On Semantic Bleaching and Compositionality: Subtraction or Addition?
(On the bleaching of "lexical verbs" in Russian negated existential sentences)[1]

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1. Introduction: Background and Hypotheses

The alternation between Nominative (Nom) and Genitive (Gen) for verbal subjects and between Accusative (Acc) and Genitive (Gen) cases for verbal objects exists in various degrees in Slavic and Baltic languages. In some cases it has historically become strongly grammaticized (e.g. Polish Gen of Negation vs. Acc), in some cases virtually lost (e.g. Czech), and in some cases, like in Russian, which is the only language we will be discussing in this paper, a certain level of true "optionality" exists, whereby optionality does not necessarily mean that the choice has absolutely no import, but rather that both case choices are in principle possible for a given verb. The caveat about a specific verb is not accidental: we will see that the Gen alternations in Russian are lexicalized to varying degrees.

There are four subtypes of alternating Genitive verbal argument NPs[2] in Russian that we will focus on: Subject Genitive of Negation (Subject Gen Neg), Object Genitive of Negation (Object Gen Neg), Genitive of Intensionality (Gen Int), and Partitive Genitive (Partitive Gen). We will have little to say about the latter two in the current paper, but give below a preliminary illustration of all four:

Subject Gen Neg: Affirmatives in a – b, negatives in c – d.
(1)   a. Otvet   iz   polka   prišel.
          Answer-**NOM.**M.SG from regiment arrived-M.SG

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[2] We use the term NP as neutral between DP and NP except where noted.

'The answer from the regiment has arrived.'

b. Prišel   otvet   iz   polka.
   Arrived-M.SG answer-**NOM.**M.SG from regiment
   'There was an answer from the regiment.'

c. **Otvet**   iz   polka   ne   prišel.
   Answer-**NOM**.M.SG from regiment NEG arrived-M.SG
   'The answer from the regiment has not arrived.'

d. **Otveta**   iz   polka   ne   **prišlo**.
   Answer-**GEN**.M.SG from regiment NEG arrived-**N.SG**
   'There was no answer from the regiment.'

Object Gen Neg: Affirmative in a, negatives in b-c.

(2) a. Oni   postroili **gostinicu**.
        They   built   hotel-**ACC**
        'They   built   a/ the hotel.'

     b. Oni   ne   postroili **gostinicu**.
        They   NEG built   hotel-**ACC**
        'They didn't build the hotel.' (a 'definite' 'planned' hotel)

     c. Oni   ne   postroili **gostinicy**.
        They   NEG built   hotel-**GEN**
        'They didn't build a hotel.' (non-specific)

(3) a. Ja   zametil **vodku**   na   stole.
        I   noticed vodka-**ACC**   on   table
        'I noticed the/some vodka on the table.'

     b. Ja ne   zametil **vodku**   na   stole.
        I   NEG noticed vodka-**ACC**   on   table
        'I didn't notice the vodka on the table.' (presuppositional: vodka was there)

     c. Ja ne   zametil **vodki**   na   stole.
        I   NEG noticed vodka-**GEN**   on   table
        'I didn't notice any vodka on the table.' (non-presupp: I may suspect there was none)

Gen Int:

(4) a. Oni ždali   **sud'ju**.
        They waited-for   judge-**ACC**
        'They were waiting for the judge.' (Judge as an individual; normal outside of court context.)

     b. Oni ždali   **sud'i**.
        They waited-for   judge-**GEN**
        'They were waiting for a/the judge.' (This is the normal form to use in court, when a judge is needed in his role as a judge.)

Partitive Gen:

(5) a. Petja   vypil   čaj.
        Petja   drank up   tea-**ACC**
        'Petja drank up the tea.'

     b. Petja   vypil   čaju.
        Petja   drank up   tea-**GEN**
        'Petja drank (some) tea.'

Those alternations are subject to variation across closely related languages, and (sometimes rapid) historical change. In particular, it seems that Gen Neg in Russian was more strongly grammaticized in the past, meaning that the choice between Gen and Acc was less "optional" and more determined by simple grammatical factors such as the presence of negation. It may also disappear altogether in the future, as it did in Czech (and Heritage Russian (Polinsky, 2006)). On the other hand, Gen Int is largely lexicalized, with only a small amount of "choice" of Gen/Acc for an individual verb, but the position in which the alternation is frozen differs by verb rather than being governed by general grammatical features of the sentence.

The challenge with these three Gen alternations is that while they do demonstrate a degree of free choice between the two forms, it often depends on a sum of factors, some of them lexical or lexical-semantic, rather than on any single simplistic criterion that could apply all cases. It does not seem to be a pure accident that it is the same case form which participates in the different alternations: there is a trend in the data, but no obvious uniform generalization about the exact import of Genitive vs. Nom and Acc.

What are the factors that have been identified or hypothesized as influencing the Gen alternations? First of all, and uncontroversially, they occur only in verbal arguments bearing structural case: subjects and objects of verbs. Accusative complements of prepositions, nouns or adjectives never alternate with Genitive, nor do oblique complements of any kind. Other factors which have been discussed in the huge literature on this topic (see especially (Babby, 1980, Corbett, 1986, Ickovič, 1982, Jakobson, 1971/1936, Timberlake, 1975)) include the referential status of the NP, the scope of negation[3], the 'strength' of negation; topic-focus or theme-rheme structure (Babby, 1980); "Perspectival structure" (Borschev and Partee, 1998, 2002b, 2002c); Unaccusativity (Neidle, 1982, Pesetsky, 1982); "style" (conservative, innovative, etc.); and verb semantics (Kagan, 2007, Padučeva, 1992, 1997).

Our analysis mostly concentrates on semantics and the role of the verb. We remain largely neutral about syntactic factors, allowing for the possibility that some semantic factors for which we argue have syntactic correlates.

The main task of this paper will be to resolve a puzzle that has arisen in putting together past work of Borschev and Partee on Subject Gen Neg (Borschev and Partee, 1998, 2002c) and our joint work on Subj Gen Neg, Obj Gen Neg, and Gen Int (Borschev et al., 2008) so as to arrive at a consistent picture. This may be viewed as a part of the general program of building a framework in which all different Gen alternations can be characterized together in some principled way.

Before proceeding, we outline the main components of the picture we have put forward in the above-mentioned works.

First, our view on **Subject Gen Neg** is that there is a strong semantic component which involves both the semantics of the verb and the semantics of the NP. The phenomenon of Subject Gen Neg mainly involves "existential" sentences (including a partly distinct subtype, "perception" sentences). As we discuss below, the verbs that may occur in existential sentences are an open class; some are independently characterizable as having the semantic characteristics needed for Gen Neg, and others may undergo 'semantic bleaching'. Thus the

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[3] Jakobson and others suggested scope of negation as a factor, but Padučeva (1997) argues for a presupposition-oriented approach instead; see also Partee and Borschev (2002).

alternation is sensitive to a major syntactic/semantic distinction between two sentence types: "existential" vs. "predicative" sentences.

