A Jakobsonian Feature Based Analysis of the Slavic Numeric Quantifier Genitive*

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Abstract. This paper subjects the GB parametric account of variation in Slavic numeral systems put forward in Franks (1995) to critical scrutiny from the perspective of minimalism. It is argued that the true nature of the variation lies in the case contexts in which QPs (phrases in which GEN-Q is assigned) can occur in the different languages. It is further argued that this variation is best understood in markedness terms, applied to a specific set of morphosyntactically motivated case features, loosely based on the semantic ones proposed in Jakobson, 1936, 1958).

0. Introduction

Minimalists have yet to rediscover Jakobson. As Slavists, however, most of us have had the good fortune of being repeatedly exposed to his work. As his graduate student at Cornell, I recall that Len Babby devoted a sizable chunk of his "Structure of Russian" course to Jakobson. This experience led me to add a section on Jakobson's feature system to my 1985 dissertation, eventually appearing as Franks (1995: 41–55). In this paper I revisit some of issues that arose in that section, in the attempt to show that many of the mechanisms Jakobson proposed ring true.[1] In particular, I will argue for a Jakobsonian feature based account of variation in Slavic "genitive of quantification" (GEN-Q) constructions, one that capitalizes on some curious restrictions shown by Polish numerals and which then takes advantage of markedness principles to accommodate Slavic in general. This kind of

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[1] It is important to keep in mind that, although in this paper I employ the Jakobsonian mechanism of feature decomposition and an inventory of features loosely adapted from his work, I regard the features as fundamentally morphosyntactic rather than semantic entities.

analysis, melding as it does minimalist thinking with Jakobsonian devices, is inspired by LHB's eclecticism and his attention to idiosyncrasy.

LHB's work on the Russian numeric quantifier genitive construction, such as Babby (1980, 1984, 1985a, 1985b, 1986, 1987) and Freidin and Babby (1984), draws attention to some fundamental problems in the internal structure of the nominal phrase. Why do (most) numerals govern the genitive, and why do they only do so in a limited set of contexts? While I will not explore here his specific solution to these puzzles, LHB's general answer forms the core of my account as well: these numerals became a new part-of-speech that literally governs the genitive, but there is a competition between this case assignment strategy and other, more familiar, strategies. The result of this competition is that, sometimes, GEN-Q wins and, sometimes, it does not. For LHB, victory of GEN-Q gave rise to what he called "heterogeneous" case distribution, such that the numeral phrase was genitive on the inside but some other case on the outside, whereas defeat of GEN-Q gave rise to "homogenous" case distribution, such that the entire numeral phrase was in the same (non GEN-Q) case.

1. An Outrageous Claim

In Franks (1994, 1995, 1998) I tried to extend Babby's analysis of Russian to the other Slavic languages. Here I show how I now think this should be done. My point of depature is the following outrageous claim: the subject noun phrase *těch pět hezkých dívek* 'these five pretty girls' in Czech (1) is not nominative, but *accusative*:

(1) Těch   pět   hezkých   dívek   upeklo   dort.
     these*GEN*   five   beautiful*GEN*   girls*GEN*   baked*N.SG*   cake

     'These five beautiful girls baked a cake.'

My goal in what follows is to lay out the reasoning which led to this bizarre conclusion. In short, I will argue that in West Slavic (with the possible exception of Upper Sorbian) GEN-Q only appears in accusative noun phrases, hence even subjects, when they display GEN-Q, must actually be accusative. Notice that the morphological evidence is not inconsistent with treating *těch pět hezkých dívek* as accusative, it just seems highly unlikely. In short, nothing contradicts my interpretation of the facts, except our expectations, based on what we think we

know about grammar. These, I suggest, have misled us into missing the obvious: GEN-Q is restricted to accusative contexts in (virtually all of) West Slavic. Careful examination of a mysterious fact in Polish will produce this insight. By concentrating on an obscure fact, one that is superficially inconsistent with the other data (and with our standard account of them), I am following one of LHB's favorite dictums, one which epitomizes his work: "The more *outré* and grotesque an incident is the more carefully it deserves to be examined, and the very point which appears to complicate a case is, when duly considered and scientifically handled, the one which is most likely to elucidate it."[2]

2. The Government and Binding Analysis

In this section I present some core data and briefly summarize the analysis put forward in Franks (1994, 1995). For more detail, the reader is referred to these works and, for more criticism from the perspective of minimalism, see Franks (1998).

In the GB analysis, I proposed two different "parameters" to take care of the differences I encountered among various Slavic languages. The first relates directly to Babby's account of Russian.

2.1. The Case Feature Parameter

A basic challenge is to account for the heterogeneous vs. homogeneous case pattern found in Russian and its selective absence in Serbian/Croatian. The familiar problem is why the numerals *pjat'* and above assign genitive only in nominative and accusative contexts, as shown in heterogeneous (2) and (3) versus homogeneous (4):

(2) a. Pjat'   mašin   pod″exalo   k   vokzalu.
         five   cars$_{GEN}$ drove up$_N$ to station
         'Five cars drove up to the train station.'

(2) b. Pjat'   mašin   pod″exali   k   vokzalu.
         five   cars$_{GEN}$ drove up$_{PL}$ to station

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[2] This quote, from Sir Arthur Conan Doyle's *The Hound of the Baskervilles*, appears as an epigraph to Babby (1980) and Freidin and Babby (1984). Len Babby (p.c.) acknowledges that "it sums up my approach to the study of linguistic structures: this is what I was doing in 1980 and this is what I am doing in 2000 in my book" in progress.

(3) a. Maša   kupila   pjat'   čajnikov.   b. čerez pjat' dnej
       Masha   bought   five   teapots$_{GEN}$ across five   days$_{GEN}$
       'Masha bought five teapots.'   'five days later'

(4) a. Ivan   vladeet   pjat'ju   mašinami.
       Ivan   owns   five$_{INST}$ cars$_{INST}$
       'Ivan owns five cars.'

    b. s   pjat'ju   knigami
       with   five$_{INST}$ books$_{INST}$
       'with five books'

Babby (1987) describes nominative and accusative (the "direct" cases in Jakobson's (1958) terminology) as "structural" cases, whereas all other cases (Jakobson's "oblique") are "lexical."[3] He then proposes a "Syntactic Case Hierarchy," as in (5), according to which GEN-Q overrides structural case but is itself overridden by lexical case.

(5)   Lexical Case > GEN-Q > NOM/ACC

The reason lexical case overrides all other case is because of his "Principle of Lexical Satisfaction", proposed originally in Freidin and Babby (1994: 83) as follows:

(6)   Lexical properties must be satisfied.

I recast this account in terms of GB's structural vs. inherent case, which differed in two essential ways.[4] First, structural case is assigned at S-structure, whereas inherent case is assigned at D-structure. Second, structural case is irrelevant to interpretation, whereas inherent case is required for theta-role visibility. Assuming that Russian GEN-Q

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[3] Direct vs. oblique, an opposition which was not one of Jakobson's core features; these were directional, quantifying, and peripheral (or marginal), with directional later replaced by ascriptive. This opposition, along with definite vs. indefinite, was added almost as an afterthought in the 1958 paper. In my system, which is syntactically rather than semantically motivated, [±oblique] will come to play a central role in the eventual analysis.

[4] An anonymous reviewer reminds me that this is a clear departure from Jakobson, for whom all cases were semantic, hence there could in principle be no distinction between structural vs. inherent cases.

is a structural case, hence assigned by the numeral at S-structure, it is beaten by inherent case assigned at D-structure, as in (4), but wins over more distant structural case assigners at S-structure, as in (2) and (3). Thus, as Babby (1987) observes, GEN-Q can be removed from the hierarchy in (5).

Notice that this analysis crucially relies on the postulation of D-structure vs. S-structure. As such, it is not viable in minimalism, which eschews all but the two "interface levels" of PF and LF. It was also internally inconsistent in that, if inherent case is required for theta-role visibility, then this factor should not be important at D-structure, only LF. Therefore, under minimalism (to the extent that it retains the opposition between structural and inherent case), we cannot explain the contrast between (2)/(3) vs. (4) in terms of level of case assignment, only in terms of the difference in theta-relatedness.[5] A minimalist reinterpretation of the Russian facts would thus dictate that heterogeneous case arises because structural case assigners tolerate phrases that are not in the expected case; these can still be interpreted as arguments with the appropriate theta-role. Homogeneous case, on the other hand, is required in contexts where LF theta-role visibility is related to the presence of a particular case; it thus emerges if and only if the case assigned by numeric quantifiers is blocked by theta-theoretic considerations.

I then considered SC examples such as the following, where the homogeneous situation apparently persists regardless of case context:

(7) a. Deset žena   je   kupilo   ovu haljinu.
         ten   women$_{GEN}$ aux$_{3.SG}$ bought$_{N.SG}$ this   dress
         'Ten women bought this dress.'

     b. Deset žena   ?su   kupile   ovu haljinu.
         ten   women$_{GEN}$ aux$_{3.PL}$ bought$_{F.PL}$ this   dress

(8) a. Kupili smo   pet knjiga.   b. za osam dana
         bought aux$_{1.PL}$ five books$_{GEN}$ in eight days$_{GEN}$
         'We bought five books.'   'in eight days'

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[5] Minimalism also replaces case assignment with case "checking". Since my feature based account is technically independent of the distinction, I simply put it aside for most of this paper.

