

- a) A non-trivial chain with more than one (non-identical) copy of the subject bans extraction from [Spec, TP] to an A-bar-position (wh-movement, for instance). This is illustrated in example (28): the last copy of the subject in the chain is different from the lower one(s), after the FQ *vse* ‘all’ has been inserted. The NP *kakie deti* ‘which children’ cannot be extracted out of this last copy (out of the DP in [Spec, TP]) without taking the Q with it, as this would give rise to a violation of Chain Uniformity.
- b) The mechanism of late insertion of the FQ allows its adjunction to any intermediate copy of the DP on its movement to [Spec, TP], even when the subject is transitive or has previously moved to an intermediate position, as in example (29). If we follow Stepanov’s definition of Chain Uniformity, AFQ cannot be an instance of extraction (otherwise, Chain Uniformity would rule out examples like 29). As shown in (28), AFQ-related DPs should not undergo extraction until the FQ is inserted (i.e. until a new “larger” DP subject is created). This suggests that it is the whole DP that moves up to reach [Spec, TP].¹²

¹² Acyclic insertion of the AFQ must take place prior to extraction to CP, that is, when the related DP reaches [Spec, TP]. After AFQ-insertion, further extraction from the DP subject is impossible (example 28). This makes sense under the approach presented here, because both the subject DP *and* the lately inserted FQ check case

Another argument to state that AFQ-related DPs undergo successive-cyclic movement and not extraction (unlike bare QP-GnI) comes from extraction out of complex QPs (including an NP + an AP). If AFQs are not instances of extraction (as GnIs are), it is expected that we cannot extract a bare NP out of a complex AFQ phrase, without extracting also the related AP (that is, without moving the whole DP). This is in accordance with Bošković's (2004) hypothesis that the whole DP moves as a single constituent in FQ, and the Q must be late inserted. This prediction is borne out in Russian: an NP complement of D cannot be extracted separately from a related AP (30b). On the contrary, GnI structures allow such an extraction. The sentence in (30a) indicates that the GnI phrase (the NP) is extracted, while the AFQ-related DP in (30b) moves as a single phrase until its final landing position, [Spec, TP]:

- (30) a. ? Učenyx prišlo [_{QP} malo [[_{AP} ispanski_X] [_{NP} e]]]. (GnI)
 scientists_{GN.PL} came few Spanish_{GN.PL}.
 'Scientists, there only came a few Spanish ones.'
- b. * Učenyje prišli [_{DP} vse [_{NP} [_{AP} ispanski_e] [_{NP} e]]]. (AFQ)
 scientists_{NOM.PL} came [all Spanish]_{NOM.PL}.
 Intended: 'Scientists, there came all the Spanish ones.'

There is another contrast between GnI phrases and AFQ-related DPs that suggests that their movement types are radically different: GnI phrases cannot be floated through intermediate specifier positions (31a), whereas AFQ-related DPs can leave an agreeing Q stranded in any intermediate position of their movement (31b). This property follows straightforwardly if we assume that GnI phrases undergo long-distance extraction ("one fell swoop" movement), while AFQ-related DPs are raised by successive-cyclic movement.

- (31) a. Komnat (*malo) bylo (*malo) provetreno malo. (GnI)
 rooms_{GN.PL} (few) was_{NEUT.3SG} (few) aired few
 'There were a few rooms ventilated.'
- b. Komnaty (vse) dolžny byt' (vse) provetreny (vse). (AFQ)
 rooms_{NOM.PL} (all_{NOM.PL}) due to be (all) aired (all)
 'The rooms must be all ventilated.'

This example shows that GnI phrases do not undergo successive cyclic movement + late FQ insertion (as I propose for AFQs): the ungrammaticality triggered by the insertion of *malo* 'few' in intermediate positions of cyclic subject-movement would otherwise remain unexplained.

4.4 The different triggers for the movement of AFQ vs. GnI

The final piece of evidence in favour of different landing positions of the NP in GnI and of the DP in AFQ structures comes from the different motivations for the movement of GnI and AFQ subjects. Remember that, in my account, GnI undergoes A-bar-movement while AFQ is related to A-movement. I consider Russian Floating Quantification as a scrambling phenomenon in a wide sense. According to Bailyn (2004a) and Lavine (1998), there are two types of scrambling in Russian:

(a) A-movement: it is associated to the checking of a strong [D] or EPP feature, but not necessarily case (they dissociate case checking and EPP triggered movement). Bailyn (2004a) calls it *Generalized Inversion* and describes it as the A-movement of whatever XP to [Spec, IP] in order to check an EPP feature. This XP triggers V movement above the stranded nominative subject.

against a T head (nominative case). So the FQ must be inserted at the precise point when the subject is merged with TP, in order to be able itself to check nominative case by multiple agreement.

(b) A-bar-adjunction / A-bar-movement are related to the checking of features of the informative sphere (sentence topics, for instance). Bailyn (2004a) includes topicalization in this group and states that it consists of an A-bar-adjunction / A-bar-movement to check some functional or informational feature. Bailyn specifies that this be alternatively viewed as A-bar-movement to a left periphery *à la* Rizzi (1997).

If FQ in Russian is an instance of scrambling, as I argue, which of these two patterns of scrambling corresponds to *GnI sentences*? GnIs cannot be instances of Bailyn's Generalized Inversion, because an inverted XP can co-occur with an initial genitive, as illustrated in (32a): here, the GnI moves, but does not check case (see section 4.2). Neither can it check an EPP feature, as it has been already checked by the inverted PP *u každogo prepodavatelja* 'with each teacher' (compare it with 32b, showing inversion of the PP without FQ).

