

## The Slavic Noun Phrase

Gilbert C. Rappaport

### 0. Introduction

A Noun Phrase (NP) is a syntactic unit, or *constituent* resulting from expanding a lexical noun by the addition of a variety of arguments and modifiers. Some examples of NPs from contemporary Slavic literary languages are given in (1), with the lexical noun undergoing expansion given in italics:

(1) a. **Russian:**

vse èti bezzabotnye *ljudi* vysokogo rosta v očkax  
all these carefree *people* considerable<sub>GEN</sub> height<sub>GEN</sub> in glasses  
'all these tall carefree *people* with glasses'

b. **Ukrainian:**

ce tjažke *zavdannia*  
this difficult *assignment*  
'this difficult *assignment*'

c. **Polish:**

to ciągle *zaczynanie* czegoś ze świadomością, że się nie  
this constant *beginning* something<sub>GEN</sub> with awareness that REFL not  
dokończy  
will end  
'this constant *beginnings* something with the awareness that it will not be finished'

d. **Czech:**

značná *odolnost* tohoto materiálu vůči korozi  
significant *resistance* this<sub>GEN</sub> material<sub>GEN</sub> vis-a-vis corrosion  
'the considerable *resistance* of this material to corrosion'

e. **Serbian/ Croatian/ Bosnian:**

sve ove Jovanove stare *slike* njegove porodice  
all these John's old *pictures* his<sub>GEN</sub> family<sub>GEN</sub>  
'all of these old *pictures* of John's of his family'

f. **Bulgarian:**

*uveličivane* na produkcijata od работници  
*increase* of production<sub>DEF</sub> by workers  
'an *increase* in the production by workers'

In this paper, we attempt two things: to survey the structures found in Slavic NPs from a taxonomic point of view, and b) to describe the theoretical issues involved in describing the

morphosyntax of these NPs and their properties. For convenience, we use Russian to illustrate properties typical of all Slavic languages. We will not consider detached modifiers or the special problems of relative clauses, nor can we give numerals anything like the attention they deserve.<sup>1</sup>

There are several perspectives from which one can view the structure and interpretation of NPs, perspectives which cannot be considered in complete isolation from each other. It is possible, nevertheless, to group topics roughly as follows:

- (2) a. • Configurational structure and grammatical functions  
 • Argument structure (diathesis): categories and thematic roles  
 • Case assignment  
 • Morphology and syntactically-formed words: Possessive nouns and pronouns
- b. • Syntactic categories: case, number, gender, definiteness  
 • Word order  
 • Barriers and extraction

This paper currently takes the form of an essay in which the topics listed in (2a) unfold in parallel, rather than in series. The topics listed in (2b) will be addressed in detail separately.

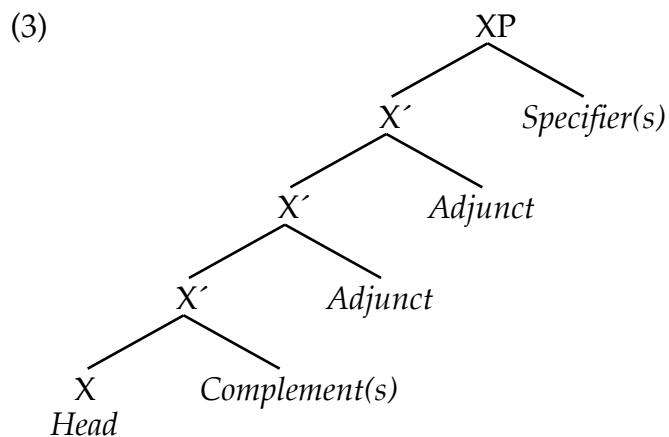
We assume a model of generative grammar like that described by Chomsky and Lasnik 1995 [1993]. Many aspects of that model remain a matter of research and debate, so that there can be no assumption here of a canonical analysis. Furthermore, more recent developments along that line, identified as the Minimalist Program, involve the overall architecture of the theory in a way that is profound, but often with no more than a notational effect on the subject at hand. We will try to avoid or suppress those controversial aspects of the theory which have little substantive relation to our topic.

## 1. Preliminaries: Configurational structure, grammatical function, and lexical representations

In this section, we present some background assumptions of phrase structure and lexical representations which underlie our investigation of the configurational structure of the Slavic NP and to the appropriate form for the lexical representation of head nouns. The two issues of phrase structure and lexical representations are intimately connected, to the point that the Minimalist Program, and the notion of *bare phrase structure* which it incorporates, essentially dispenses with an explicit theory of phrase structure.

The generalized conventions of phrase structure (X-bar theory) require that a *head* combine with other categories to form larger, inclusive categories, called its *projections*. These other categories fall into one of three types, defined in terms of their generalized grammatical function: *complements*, *adjuncts*, and *specifiers*. A traditional assumption, which we will begin with, has been that all complements form a single constituent with the head and that all specifiers form a constituent with a projection of the head to form the maximal projection of that head. On these assumptions, binary branching is not obligatory. The addition of adjuncts, in contrast, is recursive. The generalized phrase structure given in (3) applies to any category *X* (ignoring word order):

<sup>1</sup> On detachment, see Rappaport 1984; on numerals, see especially Babby 1988 and Franks 1995 for both analysis and surveys of the literature. We cannot do justice to the literature on relative clauses; we refer only to Zaliznjak and Padučeva 1979 and, for some discussion and further references, Rappaport 1984.



We assume further that the lexical representation of a lexical item includes its predicate : argument structure (*diathesis*), specifying, for example, that the verb *laugh* ascribes some property (that of laughing) to some entity: *laugh* [V], <x>.<sup>2</sup> While the property is defined in the lexicon, the reference of the entity corresponds to an argument which must be identified in the syntactic structure framing the lexical item. In the unmarked case, an argument is governed by its corresponding lexical predicate in syntactic structure; that is, an argument stands in the complement position (e.g., direct objects and indirect objects) of its predicate. These are called *internal arguments*. In contrast, one argument, the *external argument*, can stand in the specifier position. We indicate an external argument in a lexical representation by underlining: for example, *laugh* [V], <x>. Thus, following much current work we adopt the *VP-Internal Subject Hypothesis* according to which the subject of the verb *laugh* would originate in the specifier of Verb Phrase position, moving through higher positions in the tree to the familiar syntactic position of the subject, outside the Verb Phrase.

Consider a more complicated example. The Russian verb *verit'* 'to believe' is only meaningful when a believer and that which is believed are identified by the syntactic structure (or context). We identify these arguments in terms of their *thematic role* (-role); in particular, the believer is an Experiencer, and the believed is a Theme. The assignment of thematic roles is called *s-selection* (*semantic selection*). Thematic roles assigned by a lexical item must then be mapped onto syntactic structure. In the case of the Russian verb *verit'* (*ja verju, čto...* 'I believe that...'), the Experiencer is identified as a nominal external argument, ultimately occupying the position of clause subject, while the Theme is a clausal internal argument, remaining in the position of complement to the verb. The categorial requirements imposed on arguments (e.g., that the external argument is a nominal while the internal argument is a clause) constitute *c-selection* (*categorial selection*). The argument structure of this verb, then, could be represented as *verit'*: [V], <x, y>, where additional information, including c-selection and s-selection, must be provided for the two arguments: x = [N], Experiencer; y = [finite clause], Theme. This lexical representation contrasts with that of the derived verb *verit'sja* (*mne ne veritsja, čto...* 'I do not believe that...'), in which x and y are as before, but their internal versus: external status is reversed: *verit'sja*: [V], <y, x>.<sup>3</sup>

<sup>2</sup> At this point we identify the category of the lexical item (here, with "V" to designate a verb) in square brackets, followed by its argument structure, given in angle brackets. Additional information about the identified arguments will be added, as discussed below. Despite a difference in notation, our treatment of argument structure, or diathesis, is in our understanding completely consistent with the work of Leonard Babby on this subject; see, for example, his position paper for this conference on voice and diathesis.

<sup>3</sup> It would be highly desirable to predict c-selection from s-selection, since the latter is epistemologically prior. While there is considerable redundancy between the two, we agree with Babby 1998, who states quite emphatically that the former cannot be reduced to the latter.

The lexical representation of a lexical item must contain information pertaining to *inherent case marking* (in Babby's terminology, *lexical case marking*). Inherent case marking is the assignment of case by a head to an argument in association with the assignment of a thematic role to that argument. For example, the Russian verb *pomoč* 'to help' would be represented in the lexicon in part as follows: [V], < $\bar{x}$ , y>, where x is a nominal Agent and y is a [N, Dative] Goal. In some cases the choice of morphological case is semantically motivated (for example, Experiencers and Goals tend to take the dative in Slavic), but the real definition of inherent case marking is that an N is lexically specified to get its case and theta role from the same category. Chomsky 1965 introduced the notion of *subcategorization* as a means of specifying the selectional restrictions of a predicate: for example, a verb might stipulate that its direct object not only be a Noun, but a Noun with certain characteristics (e.g., animate as opposed to inanimate, count as opposed to mass, etc.). We view the stipulation of inherent case as an instance of subcategorization: all nouns must have case, and just as a verb can *select* a noun as a direct object, it can select a noun of a particular case. More generally, what has been called *c-selection* should in fact be viewed as *f-selection* (for *feature selection*), with category and case being among the features of a lexical head. These concepts will be essential to the discussion which follows.

