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NOUN PHRASE INTERNAL CASE AGREEMENT IN RUSSIAN

1.0. INTRODUCTION

It is generally assumed that attributive adjectives agree in gender, number, and case with the head of the noun phrase (NP) in which they occur (Anderson 1982, 574). I will argue on the basis of Russian quantified NPs that while the head noun does in fact control the number and gender agreement of its modifiers, it does not control their case marking. My major hypothesis is that case is assigned to the head noun's maximal projection (N^m), and then percolates down to all the NP's available lexical and phrasal categories. NP-internal case agreement is therefore the direct result of percolation (cf. Muysken 1983); there is no exchange of case features among lexical items. Case should be thought of as a property of the NP as a whole, not of the head noun. Russian quantified NPs therefore provide overwhelming support for the hypothesis that the distribution of case in a NP is determined by structural relations defined on X-bar structures (cf. Chomsky 1981).[1]

2.0. SOME BASIC NOTIONS

An NP consists of a head noun, modifiers, and subcategorized complements to the head and to its modifiers. Only the head noun and its modifiers, the NP internally unsubcategorized constituents, are in the *path of percolation* of the case assigned to N^m (cf. Bowers 1984). A complement's case marking is exhaustively determined by its head, and is therefore totally independent of the case assigned to the NP as a whole. For example, adnominal complements in Russian normally have genitive (GEN) case marking, which is independent of the case assigned to the head noun, its modifiers, and the phrasal categories that dominate them (e.g. see *vina* (GEN) 'wine', the complement of the head noun in (1) and (2)). When we speak below of case agreement and distribution, we will therefore be speaking about categories in the path of percolation only.

2.1. An oblique case in Russian is characterized as a *lexical case* if it is assigned to N^m by a particular lexical item. For example, the preposition *s* 'with' is a lexical case assigner since the prepositional phrase (PP) it heads

is well-formed only if its complement has instrumental (INST) case marking (e.g. see (1)).

Nominative (NOM) and accusative (ACC) are *structural cases*: they are assigned to N^m in accordance with the NP's overall structural environment (see Belletti and Rizzi 1981, 125). N^m is assigned ACC case in Russian when it is governed by a lexical category that is not a lexical case assigner. For example, direct objects are assigned ACC case structurally because the "transitive" verbs that govern them are not lexical case assigners (this analysis is based on the distribution of the GEN of negation (Babby 1980b)). N^m is assigned NOM case if it is simply not governed by a lexical category.
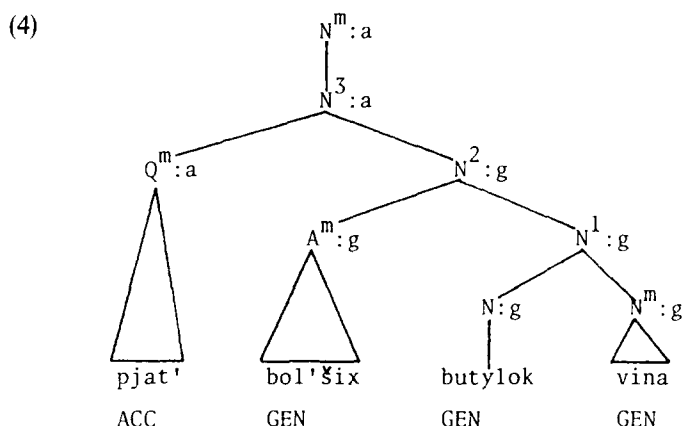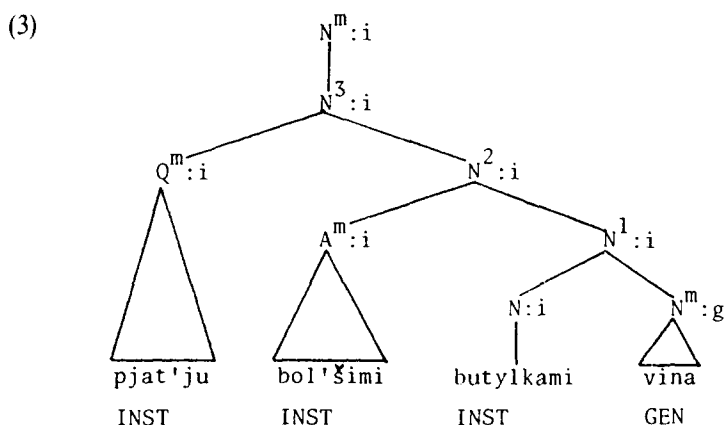
2.2. If a NP in Russian does not contain a quantifier phrase, the head noun and all its modifiers have the same case marking. We must turn to quantified NPs for unambiguous evidence that NP-internal case agreement is not controlled by the head noun.

3.0. QUANTIFIED NOUN PHRASES

Quantified NPs in Russian have a striking morphosyntactic property. When they are assigned oblique case, their internal case distribution is *homogeneous*; in (1), for example, all the modifiers and the head are INST. But when quantified NPs are NOM or ACC, their case distribution in the path of percolation is *heterogeneous* (see ACC vs GEN in (2)). This section will be devoted to a principled explanation of this curious fact.