- (32) a. Studentov u každogo prepodavatelja bylo pjat'.
 Students_{GN.PL.} with each teacher was_{SG.NEUT} five
 'Students, each teacher had five.'
 b. U každogo prepodavatelja bylo pjat' studentov.
 with each teacher was_{SG.NEUT} five students_{GN.PL.}
 'Each teacher had five student.'

I want to argue that GnIs correspond to the second pattern of scrambling, and that what triggers GnI movement is the need to check a discourse feature, namely a [topic] feature. There is evidence that suggest that this analysis is on the right track: as it happens with topics, GnIs must include some known information. That is why GnI sentences are not an appropriate answer to questions like (33a). They must always include known information, as in (33b):

- (33) a. Kto prišel? # Detej prišlo malo(, a vzroslyx mnogo).
 Who came? children_{GN.PL.} came_{3SG.NEUTER} few but grown-ups many
 'Who came? #Among the children, there came only a few.'
 b. Skol'ko detej prišlo? Detej prišlo malo.
 how many children_{GN.PL.} came_{3SG.NEUT} children_{GN.PL.} came_{3SG.NEUT} few
 'How many children came? There came a few of the children.'

The proposal that GnI sentences involve checking of a topic feature agrees with the observation made by Lavine & Freidin (2001) about long scrambling in Russian: long scrambling is discourse-driven, because the scrambled XP is always interpreted as old information. If GnI are discourse-driven and move to an A-bar position, it is expected that they can co-occur with topics, as shown in (34):¹³

- (34) Knigi, | romanov ja pročital v obrez. (Franks 1995)
 books_{NOM.PL.} romans_{GN.PL.} I read just which I needed
 'Books, romans, I have read just what I needed.'

In contrast with GnI sentences, the associated DPs of *AFQs*, display different interpretational properties, which suggest that the type of feature involve in their derivation is different. Thus, in contrast to GnI seen in (33), AFQ can be an answer to a general question like 'What happened?' or

¹³ Franks (1995), House (1981) and Pereltsvaig (1998) argue that GnIs are not real topics, but left-dislocated (base-generated) NPs, related to some focussed Q element in a lower position. This proposal does not explain a fact introduced here, namely, why GnI NPs show the same restrictions as extracted NPs. In contrast to this analysis, in this paper I have proposed that Q+NP_{GN} form a unit at the beginning and what triggers the extraction of this NP is the need to check a [topic] feature in the left periphery.

‘Who came?’, as shown in (35). It is true that *deti* ‘children’ is D-linked in (35), but this example nonetheless contrasts with (33), where the moved GnI must be obligatorily present in the previous context.¹⁴

- (35) Kto prišel? Deti prišli vse(, a vzroslye ne vse).
 who came? children came all but grown-ups not all
 ‘Who came? The children came all, and the grown-ups not all.’

If we discard the option of discourse-driven movement for AFQs, the other possibility is that they move to check an EPP feature. Remember that Bailyn (2004a) defines Generalized Inversion as the movement of any XP to check an EPP feature. If AFQ-related DPs move to check this EPP feature (producing the type of inversion described by Bailyn), the prediction is that another inverted XP cannot co-occur with AFQ, because they would be competing for the same position. This is confirmed in (36a), which contrasts with GnI in (33). The control sentence without floating is (36b):¹⁵

- (36) a. ??* Bogatye v Moskve život vse.
 rich_{NOM.PL} in Moscow live all_{NOM.PL}
 Intended: ‘All the rich people live in Moscow.’
 b. V Moskve život vse bogatye.
 in Moscow live [all rich]_{NOM.PL}
 ‘All the rich people live in Moscow.’

Bailyn (2004a) also argued that an inverted XP triggers pied-piping of the V. Then, if (36a) is an instance of Generalized Inversion, we expect that grammaticality will improve when the V immediately follows the inverted subject (so that the PP appears in its original low position and the DP in [Spec, TP]). This prediction is borne out, as shown in example (37):

- (37) Bogatye život vse v Moskve.
 rich_{NOM.PL} live all_{NOM.PL} in Moscow
 ‘All the rich people live in Moscow.’

5. CONCLUSION

In this paper, evidence has been provided for a double-pattern analysis of Russian floating quantificational subjects. Genitive Initial sentences (GnI), and Agreeing Floating Quantifiers (AFQ) both have been shown to be FQ structures. Their different properties follow from the fact that in GnI sentences a displaced genitive NP moves directly to an A-bar-position (to check a [+topic] feature), leaving a Q stranded, while an AFQ-related DP moves cyclically to an A-position to check an EPP feature, followed by acyclic insertion of a related AFQ.

Previous works have been proposed that there exist two patterns of floating quantification: (i) the ‘Japanese’ pattern, related to split NPs; and (ii) the ‘English’ pattern, related to DPs. While most languages seem to display only one of these patterns, I have shown that both of them are present in Russian: GnI phrases share the properties of Japanese split numerals, whereas Russian AFQs are parallel to English FQs.

¹⁴ AFQs are pre-verbal subjects, so they usually convey old information. However, they cannot be topics *sensu stricto*, as there is a contrast suggesting that GnI and AFQs check different features: the different types of question they can be an answer to.

¹⁵ Example (36a) is grammatical only if *bogatye v Moskve* is understood as a single component, with the sense: ‘Rich people in Moscow live all (but rich people in Petersburg are all killed)’.

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