Finally, we introduce a fundamental distinction among formal features at this point, one which will be playing a decisive role in our analysis. This distinction is that between *interpretable* and *uninterpretable* features (Chomsky 1995). The essence of the distinction is this: uninterpretable features must be removed before Logical Form, in order to make a representation at that level "legible", or well-formed. The mechanism of removing an uninterpretable feature is that of feature "checking": a suitably paired feature must move, or *raise*, to that head. Feature raising can be *covert* in that it need not result in a category moving before "spell-out", that is, in such a way as to be reflected in Phonological Form. When a feature raises to a head containing the suitably paired feature, whichever are uninterpretable are deleted. The idea is that in order to "receive" case marking, a category must be close enough to the licensing head so that its features can raise to that head. If the two case features differ, the uninterpretable feature is not deleted, and the resulting representation at Logical Form is "illegible", resulting in a failed derivation. Inherent case markers must select an interpretable feature, because there is no feature which would check, and delete, an uninterpretable one. Structural case marking, in contrast, is licensed by checking, and deleting, an uninterpretable feature by raising a feature to the case marker from lower in the structure.

## 2. Material nominals: Structure and analysis

In section 2 we develop a formal proposal for the structure of what we (nonstandardly) call *material nominals*.<sup>4</sup> We begin with the descriptive task of identifying how the three NP-internal grammatical functions (complement, adjunct, specifier) are expressed. In many cases the distinctions among these grammatical functions are more easily made in principle than in practice. A more refined, if perhaps less intuitive, analysis is then proposed, incorporating the functional category Determiner. *Action nominals* (deverbal heads describing an action or process), with their distinct properties, will be taken up in section 3.

<sup>4</sup> Material nouns include deverbal nouns describing Agent or Actor (*pevec* 'singer') and Result (*izobretenie* 'invention, that which has been invented'), as well as "picture nouns", such as *portret* 'portrait', which exhibit an argument structure without being related to a verbal stem (cf. *my picture of Mary* ~ *I took a picture of Mary*)

## 2.1. The NP-internal grammatical functions of material nominals

A complement is by definition lexically selected; that is, it is identified in, or *licensed by* the lexical representation of the head. As AG60 puts it rather succinctly, the bond of a complement to its head follows from (*vytekaet iz* the lexical meaning of that head (p. 241). The typical form of a complement is a non-agreeing category: an NP, Prepositional Phrase (PP), or clause (finite or nonfinite). NPs can be in the genitive, dative, or instrumental case:

(4) a. *Genitive NP*:

stado olenej 'herd of deer'  
 million dollarov 'a million dollars  
 stakan vody 'a glass of water'  
 graždantin Sovetskogo Sojuza 'a citizen of the Soviet Union'  
 dym kostrov 'the smoke of campfires  
 teplo tela 'the warmth of the body  
 točnost' raboty 'precision of work  
 zavoevatel' Arktiki 'the conquerer of the Arctic  
 kollekcija marok 'a collection of stamps'

b. *Dative NP*:

cena ljudjam 'the price of people  
 korm skotu 'feed for livestock  
 vernost' muža i ej i delu 'the fidelity of the husband to her and to the cause  
 pamjatnik Puškinu 'a monument to Pushkin'

c. *Instrumental NP*:

nedovol'stvo žizn'ju 'dissatisfaction with life'

d. *PP*:

blizost' k gorodu 'nearness to the city'

e. *Clause*:

obeščanie prijti 'a promise to come  
 uverenost', čto pridet vesna 'the confidence that spring will come'

Complements are identified in the lexical representation of their head, which is also the source of inherent case assignment. The generality of the adnominal genitive complement raises the possibility that it represents structural case assignment, determined by syntactic context and divorced from theta assignment, but we will argue below that there is no structural case assignment in material nominals.

Adjuncts of NPs are traditionally called *attributives*. The most typical attributive is the familiar lexical adjective, exemplified in (1). The non-agreeing categories can function as adjuncts as well:<sup>5</sup>

<sup>5</sup> In colloquial Russian, infinitives can be used as adjuncts, e.g., *bilet exat' v Moskvu* 'a ticket to go to Moscow'; see Rappaport 1987 for examples and discussion.

- (5) a. *Genitive NP*:  
 kaftan žestkogo šelka ‘a kaftan of rough silk  
 čelovek dela ‘a man of action  
 slezy vostorga ‘tears of joy  
 medved´ srednej veličiny ‘a bear of average size  
 zdanija dymčatoga cveta ‘buildings of a smoky color’
- b. *Instrumental NP*:  
 usy kostočkoj ‘a moustache like a brush  
 kazak dušoj ‘a Cossack at heart’
- c. *PP*:  
 besedka v sadu ‘a summer-house in the garden  
 ošibki iz-za rassejanosti ‘mistakes due to absent-mindedness’

The assignment of case to bare NPs functioning as attributives is not easily treated within the model assumed here; Babby has used the term “semantic case”, distinct from inherent and structural case, to describe such cases (among others), although a formal account is lacking. We will assume that the attributive genitive has no special status, and stands alongside the instrumental as being the result of a derivational rule which derives modifiers of certain types by adding a case feature.

It is possible to devise tests to distinguish the grammatical functions of complement and attributive, even if the results often do not correspond to what might be expected on intuitive, semantic grounds. Attributives normally admit a predicative function, so that a test might be a simple transformation: NP *kaftan žestkogo šelka* ‘a kaftan of rough silk’ S *Ètot kaftan—žestkogo šelka* ‘This kaftan is of rough silk’. Attributives provide a coherent answer to the question *kakoј* ‘what kind (of)’ (—*Kakoј ètot kaftan?* ‘What kind of kaftan is this?’ —(On) *žestkogo šelka* ‘(It is) of rough silk’). The generalized phrase structure displayed in (3) indicates that complements stand closer to their head than do adjuncts, so that an adjunct should not stand between a head and its complement (Engelhardt and Trugman 1998 cite *konspekt ego lekcii podrobnogo soderžanija* ‘notes of his lectures with great detail’ versus the ungrammatical reverse order *\*konspekt podrobnogo soderžanija ego lekciia*). And categories performing these different functions cannot be coordinated with each other. Even if these tests do not provide unambiguous and expected results for a particular example, the point is that non-agreeing categories such as NPs and PPs can in principle perform both of these distinct NP-level grammatical functions.

The specifier, like the adjunct, includes not only familiar agreeing forms of referential and quantitative function (*ètot/tot* ‘this/that’, *odin* ‘one’, *sam* ‘oneself’, *vse* ‘all’, etc.) but nominal ones as well, expressed by an adnominal genitive. Typical interpretations of nominal specifiers are material possessor, inalienable possessor, and agent:

- (6) a. *kniga sestry* ‘sister’s book’  
*xozjajstvo otca* ‘father’s estate’
- b. *nožka stola* ‘a leg of the table’  
*ruka bol’nogo* ‘the patient’s hand/arm’  
*tetka otca* ‘father’s aunt’
- c. *roman Tolstogo* ‘Tolstoy’s novel’ [= a novel by Tolstoy]  
*kartina Repina* ‘Repin’s picture’ [= a picture by Repin]  
*reč’ otca* ‘father’s speech’

Again, tests exist which make the distinction in principle, without being failproof for a given example. The interrogative corresponding to an animate nominal specifier is *čej* 'whose', and an adjunct would stand closer to its head than a specifier (cf. Engelhardt and Trugman 1998: *konspekt otličnogo oformlenija moego brata* 'in an excellent layout of my brother' versus its ungrammatical inversion *\*konspekt moego brata otličnogo oformlenija*). Of special interest are possessive adjectives, specifiers with agreeing adjectival morphology which are morphologically derived from nouns (AG60 cites such Russian forms as *sestrina knjiga* 'sister's book' and *otcovo xozjajstvo* 'father's estate') as well as pronominal forms (Russian *moja mat'* 'my mother'), as opposed to the corresponding paradigmatically expected *kniga sestry*, *xozjajstvo otca* and *\*mat' menja* 'mother of me'. We will take up special properties of these specifiers below.

## 2.2. A Determiner Phrase analysis of material nominals

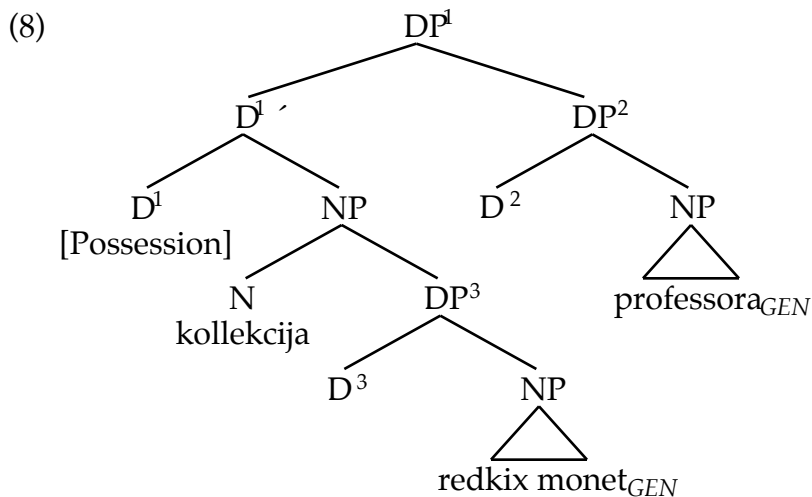
We begin with the following examples of material nominals, focusing on the first:

- (7) a. *kollekcija redkix monet profesora*  
       'the collection of rare coins of the professor'  
       b. *tablica èlementov Mendeleeva*  
       'the table of the elements of Mendeleev'

The genitive case marking on the complement of such material nouns is an instance of *inherent* case not only because the source of its case marking and thematic role are the same (the head noun *kollekcija*), but the choice of case is actually related to the thematic role assigned. Nouns of quantity, part (of a whole), property, attribute, etc. may specify a complement not only in terms of its category, but in terms of its case as well. In particular, nouns such as *kollekcija* and *tablica* naturally suggest the question of their content: a collection of what? a table displaying what? Both, then, have an argument structure of the form [N], <x>, where x is an internal argument with the following formal features: [N, Genitive].