(1) (a) s   [pjat'ju   bol'šimi   butylkami   vina $]_{NP:INST}$
         with five:*INST* big:*INST* PL bottles:*INST* PL wine:GEN
         'with five big bottles of wine'

    (b) *s   [pjat'ju   bol'šix   butylok   vina $]_{NP:INST}$
         with five:INST big:GEN PL bottles:GEN PL wine:GEN

(2) (a) [pjat'   bol'šix   butylok   vina $]_{NP:ACC}$
         five:*ACC* big:*GEN* PL bottles:*GEN* PL wine:GEN
         'five bottles of wine'

    (b) *[pjat'   bol'šie   butylki   vina $]_{NP:ACC}$
         five:ACC big:ACC PL bottles:ACC PL wine:GEN

The case distribution in (2a) is characterized as heterogeneous because the head noun *butylok* is GEN while its modifier *pjat'* is ACC. The internal structures of (1) and (2) can be represented in (3) and (4) respectively (case on phrasal categories is indicated by a lower case letter preceded by a colon).

(3)

$N^m : i$

$N^3 : i$

$Q^m : i$ $N^2 : i$

$A^m : i$ $N^1 : i$

$N : i$ $N^m : g$

pjat'ju	bol'šimi	butylkami	vina
INST	INST	INST	GEN

(4)

$N^m : a$

$N^3 : a$

$Q^m : a$ $N^2 : g$

$A^m : g$ $N^1 : g$

$N : g$ $N^m : g$

pjat'	bol'šix	butylok	vina
ACC	GEN	GEN	GEN

3.1. The heterogeneous case distribution in NOM/ACC quantified NPs like (2a/4) can be accounted for as follows: Q^m, the maximal projection of the quantifier, c-commands N^2 and all the categories it dominates, and assigns them the GEN case. C-command is a structural relation defined as follows:

(5)   A node A c-commands a node B if B is dominated by the first branching node dominating A, and A does not contain B; e.g.:

C

D   A   B

E   F   G   H   I   J
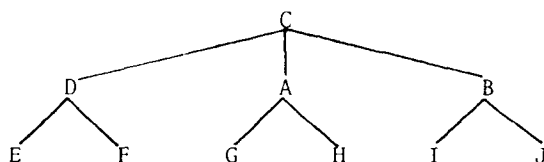
A c-commands B, I, J and D, E, F (but not G, H)

The ACC case assigned structurally to N^m in (4) percolates down to the quantifier *pjat'* 'five', which is contained in the quantifier phrase and there-

fore not c-commanded by Q^m, but is prevented from percolating to N^2 (and the categories that it dominates) by the GEN case assigned to it by Q^m. This means that N^2 is the site of a *case conflict*: it is in the domain of ACC percolation from N^m and GEN, which is assigned by Q^m (hereafter GEN(Q^m)). The illformed structure in (2b) testifies to the fact that GEN(Q^m) takes precedence over NOM/ACC when they come into conflict. The resolution of this case conflict can be represented in (6).[2]

(6)   GEN(Q^m) > NOM/ACC

Thus the heterogeneous case distribution in (2a/4) results from the interaction of percolation from N^m and c-command by Q^m, both of which are structural relations defined on X-bar structures.

3.2. The homogeneous case distribution in oblique quantified NPs like (1a) has the following explanation: N^2 in (3) is c-commanded by Q^m, just as it is in (4), but the illformedness of (1b) demonstrates that GEN(Q^m) cannot be assigned to N^2 in oblique phrases; all the lexical and phrasal categories in the path of percolation must be marked with the same oblique case that is assigned to N^m. This homogeneous case distribution can be accounted for in terms of the resolution of another type of case conflict: N^2 in (3) is simultaneously in the domain of GEN(Q^m) and INST, a *lexical case* assigned to N^m by the preposition s 'with' (see Section 2.1.). In other words, the N^2 node in (3) is c-commanded by both the phrasal category Q^m and the lexical category s. The wellformedness of (1a) vs *(1b) demonstrates that lexical case takes precedence over GEN(Q^m) when the two come into conflict, i.e.:

(7)   Lexical Case > GEN(Q^m)

Since (6) and (7) have a common term, they can be combined into a single set of principles for resolving syntactic case conflicts.
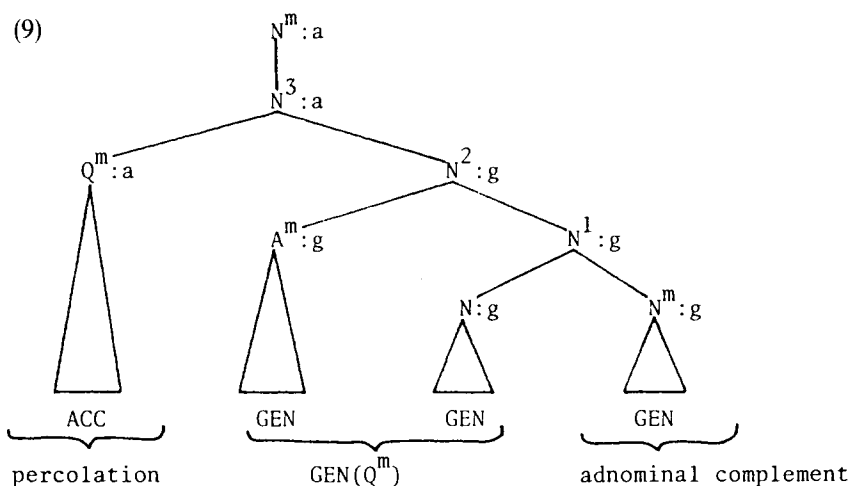
(8)   Syntactic Case Hierarchy in Russian.[3]
         Lexical Case > GEN(Q^m) > NOM/ACC