(9) a. Bojao   sam   se   pet   ljudi.   b. sa   pet djevojaka
        feared $aux_{1.SG}$ REFL   five   people$_{GEN}$ with five girls$_{GEN}$
        'I feared five people.'   'with five girls'

I argued that, in contrast to Russian, GEN-Q in SC is inherent, hence assigned at D-structure. For this reason, it should always have priority over any case assigned by a verb or preposition. While this poses no conceptual problem for the structural case examples in (8), those in (9) appear to contradict the Principle of Lexical Satisfaction in (6), since *bojati se* 'to fear' governs genitive and *sa* 'with' governs instrumental. I therefore claimed that the numerically quantified noun phrases were actually DPs in the relevant oblique cases, but simply lack any morphological exponence, since the numeral *pet* does not decline. While this claim has the desired effect, a minimalist might question whether (6) belongs in Universal Grammar at all. Indeed, much of its effects follow from the theta-relatedness of inherent case, in that failure to assign a case *required* for interpretation would lead to a violation of Chomsky's Principle of Full Interpretation, so that the examples in (9) would crash at LF. As discussed in section 4.6 below, however, there are certain instances where idiosyncratic case government, which I take to be a lexical fact,[6] needs to be divorced from theta-theory and, in these cases, (6) can be flouted.

One should also ask what it means to say that GEN-Q is structural in Russian but inherent in SC? Obviously, it cannot be theta-related in one language but not in another, so "structural vs. inherent" is not quite the right dichotomy. In fact, the problem with GEN-Q is that, although it is not associated with theta-roles, it still has to do with meaning (quantifier scope), which is why it does not quite fit into the Chomskyan dichotomy. This is where Jakobsonian case features come into play. In the theory of Jakobson (1936, 1958), cases are not atomic, but rather can be broken down into component features that both describe and define them. If so, it is reasonable to suppose that the two different GEN-Qs simply differ in terms of one of these features. In Franks (1995) I proposed that this was [±oblique].[7] Consequently, the parameter could be stated as follows, where "Q" means "certain

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[6] Everything idiosyncratic by definition goes into the lexicon. As aptly put by Di Sciullo and Williams (1987: 3), "the lexicon is like a prison—it contains only the lawless, and the only thing that its inmates have in common is lawlessness."

[7] Jakobson regarded these case features as privative, not polar. In work in progress I am developing a privative, "feature geometric" approach to Russian case features.

lexical items", essentially, those we can characterize as numeric quantifiers.

(10) a. Q assigns [–oblique] "genitive" in Russian.
      b. Q assigns [+oblique] "genitive" in SC.[8]

Babby (1987) argues persuasively that nominal and adjectival numerals in the history of Russian acquired a new feature which marks them as a distinct category. In featural terms, Russian *pjat'* is thus [+N, –V, +Q] and paucal *tri* is [+N, +V, +Q], so that they share certain properties both with their true noun and adjective cousins and also with each other. Henceforth in this paper, I will refer to numeric quantifiers (elements with the feature [+Q]) simply as "Q", the defining property of which is the ability to assign GEN-Q. The "parameter" in (10) thus states that a difference between languages can be localized in the features of Q, making it purely a lexical property. This is a desirable aspect of the analysis, since there are no parameters in the GB sense in minimalism, only lexical items with differing properties, interacting with a constant UG.

Before describing the second parameter, note an additional contrast (10) was meant to handle: modifiers which precede the numeral, such as demonstratives and quantifiers, can either be nominative/accusative, as in Russian (11), or genitive, as in SC (12).

(11) a. èti   pjat' knig   b. vse   pjat' knig
          these$_{NOM/ACC}$ five   books$_{GEN}$ all$_{NOM/ACC}$ five   books$_{GEN}$

(12) a. ovih   pet knjiga   b. svih   pet knjiga
          these$_{GEN}$ five books$_{GEN}$ all$_{GEN}$ five books$_{GEN}$

The element before the numeral starts out after it and raises to outside the scope of the numeral in the course of the derivation. If it moves before Q assigns genitive, as in Russian, it will get the case appropriate to the entire phrase, but if it moves after Q assigns its case, as in SC, it is too late, having already been assigned genitive. This con-

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[8] Technically speaking, [+oblique] genitive is the regular genitive, i.e. GEN-Q in SC (and, as we shall Czech and, optionally, Polish) is simply a special use of the genitive case.

trast, necessarily couched in derivational terms, will play an important role in assessing the ultimate fate of the parameter in (10).

2.2. The Category Parameter

The second parameter was the "category" parameter. Recall from (2) that Russian exhibits two agreement possibilities with quantified subjects. I argued, modifying the account in Pesetsky (1982), that these two possibilities depended on whether *pjat' mašin* was a QP, which is caseless, or a (cased) DP, as follows:

(13)   a.   QP   b.   DP
              ╱   ╲   ╱   ╲
          Q^0 NP D^0 QP
                                                        ╱   ╲
                                                    Q^0 NP

Neuter singular *pod"exalo* agrees with a null expletive in [Spec, IP], reflecting the fact that QP does not bear case hence remains in [Spec, VP] position, whereas plural *pod"exali* reflects a plural DP, which raises to [Spec, IP] for case purposes.[9] This is schematized in (14).

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[9] I was following standard GB practicing in positing a null expletive subject, both to provide something for the predicate to agree with (taking the null expletive to be "default" 3rd nsg) and something to fill subject position and thereby satisfy the EPP. LHB, in a series of papers beginning with Babby (1989), argues against the null expletive account, and Lavine (1998) translates the non null expletive analysis into minimalist terms. At issue is both where the QP is and whether there is such a thing as "nonagreement" distinct from (default) agreement. It is certainly possible that the arguments in Franks (1994, 1995) that the Russian bare QP does not raise could be reinterpreted as due to the element in [Spec, IP] being a QP rather than a DP and the form of the predicate as nonagreement rather than default agreement. I thank an anonymous *JSL* reviewer for drawing my attention to these and related issues.

(14)
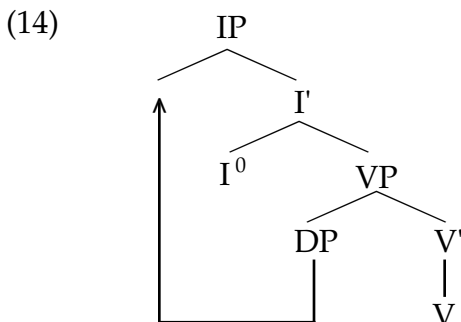
I then claimed that in SC numeral phrases were always maximally DPs, never QPs, since only the former bear case and SC heterogeneous numeral phrases must be cased in order to appear in oblique case positions. This was stated as the "parameter" in (15).

(15)   a.   N projects to QP or DP in Russian.

     b.   N must project to DP in SC.

I further argued against the possibility in SC of having bare QPs in structural case positions on the basis of the absence in SC of the neuter vs. plural dichotomy of Russian (2).[10] In sum, I argued that SC—and in

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[10] In SC the grammatical norm is to use neuter singular on the verb, with plural a somewhat marginal "semantic agreement" option. There are a host of semantic and syntactic distinctions associated with selecting the singular or plural option in Russian, none of which exist in SC; these distinctions are amply instantiated in Pesetsky (1982), Neidle (1982/1988), and Franks (1994, 1995, 1998). In brief: DP but not QP subjects can bind anaphors, control infinitives and gerunds, and have individuated readings; QP but not DP subjects can undergo long-distance extraction, and approximative inversion, is restricted to bare QPs. Consider, for example, approximative inversion constructions. These are QPs, since they cannot appear in any of the other obligatory DP positions, such as obligatory control, as in (i):

(i)   Ženščin   pjat′   *staralis′/*staralos′   kupit′   ètu   knigu.
    women$_{GEN.PL}$ five   tried$_{PL/N.SG}$ to buy   this   book

    'About five women tried to buy this book.'

Furthermore, the animacy rule, which causes the paucal numeral *četyre* to reflect the fact that the noun is masculine animate, only applies to DPs, not QPs (presumably because these are not referential). The paradigms in (ii) and (iii), from Yadroff (1999), support this contention:

fact all Slavic languages outside East Slavic—fail to exhibit any of the Russian QP vs. DP diagnostics because they lack bare QPs, as stipulated in (15).