How, then, are the possessive and agent genitives illustrated in (7) licensed? They are certainly not selected as (external) arguments of the N, analogous to the complement. We appeal to the theory that what are typically called NPs are in fact complements of a functional category Determiner (D), completely parallel to the way that a Verb Phrase is a complement of a functional category Inflection (Abney 1987).<sup>6</sup> The basic idea is that the "possessor" in typical nouns is a specifier of D, serving as the external argument of this D, while the NP with the lexical head is the internal argument of D. While clearly the issue deserves further study, we will assume that the content of this D is the feature [possession], understood broadly to interact with the semantic category of the complement N to determine the precise notion of "possession": material possession, agent, etc. The lexical representation of this functional category is [possession]: [D], <x, y>, where x with the formal features [D, genitive] is assigned a thematic role of Possessor (broadly construed), and y is a selected NP. Clearly, then, the possessor of a material NP is also an instance of inherent, thematically-related case assignment, selected by a head (in this case, D). We adopt the DP analysis not only for NPs associated with possession, of course, but as a standard structure framing all NPs. Thus, the complements and modifiers of the head noun *kollekcija* constitute DPs as well. The structure of (7a), then, resembles that displayed in (8):

<sup>6</sup> Zlatić 1997 argues against a Determiner Phrase analysis of NPs in Slavic; the DP analysis is assumed by Engelhardt and Trugman 1998, and explored sympathetically by Fowler and Franks 1994. A detailed look at NP



Obviously there is no overt determiner here in the head position  $D^1$ . It is the feature [possession] in this position characterizing the NP which licenses the higher instance of the genitive. If the NP were not possessed, there would be no justification for this genitive. In contrast, a phrase such as *\*karandaš moneta* ‘pencil of coins’ is nonsense, because *karandaš* takes no complement, that is, assigns no theta role to an internal argument. *Karandaš brjuneta* ‘the pencil of the brunette’, on the other hand, has an interpretation, because the animacy of the genitive NP permits it to be assigned the Possessor theta role by D.

Before proceeding, a detail of case assignment needs to be addressed. We have said, for example, that the noun *kollekcija* ‘collection’ selects a genitive complement and that that complement is a DP. Case, then, must now characterize DPs as well as the Ns on which it is actually marked by the morphology. The case of the head noun must be transmitted to the head of the D which selects it, in order to be available to satisfy the f-selection requirements of the lexical representation of some yet higher predicate in the clause which select that D. In the structure in (8), this applies to the  $D^3$  selecting *monet* ‘coins<sub>GEN</sub>’ and to the  $D^2$  selecting *professora* ‘professor<sub>GEN</sub>’. In other words, *kollekcija* and [possession] must “see” the genitive case feature on the nouns *monet* and *professora* respectively. In the situation at hand, in order to ensure that D is paired with a morphologically correct N, we assume that the features of the N raise “covertly” to D, carrying the case feature along. This mechanism captures the idea that case features on N serve to link their morphology with syntactic context, but it is the case marking on the DP which truly characterizes the entire nominal complex.

Now we return to the possessive adjectives mentioned in section 2.1, be they possessive pronouns (*moj, tvoj, naš, vaš*) or the possessive nouns formed by the suffixes *-ov, -in*.<sup>7</sup> As is well-known, possessive nominals have considerable restrictions on their formation, including that the noun from which they are derived be a) definite, b) singular, c) animate, and d) a head without branching. Furthermore, possessive adjectives exhibit referentiality in a way not characteristic of adjectives, whose agreeing morphology they share: possessive adjectives can be the antecedents of both pronominal and anaphoric pronouns. For example, Chvany 1977 draws the following contrast:

structure from a cross-linguistic perspective, mostly without the functional category of Determiner, is presented in Giorgi and Longobardi 1991.

<sup>7</sup> See especially Corbett 1987 on possessive adjectives. We take non-agreeing but preposed possessive pronouns (e.g., Russian *ego* ‘his’, *ee* ‘her’, *ix* ‘their’) to be morphologically deficient possessive adjectives.

- (9) a. Ja xotel vzjat' knigu Lizy/Lizinu knigu, no ona mne ee ne dala.  
'I wanted to take the book of Lisa/Lisa's book, but she [i.e., Lisa] didn't give it to me.'
- b. \*Vanja privez čudnye amerikanske sapogi. Kstati, vy tam byvali?  
(‘Vanya brought fantastic American boots; incidentally, have you ever been there [i.e., to America]?’)

And adnominal genitive NPs serve as possible antecedents for a reflexive pronoun contained in the same NP:

- (10) a. My videli [ego<sub>i</sub> portret svoix<sub>i</sub> detej].  
'We saw [his<sub>i</sub> portrait of his<sub>i</sub> children].'
- b. On čital [moju<sub>i</sub> stat'ju o sebe<sub>i</sub>].  
'He read [my<sub>i</sub> article about myself<sub>i</sub>].'

How can these adjectival forms with nominal reference be licensed in spec-of-D, a position subcategorized for a genitive case DP.

We submit that possessive adjectives are “hidden”, or “covert” genitives. The justification for this view is that possessive adjectives are associated with the genitive case for the purpose of syntactic case agreement. This can be demonstrated by several constructions. Simile expressions based on the preposition *kak* ‘like, as’ introduce an NP agreeing in case with the standard of comparison (11a) (Rappaport 1986a). When such a construction is applied to a possessive pronoun, the complement of the preposition is an NP in the genitive case (11d):

- (11) a. On letit kak *ptica*.  
'He<sub>NOM</sub> flies like a *bird*<sub>NOM</sub>.'
- b. On *menja*ub'et kak *muxu*.  
'He will kill *me*<sub>ACC</sub> like a *fly*<sub>ACC</sub>.'
- c. Pomogaju *emukak bratu*.  
'I am helping *him*<sub>DAT</sub> like a *brother*<sub>DAT</sub>.'
- d. [Vaša *pervaja zadača*, kak *Evropejce*ϕ, budet...  
'[Your first task as *European*ϕ<sub>EN</sub>] will be...'

In a converse, stylistic phenomenon, sometimes the normal possessive form is replaced by a genitive pronominal form in order to permit a contrastive structure with a lexical noun:

- (12) a. i. On stavit pod somnenie vašu kompetentnost' (\*kompetentnost' vas)  
'He is placing your competence (\*the competence you<sub>GEN</sub>) in doubt.'
- ii. On stavit pod somnenie kompetentnost' *vas* kak *biografa* (Padučeva 1984)  
'He is placing your competence as a biographer [lit., 'the competence you<sub>GEN</sub> as *biographe*ϕ<sub>EN</sub>'] in doubt.'
- b. Ja ničego ne pisala radi, tak skazat', svoej žizni, žizni *menja*, *Marii Veniaminovny*  
[letter to *Novyj miř* 1969]  
'I wrote nothing for the sake of, that is to say, my own life, the life of *me* *Marija Veniaminovna*

NP appositives referring to possessive pronouns also appear in the genitive case:

- (13) Èto dlja *tvoej Vani*, ženy.  
 'This is for *your, Vanja's*, wife.'

Note finally the case parallelism in coordinated structures such as the following, in which an NP in the genitive case is treated as syntactically parallel to a possessive pronoun:

- (14) a. Èto *mojai moej ženymašina*.  
 'This is my and my wife's car.'  
 b. Èto kol'co ne *moje a otca*.  
 'This ring is not *mine*, but (*my*) *father's*'

One finds in Russian on a restricted basis constructions such as *teti Mašiny deti* 'Aunt Masha's children' or *Mar'i Ivanovnin dom* 'in which the compound *tetja Maša* or *Mar'ja Ivanovna* is expressed by forming a possessive form for the second part, and genitive for the first part. Parallel phenomena are more regularly found in other Slavic languages, such as Upper Sorbian. As shown in (15a), possessive nouns are readily formed alongside the usual adnominal genitive possessor. More complicated in (15b), where the possessor is expressed by a nominal phrase: the suffix is attached to the nominal head, and modifiers of that head are in the genitive possessive form:

- (15) a. džěci bratra ~ bratrowe džěci  
 'the children of brother' ~ 'brother's children'  
 b. džěci mojeho bratra ~ mojeho bratrowe džěci  
 'the children of my brother' ~ 'my brother's children'

The explicit genitive agreement in the form *mojeho* 'my<sub>GEN</sub>' reflects agreement with the following possessive noun *bratr* 'brother', which includes no such expression of the genitive case (it's agreement morphology is in the nominative, agreeing with form *džěci* 'children'). Such constructions provide yet another argument that possessive adjectives are syntactically associated with the genitive case.

How, then, to capture the blend of properties exhibited by possessive adjectives? They are referential, are associated with the genitive case, and can function as specifier to a [possession] D, like nominals (more precisely, DPs), but they have the agreement morphology (express *feature* concord) of adjectives. Especially when one considers the range of morphological productivity and syntactic properties of these forms in the Slavic languages (see especially Corbett 1987), a derivational morphology approach seems appropriate. The requirement that possessive adjectives be derived from definite nouns is a tip-off that the nominal deriving base is a Determiner, as well as a noun. This is not a contradiction, because category membership is a feature, and there is no reason to assume that these features are mutually exclusive. The lexical representation of a proper noun, personal pronoun, or typical noun which forms possessive adjectives associates such words with the feature matrix [D, N, singular] and indicates no arguments, which accounts for the restriction to one word. Furthermore, such words are subject to a rule of derivational morphology which adds the categorial feature [Adj] to the feature matrix [D, N, singular, genitive], as well as adding some explicit morphological expression of the process: {-in} (or, less productively in Russian, {-ov}) in the general case, with, unsurprisingly, considerable suppletion for the pronouns. The [Adj] feature automatically makes the category sensitive to feature concord rules, except for the doubly irregular third person pronouns, which preserve the morphology of the deriving base. As is typical of suppletive forms, substandard

forms replacing suppletion with regularized forms come into existence; cf. their substandard alternates *egonyj* 'his', *jejnyj* 'her', *ixnij* 'their'. The rule of possessive adjective formation, then, has the following effect for pronouns and proper nouns, respectively:

- (16) a. *Maš-*: [D, N, third person, singular, feminine, genitive]  
*Maš-in* [D, N, Adj, third person, singular, feminine]  
 b. [D, N, first person, singular, genitive]  
*moj* [D, N, Adj, first person, singular]

The resulting possessive adjectives then undergo the (in our view, post-syntactic) rule of concord, whereby they take on new features and spell them out in the inflectional morphology.