It appears to hold universally that lexical case takes precedence over all other types of case assignment, while structural case does not take precedence over any other type of case. The hierarchy in (8) therefore captures the traditional notion that NOM and ACC are "default" cases: they are assigned to N^m nodes that are *not* in the domain of a NP external case assigning category, and they are percolated to those lexical and phrasal categories dominated by N^m in the path of percolation that are *not* in the domain of a NP internal case assigner.[4]

4.0. THE CASE OF ADJECTIVES PRECEDING THE QUANTIFIER: DISCONTINUOUS AGREEMENT

The first part of this paper was devoted to presenting the principles that determine the distribution of case in "core" quantified NPs; (9) is a schematic representation of a core quantified NP whose maximal projection is ACC.[5]

The homogeneous and heterogeneous case distribution patterns in (1) and (2) were explained in terms of the interaction of *percolation* from N^m and *c-command* by case assigning categories; the Case Hierarchy in (8) mediates this interaction. The following section will deal with the variable case marking on adjectives that *precede* the quantifier. We shall see that the small set of principles proposed in the first part to account for the case distribution in core quantified NPs also predicts the case agreement in these larger, more complex NPs. Thus the second part of this paper serves as independent motivation for the analyses and solutions proposed in the first part.

(9)

$$\underbrace{\text{ACC}}_{\text{percolation}} \quad \underbrace{\text{GEN} \qquad \text{GEN}}_{\text{GEN}(Q^m)} \quad \underbrace{\text{GEN}}_{\text{adnominal complement}}$$

4.1. An adjectival modifier immediately preceding the quantifier in NOM/ACC quantified NPs can be either NOM/ACC – the same case as Q^m – or it can be GEN – the same case as the head noun. In the following examples, *vypil* 'drank' is a transitive verb and the ACC marking on its object is therefore structural (see 2.1.); the quantifier *pjat'* is declined for case only.

(10)   Ja vypil (I drank):

    (a) *poslednie*   pjat'   bol'šix   butylok   vina

        last:*ACC* PL five:*ACC* big:*GEN* PL bottles:*GEN* PL wine:GEN

        'I drank the last five big bottles of wine'

(b) *poslednix   pjat'   bol'šix   butylok   vina
    last:GEN PL five:ACC big:GEN PL bottles:GEN PL wine:GEN

(11)   Ja vypil (I drank):
  (a) *dobryx*   pjat'   bol'šix   butylok   vina
      good:*GEN* PL five:*ACC* big:*GEN* PL bottles:*GEN* PL wine:GEN
      'I drank a good five big bottles of wine'
  (b) *dobrye   pjat'   bol'šix   butylok   vina
      good:ACC PL five:ACC big:GEN PL bottles:GEN PL wine:GEN

I will argue below that both these agreement patterns are entirely regular since they can be accounted for without adding any new rules or principles to those already proposed above. First we will look at the ACC-ACC-GEN contiguous pattern in (10), then the crucial GEN-ACC-GEN discontinuous case agreement pattern in (11).

4.2. *Poslednie* (ACC PL) 'last' in (10a) belongs to a relatively large class of attributive modifiers that are normally used to modify the entire sub-constituent dominated by N^3; the following are additional examples.

(12) ⎧ ostal'nye (ACC PL)
     ⎪   'remaining'
     ⎪ vse (ACC PL) 'all'
     ⎨ pervye (ACC PL) 'first'   ⎫ pjat'   novyx   voprosov
     ⎪ dannye (ACC PL) 'given'   ⎬ five:ACC new:GEN PL questions:GEN PL
     ⎪ predstojaščie (ACC PL)   ⎭
     ⎩   'coming'

Since *poslednie* modifies the N^3 subconstituent, it must itself be immediately dominated by the N^4 node since A^m is normally a sister to the maximal projection of the subconstituent that it modifies. The X-bar structure of the direct object NP in (10a) can accordingly be represented by (13).