There are however conceptual problems with positing (15) as a parameter. It looks more like a matter of categorial selection than a lexical property, but, following a tradition dating at least to Pesetsky (1982), it would be desirable to eliminate c-selection altogether. The only reasonable alternative is thus to derive (15) from some more salient fact about the languages in question. One way to do this is to follow the general scheme of work on clausal complementation such as Bošković (1997) and apply that reasoning to NPs, which would mean that no stipulation such as (15) could in principle be made but that N would project to whatever was independently required. The trick is then to show that for some independent reason DP is required in SC but not in Russian. What could be the relevant factor? Since (15a) holds only of East Slavic and (15b) holds everywhere else, (15b) might actually correlate with the existence of pronominal clitics in the language. Notice that for the analysis to work what we really need is something bigger than a QP, not necessarily a DP. It seems to me that,

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(ii) a. Ja   videl [$_{DP}$ četyrëx   soldat],   kotorye šli   domoj.
          I   saw   four$_{GEN}$ soldiers$_{GEN}$ who   went   home

         'I saw four soldiers who were going home.'

    b. *Ja   videl [$_{QP}$ četyre   soldata],   kotorye šli   domoj.
       I   saw   four   soldiers$_{PAUC}$ who   went   home

(iii) a. Ja poprosil [$_{DP}$ četyrëx   soldat]   prinesti stakan vody.
          I asked   four$_{GEN}$ soldiers$_{GEN}$ to bring glass   water

         'I asked four soldiers to bring a glass of water.'

    b. *Ja poprosil [$_{QP}$ četyre   soldata]   prinesti stakan vody.
       I asked   four   soldiers$_{PAUC}$ to bring glass   water

The DP but not the QP can support the relative pronoun in (ii) and control the infinitive in (iii); other relevant diagnostics, such as binding reflexives or controlling gerunds, behave similarly. With this in mind, we expect animacy marking to be incompatible with approximative inversion. This turns out to be correct, as shown by the following minimal pair:

(iv) a. Ja   videl soldata   četyre.
          I   saw   soldiers$_{PAUC}$ four

    b. *Ja   videl soldat   četyrëx.
       I   saw   soldiers$_{GEN.PL}$ four$_{GEN}$

For further discussion of the approximative inversion construction, see Franks (1995: 165–74), Billings (1995), Yadroff and Billings (1998), and Yadroff (1999).

on morphological grounds if nothing else, in the South and West Slavic languages the proper analysis of clitics should be as K^0 rather than as D^0 heads. In Franks (1999, 2000), I argue that Slavic clitics are K^0 elements, since they so closely resemble case endings, as opposed to Romance, where they are clearly D^0 heads and thus resemble determiners. Consequently, perhaps the presence of argument clitics in SC is enough to tell the learner that N has to project to KP, so that a collocation like *pet djevojaka* 'five girls'—i.e., a Q plus a genitive N—must be analyzed as in (13b)—although with KP rather than DP. Russian *pjat' devušek*, on the other hand, can be analyzed either as (13a) or (13b). The category parameter (15) would thus be restated as follows:

(15′) a. N projects to QP or DP in Russian.
       b. N must project to KP in SC.

3. The Accusative-Only Restriction

I now introduce a third "parameter" for handling Slavic numeral phrases, one which will ultimately lead back to the "outrageous claim" made in section 1.

3.1. The *Outré* Incident[11]

If the system just outlined truly reflects UG, the parameters should extend to accommodate other languages. Yet even the attempt to deal with Polish encounters difficulties. It will turn out, however, that these difficulties can be resolved once the full ramifications of one obscure type of example are considered. It is possible, albeit somewhat outmoded, to say the following in Polish:

(16) Te   pięć   kobiet   poszło   do domu.
      these_{???} five_{???} women_{GEN} went_{N.SG} to home
    'These five women went home.'

This is the only verb agreement possible; the feminine plural form *poszly* is ungrammatical. From the perspective of Russian this is a quite surprising fact, since if *te* is nominative, then the verb must agree with

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[11] This section heading is borrowed from Freidin and Babby (1984: 79).

it. In Russian, whenever we have a subject phrase with a nominative modifier, such as *èti* or *vse* in (11), the verb *must* show plural agreement. This is because it is necessarily a DP. Solving the riddle of Polish (16) turns out to be the key to a completely different account.

3.2. Accusative Subjects

I intentionally did not gloss *te* as nominative in (16), although it is traditionally regarded as such; cf. e.g. Rothstein (1993). I discard this possibility, since the verb cannot agree with it, and ask what is left. Here, to emulate LHB, I am following another of Sherlock Holmes's dictums, from *The Sign of Four*: "when you have eliminated the impossible, whatever remains, however improbable, must be the truth". Interestingly, only one alternative interpretation of the form of *te* in (16) now remains—it must be accusative. This explains why the verb never agrees with QP subjects in Polish.[12] Why should *te* be accusative however? Presumably, if the subject could be nominative, it would be. The reason, I therefore claim, that *te* is accusative is because it simply has no alternative. This restriction is stated in (17):

(17) QPs are only licensed in accusative DPs in Polish.

Can this premise explain anything else about the behavior of numerically quantified phrases in Polish? First, these phrases display the same sort of heterogeneous vs. homogeneous pattern as found in Russian, shown in (18) vs. (19).

(18) a. Znam te pięć kobiet.
    know$_{1.SG}$ these$_{ACC}$ five$_{ACC}$ women$_{GEN}$
    'I know these five women.'

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[12] Of course, the verb *does* show 3rd nsg agreement morphology. Since the subject is acc it cannot be the source of these features, hence I must assume that the verb itself is inflected for 3rd nsg in the absence of accessible phi-features for it to agree with. That is, if not fixed through agreement (with nom DP or KP) the feature content of I^0 (or Agr) is simply set as 3rd nsg. This again raises the question of whether there is indeed any reason to posit a null expletive in the Russian bare QP subject construction (or elsewhere), and makes more attractive an approach, in the spirit of Lavine (1998), where both Russian QP subjects and Polish acc DP ones raise to satisfy the EPP, with the differences between them adduced by Franks (1994, 1995) due to the fact that DPs are referential whereas QPs are not.

(18) b. przez   te   pięć   kobiet
          by   these*ACC* five*ACC* women*GEN*
          'by these five women'

(19) a. Opiekowałam   się   tymi   pięcioma   kobietami.
          took care of*1.SG.FEM*   REFL   these*INST* five*INST*   women*INST*

          'I took care of these five women.'

      b. o   tych   pięciu   kobietach
          about   these*LOC* five*LOC* women*LOC*

          'about these five women'

This is consistent with (17), in that only in the accusative contexts of (18) do QPs appear. Otherwise, as in (19), the numeral is an agreeing adjective inside an ordinary oblique DP, and no GEN-Q is assigned.

Next we return to the form of subject QPs. I identified the "???" of *te* in (17) with accusative, but what about the "???" glossing *pięć*? Again, strictly relying on the morphology, this could be nominative or accusative. Interestingly, there is evidence to suggest that it must be regarded as accusative. With virile (masculine animate human) subjects, the numeral appears in what is traditionally analyzed as the genitive:

(20) Wszystkich   pięciu   studentów   przysło.
      all*???*   five*???*   students*GEN*   arrived*N.SG*

      'All five students arrived.'

However, the form *pięciu* could also be accusative, because of the virile rule. Treating the "???" glossing *pięciu* as accusative provides a uniform account of the otherwise inexplicable fact that the form of the number looks like it is nominative *pięć* in non-virile (16) but genitive *pięciu* in virile (20). The premise in (17), that it is in fact accusative in both, is the only way to resolve this discrepancy. What case then is the quantifier *wszystkich* in (20)? In morphological terms, it could be either genitive or, under the virile rule, accusative. It turns out that the grammar of Polish allows it to be either. It is genitive if it behaves like SC *svih* in (12b) and accusative if it behaves like Russian *vse* in (11b). Recall that *te* in (16) is accusative. This implies that GEN-Q in Polish is [–oblique], as in Russian (except that in Polish it is forced to be ac-

cusative, since the nominative option is overruled). However, the more standard colloquial form is in fact *tych*, as in (21a); (21b) repeats (16) with the correct glosses.

(21) a. Tych   pięć   kobiet   poszło   do   domu.
          these$_{ACC}$ five$_{ACC}$ women$_{GEN}$ went$_{N.SG}$ to   home

          'These five women went home.'

      b. Te   pięć   kobiet   poszło   do   domu.
          these$_{ACC}$ five$_{ACC}$ women$_{GEN}$ went$_{N.SG}$ to   home

This has the following implication:

(22)   Q assigns [+oblique] or [–oblique] "genitive" in Polish.

If so, the form *wszystkich* in (20) is most likely the genitive, but it could also be the accusative, which is identified with the genitive when modifying virile nouns.

3.3. Interaction among Parameters

I now ask how the accusative only restriction in (17) interacts with the parameters introduced in section 2 to obtain the Polish facts? A little reflection shows that the idea that QPs in Polish only occur in accusative DPs does the lion's share of the work by itself. We have already seen that it captures several mysterious facts (i) the form of the number can resemble either the nominative or the genitive and (ii) plural agreement with GEN-Q subjects is impossible. Since these were problems for the parameters proposed in section 2, it could be that (17) is simply a third parameter, or it could be that (17) offers an entirely new way of conceiving of the variation encountered in Slavic numeral systems. I will argue for pursuing the latter perspective.