Secondly, for a small class of transitive verbs of perception and creation, the characteristics of **Object Gen Neg** are close to those of Subject Gen Neg. However, for the larger class of transitive verbs the properties of the Gen/Acc alternation differ from those in Subject Gen Neg, and the distinction does not involve different "sentence types", but rather is mildly semantic (below we will explicate what we mean by "mild".) There is, however, a common factor influencing both Subject Gen Neg and Object Gen Neg: relative referentiality of the NP. Borschev et al (2008) capture this with a "demotion" type-shift of the NP to property type (type <e,t>), with Olga Kagan having made important contributions to this line of analysis.

Thirdly, **the shift in NP type requires**, for composition purposes, **a corresponding shift in V type** and thus a shift in the verbal semantics. Different classes of verbs have different 'routes' to type-shifted meanings, some easier than others. We have argued that this consideration is a major factor in explaining the differences in the possibility and semantic effects of Object Gen Neg for different classes of verbs. Sometimes the semantic shift is minimal or almost minimal, and sometimes it involves substantially modifying the lexical meaning of the verb. This approach to lexical and contextual variation is one central claim of Borschev et al (2008). The puzzle it gives rise to is that it appears to contradict the account of "semantic bleaching" for Subject Gen Neg given in Borschev and Partee (1998), where it was said there was no actual change in the verb meaning: this creates a tension between the different parts of our account, which we try to resolve in this paper.

The fourth point, and the main novel contribution of this paper, thus, is that **Subject Gen Neg does also require a shift in the verb's type so that it takes an <e,t> subject**, but there are two big differences between what happens in the Subject case and what happens in the Object case: (i) in the Subject case, both affirmative and negative sentences have such a shift – existential sentences have <e,t> subjects in general. (ii) For Object Gen Neg, the shifts are in most cases "substantive" meaning shifts; see Section 3.1.3. For Subject Gen Neg, the shift is a purely "formal", minimal one, similar to 'incorporation' type-shifts; there is no *substantive* change in the meaning of the verb, hence no change is perceivable.

As discussed in (Borschev et al., 2008, Kagan, 2007), while **Obj Gen Neg** and **Gen Int** share certain similarities, Gen Int involves a rather small number of verbs, each with its own idiosyncratic behavior. We have conjectured that the semantic relation between the two alternate case forms is the same for both, but the difference stems from Gen Int having a significantly heavier degree of lexicalization of case-choice for intensional verbs, so that semantics plays a weaker role in Gen Int simply because the room for choice is smaller. We do not discuss Gen Int further in this paper.

We will also not discuss Partitive Gen in this paper; it is a different, though overlapping, phenomenon from the other three. We note, however, that possible partitive readings reinforce the possibility to have the Genitive form in other alternations (hence the overlap: sometimes the same sentence may exhibit both Partitive Gen and another Gen alternation.) Moreover, as partitives may potentially be fruitfully analyzed using the same property type, perhaps the similarity and overlap among Partitive Gen, Gen Int, and Gen Neg is not surprising, though we will not be able to say more on the subject in the current paper.

2. Subject Genitive of Negation, Diathesis Choice, and "Semantic Bleaching" of Verbs

2.1. Approaches to Subject Gen Neg.

In the Western tradition, there are two main, by now traditional, lines of analysis for Subject Gen Neg. Jakobson (1971/1936), Babby (1980) and others argue that Subject Gen Neg alternation reflects scope of negation, with Nominative subject being outside the scope of negation, and Genitive subject inside of it. In particular, Jakobson says that Subject Gen Neg "negates the subject itself", where a corresponding nominative with negation "negates only the action". Babby ties the scope of sentential negation to Theme-Rheme structure, claiming that Theme is outside scope, and Rheme inside. Subject Gen Neg applies when the Theme is empty (or includes only a Locative) and the Verb plus Subject constitute the Rheme. Pesetsky (1982) treats the Genitive as triggered by a null NPI determiner that is licensed only in the scope of negation.

As for the relation between Subject Gen Neg and Object Gen Neg, the Unaccusative line of analysis, exemplified by Pesetsky (1982), Perlmutter (1978), Neidle (1982), and others, says that Object Gen Neg is "basic" and can occur with any transitive verb, a claim that is too strong for modern Russian (Padučeva, 2006). On the Unaccusative approach, Subject Gen Neg is argued to be possible only for verbs for which the surface subject is an "underlying object", i.e. the single argument of an Unaccusative verb.

In the Russian linguistic tradition, Subject Gen Neg and Object Gen Neg have generally been considered to be two separate constructions, with Subject Gen Neg having more systematic semantic significance than Object Gen Neg. Within this tradition, Paducheva (1997) argues that Subject Gen Neg is restricted to two lexical classes of verbs: existential verbs and perception verbs.

Borschev and Partee (2002a, 2002b, 2002c) agree with much of Babby (1980), but argue that Subject Gen Neg is sensitive not to Theme-Rheme structure but to "Perspectival Structure", involving a diathesis choice with verbs that take both an NP argument and a Loc argument (implicit or explicit), as described in Section 2.2. There are Subject Gen Neg examples in which the Genitive NP can be argued to be the Theme.

(6) **Sobaki**   u   menja net. (Arutjunova, 1976)
    dog-**GEN**.F.SG   at I-**GEN** not.is
    I don't have a dog. [Context: talking about dogs, perhaps about whether I have one.]

(7) [Ja iskal   kefir.   ] **Kefira**   v magazine ne   **bylo**.
    [I looked-for kefir-ACC.M.SG Kefir-**GEN**.M.SG in store   NEG was-**N.SG**
    '[I was looking for kefir.] There wasn't any kefir in the store.' (B&P 2002a)

In (7), *kefira*, in the genitive, is nevertheless part of the Theme; similarly for *sobaki* in (6).

Finally, later our current group and Olga Kagan (2005, 2007) independently suggested that the diathesis choice involved in Subject Gen Neg, and also Object Gen Neg and Gen Int, involves shifting the NP to "property type" <e,t> - a position we maintain in the current paper as well. The novel part of this paper will be to argue that the same shift occurs in affirmative existential sentences as well, not only in negated ones (Section 2.3.4).

2.2. Our analysis of Subject Gen Neg

Among the central notions needed for understanding existential sentences, Arutjunova (1976, 1997) distinguishes three components in a "classical" existential sentence: a "Localizer" ("Region of existence"), a name of an "Existing object", and an "Existential Verb". We have used different terms for the same notions: LOCation, THING, and V_{BE}.

(8)   V ètom kraju (Localizer) est' (Existential Verb) lesa (name of "Existing Object").
       In that region   is/are   forests-NOM.M.PL
       'There are forests in that region.'

One could say that THING and LOC are *roles* of the verb *byt'* 'be', but it is better to consider them roles of the *participants of the situation* (or *state*) of existing or of being located, since with some verbs LOC is not expressed overtly. In the *kefir* sentence (7), THING is (what is denoted by) *kefir*, and LOC is (what is denoted by) *v magazine*; in (1b,d), THING is the answer, and LOC is the implicit location associated with the verb *prišel* 'arrived'.