(13)
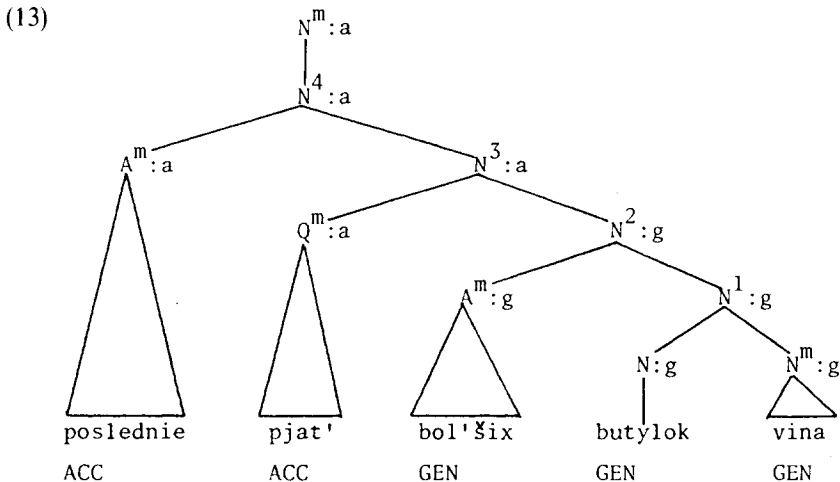
Notice now that the structure in (13) accounts for the phrase's case distribution. N^2 and all the categories it dominates are c-commanded by Q^m and assigned GEN case, just as in (2a/4). The adjective *poslednie*, however, is not assigned GEN because it is dominated by N^4 and, according to (5), not c-commanded by Q^m; it is therefore marked ACC by percolation from N^m. Since *pjat'* (ACC) is contained in the quantifier phrase, it is not c-commanded by Q^m (see (5)), and it also receives its case marking by percolation. The modifiers *poslednie* and *pjat'* in (10a/13) "agree in case" because they are both in the path of percolation of the same N^m and neither is c-commanded by a case assigning category.[6]

Heterogeneous NPs like (10a/13) are crucial because they virtually rule out the possibility that a NP's internal case distribution is determined by the case marking on the head noun (cf. Chomsky 1965; Selkirk 1977): Since the two attributive adjectives *poslednie* (ACC) and *bol'šix* (GEN) have different case marking, the case agreement pattern in (10a) cannot be explained in terms of the head noun's case.

5.0. PREQUANTIFIERS AND DISCONTINUOUS CASE AGREEMENT

Dobryx (GEN PL) 'good' in (11a) belongs to a small class of adjectives that are normally marked GEN rather than NOM/ACC when they precede the quantifier in NOM and ACC NPs. The following are additional examples.

(14)
(a) U tebja vperedi [*celyx* tridcat' svobodnyx dnej]$_{N^m:n}$
at you ahead whole:*GEN* PL 30:*NOM* free:*GEN* PL days:*GEN* PL
'You have a whole thirty free days ahead of you'
(b) Luči leteli sjuda [*dolgix* pjat' let]$_{N^m:a}$
rays flew here long:*GEN* PL five:*ACC* years:*GEN* PL
'It took the rays a long five years to fly here'
(c) za [*nepolnyx* pjat' mesjacev vojny]$_{N^m:a}$
during incomplete:*GEN* PL five:*ACC* months:*GEN* PL war:GEN SG
'during less than five months of the war'

The adjectives in this class, which I will call *prequantifiers*, have a clearly defined semantic function: they modify the quantifier only (see Crockett 1976, 346) (in contrast, *poslednie*-type adjectives modify the entire N^3 constituent, which may contain a quantifier among its constituents). For example, *dobryx* in (11a) modifies the quantifier *pjat'* 'five'; it stipulates that the speaker considers the number of bottles consumed to be large, perhaps beyond the accepted norm (it can accordingly be glossed 'as many as'). *Dobryx* cannot be interpreted as modifying *vina* 'wine' or *butylok vina* 'bottles of wine'.

English too has a class of adjectives that can function as prequantifiers:

(15) (a) He drank a *good* five bottles of really bad red wine.
     (b) Inflation increased this year by a *whopping* ten percent.
     (c) Ronald ate a *phenomenal/unheard of/unbelievable* 25 burgers last
         night.

Phenomenal in (15c) refers to the excessively large number of burgers con-
sumed (25), not to the quality of the burgers (cf. *Now that was a really
phenomenal burger!*).

Prequantifiers form a natural class among adjectives that precede the
quantifier phrase: they have a unique morphological property (GEN
marking as opposed to NOM/ACC) and a unique semantic property
(modification of the quantifier only). In the following sections we shall see
that this pairing of morphological and semantic properties has a natural
syntactic explanation.