To do this, we need to attack the problem from two directions. First, to what extent does (17) express the facts that the case feature parameter in section 2.1 and the category parameter in section 2.2 were designed to handle? Second, what happens when we go back and ask how (17) needs to be parameterized to accommodate GEN-Q in the other Slavic languages. At this point, I make a preliminary assessment of the former problem with respect to West Slavic, postponing a more complete investigation until we address the latter problem in section 4.

The [±oblique] parameter in (10) was introduced specifically to handle the fact that SC QPs do not display the Russian homogeneous case distribution pattern. Postulating (17) for Polish, however, makes the choice of whether Q assigns inherent or structural case irrelevant to the distribution of QPs: it simply prohibits QPs from appearing in inherent case positions, since the DP dominating it will not be accusative. Structure (13b) is thus unavailable in oblique contexts in Polish, hence the alternative in which the numeral is adjectival and agrees rather than governs must be selected. In structural case contexts, on the other hand, (13b) is possible, in accordance with (17).

However, for both empirical and conceptual reasons, we cannot eliminate the case feature parameter. Recall that (10) determines the form of demonstratives and quantifiers before the numeral, as in Russian (11) vs. SC (12), as well as in Polish (21). Interestingly, the confusion between "+" and "−" options is fairly extensive in West Slavic. While Czech and Slovak only have a [+oblique] GEN-Q, which means they in fact has no special genitive of quantification, in Sorbian, according to Lindseth (1993) and Faßke (1981) and as reported in Franks (1995: 137–39), there is considerable variation. To summarize the discussion there, Lower Sorbian only has the [–oblique] option, but like Polish there is never agreement with GEN-Q phrases, so something like (17) must hold. Upper Sorbian, on the other hand, is like Polish in having both, so that modifiers before the numeral can appear either as genitive or accusative. I take Sorbian elements such as *te* 'these' and *wšykne* 'all' to be accusative rather than nominative because the verb fails to agree with them.[13] The fact that West Slavic shows such variation with respect to (10) may even be a consequence of (17): given that QPs only occur in accusative DPs, the prohibition against putting them in oblique contexts is a matter of theta-theory, hence there is little empirical basis for determining the value of [±oblique] for the case governed by numerals.

This observation relates to the conceptual reason for retaining something like (10), which seems to me to make it unavoidable. Taking cases to be bundles of features, as discussed in section 4, every case *must* be so-defined. GEN-Q poses a special problem, because it is neither theta-related nor completely divorced from semantic interpretation. In short, it must have some featural specification. Moreover, as a parameter, (10) has precisely the right kind of general property:

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[13] However, Faßke (1981) also provides examples *with* plural agreement, which in our terms means that not all variants of Upper Sorbian respect the restriction in (17).

whether the case checked by Q is structural or inherent is a matter of lexical variation. Unlike the classic "principles and parameters" model, minimalism takes variation to be a lexical matter. The learner, when faced with the existence of the GEN-Q phenomenon, which is clearly a property of numerals, is forced to make a determination about its nature. That decision is a lexical fact.

Turning briefly to the category parameter in (15), it could be that my claim that quantified noun phrases always project to DP in Polish follows from the fact that all QPs in Polish are contained in accusative DPs, since this presumably entails that they must be in DPs in the first place. I reject this idea for three reasons: first, it relies on technical wordplay (never a good sign); second, we already have a credible way to fix (15) with respect to KPs and DPs depending on the existence in the language of pronominal clitics or determiners; and third, when in section 4 I generalize the West Slavic accusative only restriction in (17) to the other Slavic languages, applying this reasoning to Russian would rule out bare QPs in that language too. At that point, however, it will become clear that letting bare QPs in for Polish (and the other languages) actually causes no problems, assuming my eventual restatement of (17).

3.4. A Theoretical Implication

An interesting result of this analysis is that an accusative DP must be allowed to appear in any structural case position. That is, in addition to occurring in positions in which accusative is licensed, it has to be permitted in nominative positions as well. On the other hand, an accusative DP crucially cannot be tolerated in inherent case positions. The reason for the latter prohibition is familiar from GB theory, given the intimate association between inherent case and theta-role assignment. As we have seen, deploying an accusative DP in a position where an inherent case is called for leads to a theta-theory violation and LF crash.[14] In a **nominative** position, however, nothing in principle prevents the selection of an element with the wrong case, since nominative case is neither theta-related nor lexically selected. Accusative numerically quantified subjects in West Slavic thus slip by in nominative as well as accusative positions. In short, structural case

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[14] This is slightly different than Freidin and Babby's Principle of Lexical Satisfaction in (6), a difference which can have empirical consequences, as I will show in section 4.6.

contexts, unlike inherent ones, do not require a specific case on the phrase that occupies them.

The idea that structural case need not be satisfied has some interesting consequences. We are led to expect that various phrases that are inappropriate from the perspective of case can appear in subject (and object) structural case positions. Let me mention some possible candidates for similar analysis. Within Slavic, the most obvious one is the genitive of negation, since this involves putting a genitive DP in what may be, from the perspective of the verb, an accusative position. Other likely candidates are the various non-DP subjects, such as PPs and clauses, that have been claimed to fill [Spec, IP] in a structure such as (14) and in that way to satisfy the EPP. For Slavic, this has been argued by Lavine (1998, 2000) and Bailyn (in press), and more generally, Collins (1997).

For Polish, I demonstrated in Franks (1994, 1995) that the accusative quantified DP necessarily moves to [Spec, IP], even though what is raising there is not itself nominative.[15] A similar phenomenon is often described for Icelandic, where inherent case marked subjects of infinitives must raise to the matrix, finite [Spec, IP], and inherent case marked objects of passives must similarly move to [Spec, IP]. Nonetheless, they are not marked nominative, but retain their inherent case. A simple passive example is provided in (23) from Freidin and Sprouse (1991); for other quirky case examples see Sigurðsson (1991) and references therein.

(23) Stráknum   var   hjálpað   af bróður sínum.
      the boy$_{DAT}$ was helped   by brother his

      'The boy was helped by his brother.'

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[15] An anonymous reviewer expresses concern that I take no stand on the what actually licenses this acc, under the assumption that all case must be licensed by being in a relation with an appropriate head. Indeed, unlike other instances discussed by Lavine (1998, 2000) or Bailyn (in press), where a phrase that is not a nom DP moves to [Spec, IP] to meet the EPP, these acc subjects, although they behave just any other acc DP, have no obvious source for this case. If, as proposed in the text, direct case is assigned, one might propose a null P to do the work , since acc is the default structural case assigned by both Vs and Ps. However, it seems to me also conceivable that **nothing** in fact licenses case here, although, if unlicensed case is possible, properly restricting the distribution of spurious acc DPs could prove extremely problematic.

In Icelandic (23) 'help' assigns inherent dative, which is preserved under passivization. UG must allow for inappropriately case-marked DPs (and non-DPs) to occupy structural case positions.

4. Case Features and the "Accusative-Only" Restriction

In this section, I generalize the West Slavic accusative only restriction to the other languages, addressing the true nature of the "accusative-only" restriction and suggesting a possible way of instantiating the mechanics of case assignment. In doing so, I explore the role of Jakobson's case features in defining the distribution of GEN-Q in the various languages, examining in particular the meaning of the [±oblique] feature. This will eventually lead me to reject the Principle of Lexical Satisfaction in its strong form.

4.1. A Distributional Approach to QPs

Let us reconsider why QPs cannot occur in oblique DPs in Russian, as they can in SC. The original account exploited the different levels at which GEN-Q was assigned in the two languages, but this is not available under minimalism, which rejects D-structure and S-structure as levels with distinct clusters of properties.

For Polish this issue does not arise, since the only place QPs occur in that language is inside accusative DPs, given (17). If (17) is indeed a principle of Polish, we should ask what it looks like in the other languages. In Russian it is clear that they occur in nominative and accusative DPs. If, for Russian, (17) is extended to include also nominative, then the distributional differences between the two languages that were associated in section 2 with the category parameter are accommodated. When we similarly ask how this restriction should be extended to SC, we discover that it just needs to be relaxed to (more or less, as discussed in section 4.5) let all cases in. The resulting extension of (17) to these other languages is sketched out in (24).

(24) **Licensing parameter** (first pass)[16]

    a. Polish: QPs are only licensed in **accusative** DPs.

    b. Russian: QPs are only licensed in **accusative and nominative** DPs.

    c. SC: QPs are only licensed in **all case** DPs.

Let us call (24) the "licensing" parameter. The statement in (24b) covers the fact that in Russian heterogeneous case assignment, which is the sign that we are dealing with a QP, only occurs in direct case positions, whereas (24c) covers the fact that (abstracting away from certain complications to be examined below) in SC we get them everywhere.