Some of the South Slavic languages permit the use of the NP-internal possessive dative instead of the possessive form for pronominal possessors (e.g., Serbian/Croatian/Bosnian *sestra mu* 'his sister', literally, 'sister he<sub>DAT</sub>' alongside *njegova sestra* 'his sister'). The possessive form in this construction is straightforward, with the direct substitution of the dative for the genitive as a means of expressing a pronominal specifier, thereby obviating the rule deriving possessive pronouns. This approach is particularly unsurprising when one keeps in mind the expansion of the genitive at the expense of the dative within the NP in the history of the Slavic languages: AG60 cites such forms as *svidetel delu* 'a witness to the affair', *pričina postupka* 'the reason for the deed', *gonenija Ljuboike* 'the persecutions of Ljubon'ka', characteristic of nineteenth century Russian, as opposed to the genitive which would be encountered today.

### 3. Action nominals: Structure and analysis

Having defined the internal structure of the Slavic NP in general terms on the basis of material nominals, we now turn to the special case of *action nominals* deverbal nouns denoting an event. Such nominals have attracted special attention primarily for two reasons. First, their paraphrase relationship with clauses (e.g., *the enemy destroyed the city* versus *the destruction of the city by the enemy*) raises questions of how to capture the formal differences on the background of the lexical, semantic, and structural similarities. Second, there is the question of how to describe the fact that phrases projected from action nominals have the external syntax of NPs (they function as NPs in the greater context of the clause), while their internal syntax exhibits (to varying degrees) properties more typical of Verb Phrases. As above, we survey the structural properties of action nominals before making a formal proposal.

#### 3.1. The NP-internal grammatical functions of action nominals

We begin by considering the following continuum of English structures:

- (17) I was surprised by \_\_\_\_\_.  
 a. [John immediately *refusing* the offer]  
 b. [John's immediately *refusing* the offer]  
 c. [John's immediate *refusing* of the offer]  
 d. [John's immediate *refusal* of the offer]

The head of the phrase functioning as the object of the preposition *by* can be a gerund (in *-ing*) or a derived nominal (here, in *-al*). The Agent of the nominalized action in (17) takes the

form of a bare NP or a possessive form in 's (alternatively, a possessive pronoun, e.g., *his*). The Theme can similarly be a bare NP or be accompanied by a case marker (in this case, the preposition *of*). Certain other structural properties are correlated with the form of the Theme. A bare NP (as in 17a,b) is incompatible with an article (*(\*the) refusing the offer*), admits an aspectual auxiliary (*John/John's having refused the offer*) and entails an adverbial modifier (*immediately*); the presence of the case marker *of*, on the other hand, admits an article (*the refusing of the offer*), is incompatible with an aspectual auxiliary (*\*John's having refusing/refusal of the offer*) and requires an adjectival modifier (*immediate*). The phrase in (17a) is most like a Verb Phrase in terms of these properties, while that of (17d) in these respects has the structure of a Noun Phrase. The other two structures (17b and 17c) are transitional in blending NP-like and VP-like properties.

Slavic exhibits some such variation among NPs headed by action nominals, but to a lesser degree than does English. Something like (17b), called a *gerundive nominal* is found in Bulgarian and Macedonian (see Revzin 1973 and Dyer and Fowler 1988). For example, Bulgarian distinguishes derived nominals in orthographic *-nie*, which are unproductive formations borrowed from Old Church Slavonic, from productive action nominals in orthographic *-ne*. The latter can take a complement introduced by the preposition *na* (corresponding to the genitive case of other Slavic languages and English *of*) or a bare NP; the latter structure resembles that of the gerundive nominal of English. (18a,b) illustrate for Bulgarian:

- (18) a. Ivanovoto četene na knigata  
'Ivan's reading of the book'  
b. otgleždane piletata ot esenoto ljupene...  
'raising the chickens from the autumn hatching...'

The two structures contrast in several ways: while the former takes adjective modifiers and permits a definite article (in this example, *-to* cliticized to the specifier modifying the action nominal head), the latter takes adverbial modifiers and permits no definite article (the definite articles *-ta* and *-to* are associated not with the head noun, but with the embedded NPs *pileta* 'chickens' and *eseno ljupene* 'autumn hatching', respectively). Although the construction without *na* is apparently receding from the language, it is still encountered in journalistic prose. We will return to the theoretical significance of this construction below.

The situation in Russian, in contrast, is far more typical of the Slavic languages. We distinguish two kinds of action nominals: *process nominals* formed by the suffix  $\{-(e)n'ij-\}/\{-t'ij-\}$  (e.g., *vospitanie* 'upbringing', *lišenie* 'depriving', *otkrytie* 'discovering') and *derived (action) nominals* formed from verbal stems by any of a large number of unproductive suffixation processes (e.g., *zaščita* 'defense', *stirka* 'laundrying', etc.).<sup>8</sup> Both exhibit the phrase structure of a standard NP, as discussed above: they take adjectival modifiers and the usual range of agreeing specifiers (that they appear only in the singular follows from their lexical, non-material nature).

The clausal argument relations of complement and object are retained in action nominals, but they are transmuted into the grammatical relations of NP structure. Examples of the two kinds follow in (19) and (20), respectively. Both the specifier and direct

<sup>8</sup> The terms "process nominals" and "derived action nominals" need to be applied with care. Nominals with the morphology of process nominals may in fact not denote a process (e.g., *zavoevanie* may denote the result of conquest as well as the process) and derived action nominals may denote subtle nuances which are not properly considered process. Obviously these questions of derivational morphology are peripheral to our concerns here; on the other hand, their syntactic consequences could be fruitfully pursued.

complement positions are expressed by the genitive case (or, alternatively, possessive adjectives discussed above); the so-called “subject genitive” is illustrated in (19a)/(20a), and the “object genitive” is illustrated in (19b)/(20b). Oblique complements corresponding to their formal expression in the original verbal form are given in (19c)/(20c):<sup>9</sup>

- (19) a. nastuplenie zimy ‘the arrival of winter’  
 žurčan´e vody ‘the murmuring of the water’  
 b. perevypolnenie normy ‘overfulfilling the norm’  
 vospitanie patriotizma ‘inculcation of patriotism’  
 čtenie moego prostrannogo zajavlenija ‘the reading of my lengthy application’  
 c. služenie ljudjam ‘serving people’  
 zanjatie muzykoj ‘the pursuit of music’  
 izbranie ego mèrom ‘electing him mayor’
- (20) a. šopot vetra ‘the whispering of the wind’  
 b. rubka lesa ‘the chopping down of the forest’  
 zaščita otečestva ‘the defense of the fatherland’  
 stírka bel´ja ‘washing linen’  
 priem ranenyx ‘the reception of the wounded’  
 èvakuacija učreždenij i skladov ‘the evacuation of institutions and warehouses’  
 c. vera v čeloveka ‘belief in man’  
 družba s tovariščem ‘friendship with a comrade’  
 pomošč´ sosedjam ‘help for the neighbors’  
 trgovlja narkotikami ‘traffic in narcotics’

As is well-known, ambiguity between the two interpretations of the adnominal genitive can result:

- (21) a. vozvraščenie detej ‘the return of the children’  
 b. proverka mestkoma pokazala... ‘the checking of the local committee showed...’  
 xarakteristika starosty byla položitel´noj ‘the evaluation of the deputy was positive’

There is some controversy about whether such adnominal genitives represent one syntactic position (configurationally and relationally defined) or two. It would be easy to demonstrate that they represent two if they could co-exist. Typical, however, are categorial statements such as the following (AG60: 241): “Deverbal nouns never combine simultaneously with a genitive case noun with subject meaning and one with object meaning”. Taken as a statement of grammaticality, this would entail a sharp contrast with material NPs: action nominals, unlike material nominals, do not permit double adnominal genitives. Contrast the double adnominal genitives associated with material nouns in (7) with their impossibility in the following action nominals, both process and derived:<sup>10</sup>

<sup>9</sup> The correspondences illustrated in (20c) are direct, but there are indirect correspondences as well; for example, *ljubit´ rođinu* ‘to love the motherland’ ~ *ljubov´ k rođine* ‘love for the motherland’ is not isolated, but rather associated with Experiencer subjects of derived nouns with a less than purely action interpretation; cf. *interes k grammatiké* ‘interest in grammar’.

<sup>10</sup> The contrast of (7a)/(22a) is from Engelhardt and Trugmann 1998; that between (7b)/(22b) is from Babby 1997.

- (22) a. \*kollekcionirovanie redkix monet profesora  
 collecting rare<sub>GEN</sub> coins<sub>GEN</sub> professor<sub>GEN</sub>  
 ('the professor's collecting of rare coins')
- b. \*otkrytie periodičeskogo zakona Mendeleeva  
 discovering periodic<sub>GEN</sub> law<sub>GEN</sub> Mendeleev<sub>GEN</sub>  
 ('Mendeleev's discovery of the periodic law')

Such contrasts suggest that there is but one adnominal position available to action nominals.