5.1. It has been suggested that the GEN case marking on prequantifiers
can be accounted for by simply generating them to the *right* of the quanti-
fier under the domination of N^2, where they would be c-commanded by Q^m
and assigned the GEN case along with the head noun, and then moving
them to their surface position to the left of the quantifier phrase by means
of a special transformational rule that operates on prequantifiers only, i.e.:
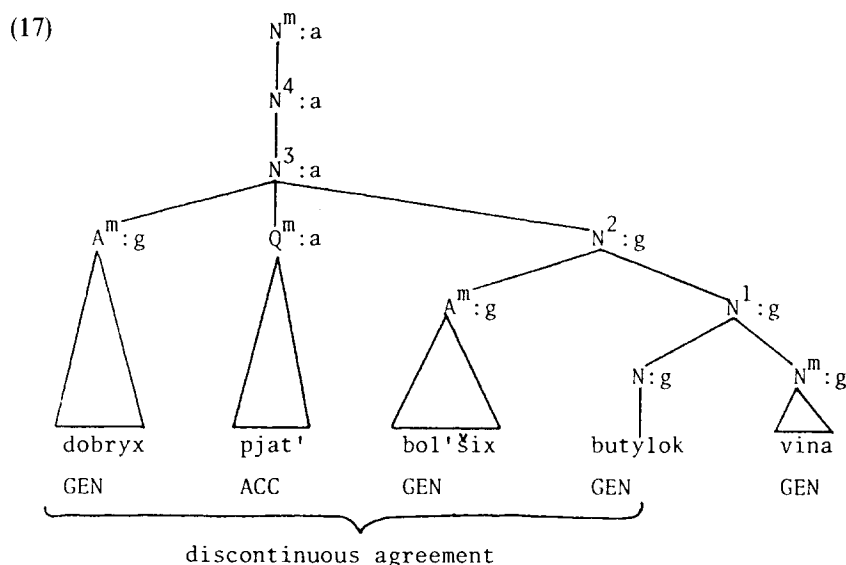
(16)   Prequantifier Fronting

$$[\dots \; {}_{\uparrow}Q^m \colon a \quad [A^m \colon g \; N^1 \colon g]_{N^2 \colon g} \dots]_{N^m \colon a}$$

The arrow in (16) represents the putative prequantifier fronting rule (see
Corbett 1979).

The sole purpose of the derivation just outlined is to account for the
GEN case marking on prequantifiers. It is, however, patently ad hoc, and
can be ruled out on both semantic and syntactic grounds. First, it requires a
semantically unmotivated underlying structure (as we saw in the discussion
of (11a), prequantifiers modify quantifiers, not the N^1 constituent or the
head noun). Second, it requires an *obligatory* syntactic movement rule that
has no purpose other than to map this illformed deep structure into a
wellformed surface structure. I will argue in the next paragraph that in
order to account for both their semantic interpretation and their morpho-
logical form, prequantifiers, like *poslednie*-type adjectives, must be "base
generated" in their surface position to the left of the quantifier.

5.2. Since prequantifiers are adjectives that modify the quantifier phrase,
they must be immediately dominated by the N^3 node; this is because, as we

saw in the case of (10a/13), A^m is a sister to the maximal projection of the subconstituent it modifies. Thus the internal X-bar structure of the direct object NP in (11a) can be represented by (17), which captures the correlation between the adjective's scope in the NP, its linear position, and the bar projection that dominates it. Notice, however, that the X-bar structure in (17) also explains why prequantifiers in NOM/ACC NPs are GEN. Since the prequantifier $[dobryx]_{Am}$ is immediately dominated by N^3, it is c-commanded by Q^m and, according to the Case Hierarchy (8), is assigned GEN case under precisely the same conditions under which it is assigned to N^2 and the categories it dominates. (Recall that c-command is defined in terms of *dominance* only; linear precedence plays no role, i.e., the node A in (5) c-commands B, I, J, which follow it, as well as D, E, F, which precede it.)

(17)

discontinuous agreement

The discontinuous case agreement found in NOM and ACC quantified NPs containing a prequantifier (GEN-ACC-GEN in (11a/17)) is the direct morphological reflection of the domain of c-command. The Q^m node in (17) assigns GEN to all the lexical and phrasal categories in the path of percolation that it c-commands, i.e., to the prequantifier $[dobryx]_{Am: g}$, which *precedes* it, and to $[bol'šix\ butylok]_{N2: g}$, which follows it. But the quantifier *pjat'* (ACC) is not assigned GEN because categories *contained* in the quantifier phrase are not c-commanded by Q^m (recall that the node A in (5) does not c-command G and H). Since *pjat'* is not c-commanded by Q^m or by a lexical case assigner, it is assigned the ACC case by percolation from N^m: a (see (8)). The schematic diagram in (18) represents case distribution in the path of percolation in a quantified NP containing a prequantifier.

(18)

$$N^m:a$$

$$N^4:a$$

$$N^3:a$$

$$A^m:g \qquad Q^m:a \qquad N^2:g$$

GEN   ACC   GEN

c-commanded by Q^m percolation   c-commanded by Q^m
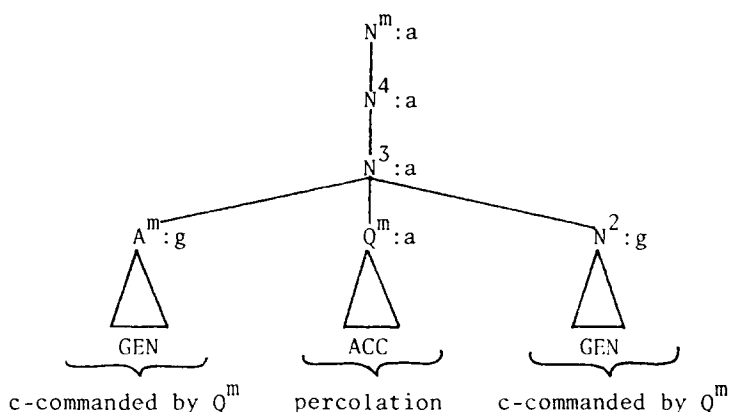
Contrast (18) with (19), which is a schematic representation of a quantified NP in which the quantifier phrase is preceded by a *poslednie*-type adjective; since these adjectives modify the N^3 subconstituent, they are immediately dominated by the N^4 node (cf. (10a/13)) and are assigned ACC case by percolation since they are not c-commanded by Q^m.