4.2. Fine Tuning the Licensing Parameter: Case Features (1)

In order to understand (24) better, let us consider it in light of the Russian case feature system I adopted in Franks (1995), as follows:[17]

(25)
accusative	=	[–obl, –marg, –nonascr, –phras]
nominative	=	[–obl, –marg, +nonascr, +phras]
genitive1	=	[+obl, –marg, –nonascr, –phras]
genitive2	=	[+obl, –marg, +nonascr, –phras]
locative1	=	[+obl, +marg, –nonascr, –phras]
dative	=	[+obl, +marg, –nonascr, +phras]
locative2	=	[+obl, +marg, +nonascr, –phras]
instrumental	=	[+obl, +marg, +nonascr, +phras]

The specific features are an amalgam of those found in Jakobson (1958) ([±oblique], [±marginal], [±nonascriptive]), plus one needed in order to handle morphological syncretisms in Russian ([±phrasal]).[18]

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[16] Bear in mind that I state this and further revisions of the licensing parameter in terms of DP, although these are actually KPs outside East Slavic, with the exception of Bulgarian and Macedonian, as discussed in Franks and King (2000).

[17] An earlier version of this system was proposed in Franks (1985). For detailed argumentation about the status of these features, see Franks (1995: 48–55).

[18] I named this feature "phrasal" because (as it then seemed to me) the cases that were [+phrasal], i.e. nominative, dative, and instrumental, were assigned by projections rather than lexical heads; I return to this issue in section 4.7.

The syncretisms which motivated the particular system in (25), based on observations in Jakobson (1958), are summarized in (26): [19]

(26) a. *okno* 'window':   nom = acc
      b. *syna* 'son':   acc = gen
      c. *nas* 'us':   acc = gen = loc
      d. *noči* 'night':   dat = gen = loc
      e. *žene* 'wife':   dat = loc
      f. *sta* 'hundred':   dat = gen = loc = inst
      g. *zlyx* 'mean'   gen = loc

Each of these syncretisms can be handled in terms of neutralizing feature oppositions, so that a single form could be listed in the lexicon with a defective feature matrix:

(27) a. nom = acc   [–oblique]
      b. acc = gen   [–nonascriptive, –marginal]
      c. acc = gen = loc   [–nonascriptive, –phrasal]
      d. dat = gen = loc   [–nonascriptive, +oblique]
      e. dat = loc   [–nonascriptive, +marginal]
      f. dat = gen = loc = inst   [+oblique]
      g. gen = loc   [+oblique, –phrasal]

Assuming that lexical "word form" insertion, which I take to be the replacement of a morphosyntactic feature matrix with a phonological one, is sensitive to feature **non-distinctness**, a form such as feminine singular *krasivoj* 'beautiful', which serves as all of dative, genitive, locative, and instrumental, falls under (27f) and has the lone feature [+oblique]. It can thus be inserted in any [+oblique] case position.[20] Syntactic structures are built up through merger of lexical items, but these items are bundles of morphosyntactic and semantic features, not phonological ones. The process of inserting literal word forms takes place postsyntactically, after the operation of all syntactic and morphological rules, and the latter apply in the morphological

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[19] For further discussion and examples, see Jakobson (1958), as well as Chvany (1986), Neidle (1982/1988), and Franks (1995: 42–48).The "acc=gen" syncretism will be eliminated in section 4.7.

[20] Here I am following the system in Franks (1985, 1986, 1995, 2000) and Halle and Marantz's (1993) general framework of Distributed Morphology, adapted to minimalism.

component that mediates between the syntax and the phonology proper.

In the system in (25), a "+" is intended to correspond to the marked value and a "−" to the unmarked value. Hence, accusative is the least marked case, having a "−" value for all case features, and instrumental is the most marked.[21] Translating the pluses and minuses into **U** and **M**, (25) can then be rewritten in terms of markedness, as in (25'):

(25')   accusative   =   [**U** obl, **U** marg, **U** nonascr, **U** phras]
         nominative   =   [**U** obl, **U** marg, **M** nonascr, **M** phras]
         genitive1   =   [**M** obl, **U** marg, **U** nonascr, **U** phras]
         genitive2   =   [**M** obl, **U** marg, **M** nonascr, **U** phras]
         locative1   =   [**M** obl, **M** marg, **U** nonascr, **U** phras]
         dative   =   [**M** obl, **M** marg, **U** nonascr, **M** phras]
         locative2   =   [**M** obl, **M** marg, **M** nonascr, **U** phras]
         instrumental =   [**M** obl, **M** marg, **M** nonascr, **M** phras]

From the perspective of (25'), (24) can be restated as in (28).

(28)   *Licensing parameter* (second pass)

  a.   Polish: QPs are only licensed in DPs with ***unmarked values on all case features.***

  b.   Russian: QPs are only licensed in DPs with ***unmarked values on oblique features***.

  c.   SC: QPs are licensed in all DPs, with ***no restriction on case features***.

Another way to look at (28) is that it progresses from the most restrictive to the least restrictive distribution of QPs. It looks a lot like a Subset Principle kind of arrangement.[22] If this is correct, it implies an

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[21] Arguments for this relative markedness can be found in Franks (1985, 1995). There are some apparent discrepancies, in that merely counting "pluses" would lead to the conclusion that nom, gen2 and loc1, are all more marked than gen1. I therefore suggested a system whereby different features have different markedness weights. These problems will however disappear when the feature system in (25) is revamped, in section 4.7.

[22] The Subset Principle, due to Berwick (1985) and best instantiated in work on binding such as Wexler and Manzini (1987), is a proposal about language acquisition that limits input to positive evidence only. It does this with the claim that each

acquisitional and perhaps diachronic hierarchy that allows the gradual spread of heterogeneous numeral phrases.

4.3. More about [±oblique]

We now ask how adopting the system in (25) impacts on the [±oblique] parameter. One obvious problem is that if GEN-Q in Russian is [–oblique], then it becomes identical to the accusative in feature content. This is an unwelcome result. Of course, it could instead be based on the genitive2 features, as I suggested in Franks (1995); this was why nominative had to be phrasal, in order to distinguish it from GEN-Q. While perhaps workable, in the final section I will propose an alternative feature system that addresses various issues, including these ones. I therefore temporarily put the problem aside.

We are still left with the question of what it means for a case to be [±oblique]. It cannot mean that the case is literally structural or inherent, given the kind of vacillation encountered for GEN-Q in Slavic. Rather, I believe that the [±oblique] feature is derivative of the structural/inherent dichotomy, a dichotomy that finds its ultimate source in the interface with interpretative systems. Subsystems of grammar, although motivated by interface requirements, are formal entities which live a life of their own. Thus, grammatical gender both diverges from natural gender and encompasses more than just sexed referents. Other grammatical categories and their morphological instantiations, such as number, definiteness, tense, aspect, mood, and so on, largely overlap but are far from coextensive with what might be expected solely on the basis of interpretive requirements; the same is true at the phonetic interface as well. Case features are similarly loosely based in interface requirements, morphological case itself being an implementation of GB's "abstract Case". I thus concur with the kinds of factors Jakobson (1936, 1958) used to motivate his specific features. With respect to [±oblique], an oblique case is one that is potentially (and typically) but not necessarily theta-related, just as past tense morphology or plural number does not necessarily mean that an event took place in the past or that there is more than one entity.

Suppose that we backtrack slightly from the strong checking hypothesis, which maintains that all elements of the numeration come

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successive grammar attained generates a superset of the data covered by the preceding grammar. Thus, acquisition proceeds by increasingly expanding the set of data generated by each hypothesized grammar.

complete with all features. As an alternative, I suggest that only oblique case is selected from the lexicon and checked, but that direct case is assigned. This division of labor gives the required result, since in Russian GEN-Q would be assigned in the course of the derivation but in SC it would be checked. To see how this might work, consider again the contrast in (11) and (12):

(11) a. èti   pjat' knig   b. vse   pjat' knig
          these$_{NOM/ACC}$ five   books$_{GEN}$ all$_{NOM/ACC}$ five   books$_{GEN}$

(12) a. ovih   pet knjiga   b. svih   pet knjiga
          these$_{GEN}$ five books$_{GEN}$ all$_{GEN}$ five books$_{GEN}$

Recall that this was one place where the licensing parameter never subsumes the effects of whether there is a special [–oblique] GEN-Q or not. Russian *èti* and *vse* have case assigned to them, either by *pjat'* (if genitive) or by some set of I(nfl) features (if nominative) or some set of V features (if accusative). SC *ovih* and *svih*, on the other hand, have oblique genitive case. When the appropriate case checker is merged, checking takes place. In SC, *ovih* and *svih* are genitive in the numeration, hence from the start of the derivation they have no choice but to be genitive. When they move to outside the QP, they retain this case. In Russian, on the other hand, case determination is not made until the values of the case features of *èti* and *vse* are filled in.

A reasonable analogy can be made here with the passive construction, where DPs typically get case in their surface rather than initial position. Oblique case, however, can be retained under passivization, as we saw in the Icelandic passive paradigm in (23). The modifiers in (11) and (12) similarly start inside QP and raise. In this respect they are just like objects of passive verbs in Icelandic which raise to outside VP. And in both instances, when the original position is an oblique case position that case is retained, but when it is a direct case position the moved element has the case appropriate to its target position.