One of the core principles behind Borschev and Partee (1998, 2002a) is the following:

(9) **"EXISTENCE IS RELATIVE" PRINCIPLE:** Existence (in the sense relevant to existential sentences) is always relative to a LOC(ation).

Which location would that be? It may be implicit or explicit. It may be a physical location, or 'a perceiver's perceptual field', or the virtual location of 'in x's possession', or the whole world, etc. Example (10b) is a negated existential sentence[4] with Gen Neg which denies the existence of the THING in a perceiver's perceptual field while presupposing existence of that THING in a larger context. Sentence (10b) could be used when we're looking for Masha, can't see her, and surmise that she isn't here. A natural context for sentence (10a), with nominative, could be while taking a group photo: someone needs to move so that Masha will be visible.

(10) a. Maša   ne   vidna.
         Masha-**NOM** NEG seen-F.SG
         'Masha can't be seen.' (but she's here)

     b. **Maši**   ne   **vidno**.
         Masha-**GEN** NEG seen-**NEUT**.SG
         'Masha is nowhere to be seen.' (and may not be here at all)

The core of the proposal of Borschev and Partee (1998, 2002a) is that the distinction marked by Subj Gen Neg is a distinction between existential sentences and locative (predicational) sentences, two sentences types that may both involve verbs that can express a relation between a THING and a LOCation (explicit or implicit). We treat the distinction as involving a diathesis choice, analogous to indirect object shift, agent/experiencer choices, etc.

To spell out the proposal, we need some background ontology from Borschev and Partee (1998, 2002a):

(11) **The Common Structure of "Existence/location situations":** V_{BE} (THING, LOC)
      (V_{BE} abbreviates the (open) class of verbs that can occur in existential sentences)

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[4] Borschev and Partee treated intransitive perception sentences like (10b) as a subtype of existential sentences. But they have a number of distinctive properties and not all of our team agree with this supposition. We continue to explore the similarities and differences between the two kinds of sentences.

(12) **PERSPECTIVE STRUCTURE:**

An "existence/location situation" may be structured as either centered on the THING or centered the LOCation. We use the term *Perspectival Center* for the chosen participant.

Borschev and Partee use a camera metaphor to explain the different choices of Perspectival Center: the virtual camera may be 'tracking the THING' (THING is Perspectival Center) or be 'fixed on the LOCation' (LOC is Perspectival Center). In the first case, we get a Locative (Predicational) sentence, in the second case, an Existential sentence. In the affirmative, the sentence types do not differ in case choice, but when sentential negation is present, they are distinguished by the case of the subject (THING): Nom if Locative/Predicational, Gen if Existential.

(13) a. **Otec**　　　　　ne　byl　　　na　more. (Apresjan, 1980)
　　　　Father-**NOM**.M.SG　NEG was-M.SG　at　sea.
　　　　Father was not at the sea. (maybe never in his life)
　　b. **Otca**　　　　　ne　**bylo**　　na　more.
　　　　Father-**GEN**.M.SG　NEG was-N.SG　at　sea.
　　　　Father was not at the sea. "There was no Father there." (at some understood event)

This analysis is compatible with various syntactic proposals; it could be suggested as the semantic motivation for choice of which of two syntactic structures to use – we are agnostic on this issue.

(14) **PERSPECTIVAL CENTER PRESUPPOSITION:** Any Perspectival Center must normally be presupposed to exist.

So in the first sentence of (15a), the Nom construction presupposes that Petja exists but not that the concert exists. Thus denying that there was a concert is a felicitous continuation. In (15b), the Gen construction presupposes that the concert exists, and the continuation is thus infelicitous. In sentence (15b) the *construction* does not provide any presupposition of Petja's existence; the sentence denies his existence in the given LOCation (by principle (16) below). But the proper name itself carries a presupposition of existence in the larger context.

(15) a. **Petja**　　na koncerte ne　byl.　　　Koncerta　ne　　bylo.
　　　　Petja-**NOM**　at concert NEG　was-M.SG**.**　Concert　NEG　　was-**N.SG**
　　　　'Petja was not at the concert. There was no concert.'
　　b. **Peti**　　na koncerte　ne　bylo　　　#Koncerta ne　　bylo.
　　　　Petja-**GEN** at concert　NEG　was-N.SG**.**　Concert　NEG　was-**N.SG**
　　　　'Petja was not at the concert. #There was no concert.'

Borschev and Partee have the following semantic rule capturing the semantics of the Subject Gen Neg sentences:

(16) **The Semantics of Negated Existential Sentences (NES):** An NES asserts or implicates the non-existence of the thing(s) described by the subject NP *in the Perspectival center LOCation.*

Borschev and Partee (1998) derive principle (16) from the literal semantics of ¬V(THING, LOC), plus the following principle:

(17) **PRESUPPOSED EQUIVALENCE:** An NES presupposes that the following equivalence holds locally in the given context of utterance:
　　V_{BE} (THING, <u>LOC</u>)　⇔ BE(THING, <u>LOC</u>)

We now consider it likely that the equivalence is an implicature rather than a presupposition, and that it holds for all existential sentences, affirmative and negative. We return to this issue after we have presented our revised view of 'semantic bleaching' in Section 2.3.4.

It is important to stress that perspectival structure reflects a structuring at the model-theoretic level, like the telic/atelic distinction, or the distinction between Agents and Experiencers. These properties reflect cognitive structuring of the domains that we use language to talk about, and are not simply "given" by the nature of the external world. When we choose the LOCation as Perspectival Center, the sentence speaks about what THINGs there are or are not in that location/situation.

Later, Partee and Borschev (2004) and Borschev *et al* (2008), and similarly Kagan (2007), proposed that central to the linguistic manifestation of this diathesis choice of an Existential construction (as opposed to the Locative/Predicational construction), and also central to the related constructions that give rise to Object Gen Neg and Gen Int, is a "demotion" of the NP argument to property type ($<e,t>$). We discuss this further below.

2.3. Bleachable verbs and the nature of semantic bleaching

It has often been observed that the lexical, non-*be* verbs in Subject Gen Neg sentences seem "bleached"; substituting the verb *byt'* 'be' for them often produces a nearly equivalent sentence. Borschev and Partee (1998) argue that despite the seeming meaning change, the lexical verbs occurring with Subject Gen Neg are taken from the lexicon with their normal meanings. But the construction presupposes the equivalence in (17). As hearers we may then ask: can we find or accommodate for the given sentence in the given context further premises whose presence can make the equivalence in (17) "locally valid"? Such premises may come from the dictionary, common knowledge, the context, or a combination thereof. Answers range from "Yes, easily" to "Impossible." A felicitous interpretation of a Subject Gen Neg sentence requires recognizing, or accommodating, assumptions that can support (17). On the view of Borschev and Partee, then, this "bleaching" as a form of contextual "addition" rather than "subtraction" of part of the meaning. We will maintain this view here, but in Section 2.3.4 we will revise the assumption that there is no meaning change at all in the lexical verb.

2.3.1. "Dictionary axioms".