(19)

$$N^m:a$$

$$N^4:a$$

$$A^m:a \qquad\qquad N^3:a$$

$$Q^m:a \qquad N^2:g$$

ACC   ACC   GEN

percolation   c-command by Q^m
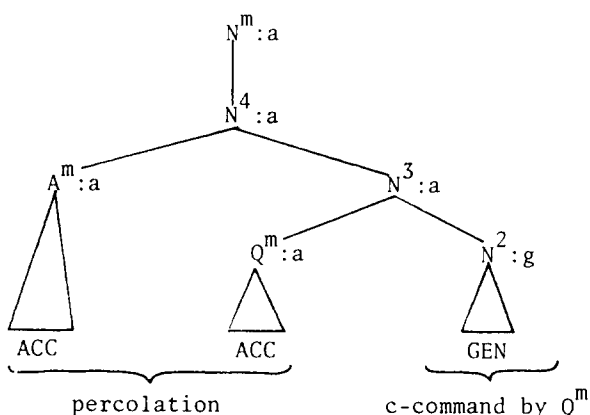
5.3. The principles of case distribution proposed in this paper allow for the possibility that a N^4-level modifier like *poslednie* 'last' and a prequantifier can occur in the same NP, and, furthermore, they correctly predict that such a phrase will have a *double* case agreement discontinuity in the path of percolation; e.g., see the ACC-GEN-ACC-GEN case agreement pattern in (20) and its X-bar structure in (21).

(20)

za ostavšiesja   nepolnyx   pjat'   let   (vojny)
for remaining: *ACC* PL incomplete: *GEN* PL five: *ACC* years: *GEN* PL war: GEN
(lit.) 'for the remaining not quite five years (of the war)'

(21)

P^m

P $N^m:a$

$N^4:a$

$A^m:a$ $N^3:a$

$A^m:g$ $Q^m:a$ $N^2:g$

$N^1:g$

$N:g$ $N^m:g$

za	ostavšiesja	nepolnyx	pjat'	let	vojny
	ACC	GEN	ACC	GEN	GEN
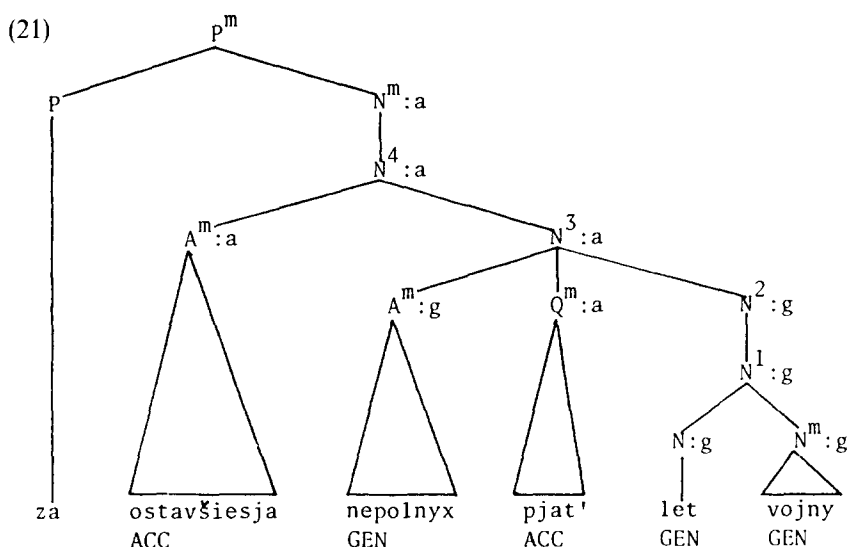
Q^m in (21) c-commands the prequantifier *nepolnyx* 'incomplete' and the head noun *let* 'years', and assigns them the GEN case (cf. (11a/17)). *Ostavšiesja* 'remaining' and the quantifier *pjat'* 'five' are not c-commanded by Q^m and are consequently assigned ACC by percolation from N^m, just as in (10a/13). The fact that we are able to account for the double case agreement discontinuity in phrases like (20) without adding any new rules or principles constitutes particularly strong evidence supporting the theory of case assignment and distribution that has been proposed in this paper.[7]

5.4. The case distribution in phrases like (1), (2), (10), (11), and (20) leaves no doubt that NP-internal case distribution is determined by dominance relations defined on X-bar structures, not by linear order, contiguity of constituents, or control by the head noun. Note, however, that these phrases also show that case and *number* distribution on attributive adjectives are determined independently, i.e., all the adjectives in a NP whose head is plural must themselves be marked plural, regardless of their case marking (e.g., in (20/21), *ostavšiesja* (ACC) and *nepolnyx* (GEN) are both plural, agreeing in number with the head noun *let* (GEN PL)). Russian quantified NPs therefore demonstrate that the head noun controls its modifiers' number agreement, but not their case.