At what point in the derivation then is direct case assigned? It cannot be at S-structure, since this is not a distinct level of representation. The pre-minimalist view I took in Franks (1985, 1986, 1995) was that feature values for [–oblique] cases are left open and are fixed in the course of the derivation. This still seems reasonable to me. Clearly, nominative at least must be determined syntactically, in order to feed subject verb agreement (or as a consequence thereof, this being a Spec-

head relationship). It is also possible that the morphology fills in any remaining unmarked case feature values postsyntactically. That is, just as Distributed Morphology, morphological operations are known to manipulate features, they can also simply set their values, when left open. This may be what usually happens with structural case features. We have already seen, however, one notable exception: accusative case can behave like inherent case, in the sense that the syntax dictates it from the start, when on DPs containing QPs in Polish and other West Slavic languages.[23]

4.4. Eliminating the Category Parameter

At this point I return to the issue of whether we can get rid of the DP vs. QP parameter. I assume, following Bošković (1997) among many others, that only what is needed is actually projected. What this means, for the problem at hand, is that not all nouns project all the way up to DP (or KP), only those which for some reason must do so. This means that the problem is ensuring N projects to DP, where needed, rather than preventing it from doing so in the case of Russian bare QPs. I will assume that N must project to DP whenever it is associated with specificity features, which pertains to any referential NP.

To let in bare QPs in Russian, we need to refine (28b) still more, as in (28b′). This restatement gives us both bare QPs and QPs in nominative and accusative DPs in Russian. Recall. however, that there is no reason **not** to let in bare QPs in SC, so the fact in (28c) that QPs are contextually unrestricted in SC could be restated as in (28c′). This has the effect that QPs can appear everywhere (although, as discussed in section 4.7, this is not quite correct). Finally, for West Slavic, (28a) could be restated as (28a′):

(28) a′. QPs cannot occur in: **(case feature) marked** DPs in Polish.

b′. QPs cannot occur in: **marked for oblique (case)** DPs in Russian.

c′. QPs cannot occur in: **no (case) restriction** DPs in SC.

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[23] If so, one might want to posit a [+oblique] accusative, which would be the flip side of my [–oblique] genitive. This accusative could then be simply marked for this feature, i.e. [**M** oblique], in the system in (25′).

This has the result that QPs can be bare or appear in accusative DPs, but nothing else. To sum up, the licensing parameter can now be expressed as follows:

(29) **Licensing parameter** (third pass)

    a. Polish: QPs cannot occur in **(case feature) marked** DPs.

    b. Russian: QPs cannot occur in **marked for oblique (case)** DPs.

    c. SC: QPs cannot occur in **no (case) restriction** DPs.

4.5. A Closer Look at Serbian/Croatian

In this section we subject (29c) to closer scrutiny. As noted, it is not quite correct to say that there are no restrictions on the distribution of QPs in SC. An examination of the contexts in which QPs actually occur reveals that not all oblique case environments are equally felicitous. It turns out that, while SC tolerates QPs in more marked contexts than does Russian, it is by no means completely free. Instead, it simply respects a higher threshold on the case markedness scale.

This conclusion is most clear when the behavior of verbs governing various oblique cases is probed. The example in (9a) illustrated a verb that takes genitive, an environment which always allow GEN-Q. This plus additional similar examples of verbs taking genitive are given in (30).

(30) a. Bojao   sam   se   pet   ljudi.
           feared $aux_{1.SG}$ REFL   five   people$_{GEN}$
           'I feared five people.'

      b. Čuvao   sam   se   pet   ljudi.
           guarded $aux_{1.SG}$ REFL   five   people$_{GEN}$
           'I guarded myself against five people.'

      c. Domogao   sam   se   pet   knjiga.
           obtained $aux_{1.SG}$ REFL   five   books$_{GEN}$
           'I obtained five books.'

I take the fact that QPs are always felicitous after verbs which govern the genitive to mean that they are licensed in genitive DPs.[24]

After verbs which require the dative, on the other hand, most speakers do not allow QPs, although there is some variation, as indicated in (31).

(31) */??Jovan   je   pomagao   pet   ljudi.
      Jovan $aux_{3.SG}$ helped   five people$_{GEN}$

   /??'Jovan helped five people.'

The relative unacceptability of (31) follows from the assumption that dative is a more marked environment than genitive. Apparently, the markedness threshold is increasing, and falls somewhere around dative, although slightly differently for different speakers.

Let us finally consider what happens in SC after verbs which govern instrumental contexts. Here one finds even more mysterious effects, effects which indicate that in SC QPs never really appear inside instrumental DPs. This supports the conclusion dictated by the dative facts that the total lack of any case feature restriction in (29c) must be emended, a problem I return to in section 4.7.

SC verbs which govern the instrumental are typical of Slavic. Two examples are *vladati* 'to rule, control' and *rukovoditi* 'to manage', as follows:

(32) a. Predsjednik   vlada zemljom.
       president   rules country$_{INST}$

     'The president rules the country.'

   b. Jovan je   rukovodio jednom   fabrikom.
      Jovan $aux_{3.SG}$ managed   one$_{INST}$ factory$_{INST}$

     'Jovan managed one factory.'

I assume that the instrumental is required here for theta-role visibility, just as it is in Russian with semantically comparable verbs.

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[24] It could be that the reason for this is that the genitive NP satisfies the verb's lexical requirements, the numeral simply being transparent to case assignment. This is something observed for the Czech "seminumerals" *sto, tisíc, milión,* and *pár* by Veselovská (1999) and in general for Upper Sorbian, according to Faßke (1987). I do not think this is correct for SC, however, because in other oblique case contexts SC numerals do not behave as if transparent for case purposes.

Interestingly, if one uses a numerically quantified phrase after such verbs, an obligatory preposition *sa* 'with' appears:

(33) a. Predsjednik vlada sa   pet zemalja.
        president   rules with five countries$_{GEN}$

   'The president rules five countries.'
   (*Predsjednik vlada pet zemalja.)

   b. Jovan je   rukovodio sa   pet fabrika.
      Jovan aux$_{3.SG}$ managed   with five factories$_{GEN}$

   'Jovan managed five factories.'
   (*Jovan je rukovodio pet fabrika.)

This spurious *sa* is impossible otherwise; it cannot be employed in the examples in (32) to produce ungrammatical (34):

(34) a. *Predsjednik   vlada sa   zemljom.
         president   rules with country$_{INST}$

   b. *Jovan je   rukovodio sa   jednom fabrikom.
       Jovan aux$_{3.SG}$ managed   with one   factory

This array of facts implies that QPs cannot in fact appear after verbs that check instrumental, contrary to (29c), otherwise the variants in (34) without *sa* would be acceptable.

Use of *sa* here is thus a last resort mechanism, the appearance of which somehow has as an ameliorating function. What are its properties? It cannot literally be an instantiation of instrumental case, because, as shown by the ungrammaticality of (34), it does not appear in all instrumental contexts. Instead, in the examples in (33), I would call *sa* a theta-role transmitter, a theta-role "proxy" assigner/checker. It has no theta-role of its own, but rather mediates in the relationship between the verb and its argument. In this sense, that it assigns no theta-role of its own, it is a "light" preposition.

Two other light prepositions found in Slavic are *za* in the Russian *čto za* 'what kind of' construction and distributional *po*, which do not assign any theta-roles of their own. Since such prepositions do not assign theta-roles, we might not expect them necessarily to assign case. This is indeed true of *za*, which is followed by whatever case is otherwise required in the position it finds itself in, albeit with certain restrictions. Distributional *po*, on the other hand, displays mixed proper-

ties. In Russian it assigns what I characterized in Franks (1994, 1995) as a [–oblique] dative, exactly parallel to the [–oblique] genitive in QPs, with which it shares quantificational properties. Let us call this case "DAT-Q".[25] Returning to SC *sa* and the phenomena in (32–34), it looks as though this can but need not assign instrumental. Possibly, it can be drawn from the lexicon with or without instrumental case features. In my system this is tantamount to saying that when *sa* functions as a light preposition it assigns a [–oblique] instrumental. As shown by (32), *vladati* and *rukovoditi* have the lexical requirement that they can only check their object's theta-role if that object is instrumental. *Sa*, on the other hand, has no such requirement, so *sa* allows *pet zemalja* and *pet fabrika* to be an argument of *vladati* and *rukovoditi* by checking the theta-role but not caring about case. The idea is that *sa* "absorbs" the instrumental case from the verb,[26] and then checks its theta-role for it. The numerically quantified phrase is thus relieved of the necessity to be instrumental.