Here is an example of how encyclopedic knowledge, combined with a "dictionary axiom", helps us to derive the relevant equivalence which enables the use of Subject Gen Neg:

(18)a. Ne   belelo   **parusov**   na gorizonte.
      NEG shone-white-**N**.SG   sails-**GEN**.M.PL   on horizon
      'No sails were shining white on the horizon.'
  b. **Presupposed Equivalence**:
      'A sail shone white on the horizon.' $<==>$ 'There was a sail on the horizon.'
  c. 'Dictionary axiom' (part of lexical semantics):
      to shine-white $<==>$ to be white (in the field of vision)
  d. Dictionary or encyclopedic axiom; 'common knowledge':
      'Sails as a rule are white.'

Assuming that the rule given by the generic axiom (18d) is true in the particular situation at hand, we infer that there was a sail on the horizon if and only if there was a *white* sail on the horizon. Then by the lexical axiom in (18c) relating two Russian verbs, we can derive that there was a white sail on the horizon if and only if a sail *shone* (visibly) *white* on the horizon. Together, this gives us by transitivity the desired equivalence in (18b), licensing Genitive.

2.3.2. Dictionary + contextual axioms

Now consider a modification of the previous example:

(19) *Ne belelo   domov   na gorizonte.* (B&P 1998)
    NEG shone-white-**N**.SG   houses-**GEN**.M.PL   on horizon
    'No houses were shining white on the horizon.'

Here, in most contexts the analog of (18d) will not be valid: houses are not generally white, they can be many different colors. In such contexts, (19) cannot be uttered successfully. Moreover, (18c) is also problematic - if we are in a town, then for a house to be and be white does not necessarily mean that it is white in the visual field of an observer, as other houses may hide it from the view. But suppose the context is such (or that we can accommodate that as a pragmatic presupposition) that all houses are white, and furthermore that there is nothing obscuring the view, so an existing white house will have to be a white house 'shining white' as well. Think of an observer traveling through a steppe area where all houses are white, and are visible from a distance on the horizon. In this context, contextual axioms add enough information to make the desired equivalence true; Gen becomes acceptable, and the sentence is interpreted as an existential sentence -- there were no houses on the horizon.

What is crucial about examples (18) and (19) is that they involve the same verb. However, in (18) Gen is very natural, while in (19) special assumptions about the context are required. This means that what allows the use of Gen cannot be the change of meaning of the verb: if it were so, that change should have been equally available in both examples, and they would have behaved the same way. But this is not what we see. Hence the "semantic bleaching" phenomenon is *not* a change in the verb's meaning. Instead, the perception of meaning change comes from the added assumption that in the given context, "to be (in this Loc) is to Verb (in this Loc)".

2.3.3. More examples with non-trivial equivalence

(20)   a. **Moroza**   ne   **čuvstvovalos'**. (Babby 1980, p.59)
          Frost- **GEN**.M.SG   NEG be.felt-**N.SG**
          'No frost was felt (there was no frost).'
   b.   Equivalence: Frost was felt ⇔ There was frost.
   c. "Locative" S with Nom, no such equivalence:
          Moroz   ne   čuvstvovalsja.
          Frost-**NOM**.M.SG   NEG   be.felt-**M.SG**
          'The frost was not felt.'

Here, the Gen Neg variant in (20a) is felicitous if it is presupposed that we feel cold if and only if it is cold. This axiom, in (20b), is the needed equivalence itself. On the other hand, (20c) does not any such equivalence. In fact, in (20c) it is presupposed that the cold did exist at the moment, and it is predicated of it that it just was not felt (perhaps because we were dressed warmly) - but this is inconsistent with the axiom in (20b). So depending on whether the context validates (20b) or not, we have a context for (20a) or for (20c). And the meaning of the verb doesn't appear to change, but in the Gen Neg case it is effectively 'bleached'.

(21) V našem lesu   ne **rastet   gribov**.   (Babby 1980, p. 66)
    In our   forest NEG grows-**SG** mushrooms-**GEN**.M.PL
    'There are no mushrooms growing in our forest.'

It is "common knowledge" that for mushrooms in the woods, 'to be is to be growing'. Babby (1980, p.67) gives the contrasting example (**22**), a negated predicative sentence with the same verb but with a Nom subject, saying that if you tried to plant grass here, it wouldn't grow.

(22) Zdes' daže trava   ne   rosla.
      Here   even grass-**NOM.**F.SG NEG   grew-F.SG
      'Even grass couldn't grow here'

Subject Gen Neg can occur with any verb that can support the presupposed equivalence. Since added premises may come from the context, a "list" of such verbs is impossible. Some verbs are easier to fine contextual support for than others; for instance, agentives are usually impossible in Subject Gen Neg. But consider (23):

(23) Ne **begalo**   **tarakanov**.
     NEG ran-**N.SG**   cockroaches-**GEN**.M.PL
     'There were no cockroaches running around.'

Two things help to make (23), a rare example of Subject Gen Neg with a normally agentive verb, possible: (i) the subject is non-human (and thus has decreased agentivity), and (ii) running around is a characteristic sign of the presence of cockroaches: for cockroaches in a human place of abode, 'to be is to run around'.

And conversely, some verbs have meanings so close to *byt'* that they virtually demand Gen Neg, as *suščestvovat'* 'exist' normally does. (But even *suščestvovat'* does not absolutely demand Gen Neg; see discussion of Paducheva's *dlja nego* 'for him' ('in his world') examples in (Partee and Borschev 2004).)

2.3.4. Resolving the issue of whether bleached verbs have shifted meanings

As noted earlier, Borschev et al (2008) account for both Subject and Object Gen Neg as involving a shift of the NP to type <e,t>, with a corresponding shift in the verb meaning so that it can take an <e,t> Subj or Obj argument. How can we reconcile that with the account of Borschev and Partee (1998, 2002a-c), sketched above, and the strong evidence discussed towards the end of Section 2.3.2, for the position that the bleaching observed in negated existential sentences does not involve any actual change in the meaning of the verb?

We have already mentioned the ingredients of our solution. In the case of Subject Gen Neg, the Nom vs. Gen choice reflects a choice between two sentence types: locative (predicational) and existential. We agree with Babby (1980) that Subj Gen Neg sentences are existential sentences. We assume that in the ordinary (locative) sentences, the subject has type e, and is the Perspectival Center. In existential sentences, the subject has type <e,t> - regardless of whether there is negation or not! - and LOC is the Perspectival Center. Here, we draw on existing analyses of existential sentences in a variety of languages in which the subject is argued to be of type <e,t> (see, e.g., (McNally, To appear)), and the existential 'meaning' comes from the construction in one way or another.

What makes this an attractive way to resolve our apparent problem is that we can use the hypothesis (Landman, 2004) that indefinite NPs are "born" in type <e,t>, and shift to type e only with a "specific" reading. Then it's only e-type NPs that would have to shift, and they are the ones that have more trouble occurring in existential sentences at all.