5.5. In addition to showing that discontinuous case agreement is regular and predictable, the analysis of NP-internal case distribution presented above also accounts automatically for the curious fact that discontinuous

agreement is confined to NOM and ACC NPs only: If prequantifiers as well as N^2 and its constituents are assigned GEN under c-command by Q^m, as I am claiming, then the Case Hierarchy in (8) predicts that discontinuous agreement cannot occur in oblique cases (Lexical Case $>$ GEN(Q^m)), but can occur in NPs with NOM or ACC case marking (GEN(Q^m) $>$ NOM/ACC). In other words, this NOM/ACC vs oblique case asymmetry is a necessary and natural consequence of the Case Hierarchy represented in (8) (cf. the heterogeneous vs homogeneous case distribution asymmetry discussed in Section 3).

6.0. CASE MARKING ON POSTPOSED MODIFIERS

Until now we have focused our attention on case assignment to modifiers that *precede* the head noun. Since percolation and c-command, the two structural relations that account for case marking on preposed modifiers, are both *dominance* relations defined on X-bar structures, they should also account for case marking on modifiers that *follow* the head (cf. 5.4.). In other words, if our hypothesis is correct and NP-internal case distribution is exhaustively determined by the interaction of percolation and c-command, then it should be the case that postposed modifiers in NOM/ACC NPs are assigned either NOM/ACC or GEN case (cf. heterogeneous vs homogeneous case distribution in (1) and (2)). As the following examples demonstrate, this is precisely what we find.

(22)
  (a) sem'   let,   *otdeljajuščie*   ix   drug ot druga
        seven:NOM years:GEN PL separating:*NOM* PL them from eachother
  '(the) seven years separating them from eachother'
  (b) sem'   let,   *otdeljajuščix*   ix   drug ot druga
        seven:NOM years:GEN PL separating:*GEN* PL them from eachother

(23) (a) pjat'   priznakov,   *vvedennye*   vyše
           five:NOM features:GEN PL introduced:*NOM* PL above
        '(the) five features introduced above'
     (b) pjat'   priznakov,   *vvedennyx*   vyše
           five:NOM features:GEN PL introduced:*GEN* PL above

The NOM/ACC vs GEN case marking in postposition illustrated in (22) and (23) has the following explanation. Postposed modifiers at the N^3 level or below are assigned GEN case because they are c-commanded by Q^m (see the schematic diagram in (24a)). But postposed modifiers at the N^4 level or above are not c-commanded by Q^m, and, therefore, they are assigned NOM or ACC by percolation from N^m (see (24b)).

(24)   a. N^m b. N^m
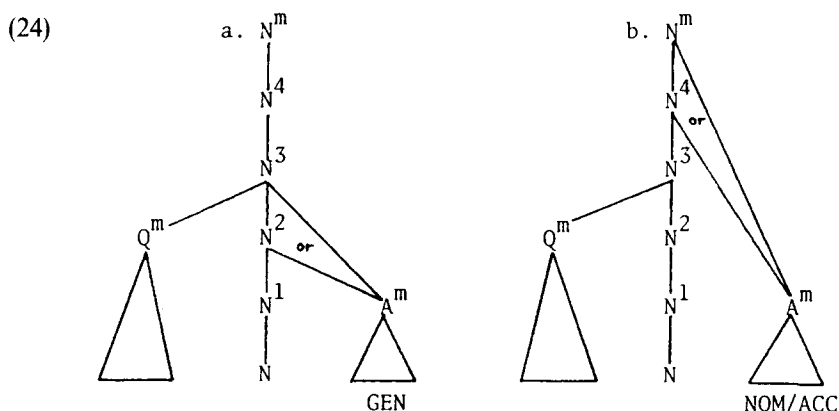
When a postposed modifier is GEN, it is felt by native speakers to modify the head noun more directly than when it is marked NOM/ACC (see Suprun 1964, 83; Bulaxovsky 1953, 298; Iomdin 1979; Crockett 1976, 345). This is because, according to the X-bar structures in (24), postposed modifiers with NOM/ACC case marking are N^4 or N^m level modifiers, and, therefore, have a *wider* scope (i.e., are sisters to the maximal projection of a larger subconstituent) than postposed modifiers with GEN marking, which are at the N^2 or N^3 level and, consequently, have a *narrower* scope. Thus we see that this correlation between the case marking and scope interpretation of postposed modifiers can be explained in terms of the NP's X-bar structure.

6.1. Note finally that the structures proposed in (24) also explain why discontinuous case agreement does not occur in postposition. As we saw above in Section 5, the GEN-NOM-GEN and GEN-ACC-GEN "sandwich effect" that characterizes discontinuous agreement in Russian is the direct morphological reflection of the domain of c-command. Q^m c-commands and assigns GEN to lexical categories that both precede and follow it, but it does not c-command and assign GEN to categories that it dominates (see (18)). Given the fact that in standard Russian the quantifier phrase's position is fixed to the left of the head noun, it follows automatically that discontinuous agreement is impossible in postposition: there are simply no lexical categories in postposition that are *contained* in a quantifier phrase and therefore shielded from c-command and GEN assignment by Q^m.