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[25] Postulation of DAT-Q provided a uniform explanation of the superficially mixed case government properties of *po*. In brief, *po* looks as though it assigns dative case (i), except when followed by numerals which assign GEN-Q (ii, iii), and it can also assign those numerals themselves dative (iv), as if it governed the numeral itself, at least when the numeral is fundamentally nominal [+N, –V, +Q], rather than the containing phrase:

(i) po [$_{DP}$ odnomu rublju]   (ii) po   [$_{DP}$ dva rublja]
      DIST   one$_{DAT}$ ruble$_{DAT}$ DIST   two ruble$_{GEN}$
      'one ruble each'   'two rubles each'

(iii) po [$_{DP}$ pjat' rublej]   (iv) po   [$_{QP}$ pjati rublej]
       DIST   five rubles$_{GEN}$ DIST   five rubles$_{GEN}$
       'five rubles each'   'five rubles each'

This paradigm follows from my claim that *po* assigns a [–oblique] dative, DAT-Q, since this dative is overridden by the closer GEN-Q and can be assigned to the specifier of its complement (an instance of GB's Exceptional Case Marking). In the other languages *po* exhibits a variety of patterns. In Czech, it invariably assigns the regular [+oblique] locative, making it just like a regular preposition and exactly parallel to GEN-Q in that language. In Polish, it appears to assign either [–oblique] or [+oblique] locative, again maintaining this parallelism, although the data are too complex to go into here; see Franks (1995: 160–164) for discussion. Most interestingly, in SC *po* is just like Russian *za*: it is followed by whatever case would be required if *po* were not there. This is what we expect if *po* is a light preposition.

[26] I have in mind "absorption" as used in GB. Note that, if so, SC *sa* behaves similarly to the Russian voice morpheme *-sja* in the passive expression *fabrika upravljaetsja* 'the factory is managed'. Alternatively, as suggested below, *sa* is literally an instrumental case marker in SC (although these two ideas may turn out to be formally equivalent).

One curious fact is that this last resort strategy cannot be employed in adjunct contexts which call for a bare instrumental, as revealed by the following paradigm:

(35) a. Jovan je   hodao   ulicom.
          Jovan aux$_{3.SG}$ walked   street$_{INST}$

          'Jovan walked on the street.'

      b. *Jovan je   hodao   pet   ulica.
          Jovan   aux$_{3.SG}$ walked   five streets$_{GEN}$

          'Jovan walked on five streets.'

      c. *Jovan je   hodao   sa   pet   ulica.
          Jovan   aux$_{3.SG}$ walked   with   five   streets$_{GEN}$

Example (35a) shows that the adjunct normally appears in the instrumental. The ungrammaticality of (35b) follows if QPs cannot really appear in instrumental DP contexts, as also concluded on the basis of (33). Why then is (35c) also unacceptable? The fact that *sa* cannot precede adjunct numerically quantified instrumentals indicates that it would be wrong simply to say that in SC *sa* has become an instrumental marker. Instead, because *pet ulica* in (35c) is an adjunct, not an argument, there is no theta-role for *sa* to transmit, so it cannot save the structure, as it does in (33). Also, it can meet the lexical requirements of verbs assigning instrumental, but in (35) there is no instrumental to absorb: the adjunct must be marked instrumental if it is to be interpreted properly.

The above discussion of the distribution of GEN-Q was based on what happens in verbal contexts. After prepositions, the data are less clear. First of all, as with verbs, GEN-Q is always acceptable after prepositions governing the genitive: [27]

(36) od pet   gradova
      from five   cities$_{GEN}$

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[27] Indeed, QPs are in fact acceptable in all genitive contexts in SC. The example in (i) contains an adnominal genitive.

(i) vlasnik   pet   malih   kuća
     owner   five   small.gen   houses.gen

     'the owner of five small houses'

After prepositions governing the dative, we again find mixed responses, although the contrast is far stronger than after verbs; compare (31):

(37) */√Jovan je   trčao prema   pet ljudi.
      Jovan $aux_{3.SG}$ ran   towards five $people_{GEN}$
      'Jovan ran towards five people.'

Oddly enough, after prepositions governing the instrumental, GEN-Q is perfectly acceptable. We have already seen examples with *sa* as a light preposition, but the same is true for prepositions with theta-roles to assign:

(38) a. pod   pet stolova   b. nad   pet stolova
       under five $tables_{GEN}$ over five $tables_{GEN}$

These prepositions all govern instrumental, as a lexical property: *pod stolom, nad stolom*. What this means is that one really ought to look at the possibility of GEN-Q inside VPs rather than PPs for their true distribution, since prepositions in general in SC are developing in the direction of only optionally checking case. In terms of the feature [±oblique], I take this to mean prepositions are developing into [–oblique] case assigners in general. This seems to me to be in line with the general erosion of the case system, with SC on the way to becoming like Macedonian and Bulgarian, which have case systems roughly like that of English and completely lack oblique case.[28] We can thus conclude that all instrumental prepositions in modern SC govern [–oblique] instrumental, whether they assign a theta-role or not, and that, for speakers who accept (37), dative prepositions govern a [–oblique] dative.

4.6. Thoughts on the Principle of Lexical Satisfaction

The ideas sketched in the preceding section lead to the conclusion that lexically specified case is not the same as inherent case. In particular, it need not be satisfied **unless** theta-related. While canonically it is so

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[28] While there are dative (and accusative) clitics in these languages, Rudin (1997) and Franks (1999, 2000) argue that these elements are actually instantiations of Agr rather than true arguments, so that even the least marked oblique case, dative, is gone.

related, we have seen a number of examples which show that this is not necessarily so. Freidin and Babby's Principle of Lexical Satisfaction, stated in (6), must therefore be discarded as a principle of UG. Recall the behavior of Russian *po*: while the need for a [–oblique] DAT-Q provides independent confirmation of my account of GEN-Q, it also implies that idiosyncratic case properties, although they have to be stated in the lexicon, can in principle be overridden by other factors when necessary. The same conclusion follows from the behavior of prepositions in SC.

Consider now some further properties of *sa* in SC. In the colloquial language *sa* is replacing bare instrumental use in the "by means of" meaning, as indicated in (39).

(39) Došli   smo   (sa)   kolima.
      arrived aux$_{1.PL}$ with   car$_{INST}$
      'We came by car.'

With numerically quantified phrases, however, it is obligatory:

(40) Došli   smo   *(sa)   pet   kola.
      arrived aux$_{1.PL}$ with   five cars$_{GEN}$
      'We came by five cars.'

This is a surprising fact, given the ungrammaticality of (35c). Apparently, in (40) *sa* does indeed check a theta-role, which is something it cannot do in (35c). There is on the other hand no need for it to discharge its case, since it assigns a [–oblique] instrumental.[29]

In sum, the proposed conception of case distinguishes lexical case, as an idiosyncratic property of certain lexical items, from inherent case, something which is required for theta-role checking. The Principle of Lexical Satisfaction is correct to the extent that lexical case is required for theta-role visibility, but light prepositions with idiosyncratic case assigning properties diverge from its predictions. Thus, the SC preposition *sa* and the Russian distributive preposition *po* clearly have lexical specifications that they check instrumental and dative re-

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[29] The same result obtains if (as suggested by Željko Bošković, p.c.) *sa* can be taken from the lexicon with or without instrumental case features, although this account would need to be similarly generalized to all instrumental governing prepositions in SC.

spectively, but they are not upset when this fails to be satisfied. In the present typology, this means that these prepositions assign a [–oblique] case. Only inherent case is required for theta-role checking (or visibility), and these cases always bear the feature value [+oblique]. Divorcing lexical case from inherent case in this way forces us to reject Freidin and Babby's Principle of **Lexical** Satisfaction.

4.7. Fine Tuning the Licensing Parameter: Case Features (2)

In this final section, I reevaluate to the case features proposed in section 4.4 in light of the SC facts presented in section 4.5. For one thing, it now seems to me that the feature [±phrasal] in (25) is highly suspect, given the minimalist approach to case checking as a relationship between heads and phrases. There is considerable evidence that head features are involved in assigning nominative to the specifier of TP or Agr_SP, just as accusative is assigned under a Spec-head relation within AspP, vP, or Agr_OP. Dative is often similarly treated, as assigned to the specifier of $Agr_{IO}P$; see, for example, Rudin (1997), Franks (1999, 2000), or Franks and King (2000). While it may still be that heads can assign/check case on their complements, case assignment **from** nonterminal items is very unlikely. A second issue is that I no longer believe all the syncretisms in (26) should be accounted for in terms of defective feature matrices. In particular, there is an "accusative prediction" rule that applies in the morphological component to identify accusative forms (in all but the *-a* declension) with either the nominative or the genitive. Thus, accusative syncretisms should be removed from (26): there is no onus on the case feature system to accommodate them. A third problem with (25) was that relative markedness assessment could not be handled simply by counting the number of features with positive values. A more complex weighted algorithm was required instead. Lastly, SC presents a variety of problems. For one thing, not only was it awkward to characterize the Russian [–oblique] GEN-Q under (25), but the hypothesized wholesale importation of [–oblique] cases necessitated by SC prepositions does not fit well with the system. More importantly, we will need to revise (29c), the licensing parameter specification for SC, in a way that accords with our set of case features.

Let us start by reconsidering the issue of syncretisms in Russian, ignoring all identifications of accusative with genitive or nominative. Removing these, the syncretisms can be significantly reduced. In particular, (27a) and (27b) disappear, while (27c) and (27g) are unified.