And indeed there is a train of thought suggesting that adnominal genitives in fact admit only a subject interpretation, and apparent instances of an object interpretation are in fact the result of passivization within the NP, converting the underlying object into a subject (Veyrenc 1972, Revzin 1973). Two arguments have been cited. One, as AG60 notes (p. 241), in order to avoid the double genitive, the Agent is expressed by an instrumental NP, as in the passive:

- (23) a. ispolnenie romansa pevicej  
 'performance of the romance by the singer'
- b. čtenie proizvedenija avtorom  
 'reading of the work by the author'
- c. my vosprinimaem X kak Y v silu znanija nami togo èkstralingvističeskogo fakta, čto...  
 'we understand X as Y as a result of the knowledge by us of the extralinguistic fact, that...'

For example, (23a) is a nominal paraphrase of the clausal passive *Romans byl ispolnen pevicej* 'the romance was performed by the singer', and the derived subject of the nominalization is then expressible by the adnominal genitive.<sup>11</sup> Revzin points out further that the instrumental is possible only with transitive nominals (e.g., \**priezd otcom* 'the arrival by father'). Second, while intransitive verbs derived from transitive verbs are identified by the suffix *-sja*, action nominals do not morphologically differentiate the two forms. Thus, while at the clausal level one can distinguish *strana razvivaet sel'skoe hozjastvo* 'the country develops its agricultural economy' and *sel'skoe hozjastvo razvivaetsja* 'the agricultural economy develops', the deverbal noun phrase *razvitie sel'skogo hozjastva* 'the development of the agricultural economy' is ambiguous between these two interpretations (which can be dispelled by the addition of an agent, e.g., *strano*). Therefore, there is no morphological marker of NP-level passivization which the syntax tells us has taken place. This lack of morphological specificity accounts for the ambiguity of constructions as in (21): the object interpretation of the genitive NP results from an active construction at the NP level (with an implicit, or PRO, subject (e.g., *vozvraščenie detej kto-to kuda-to vozvraščal/vernul detej (kogo)* 'someone) returned the children (somewhere)'); the subject interpretation results from a passive or middle construction at the NP level: *vozvraščenie detej deti vozvraščalis/vernulis* 'the children (were) returned'. The position that there is no object genitive in Russian has been rejected by Rappaport 1992; we will return to the issue below.

Before moving on to the formal proposal, a comment about a parameter of cross-linguistic morphosyntactic variation is appropriate. Although both process and derived action nominals are derived from verbal stems, and the NPs headed by these nouns can have clausal paraphrases, certain properties are lost in their "compression" into nominal structure.

<sup>11</sup> The stative (23c) is less comfortable with such a paraphrase.

Tense, agreement, mood and the regular expression of negation in particular are not expressed in nominal forms, even in their most “verbal” forms of Bulgarian and Macedonian. This is expected, under the standard assumption that in the clause these categories are expressed outside the VP, and amalgamated with the verb by means of head movement and incorporation. It has been observed, however, that the two grammatical categories common to all verbal forms, aspect and voice, appear in process nouns in particular (although not in derived nouns) to varying degrees in various Slavic languages. While not completely productive, clear aspectual distinctions are found in many Polish process nominals (Fokker 1966):

- (24) a. Ksiądz kategorycznie odmówił *nadania* takiego imienia.  
 ‘The priest categorically refused to *give*<sub>PF</sub> such a name.’
- b. Telewizja Czechosłowacka rozpoczęła *nadawanie* kursów języków obcych.<sup>12</sup>  
 ‘Czechoslovak television has started *broadcasting*<sub>MPE</sub> foreign language courses.’
- c. Cały urząd śledczy postawiono na nogi dla *odnalezienia* sprawczyni tej potwornej zbrodni.  
 ‘The entire investigation division was mobilized to *find*<sub>PF</sub> the woman who committed this monstrous crime.’
- d. Był to rok *odnajdywania* bliskich lub ostatecznej pewności, że już nie wrócą.  
 ‘That was the year of *finding*<sub>MPE</sub> one’s beloved or of the final certainty that they would no longer return.’

Also, a voice distinction expressed by the presence versus absence of the clitic *się* can also be carried over from the verbal deriving base to the process nominal in Polish: *przyglądać się Hani* ‘to observe Hania’ *przyglądanie się Hani* ‘observing Hania’. Damborský (1973) notes that *się* is often optional, but obligatory in certain cases: in reflexiva tantum verbs (*banie się* ‘being afraid’, *spodziewanie się* ‘expecting’; *Autorzy opisują zachowanie się premiera* ‘the authors describe the behavior of the premier’), when the nominal takes oblique complements (*wstydzanie się czegoś* ‘being ashamed of something’, *martwienie się czymś* ‘being worried about something’, *przypatrywanie się czemuś* ‘observing something’), and when disambiguation is required (*uczenie (się)* ‘teaching/studying’, *porozumienie (się)* ‘understanding something/each other’; *Przejdę do właściwego przedstawienia siebie* ‘I will move on to a proper introduction of myself’). According to Damborský, Czech carries the voice distinction over from verbs to nouns only in the last category. Such facts are undoubtedly related to the fact that process nominals are generally not only more productive morphologically in Polish (and Czech) than in, say, Russian, but they are found in a wider variety of syntactic contexts, where, for example, Russian might use an infinitive, if anything at all.

The greater productivity of these verbal morphological characteristics of the Polish action nominal is reflected in their syntax as well. Among the Slavic languages, Polish most freely permits the regular combination of (clitic) pronouns in the genitive case to combine with a process noun, just as in a VP: *przypatrywanie mu się* ‘looking him over’, *zwolnienie go* ‘firing him’, *upokorzenie cię* ‘humiliating you’, *przeniesienie go* ‘moving him/it’.<sup>13</sup> Moreover, as Damborský observes, the normative grammarian Doroszewski notes that a “rather frequent” error is the use of the accusative for the complement of a process noun (*Proszę o zwolnienie z*

<sup>12</sup> The lexical distinction here is irrelevant: the aspectual pair *nadawać* : *nadać* means both ‘to assign’ and ‘to broadcast’, with neither meaning favoring one or the other aspect.

<sup>13</sup> Such constructions are not completely impossible even in Russian, which does not have pronominal clitics; we will return to this issue below, in discussing the possessive forms.

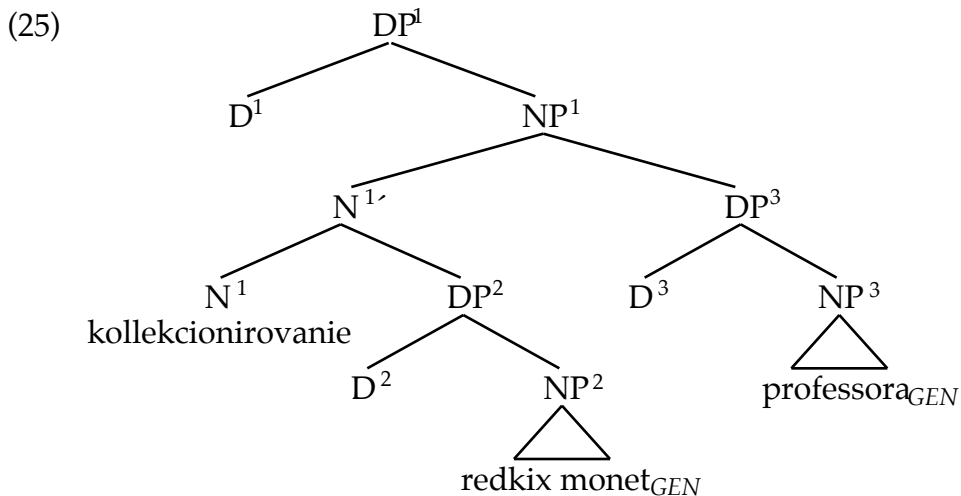
*pracy dwie pracownice* request the release from work [of] two workers<sub>ACC'</sub>), encountered in both bureaucratic and colloquial speech. Damborský also notes adverbial modification of process nouns: *Konspiracja polega na chodzeniu cicho (do cichym chodzeniu)* 'Conspiracy relies on getting around quietly', *Skłania widza do zainteresowanie się bliżej (z bliższego zainteresowania) twórczością wielkiego klasyka* '[This] inclines the viewer to get more closely acquainted with the work of the great classic figure'.<sup>14</sup> Unless such facts are merely dismissed as performance errors, they suggest that the Polish process nominal may approach, even exceed, that of Bulgarian and Macedonian in its VP-like behavior.