7.0. SUMMARY

I have argued in this paper that NP-internal case agreement is the product of percolation from the head noun's maximal projection. The discontinuous case agreement pattern that characterizes Russian quantified NPs contain-

ing a prequantifier has provided crucial evidence that this hypothesis is correct (see especially (20/21)). While the Case Hierarchy, which forms the backbone of the theory of case distribution I have proposed, incorporates certain Russian-specific phenomena (e.g. $GEN(Q^m)$), I believe that the general principles on which it is based have universal validity and should therefore provide genuine insights into the complexities of case distribution in languages unrelated to Russian.

NOTES

[1] This article is the most recent in a series devoted to case distribution and quantifiers in Russian (see References).

[2] See Babby (1984c) for a more detailed discussion of case conflicts.

[3] The Case Hierarchy in (8) can be viewed as a set of wellformedness conditions on the representation of a NP's internal case distribution.

[4] I have argued that quantified NPs like (1) and (2) have identical X-bar structures, and that the differences in their case distribution follow from the Case Hierarchy in (8). Note, however, that Government and Binding Case Theory (see Chomsky 1981) would have to claim that (1) and (2) have different X-bar structures since case in this theory is assigned exclusively in terms of "government" (which is defined as a structural relation) and the need for case hierarchies is not recognized.

[5] The rest of this paper is concerned with NOM and ACC NPs only because, as we saw above, the case distribution in NPs assigned lexical case must be homogeneous, and the heterogeneous case marking pattern on modifiers and the head that interests us does not therefore show up in oblique NPs.

[6] Since only determiners normally occur to the left of *poslednie*-type adjectives, we can conclude that NPs in Russian have five bar-levels above the head, i.e., N^m is N^5 in Russian. These determiners must also be NOM or ACC since, like *poslednie*-type adjectives, they are not c-commanded by Q^m and therefore receive their case marking by percolation from N^m, e.g.:

[èti   poslednie   pjat'   bol'šix   butylok   vina   ]$_{Nm:a}$
these:ACC PL last:ACC PL five:ACC big:GEN PL bottles:GEN PL wine:GEN
     'these last five big bottles of wine'

[7] It has been suggested that prequantifiers are not sisters of the entire quantifier phrase (see (17)), but are *contained in* the quantifier phrase as a modifier of its head Q. According to this hypothesis, the structure of (11a) would be:

dobryx   pjat'   bol'šix   butylok   vina
GEN PL   ACC   GEN PL   GEN PL   GEN
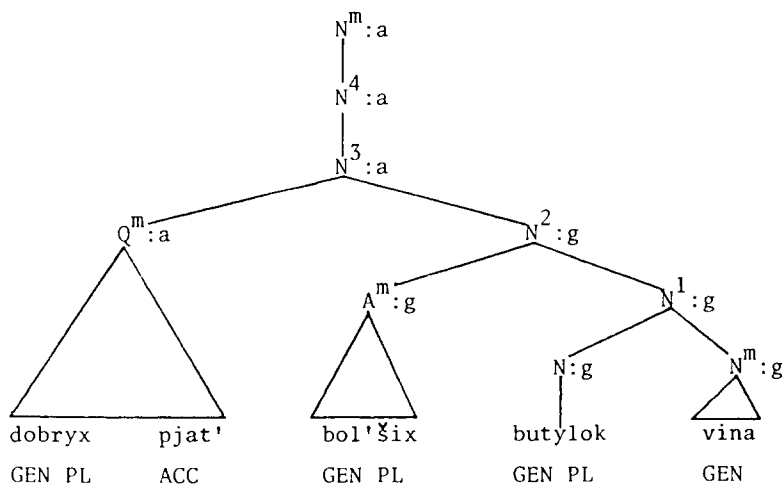
This suggestion is appealing because it involves a more direct match between the phrase's syntactic and semantic "bracketing": although the prequantifier $[dobryx]_{Am}$ modifies the quantifier only, it is a sister to N^2 as well as Q^m in (17). The problem with this suggestion is: (i) if the prequantifier is contained in the quantifier phrase, it is not c-commanded by Q^m, and we cannot account for its GEN marking; (ii) adjectives agree in *number* with the head of the maximal projection in which they are contained. If prequantifiers were contained in the quantifier phrase, their plural marking would be a problem since quantifiers are not inflected for number (see *pjat'* in (10) and (11)).

If we assume, however, that any bar projection of the quantifier assigns GEN to the categories that it c-commands (as suggested by W. Harbert), and, furthermore, if we assume that quantifiers like *pjat'* are semantically plural and therefore induce plural agreement on adjectives that modify it (as suggested by J. Bowers), then there is no longer any reason to claim that prequantifiers stand outside the quantifier phrase as in (17). But a solution to this problem must be put off until we have a clearer picture of the internal structure of the quantifier phrase (see Babby, In Progress). It should be emphasized, however, that both of these analyses of the prequantifier's constituency are compatible with the theory of case distribution presented in this paper.

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