This much simplified set of relevant syncretisms in Russian is given in (41):

(41) a. gen = loc
      b. dat = loc
      c. dat = gen = loc
      d. dat = gen = loc = inst

While this opens the door to diverse features systems, what I would like to argue for here is that four of Jakobson's features will do the work. These are two I used before in (25), [±oblique] and [±marginal], plus two new ones, [±quantified], originally introduced in Jakobson (1936), and [±indefinite], proposed in Jakobson (1958): [30]

(42) accusative   = [–obl, –marg, –indef, –quant]
      nominative   = [–obl, –marg, +indef, –quant]
      genitive   = [+obl, –marg, –indef, +quant]
      dative   = [+obl, +marg, –indef, –quant]
      locative   = [+obl, +marg, –indef, +quant]
      instrumental   = [+obl, +marg, +indef, –quant]

The Russian syncretisms then come out as follows:

(43) a. gen = loc   [+quant]
      b. dat = loc   [+oblique, –indef]
      c. dat = gen = loc   [+marg, –indef]
      d. dat = gen = loc = inst [+oblique]

This is more economical, and strikes me as a considerable improvement.

We should now ask how the "extra" cases, both Jakobson's second genitive and locative, and my new [–oblique] cases, fare with respect to this feature system. Notice that [±indefinite] resembles [±phrasal] in feature values, except in how it treats the dative. I further propose that it be used to distinguish the second genitive and locative, as in (44).

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[30] Chvany (1986) also draws attention to the often neglected (because they did not fit on his famous cube model) oppositions direct/oblique and definite/indefinite, suggested at the end of Jakobson (1958).

(44) accusative   =   [–obl, –marg, –indef, –quant]
      nominative   =   [–obl, –marg, +indef, –quant]
      genitive1   =   [+obl, –marg, –indef, +quant]
      dative   =   [+obl, +marg, –indef, –quant]
      genitive2   =   [+obl, –marg, +indef, +quant]
      locative1   =   [+obl, +marg, –indef, +quant]
      instrumental =   [+obl, +marg, +indef, –quant]
      locative2   =   [+obl, +marg, +indef, +quant]

The feature [±indefinite] thus subsumes the effects of both earlier [±phrasal] and [±nonascriptive]. This has no substantive effect on my characterization of the syncretisms, since the value [+indefinite] plays no role in them. Turning to Russian GEN-Q and DAT-Q, these can be analyzed as before as [–oblique] variants of the regular cases:

(45) GEN-Q   =   [–obl, –marg, (±indef), +quant]
      DAT-Q   =   [–obl, +marg, –indef, –quant]

I have placed [±indef] in parentheses for GEN-Q because it is not required to keep GEN-Q distinct from the other cases. If a value for [±indefinite] were specified, then [–marginal] could be regarded as redundant. However, since genitive2, which is essentially quantificational, is [+indefinite], it may be more appropriate to regard GEN-Q as [+indefinite] rather than [–indefinite]. I now translate the feature values in (44) into markedness terms:

(44′) accusative   =   [**U** obl, **U** marg, **U** indef, **U** quant]
       nominative   =   [**U** obl, **U** marg, **M** indef, **U** quant]
       genitive1   =   [**M** obl, **U** marg, **U** indef, **M** quant]
       dative   =   [**M** obl, **M** marg, **U** indef, **U** quant]
       genitive2   =   [**M** obl, **U** marg, **M** indef, **M** quant]
       locative1   =   [**M** obl, **M** marg, **U** indef, **M** quant]
       instrumental   =   [**M** obl, **M** marg, **M** indef, **U** quant]
       locative2   =   [**M** obl, **M** marg, **M** indef, **M** quant]

A direct count of **M** values produces the markedness scale in (45):

(45) acc   < nom < gen1, dat   <   gen2, loc1, inst   < loc2
      0   < 1   < 2   <   3   < 4

Accusative has no marked features; nominative has one; genitive1 and dative have two; genitive2, locative1, and instrumental have three; and locative2 has four. In the more standard six case system, represented in (42), the following values and relative ranking obtains:

(42′)   accusative   =   [**U** obl, **U** marg, **U** indef, **U** quant]
        nominative   =   [**U** obl, **U** marg, **M** indef, **U** quant]
        genitive   =   [**M** obl, **U** marg, **U** indef, **M** quant]
        dative   =   [**M** obl, **M** marg, **U** indef, **U** quant]
        locative   =   [**M** obl, **M** marg, **U** indef, **M** quant]
        instrumental   =   [**M** obl, **M** marg, **M** indef, **U** quant]

(46)   acc   <   nom   <   gen, dat   <   loc, inst
        0   <   1   <   2   <   3

This seems like a useful arrangement, and preserves the important insights of my previous system, although I will not explore its ramifications here.

Returning to SC, let us finally ask how the licensing parameter in (29c) should be adjusted. Focusing on the pattern of GEN-Q found after verbs, and assuming the feature system in (42), since this language has no second genitive or locative, it seems that, for speakers who disallow QPs in dative, locative, or instrumental DPs, the relevant restriction is that marginality must be unmarked:

(47)   QPs cannot occur in: **marked for marginal (case)** DPs in SC.

To the extent that dative is acceptable, the appropriate statement of the QP restriction is that marked values are only allowed for up to two case features:

(48)   QPs cannot occur in: **marked for two (case) features** DPs in SC.

While (47) or (48) would be an empirical improvement for SC, we may be able to go one step further. In the singular, other than suprasegmental features in some dialects, the dative and the locative fall together. In the plural, the dative, locative, and instrumental are always identical. These syncretism can be captured as follows:

(49) a. dat sg = loc sg   [+obl, +marg, –indef]
      b. dat pl = loc pl = inst pl [+obl, +marg]

However, since only one of [+oblique] or [+marginal] is necessary to express the syncretism in (49a) and [+oblique] is redundant in (49b), we can simplify (49) as follows:

(49′) a. dat sg = loc sg   [+marg, –indef]
       b. dat pl = loc pl = inst pl   [+marg]

Observe that, if the dative and locative really fall together, then the feature [±quantified] is completely neutralized. Moreover, [±quantified] does nothing do distinguish the genitive, which in SC can now be characterized as pure obliqueness. Eliminating this feature has the following result, with positive values replaced by **M**:

(50) accusative   =   [**U**obl, **U**marg, **U**indef,]
      nominative   =   [**U**obl, **U**marg, **M**indef]
      genitive   =   [**M**obl, **U**marg, **U**indef]
      dative/locative   =   [**M**obl, **M**marg, **U**indef]
      instrumental   =   [**M**obl, **M**marg, **M**indef]

We can now understand the distribution of QPs in SC directly in terms of number of marked features: the threshold is two marked values, which, given the judgments in (39), is marginally acceptable for some speakers. Three marked features, however, are always unacceptable. The licensing parameter can thus be restated as in (51):

(51) **Licensing parameter** (fourth pass)

    a. Polish: QPs cannot occur in a DP with any **M** (case feature).

    b. Russian: QPs cannot occur in a DP with more than one **M** (case feature).

    c. SC: QPs cannot occur in a DP with more than one/??two **M** (case features).

The system just outlined suggests an interesting scenario for acquisition and predictions for historical development. The implication is that development should proceed as follows. First, the learner must identify that there is a QP, i.e. that numeric quantifiers assign GEN-Q

case. At some point, a determination must be made as to whether that case is [+oblique], presumably the default hypothesis, or [–oblique]. The initial hypothesis is that QP only occurs in unmarked case contexts, i.e. (51a). Next, the learner must successively expand its distribution through positive evidence, revising the licensing parameter as evidence comes available that QP occurs in more and more marked environments. In Russian, for example, subject-verb agreement reveals that QPs can occur in nominative DPs, while in SC their appearance after verbs (and possibly prepositions) which govern oblique cases serves as a trigger.

In light of this scenario, consider finally the outrageous claim made at the beginning, with regard to example (1), namely that numerically quantified subject noun phrases in Czech are accusative. It should now be clear why this must be so: there is no evidence within Czech ever to depart from the most unmarked hypothesis, which is the Polish setting in (51a).

In this paper I have argued that a more insightful understanding of the workings of numerically quantified phrases in Slavic can be obtained by subjecting the semantically motivated Jakobsonian case features and markedness principles to minimalist assumptions about syntax. From this emerged a particular view of cases as bundles of morphosyntax features which define their properties. Concentrating on the feature [±oblique], it was argued that this morphological case opposition derives from the standard minimalist contrast between theta-related abstract Case and theta-free abstract Case, so-called "inherent" vs. "structural".[31] Thus, [+oblique] case is typically theta-related and [–oblique] case is typically not lexically specified. These are, however, morphosyntactic case features, hence may diverge from their abstract Case motivation. The fact that, say, genitive is [+oblique] does not mean that it **must** be theta-related/inherent (e.g. the adnominal gen or [+oblique] GEN-Q outside Russian). Similarly, we have seen that the fact that a case is [–oblique] does not necessarily prevent if from being idiosyncratic (i.e. lexically specified or "quirky"). I regard the enterprise pursued here, however, as programmatic, and I have put aside many quirks of the data which will still need to be explained. It is my hope that the above discussion serve as a springboard for future investigation and careful criticism.

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[31] Abstract Case is something of a misnomer, since I take it to be an interface condition on visibility of theta-roles.

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