### 3.2. A Determiner Phrase analysis of action nominals.

Consider again the impossibility of double adnominal genitives with action nominals, as in (22a), repeated here:

- (22) a. \**kollekcjonirovanie redkix monet professora*  
 collecting rare<sub>GEN</sub> coins<sub>GEN</sub> professor<sub>GEN</sub>  
 ('the professor's collecting of rare coins')

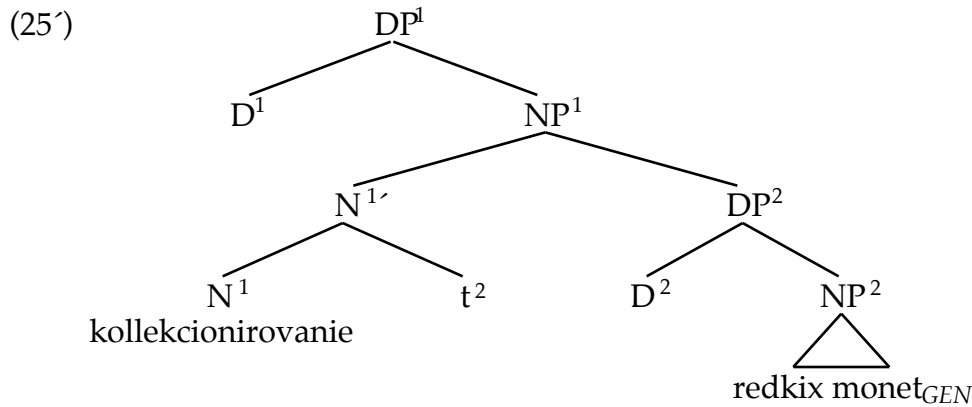
Both the subject and object genitives are arguments of the head noun, and as such must be contained in its maximal projection. Such an initial representation is completely parallel to the VP-Internal Subject Hypothesis, mentioned earlier. The argument structure of the process noun *kollekcjonirovanie* 'collecting' would be [N], < $x$ ,  $y$ >, where  $x$ =a DP Agent and  $y$ =a DP Theme. These external and internal arguments are found, respectively, in the spec-of-N and comp-of-N positions. This gives the following initial configurational structure:



The problem with (25) is that it is ungrammatical, on the assumption that double adnominal genitives are not permitted. On the passive analysis invoked by several (Revzin, Veyrenc, Engelhardt and Trugmann), the structure can be repaired by making the Agent DP<sup>3</sup> implicit (and expressible if marked as an adjunct with the Instrumental case) and raising the Theme DP<sup>2</sup> to the freed subject position, to give:<sup>15</sup>

<sup>14</sup> AG60 cites adverbial uses of the instrumental case with Russian action nominals, such as *rubka toporom* 'chopping with an axe' and *progulki večerami* 'strolls in the evenings'. Such adverbial modification is possible even with head nouns with material meaning (*Moskva noču* 'Moscow at night'), so that the force of the observation in the text applies to qualitative modification occurring in both adjectival and adverbial form.

<sup>15</sup> On the notion of making an external "implicit", see Babby 1998 for discussion and references.



Let us consider how this analysis would work within the framework developed here so far.

A normal transitive verb, like *kollekcionirovát* 'to collect', assigns a thematic role to its object as part of its argument structure, but it does not select for case. The very fact that passive is possible means that the direct object, which ends up with the nominative case, is not assigned (accusative) case by the verb. Such a divorce of thematic role assignment and case is called *structural case assignment* (as opposed to the inherent case assignment discussed in section 2). The mechanism for structural case assignment is to assume that the verb in its normal transitive form has an uninterpretable case feature, which as noted in section 1, must be deleted by checking; this in turn is effected by raising a matching feature to that position from lower in the structure, in the normal case, from the direct object DP. Typically, a transitive verb would have the uninterpretable case feature [ $\sim$ accusative] (we identify uninterpretable features by preceding them with a tilde). On the application of passive, this case feature is removed, and the object must "get case" (i.e., check an uninterpretable case feature) elsewhere, such as from Infl.

There would be nothing problematic about assuming that nominalization simply deletes a [ $\sim$ accusative] feature from a verb and deprives the head noun of the ability to license the case of its complement, just as in the case of passivizing a verb.<sup>16</sup> But what feature is supposedly attracting DP<sup>2</sup> to the specifier-of-N position in (25')? Neither inherent nor structural case marking justifies such a movement. In fact, then, the genitive case of DP<sup>2</sup> must be licensed by something other than N<sup>1</sup>. Again, a Determiner head provides an answer. We assume that process nouns are selected by a Determiner which assigns no theta role, but is associated with the uninterpretable case feature [ $\sim$ genitive] that needs to be checked, and DP<sup>2</sup> can do so by permitting its case feature to raise to the position of D<sup>1</sup>. As in the case of passive, the category which moves receives its interpretation (thematic role) in its initial position from one head, and its case by feature raising to a different head. The Determiner selecting an action nominal (D<sup>1</sup> in 25'), then, is a different Determiner from that with the feature [possession], which can select a material nominal. The former assigns structural genitive case by the mechanism of feature checking, while the latter assigns inherent genitive case by the mechanism of selection.

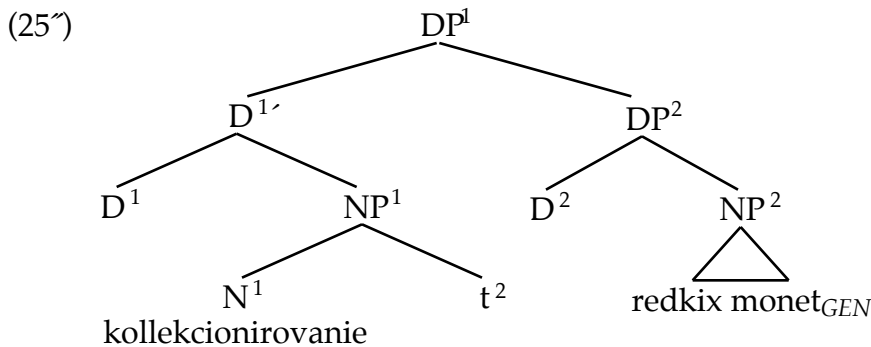
A question which has not been properly resolved in current work in the Minimalism Program is defining the conditions under which raising a feature from one head to another to check an uninterpretable feature entails a concomitant raising of the maximal projection of original head to the landing site of the feature (presumably, to the specifier of that landing site). That is, does feature raising from D<sup>2</sup> to D<sup>1</sup> to check case in (25) leave DP<sup>2</sup> in situ or does

<sup>16</sup> Such an approach would fit nicely with the analysis of the suffix *-en* proposed by Babby 1997, who generalizes the use of the suffix to process nominals, passive, and causatives in terms of theta theory. In fact, Babby assimilates the apparent passive properties of action nominals to the diathesis of causative structures, rather than to that of the passive.

it raise to the position of spec-of- D<sup>1</sup>? Binding facts help shed some light on this question. Judgements are not extremely certain, but the Theme appears to be an eligible antecedent for the (italicized) reflexive pronoun in constructions such as the following:<sup>17</sup>

- (26) a. uniženie    tovarišča<sub>i</sub>    pered    svoej    sem'ej  
 humiliating comrade<sub>GENi</sub>    before    self'<sub>s</sub>    family  
 'humiliating a comrade<sub>i</sub> in front of his<sub>i</sub> family'
- b. otpravka    detej<sub>i</sub>    k    svoim<sub>i</sub>    roditeljam  
 sending    children<sub>GENi</sub>    to    self'<sub>s</sub>    parents  
 'sending children<sub>i</sub> to their<sub>i</sub> own parents'

This suggests that the maximal projection raises to the specifier-of-D position, although the mechanism by which this happens is not clear. A somewhat earlier version of the theory included a convention of specifier-head agreement which would drive the maximal projection DP<sup>2</sup> to the specifier position of D<sup>1</sup> from where it could check the [~genitive] feature on the head D<sup>1</sup>, but this convention, despite its utility in the case at hand, has become controversial on other grounds. In any event, raising of the entire projection of D<sup>2</sup> to specifier-of-D<sup>1</sup> would give the following structure:

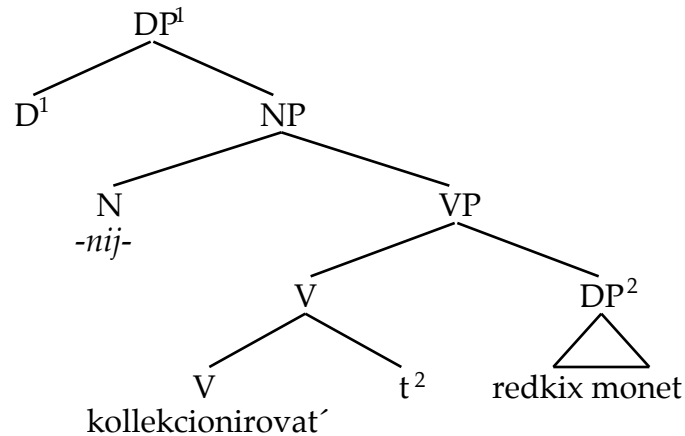


Alternatively, the structure could resemble (25), except for the absence of DP<sup>3</sup> in the specifier-of-N<sup>1</sup> position.

Engelhardt and Trugman (1998) propose a more complicated structure for process nominals, following work by Borer. They suggest that the structure for (22a), for example, contains a passive Verb Phrase selected by a Noun, itself selected by a D, to give roughly the following structure:

<sup>17</sup> The reflexive pronoun could also (marginally) take as its antecedent the understood Agent of the nominalized action. To say that there is a PRO specifier, however, is completely inconsistent with the passive analysis and creates the improbable situation of a direct object anteceding a reflexive pronoun in Russian.

(27)



Parallel to the proposal just sketched, they suggest that passive applies within the VP, raising the Theme DP<sup>2</sup> to spec-of-V, and that the case feature of this DP then raises to D<sup>1</sup> to check case. The V must raise to N and incorporate there with the nominalization suffix. There is a technical problem with their account in that there is no reason for DP<sup>2</sup> to raise to spec-of-V, since that is not a case position; nor is it clear what requires that passive apply within the VP. It would be simpler to permit the case feature of DP<sup>2</sup> to raise directly to D<sup>1</sup>, as we have assumed. In any event, we prefer to assume a simpler structure with nominalization taking place in the lexicon, in the absence of compelling empirical evidence for a more complicated syntactic structure.