We modify our earlier account as follows. There are two diathesis patterns for verbs that take a THING argument and a LOC argument (explicit or implicit). Choosing the THING as Perspectival Center corresponds to choosing a normal predicative structure, with e-type subject NP. When LOC is chosen as Perspectival Center, we get an existential sentence, with an <e,t> type subject. And these choices are independent of whether the sentence is negated. Subjects are normally e-type; but if a verb occurs in an existential sentence, where it takes an <e,t> type subject, there must be a corresponding semantic shift in the verb, not only with Subject Gen Neg, but rather for all existential sentences, including affirmative ones.

The corresponding shift in the verbs would be similar to one often invoked for "incorporation" of indefinite objects, a shift that associates an existential quantifier with the verb rather than with an NP or DP, and modifies the meaning of the verb very conservatively.

Illustrating the result of the new analysis

E.g. for existential use of 'grow' when it is said of mushrooms in the forest, shifted *grow* would be $\lambda P[\exists x(P(x) \& grow(x))]$. That's a purely "formal" shift, so it would not be felt as a real change in the meaning, which fits the absence of any perception of change in the verb meaning by Russian speakers. (24a) is a Locative/predicational sentence, with semantics as given in (24b); (24c) is an existential sentence, whose semantics is given in (24d).

(24) a. Griby   rosli   v našem lesu.
          Mushrooms-**NOM**.M.PL grew-3.PL in our   forest
          'Mushrooms/the mushrooms grew/ were growing in our forest.'

      b. Semantics: $\|rasti_1\|$ = $\lambda l \lambda x[rasti'(x, l)]$: 'x is growing in *l*' (simplified)
          $\|$ griby$\|$: 'mushrooms': either e-type, kind-denoting, or e-type definite plurality, or some kind of quantification over e-type individuals.

      c. V našem lesu   rosli   griby.
          In our   forest grew-3.PL mushrooms-**NOM**.M.PL
          'There were mushrooms growing in our forest.'

      d. Semantics: $\|rasti_2\|$ = $\lambda l \lambda P.[\exists x(P(x) \& rasti'(x,l))]$
          $\|$ griby$\|$: 'mushrooms': here type <e,t>, non-referential, property-denoting.

It's in this sense that we can say that the "bleaching" that accompanies Subject Gen Neg in existential sentences does not involve a "real" semantic shift in the meaning of the verb. Bleaching rather reflects a two-part process: the recognition or addition of 'axioms' that support the presupposed equivalence (which may be perceived as similar to a meaning change if it involves non-trivial, non-lexical axioms); plus a 'formal shift' involving the existential quantifier, which is usually not perceived as an actual shift, for it does not change the meaning in a substantive way.

For some verbs, a substantive shift is necessary in order to reach a meaning for which the formal 'existential' shift is possible, i.e. to reach a meaning which satisfies the "Presupposed Equivalence" of (17). We see such an example with the verb *begat'* 'run' in (23), normally an agentive verb, hence resistant to the presupposed equivalence; but in the context of (23) it can evidently get a less agentive meaning close to 'teeming'[5], for which the presupposed equivalence does hold. Similarly, the agentive verb *rabotat'* 'work' can occur in existential sentences with a less agentive meaning close to 'be employed', as in (25). That sentence is

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[5] Compare the English diathesis alternations with verbs like *swarm*; in *Bees were swarming in the garden*, *swarm* is presumably agentive, but not in *The garden was swarming with bees.*

particularly natural in a context suggesting discrimination against women, a context that reinforces the <e,t> type of the subject and a non-agentive interpretation of the verb.

(25) **Ženščin**   na ètoj fabrike ne   **rabotalo**.
     Women-**GEN**.F.PL at this factory NEG worked-**N.SG**
     'There weren't any women working at this factory.'

We will say more about such substantive shifts when we contrast Object Gen Neg and Subject Gen Neg in Section 3.2.

3. Object Gen of Neg and comparison with Subject Gen Neg.

3.1. Relation between Subj Gen Neg and Obj Gen Neg

Are Subject and Object Gen Neg in Russian the same construction? Franks (1995) refers with approval to arguments by Pesetsky (1982) and Neidle (1982, 1988) that Gen Neg applies only to underlying internal arguments (direct objects), and thus is actually the same phenomenon whether it involves Gen/Acc or Gen/Nom alternation. But we are skeptical about this view: while theoretically neat, it does not seem to agree well with the actual data concerning the range of verbs occurring in each construction, and the specific meaning changes different verbs undergo.

Western Slavists (other than Babby) start from Object Gen Neg and see Subject Gen Neg as a derivative phenomenon involving only 'apparent' subjects. But this approach does not offer any direct account of the "existential" interpretation of Subject Gen Neg sentences: it is totally unexpected that there should be any further effect of the Genitive if Gen occurs with all underlying objects. Russian linguists are more inclined to see Subject Gen Neg as a property of existential sentences, and not to expect the same analysis to apply to Object Gen Neg sentences, which are not in any obvious sense "existential".

A problem for approaches that take Object Gen Neg as basic and extend it to Subject Gen Neg via Unaccusativity is that they do not explain why some but not all passive sentences allow Gen Neg subjects. With the verb *polučit'* 'receive', we find parallel behavior[6] and interpretation between the object and a passive subject, illustrated in (26).

(26) a. On ne   polučil **pis'ma**.
        he NEG received letter-**GEN.**N.SG
        'He didn't receive any letter.'
     b. **Pis'ma**   ne **bylo**   polučeno.
        letter-**GEN.**N.SG NEG was-**N.SG**   received
        'No letter was received.'
     c. On ne   polučil pis'mo.
        he NEG received letter-**ACC.**N.SG
        'He didn't receive the letter.'
     d. Pis'mo   ne bylo   polučeno.
        letter- **NOM.**N.SG NEG was   received
        'The letter was not received.'

All are good, and the interpretations are parallel: Acc/Nom presupposes existence of the letter, Gen suggests no letter exists. Thus it may seem that the unification of Subject Gen Neg and Object Gen Neg is a good thing. But not all transitive verbs show such behavior:

(27) a. Ja ne pročital ètoj   **knigi**.
        I NEG read   this-**GEN**.F.SG book-**GEN**.F.SG
        'I didn't read this book.'

    b. *Ètoj   **knigi**   ne   **bylo**   pročitano.
        this-**GEN**.F.SG book-**GEN**.F.SG NEG   was-**N.SG** read
        (Intended meaning: 'This book wasn't read.')

The pattern we see with *pročitat'* 'read' in (27) cannot be explained if the possibility to occur in Gen Neg is the same for the subject and the object constructions: in that case (27b) should have been as good as (26d) with *polučit'* 'receive', but it is not.

3.1.1. Gen Neg marks "demotion" from canonical Subject or Object

Our hypothesis about why Gen is possible for the passive subject of *polučen(o)* 'received' but not for the passive subject of *pročitan(o)* 'read' is as follows. The passive predicate *polučen(o)* 'received' is a bleachable, potentially 'existential' predicate similar to *prišlo* 'arrived'. Its subject does not carry a presupposition of existence, just as the object of *polučit'* 'receive' doesn't carry a presupposition of existence. *Pročitan(o)* 'read', on the other hand, cannot be construed as an existential predicate; it presupposes the existence of its subject. This doesn't matter for Obj Gen Neg, but does for Subj Gen Neg.