Interestingly, there are cases of clearly acceptable double adnominal genitives with action nominals:

- (28) a. *žažda sčast'ja brata*  
 thirst happiness<sub>GEN</sub> brother<sub>GEN</sub>  
 'the brother's thirst for happiness'
- b. *ožidanie detej otpravki domoj*  
 expectation children<sub>GEN</sub> sending<sub>GEN</sub> home  
 'the children's expecting to be sent home'

The difference between (28), where a double adnominal genitive is permitted, and (22), where it is not, is that the verbs underlying the action nominals in the former take the genitive case. Thus, the nominals in (28) license the case form of their complement in a way completely parallel to the way that the verbs underlying the action nominals in (29) take oblique cases:

- (29) a. *podražanie roditeljam detej*  
 imitation parents<sub>DAT</sub> children<sub>GEN</sub>  
 'the parents' imitation of the children'
- b. *nedovol'stvo žizn'ju detej*  
 dissatisfaction life<sub>INST</sub> children<sub>GEN</sub>  
 'the children's dissatisfaction with life'

Both select for inherent, oblique case: genitive in (28), and dative or instrumental in (30). Therefore, passive does not apply in any of these cases, just as it cannot in their clausal counterparts (*\*roditeli byli podražani deti* 'the parents were imitated by their children'): there

is no uninterpretable case feature which needs to be checked by movement of the complement.

We have proposed, then, that action nominals have a different structure from material nominals. This is significant because the distinction is apparently made even in languages such as Slavic in which process nominals display relatively few VP-like characteristics. Furthermore, there is independent justification for this distinction. Rappaport (1986b) notes that while the specifier of a NP is an eligible antecedent for a reflexive pronoun within that same NP, the so-called **binding domain**, the category within which the reflexive pronoun must find an antecedent, is not limited to that NP. As a result, constructions such as (31a) are ambiguous, as indicated by referential indexes in the form of a subscript:

- (31) a. Dissidenty<sub>i</sub> čitali [naši<sub>j</sub> stat'í o sebe<sub>i,j</sub>]  
 'The dissidents<sub>i</sub> read [our<sub>j</sub> articles about selves<sub>i,j</sub>].'  
 b. Oni<sub>i</sub> udivilis' [našej<sub>j</sub> opravke detej k svoim\*<sub>i,j</sub> roditelj<sub>j</sub>am].  
 'They<sub>i</sub> were surprised at [our<sub>j</sub> sending the children to self's\*<sub>i,j</sub> parents].'

However, Zlatić (1997) points out that action nominals behave differently from the material nominals (typically, "picture" nouns) on which Rappaport's examples are based. The referential possibilities in (31a), then, contrast with those in (31b); Zlatić illustrates the corresponding contrast for Serbian in (32):

- (32) a. Jovan<sub>i</sub> je pročitao/izgubio [Marijin<sub>j</sub> članak o sebi<sub>i,j</sub>].  
 'John<sub>i</sub> read/lost [Mary's<sub>j</sub> article about self<sub>i,j</sub>].'  
 b. Mi<sub>i</sub> smo se svi iznenadili [Jovanovim<sub>j</sub> vraćanjem dece svojim\*<sub>i,j</sub> roditelj<sub>j</sub>ima].  
 We<sub>i</sub> were all surprised at [John's<sub>j</sub> returning the children to self's\*<sub>i,j</sub> parents].  
 c. Jovan<sub>i</sub> je primetio [lošu<sub>j</sub> brigu ovih žena<sub>j</sub> o sebi\*<sub>i,j</sub>].  
 'John<sub>i</sub> noticed [these women's<sub>j</sub> poor caring for self\*<sub>i,j</sub>].'

Since Rappaport's point is that the binding domain in Russian is defined by the appearance of tense, the contrast in (31a,b) and (32a,b) suggests that action nominals are distinguished from material nominals by the feature [tense] (or, alternatively, agreement), which seems dubious. Zlatić's approach, within a different framework, is to make direct reference to argument structure: roughly, an anaphor must be bound within a category which contains a subject which is an argument of the head whose maximal projection contains the anaphor. The NPs specifiers in (31a) and (32a) do not satisfy this condition, since they are not arguments. As a result, the binding domain of the reflexive is the entire clause, rather than the object NP. The distinction can easily be incorporated in the binding theory approach pursued by Rappaport by making the distinction between specifier-of-N, which delimits a binding domain, and specifier-of-D, which does not.

There are reasons to question the basic prediction which motivates the passive analysis: there is no object genitive.<sup>18</sup> First, as has been pointed out by Babby, there are indications that despite the statements of prescriptive grammarians, double adnominal genitives are in fact grammatical at least for deverbal process nominals, if clearly stylistically stigmatized and generally rejected by educated speakers. For example, NPs like the following are cited by Bylinskij and Rozental' 1981 as stylistically dubious and awkward, but not simply ungrammatical:

<sup>18</sup> See Rappaport 1992.

- (33) a. Povest' "Step'" — èto itog [složnyx poiskov Čexova svoej tvorčeskoj manery].  
'The novella "The Steppe" is a result [of the complex search of Chekhov of his creative style.]'
- b. Alpatov ostanovilsja na [nekotoryx novejšix ocenках mediciny vlijanija na čelovečeskij organizm tabaka].  
'Alpatov concentrated on [certain recent evaluations of medicine of the influence of tobacco on the human organism.]'
- c. metod sistematičeskogo i posledovatel'nogo izloženiya učitelja učebnogo materiala  
'the method of systematic and consistent presentation of a teacher of pedagogical material'

Second, it was argued in section 2.2 that there are in fact "covert" double adnominal genitives, in the form of possessive adjectives. These possessive forms represent subject, or external arguments of the NP in satisfying the lexical requirement of the head noun for an external argument. They retain their referential properties in being eligible to serve as antecedents for a reflexive pronoun contained in the same NP:

- (34) a. My soprotivljalis' [ix<sub>i</sub> otpravke detej k svoim<sub>i</sub> roditeljam].  
'We resisted [their<sub>i</sub> sending the children to their<sub>i</sub> parents]'
- b. Ja byl svidetelem [ego<sub>i</sub> uniženija pered svoej<sub>i</sub> ženoi].  
'I was a witness of [his<sub>i</sub> humiliation in front of his<sub>i</sub> wife].'

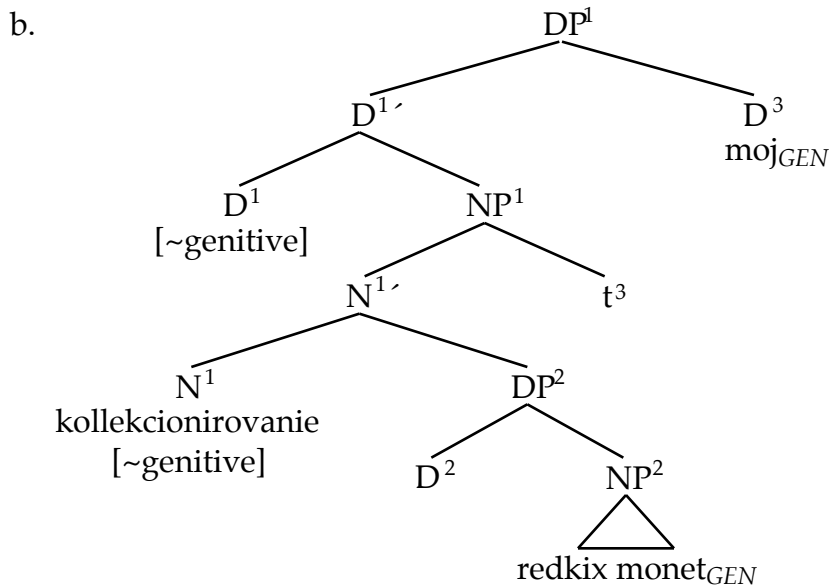
And their association with the syntactic feature of the genitive case is confirmed by examples like the following, which parallel those cited in section 2 for material nominals:

- (35) a. Menja interesujut [tvoi pereživaniya v Rossii kak amerikanc̣].  
'[Your experiences in Russia as an American<sub>GEN</sub>] interest me.'
- b. My ždem vašepojavlenie kak arbitra].  
'We are awaiting [your appearance as a judge<sub>GEN</sub>]

So if possessive adjectives represent covert adnominal genitive NPs which can co-exist with explicit adnominal genitive NPs, how can we appropriately make the distinction between "overt" and "covert" double adnominal genitives?

Since the passive analysis is intended to rule out double adnominal genitives, the obvious solution appears to treat covert and substandard overt double adnominal genitives as the result of *active* structures within the NP, that is, to assume that NP-internal passive does *not* apply in such cases. Thus, the structure for *moe kollekcionirovanie redkix monet* 'collection of rare coins' would simply be (25), with the first person singular pronoun standing in the position of DP<sup>3</sup> instead of *professor* 'the professor'. When the process noun *kollekcionirovanie* 'collecting' is derived from the transitive verb *kollekcionirovat* 'to collect', the uninterpretable feature [-accusative] which licenses the structural case of the direct object by requiring checking is replaced by the uninterpretable feature [-genitive], rather than, in the passive scenario, simply being deleted. But there is still no source of case for DP<sup>3</sup>, so that it must get it from D<sup>1</sup>, as in the passive case (25'). As a result, the structure of (36a), then, would look rather like (36b):

- (36) a. *moe kollekcionirovanie redkix monet*  
'my collection of rare coins'



The Bulgarian/Macedonian and substandard Polish nominalizations with accusative complements would presumably have a structure which is a hybrid of (27) proposed by Engelhardt and Trugman (1998) and (36): the DP would include a Verb Phrase as a complement of an N, but the verb would retain its [ $\sim$ accusative] feature.

Why, then, are covert double adnominal genitives acceptable, but overt double genitives generally are not. A descriptive generalization presented in Rappaport 1992 suggests a solution: a pronominal adnominal genitive cannot have a subject interpretation. That is, while NPs such as (37a) are ambiguous between subject and object interpretations, those in (37b) permit only the object interpretation:

- (37) a. ee ispolnenie [ee = arija or pevica]  
 'its performance' (*it* = an aria or a singer)
- b. ispolnenie ee [ee = arija, not \*pevica]  
 'the performance of it' [*it* = an aria, but not \*a singer]

Padučeva (1984: 64) cites several examples in which the possessive pronoun and pronominal adnominal genitive provide a semantic contrast, the former licensing both interpretations, and the latter only that of an object:

- (38) a. Posle [našego ob̃edinenija] rabota pošla lučše.  
 'After [our unification] work went better.'
- b. Posle [ob̃edinenija nas v brigadu] rabota pošla lučše.  
 'After [unifying us into a brigade], work went better.'

It is quite normal for a head to select the category of an argument. We say, then, that process nouns select an external argument of a particular category, which includes possessive adjectives, but excludes standard DPs. Given our analysis in section 2.2, possessive adjectives are of hybrid category [D, N, Adj], an unusual but by no means incoherent status which captures the fact that they blend the referential properties of a Determiner phrase, the case properties of an NP, and the feature concord (agreement morphology) of an Adjective phrase. This is a difficult status to describe in traditional systems of phrase structure, but not in bare the phrase structure of the Minimalist Program, in which categories are not central to the status of a phrase, but rather represent features among others. Actually, the intuition of

hybrid parts of speech has a long tradition, typically applied to the adjectival and adverbial participles, and there is no reason that it cannot apply to the case at hand as well. While admitting “NP-internal passivization”, or a structure such as (25’), we also admit an NP-internal “active” structure, resembling (36), in which  $N^1$  stipulates in its argument structure that its specifier must be a phrase with the category features [D, Adj]. This, of course, can be satisfied only by the possessive adjectives. This situation contrasts with the [possession] D, which selects a [D] specifier, thereby permitting, but not limiting itself to, an external argument in the form of a possessive adjective.

What we have just referred to as “active” and “passive” structures at the NP level really reduces to the presence versus absence of an uninterpretable case feature on the head nominal. A deverbal nominal tends to carry over the argument structure and features of the verb it is derived from. Referring to structure (36), the derivational rule of nominalization may or may not provide the action nominal in the head  $N^1$  position with an uninterpretable feature [ $\sim$ genitive], corresponding to the [ $\sim$ accusative] feature of a transitive verb. If  $N^1$  does not have this feature, then it can combine with either a complement or a specifier, with the chosen argument receiving case from  $D^1$ . But without an uninterpretable case feature,  $N^1$  could not take both arguments, because then there would be two DPs requiring case, but only one source of case. If  $N^1$  has an uninterpretable case feature licensing structural case, then covert feature raising from  $NP^2$  checks that feature on  $N^1$ , and similar raising and checking takes place from  $D^3$  to  $D^1$ . In any event, the nominalization derivation rule imposes a categorial requirement on the nominal’s external argument: it must be [D, Adj]. The marginal cases of double adnominal genitives, characteristic of non-standard speech, simply relax this requirement to a categorial selection of [N]. It is typical of linguistic variation that the standard language imposes more rigorous restrictions.

#### 4. Conclusion

To summarize, we have proposed a formal analysis of NPs which accounts for a considerable array of facts. This analysis has benefitted from the assumption that what is traditionally called a Noun Phrase is in fact selected by a functional category of Determiner. We have distinguished the internal geometry of material and action nominal NPs and elaborated a mechanism of licensing NP-internal case assignment, distinguishing between inherent case licensed by selection (and accompanied by the assignment of a thematic role to the corresponding argument) and structural case licensed by the need to check uninterpretable features (and correspondingly divorced from thematic role assignment). We distinguished two Determiners. The content of one is the feature [possession]; this has the argument structure given in (39a), which states that it assigns inherent case to its external argument together with a thematic role of Possessor. The other, with no semantic content, has the argument structure given in (39b); this second determiner has an uninterpretable case feature, which entails that it assigns structural case, unrelated to thematic role assignment.

??

- (39) a. [possession]: [D], [ $\underline{x}$ , y],  $x=[N, \text{Genitive}]$  Possessor,  $y=[N]$   
 b. [ $\sim$ genitive]: [D], [x],  $x=[N]$

Finally, we pursued an approach to grammatical categories which reduces them to features which are not mutually exclusive, permitting hybrid categories such as [D, N] (pronouns) and [D, N, Adj] (possessive adjectives). The normative stricture against the coexistence of subject and object adnominal genitives reduces to a lexical requirement that an action nominal take an external argument of category [D, N, Adj], a requirement which has

no particularly profound motivation other than the avoidance of ambiguity in a limited domain; in fact, this requirement can be relaxed in non-normative styles of the language.

### References

- Abney, Steven. (1987) *The English Noun Phrase in its sentential aspect*. Ph.D. dissertation, MIT.
- Babby, Leonard H. (1988) "Case, pre-quantifiers, and discontinuous agreement in Russian". *Natural language and linguistic theory* 5: 91-138.
- Babby, Leonard H. (1993) "A theta-theoretic analysis of *-en* suffixation in Russian". *Journal of Slavic linguistics* 1(1): 3-43.
- \_\_\_\_\_. (1997) "Nominalization, passivization and causativization". *Die Welt der Slaven* 42: 201-51.
- \_\_\_\_\_. (1998) "Voice and diathesis". Position paper for this workshop.
- Chomsky, Noam. (1965) *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- \_\_\_\_\_. (1995) *The minimalist program*. Cambridge, MA: MIT Press.
- Chomsky, Noam and Howard Lasnik. (1995) "Principles and parameters theory". Chomsky 1995, 13-127. [Repr. from: J. Jacobs, A. von Stechow, W. Sternefeld, and T. Vennemann, eds. (Date??) *Syntax: An international handbook of contemporary research*. Berlin: de Gruyter.]
- Chvany, Catherine V. (1977) "Syntactically derived words in a lexicalist theory (toward a restudy of Russian morphology)". *Folia slavica* 1(1): 42-58.
- Comrie, Bernard. (1976) "The syntax of action nominals: A cross-linguistic study". *Lingua* 40: 177-201.
- \_\_\_\_\_. (1980) "Nominalizations in Russian: Lexical Noun Phrases or transformed sentences?" C. V. Chvany and R. D. Brecht, eds. *Morphosyntax in Slavic*. Columbus, OH: Slavica, 212-20.
- Corbett, Greville G. (1987) "The morphology/syntax interface: Evidence from possessive adjectives in Slavonic". *Language* 63(2): 299-345.
- Damborský, Jiří. (1973) "Czy w języku polskim istnieje gerundium?" *Poradnik językowy* 10: 581-87.
- Fowler, George and Donald L. Dyer. (1988) "The syntax of deverbal nouns in Bulgarian". Paper given at the Conference on Balkan and South Slavic Linguistics, Literature, and Folklore, March, 1988.
- Engelhardt, Miriam and Helen Trugman. (1998) "D as a source of adnominal genitive in Russian". *Formal approaches to Slavic linguistics* 7: 1-12.
- Fokker, Abraham A. (1966) *Nouns from verbs: A contribution to the study of present-day Polish word-formation*. Amsterdam: North-Holland.
- Fowler, George and Steven Franks. (1994) "The structure of DP in Bulgarian". *Indiana Slavic studies* 7: 58-68.
- Franks, Steven. (1995) *Parameters of Slavic morphosyntax. Oxford studies in comparative syntax*. New York: Oxford University Press.
- Giorgi, Alessandra and Giuseppe Longobardi. (1991) *The syntax of noun phrases*. Cambridge: Cambridge University Press.
- Padučeva, E. (1984) "Pritjazatel'noe mestoimenie i problema zaloga otglagol'nogo imeni". V. P. Grigor'ev, ed. *Problemy strukturnoj lingvistiki 1983*. Moscow: Nauka, 50-66.
- Rappaport, Gilbert C. (1984) *Grammatical function and syntax structure: The adverbial participle of Russian*. Columbus, OH: Slavica.
- \_\_\_\_\_. (1986a) "The grammar of simile: Case and configuration". R. D. Brecht and James S. Levine, eds. *Case in Slavic*. Columbus, OH: Slavica, 244-79.

- Rappaport, Gilbert C. (1986b) "On binding in Russian". *Natural language and linguistic theory* \_\_\_\_\_.
- \_\_\_\_\_. (1987) "On syntactic binding into adjuncts in the Russian noun phrase". *Linguistics and philosophy* 10(4): 475–501.
- \_\_\_\_\_. (1992) "On the adnominal genitive and the structure of noun phrases in Russian and Polish". M. Guiraud-Weber and Charles Zaremba, eds. *Linguistique et slavistique. Melanges offerts à Paul Garde* Aix-en-Provence: Université de Provence, 241–62. (*Travaux publiés par l'institut d'études slaves* 36.)
- Revzin, I. (1973) "Transformacionnoe issledovanie konstrukcij s sub'ektnym i ob'ektnym priimennym dopolneniem. Genitivus subjectivus i Genitivus objectivus". A. A. Zaliznjak, ed. *Problemy grammatičeskogo modelirovanija* Nauka: Moscow, 88–95.
- Veyrenc, Jacques. (1972) "Existe-t-il un génétif de l'object? Discussion à partir du russe contemporain". *Bulletin de la Société de linguistique de Paris* 17: 215–38.
- [AG60] Vinogradov, V. V. and E. S. Istrina, eds. (1960) *Grammatika russkogo jazyka. T. 2: Sintaksis, č. 1* Moscow: Academy of Sciences, USSR.
- Zaliznjak, A. A. and E. V. Padučeva. (1979) "Sintaksičeskie svojstva mestoimenija kotoryj". T. M. Nikolaeva, ed. *Kategorija opredelennosti-neopredelennosti v slavjanskix i balkanskix jazykax* Moscow: Nauka, 289–329.
- Zlatic, Larisa. (1997) *The structure of the Serbian Noun Phrase*. Ph.D. dissertation, University of Texas at Austin.

Residual questions:

diacritics in ex (15)  
(36a)