We believe that the two alternations are similar in that both involve a **demotion** of the corresponding argument: a genitive subject is not a first-class subject, and a genitive object is not a first-class object.

But because objects are more closely dependent on the verb, the semantic effects of Object Gen Neg are more variable, while the semantic effects of Subject Gen Neg fall into just one strong pattern, the existential type, with a perceptual subtype, as in *Maši ne vidno* (10b).

A cross-linguistic difference between subject alternations and object alternations that fits well with to the <e,t> type hypothesis comes from incorporation phenomena in various languages: such variation in semantic type and associated grammatical marking is widespread for the "internal arguments" of a verb and rare for subjects. It may well be that existential sentences are the only widespread case of <e,t> subjects, and hence not surprising that existential sentences generally form a separate sentence type.

It is not that there are no Object Gen Neg cases that work similarly to Subject Gen Neg. In particular, Padučeva (2006) discusses two classes of verbs for which Obj Gen Neg is closely parallel in semantics to Subj Gen Neg: verbs of creation (cause-exist) like *stroit'* 'build' are analogous to existential verbs, and transitive perception verbs are naturally parallel to intransitive perception predicates like *vidno* 'seen, visible'; the example with *polučit'* 'receive' in (26) is yet another case where the two go hand in hand. But Obj Gen Neg applies much more broadly than Subj Gen Neg, and by no means always corresponds any sort of non-existence in a Location, as we can see in (27a) with *pročital*.

3.1.2. The type-shifting approach to 'demotion diathesis'

Instead of deriving Subject Gen Neg from Object Gen Neg, we argue for a different generalization covering both, associating the use of Gen with the property type of the NP:

(28) **Property-Type Hypothesis** (Partee and Borschev 2004, Kagan 2005, 2007, Borschev et al 2008):

> Where Russian has a Nom/Gen or Acc/Gen alternation, if there is a semantic difference at all, then Nom or Acc preferentially represents an ordinary e-type argument, whereas a Gen NP is preferentially interpreted as property-type: <e,t>, or <s,<e,t>>.

The hedges reflect the fact that Acc and Gen forms are sometimes semantically indistinguishable, and semantic effects that do occur are sometimes optional; these issues are discussed briefly below, and more in Borschev et al (2008).

3.1.3. Shifting the NP, shifting the verb: Substantive shifts with Objects

A change in the semantic type of an argument which before the shift fit into the argument slot implies a corresponding change in the verb's meaning (think about the familiar analogies: shifts in meaning of reflexive versions of verbs like *to hurt oneself, to help oneself* or differences between 'intensional' and 'extensional' versions of *seeking/ looking for*, or *expecting/waiting for*.) But what change will happen may differ with different verbs. In the case of Object Gen Neg, the verbal shifts often bring substantive changes.

As an illustration, the verb *ljubit'* 'love' has different lexical meanings with human vs. inanimate or abstract nouns. Gen Neg is common with inanimate/abstract objects, for which 'love' generally relates to a 'quality', but is less common, and for some speakers impossible, when it expresses the typical human-to-human 'love'-relation. Apresjan (2005) finds Gen Neg ungrammatical for human objects of *ljubit'* (suggesting "depersonification", insulting.) Others disagree, but most do find a contrast in (29a-b), with (29b) getting a 'quality' interpretation.

(29) a.(*) Ja ne   ljublju **ètoj   ženščiny.**
           I   NEG love   that-GEN woman-GEN
           'I don't love that woman.'

     b.   Ja ne   ljublju **ètoj   pevicy.**
           I   NEG love   that-GEN singer-GEN
           'I don't love that singer.'

The role-noun *pevica* 'singer' invites an interpretation where the attitude is directed not toward the singer *qua* individual, but to some manifest (presumably musical) qualities of that singer. This is one of many sorts of 'property' readings.

Even an ordinary human DP like *èta ženščina* 'that woman' can occur in genitive with *ljubit'* if there is strong contextual help, as in (30); a woman as a normal e-type entity does not 'come in large doses'. (Acc can get a property reading, but Gen is impossible without it.)

(30) Ja ne   ljublju **ètoj   ženščiny**,   osobenno v bol'šix dozax.
      I   NEG love   that-GEN woman-GEN especially in large   doses
      I don't love that woman, especially in large doses.

With the verb *zametit'* 'notice' in (3b-c), repeated in (31a-b), the interpretation with Accusative object under negation is presuppositional, the interpretation with Gen Neg is not. As noted by Dahl (1971), Kagan (2005, 2007), and Borschev et al (2008), following Kiparsky and Kiparsky (1970), the same verb takes clausal complements with indicative (factive) or subjunctive (non-factive). On Kagan's and our analysis, the 'veridical' sense of the transitive

verb takes a type e object, marked Acc; the non-veridical sense takes a property-type object, and could be roughly paraphrased as 'notice something which seemed to be (a/some) P'.

(31) a. Ja ne   zametil   **vodku**   na   stole.
        I   NEG noticed   vodka-**ACC** on   table
        'I didn't notice the vodka on the table.' (presuppositional: vodka was there)

    b. Ja ne   zametil   **vodki**   na   stole.
        I   NEG noticed   vodka-**GEN** on   table
        'I didn't notice any vodka on the table.' (non-presupp.: I suspect there was none)

In general, Obj Gen Neg is less semantically uniform than Subj Gen Neg, but not so lexicalized as Gen Int. It is sensitive to verb classes in ways that we can explain in terms of different possible paths to type-shifting. Some type-shifting possibilities form recurrent and more or less productive patterns; others are more idiosyncratic, depending on the particular verb and particular NP; some may arise 'on the fly' and may depend heavily on the context. We give an overview of the main types of verbal shifts below.

Verbs of creation may be viewed as causatives of inchoatives of potentially *existential verbs*. Under negation, the act of creation is denied, both with Acc and with Gen. Acc nevertheless takes a type e object, implying 'referentiality': the object is understood as specific, existing perhaps in some world of plans and intentions. See (2a-b): the Acc variant of the sentence predicates non-creation of the 'planned' hotel, presupposing some specific idea of a hotel which was not built; but in the Gen variant, there is simply no hotel at all, it is not presupposed that there were any specific plans to build one. Both readings are robust.

The variant of the sentence with Gen Neg can be viewed as a species of the **purely formal 'non-specific' shift** seen with existential verbs (and the open class of 'weak' 'bleachable' verbs). Since indefinites have been argued to have <e,t> as their basic type (Landman, McNally, others), when such verbs take bare NP objects with indefinite readings, the NP need not shift at all.

Verbs of perception

With intransitive **verbs of perception**, as in (10a-b), the Acc variant implies Masha is not seen, but is somewhere 'here', while the Gen variant implies that she is nowhere around, or else she would have been seen. The behavior of objects of transitive perception verbs, as in (32) below, is very similar. The Acc example (32a) is compatible with a range of different interpretations, and does not imply Masha's non-presence in a certain area. The Gen example (32b), however, suggests that since there was no visual evidence that Masha was around, she was not. The difference, however, is more subtle in the Object Gen Neg than in Subject Gen Neg: the object Genitive does not require the presupposed equivalence in (17) and thus non-existence in the LOCation, so the difference between the Gen and Acc variants is smaller in (32a-b). But the <e,t>-type shift is the same for transitive and intransitive verbs: the relevant argument is shifted into an <e,t>-type meaning "being Masha". The verb `see' then shifts its meaning into something like `get visual evidence of the presence of something which is P'. Together and with negation added, that produces `didn't glimpse any trace of Masha'. Proper names shift particularly easily to property type with these verbs.

(32) a. Ne   videl Mašu.
        NEG saw   Masha-ACC
        'He didn't see Masha.' (didn't take the time to go see her, or …)

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b. Ne   videl **Maši**.
    NEG   saw   Masha-**GEN**
    'He didn't see Masha.' (no visual evidence …)

'**Partitive shift**' lets an **Incremental Theme verb** like *pročitat'* in (33a) take Gen Neg with a measure-like interpretation. This contrasts with the interpretation for the Acc variant of the sentence in (33b) where the two pages are some specific two pages.

(33) a. Ja ne pročital **dvux   stranic**.
         I   NEG read   two-**GEN** pages-**GEN**
         'I didn't read (even) two pages.' (I read less than two pages.)
     b. Ja ne pročital dve   stranicy.
         I   NEG read   two-ACC   pages-ACC
         'I didn't read those two pages.'

Another type of shift is 'kind of action shift'. With the strongly actional *ubit'* 'kill', a rather "all or none" action, Gen Neg is rare. But it can marginally be used with a '**semantic incorporation' shift**, a 'kind' of killing (cf. lexical *matricide*). On this '**incorporation' shift**, the meaning shifts to a variant 'to Verb (or try to Verb) something with property P'. Thus the VP in (34) amounts to something like a "be a mother-killer":

(34) ?Petja ne   ubival **materi**.
      Petja NEG   killed mother-**GEN**
      'Petja didn't kill his mother.' suggesting 'Petja is not a mother-killer.'

The *pevica* 'singer' example (29b) demonstrates the **quality-metonymy shift**: an e-type argument is turned into a property-type argument denoting a property of that individual - which in (29b) is most likely the qualities of the singer's music. The particular property chosen will be influenced by both the combination of the verb and the noun, and the context.

Situation-metonymy. The verb *privetstvovat'* '**greet**' in its more concrete sense of literally saying your greetings to somebody disallows Gen Neg (35a). But in its more abstract sense of generally welcoming some development the same verb does take Gen Neg even with a human object. The result is then interpreted as (not) welcoming 'the presence of x, the appearance of x', as in (35b).

(35) a. ?On ne   privetstvoval **delegacii**. [Bad as concrete 'greet', OK in sense of (35b)]
          He NEG greeted   delegation-**GEN**
          'He didn't greet the delegation.'
     b. On ne   privetstvoval **Nikiti   Sergeeviča.**
         He NEG   greeted   Nikita-**GEN** Sergeevich-**GEN**
         'He didn't welcome (the presence, arrival, appearance, etc. of) Nikita Sergeevich.'

Finally, sometimes there seem to be no substantial shifting, which is why we use the hedges in the Property Type Hypothesis in (28). Many action verbs prefer Acc under Neg. However, sometimes they allow Gen Neg with **no apparent shift in meaning at all (**36a-b). It is hard to tell without much deeper investigation what is going on here: either there are some manifestations of the shift, but too subtle for us to have noticed; or else this usage may well be "persistence of Gen Neg" from an earlier historical norm, where Gen was automatically licensed under negation without apparent interpetational consequences. (Some speakers

perceive some differences in some of these examples, suggesting that the historical explanation may be on the right track, but there is considerable variation in judgments.)

(36) a. Ne   otkryval okno.
     NEG   opened   window-ACC
     'He didn't open the window.'
   b. Ne   otkryval **okna**.
     NEG opened window-**GEN**
     'He didn't open the window.'

3.2. Bleaching and Shifting – Contrasting Subject Gen Neg and Object Gen Neg

We have argued that the main similarity between Subject Gen Neg and Object Gen Neg is that both involve "demotion" of the Genitive-marked argument, a shift from e-type to <e,t>-type for the NP and a corresponding shift in the type of the verb. The main differences are that (i) with objects, the shifts are usually 'substantive', and localized to the verb and its object, whereas for Subject Gen Neg, the shift is also a shift in sentence type from predicational to existential, with a corresponding 'formal' shift in the verb; and (ii) the shift in the intransitive case applies in both affirmative and negative sentences, whereas with Object Gen Neg, we so far have no evidence for a comparable shift in affirmative sentences (and Kagan's (2007) account fairly strongly suggests that negation plays a semantic role in the semantic shifts that make the <e,t> shift and Object Gen Neg possible.)

Sometimes Subject Gen Neg involves something similar to substantive meaning shifts as well, needed in order to arrive at a verb meaning compatible with the "Presupposed Equivalence" which is a precondition for the formal shift to apply. We saw some examples of that with *begat'* 'run' and *rabotat'* work'. Another interesting case concerns a continuum of uses for the high-frequency verb *pridti* 'come, arrive' in (1). The base verb *idti* 'go', as well as all its prefixed forms, applies in the first instance to humans and means 'go on foot'; it is understood as agentive. In that meaning, with a human subject, Subject Gen Neg is impossible, as shown in (37a). With the subject *avtobus* 'bus' in (37b), Gen is still bad, but not as terrible as with a human subject; a bus does 'go' in the sense of *idti*, but on its own, hence still felt as quasi-agentive, but less agentive than for a human subject. With *banderol'* 'package' in (37c), which doesn't move on its own but rather by being conveyed, Gen Neg is not quite as bad, but still dispreferred by most speakers. With *pis'mo* 'letter' (37d) it's already quite a bit better, becoming perfectly acceptable for some speakers. The difference between a package and a letter can possibly be explained by noting that a letter can be viewed as a more abstract object, equal to its contents rather than the specific physical object. Finally, with *otvet* 'reply', as we saw in (1), repeated in (37e), Gen Neg is fine.

(37) a. *Petja ne prišel.*   / ***Peti   ne   prišlo.*
     Petja-NOM didn't come.   / ** Petja-GEN didn't come

   b. *Avtobus   ne   prišel.*   / **Avtobusa   ne   prišlo.*
     Bus-NOM didn't come.   / *Bus-GEN didn't come

   c. *Banderol'   ne prišla.* / **?Banderoli   ne   prišlo.*
     Package-NOM didn't come. / *?Package-GEN didn't come

   d. *Pis'mo ne prišlo.*   / *? Pis'ma   ne   prišlo.*
     Letter-NOM didn't come. / ?Letter-GEN didn't come

   e. *Otvet ne   prišel.*   / *Otveta   ne   prišlo.*
     Answer-NOM didn't come. / Answer-GEN didn't come

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What we see is that with nouns belonging to different sorts, the verb gradually shifts from a meaning like "come on your own two feet" to a meaning more like that of non-agentive "arrive". The possibility of applying the further 'formal' shift, which depends on the "presupposed equivalence", has a vague cutoff point, with clear judgments at each end of the scale, and less stable judgments in the middle of the scale.

The bottom line is that in the case of Subject Gen Neg, there may be two different kinds of shifts at work. There will always be the 'formal shift', but in order for that shift to be applicable, there may first have to be a substantive shift of some sort. In the *prišel* case, we have a substantive shift from an agentive to a non-agentive reading (from 'came by walking' to 'arrived') to which further 'bleaching' via the equivalence (17) can apply ('arrived to LOC' > 'began to exist at LOC').

How much of this can we 'predict'? If others are right that existential sentences universally involve 'demoted' subjects of type <e,t> (see, for instance, (McNally To appear)), whereas subjects of predicative sentences are almost never of that type, then the property type hypothesis for Gen Neg can predict that forming an existential sentence should be one of the most widespread ways of getting an intransitive sentence with an <e,t> type subject.

As noted above, we have not reached agreement on the question of whether the perceptual subtype should be subsumed under the existential type, treating 'being visible' as 'existing in the field of vision of the implicit observer', as in the work of Borschev and Partee, or kept separate, as advocated by Paducheva. We leave that issue for future work.

3.3. Optionality issues

In examples like (29) and (30), Acc is possible with a property reading, but Gen is impossible without it; such "optionality" issues frequently arise with Nom/Gen and Acc/Gen alternation. The semantic correlate of the case distinction is not always complementary distribution of two interpretations.

There appear to be factors of several kinds behind the complexity of the data. Some of these are discussed explicitly in Borschev et al (2008), others will be further discussed in work in progress. We mention some here very briefly just to give a flavor of the issues.

In the realm of **semantics and pragmatics**, the property-type reading is more "non-committal", more inclusive, more "underspecified". It doesn't presuppose existence but doesn't exclude it. Nom and Acc favor "specific" reading, but the line is not sharp. Abstract nouns can easily be analyzed as denoting e-type "kinds" or as <e,t>-type "properties", and there can be specific non-existent concrete entities (like the 'planned hotel', etc.) It thus seems that while semantics does require certain differences between the Nom/Acc and the Gen examples, the leeway is quite big, which makes it harder to arrive at clean generalizations. On the pragmatic side, it may be that some of the differences between Gen and Nom/Acc are due to blocking effects, with failure to use e-type may implicating non-existence, but the scope of that effect should be limited: we have seen that it is not necessary that in the Object Gen Neg sentences the Genitive NP is taken to be inexistent in any sense, so we have to be cautious in appealing to blocking.

The degree of **lexicalization** of the case choice in the Gen alternations differs significantly. It is quite heavily lexicalized with intensional verbs in Gen Int, and to a lesser extent with Gen Neg. Particularly familiar collocations may retain patterns that are no longer productive.

This brings us to the question of history and the "**changing norms**" factor for Gen Neg. Observation of the recent history of Gen Neg in Russian shows that the "old norm", which is quite recent by language change standards, favored the invariant use of Gen under negation (similarly to modern Polish), while a "new norm" now under development will probably eliminate Gen Neg entirely (as happened in Czech). Old and new norms may be reflected in stylistic or register choices, creating a totally orthogonal set of factors determining the case choice together with the factors coming from lexical and sentence-level semantics.

Summing up, if there is a Gen alternation, when there are semantic differences between Gen and Acc/Nom, they always go in the same direction: Acc/Nom towards specific, Gen towards non-specific. Our type-shift hypothesis is aimed toward formalizing this factor, including explaining when and how proper names and other definite NPs can occur in Genitive and what sorts of interpretations they then get.

The type-shift account is not meant to become a radical replacement for earlier accounts: it is also compatible with earlier proposals of "decreased individuation" (Timberlake), "narrow scope" (many), "decreased referentiality" (Paducheva and others).

Kagan's (2007) development of the notion of "Relative Existential Commitment" is a centerpiece of her interesting account of the connection between "Irrealis Genitive" (Genitive of Negation and Genitive of Intensionality) and Subjunctive.

4. Consequences and predictions

Our long-term goal is to capture what the different instances of Gen/Nom and Gen/Acc alternations have in common semantically while still respecting the multiplicity of factors involved and not predicting more uniformity than is actually found. In Borschev et al (2008), we concentrated on the relation between Gen Neg and Gen Int, and the relation between the conditions licensing Genitive and the conditions licensing Subjunctive mood (see also Kagan 2007), and argued in favor of the property-type shifting hypothesis as an explanation for the core semantic properties of Gen Neg and Gen Int. In continuing work in progress, we came across the apparent contradiction noted in the introduction:

(i) The property-type shift hypothesis predicts that Gen Neg always involves an <e,t>-type NP, which consequently always requires the verb to shift to take an <e,t> type argument.

(ii) But Borschev and Partee (1998 and later) had argued that in Subject Gen Neg sentences, the observed bleaching of verbs to become "locally" equivalent to *byt'* 'be' takes place by the 'addition' of further 'axioms' that support the equivalence, not by any actual change ('subtraction') in the meaning of the verb.

Our resolution of that contradiction in this paper comes partly from closer analysis of the semantic shifts involved, and partly from the new hypothesis that what happens with Subject Gen Neg in existential sentences also happens in their affirmative counterparts. This makes a sharper difference between Subject Gen Neg and Object Gen Neg than we formerly made, and a sharper difference than most scholars have made.

But the idea that Subject Gen Neg involves a whole different sentence type and Object Gen Neg does not finds support from a number of familiar observations.

(i) Slavic languages differ as to whether Gen Neg applies to both subjects and objects: some have both, some have neither, some have Object Gen Neg only. (Polish has Subject Gen Neg only in the case of the verb 'be', and in that case changes the verb to 'have'.) Serbian and

Croatian have Gen/Nom alternation for existential sentences, both in the affirmative and in the negative, but only with the verb 'be'.

(ii) Promoting the LOC to Perspectival Center and demoting the subject THING to <e,t>-type is in line with various current proposals about existential sentences.

(iii) Languages vary greatly in how they treat existential sentences. Some, like Chichewa, allow Locatives to become syntactic subjects. Russian affirmative existential and predicational sentences differ only in word order (1a-b), which led Babby 1980 to argue that they differed only in Theme-Rheme structure. We have very little independent evidence for the shift of the demoted subject to type <e,t> in Russian affirmative existential sentences; our main argument is the coherence of the resulting analysis.

Our account is in line with the Russian lexico-semantic tradition of paying careful attention to differences between different small word classes. What is still missing, however, and what we are still exploring, is the possibility of a precise framework that would help us move from verbal observations and explanations to testable predictions. We offer this work as a modest step in the direction of such a system.

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