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Relational Adjectives, Possessives and Genitives in Russian

by

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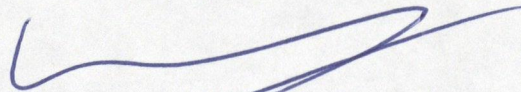
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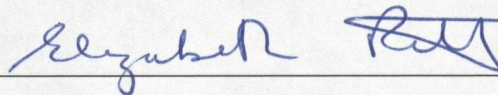DEPARTMENT OF LINGUISTICS

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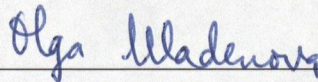UNIVERSITY OF CALGARY

FACULTY OF GRADUATE STUDIES

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ABSTRACT

Russian adjectival possessives and relational adjectives may overlap in meaning with genitive constructions. However, some contexts exclude adjectival possessives and relational adjectives, while other contexts exclude genitive constructions. I propose to explain this contrast in terms of the argument structure of the head noun and the distinction between real internal arguments and quasi-arguments. Real arguments are assigned a theta-role by the head. Quasi-arguments bear no theta-role but a looser semantic relation 'R' to the head. I assume that adjectival possessives and relational adjectives always involve 'R', whereas genitives, at least sometimes, express an argument-head relation. An overlap in meaning occurs when 'R' in adjectival possessives and relational adjectives is interpretable as the same relation as the one that holds between a head and its argument in a genitive construction. I argue that it is possible only if this relation is not based on an event.

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For Malka Rappaport-Hovav who first introduced me
to the mystery and beauty of the Meaning of Words

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LIST OF ABBREVIATIONS

ACC	accusative (case)
ADJ	adjective
ADV	adverb
AFF	affix
AP	adjective phrase
COMP	comparative
D	determiner
DP	determiner phrase
GEN	genitive (case)
FEM	feminine
INFL	inflection
INSTR	instrumental (case)
MASC	masculine
N	noun
NOM	nominative (case)
NP	noun phrase
PERF	perfective form
PL	plural
POSS	possessive
PP	prepositional phrase
SG	singular

Introduction

0.1   What this thesis is about

This thesis discusses three DP constructions in Russian: relational adjective-noun constructions, adjectival possessive constructions and genitive constructions. What all three constructions have in common is that they are DPs that express a relation between the entity denoted by their head noun and some other entity denoted by a non-head noun or the base noun of an adjective. For this reason, I will refer to them as relational DP constructions. Examples of each of these constructions are given in (1) – (3):[1]

Relational adjective-noun construction:

(1)   a.   igrushech-n-aja   fabrika[2]

          toy-ADJ-INFL   factory

          'a/the toy factory'[3]

      b.   knizh-n-yj   magazin

          book-ADJ-INFL   store

          'a/the bookstore'

Adjectival possessive construction:

(2)   a.   Mash-in-a   kniga

          Masha-POSS-INFL   book

          'Masha's book'

      b.   Pet-in-Ø   stul

          Petja-POSS-INFL   chair

          'Petja's chair'

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[1] I provide a full gloss of inflectional suffixes in section 1.1.2 where I discuss inflectional morphology of relational and qualitative adjectives. In the rest of the thesis, since this is not extremely relevant to my purposes, I indicate inflectional suffixes by INFL.

[2] For transliteration being followed in this thesis see Appendix A.

[3] Since Russian does not have determiners, many Russian examples in this thesis potentially can be translated into English as definite or indefinite.

Genitive construction:

(3) a. fotografija   Svet-y

    picture   Sveta-GEN

    'a/the picture of Sveta'

  b. podstilka jedinorog-a

    mat   unicorn-GEN

    'a/the unicorn's mat'

In (1), the relational adjective-noun construction consists of the head noun preceded by a relational adjective. Russian relational adjectives are derived from nouns by means of suffixation and express a relation between the entity denoted by their base noun and the noun they modify. In (1a), the adjective *igrushechnaja* 'toy' is derived from the noun *igrushka* 'toy' and the construction expresses a relation between toys and a factory. The most likely interpretation of this expression is a factory that produces toys. Similarly, in (1b), the adjective *knizhnyj* 'book' is derived from the noun *kniga* 'book' and the construction refers to a store that is related to books – most likely, a store that sells books. As demonstrated by this example, Russian relational adjective-noun constructions are often translated into English as noun-noun compounds. A Russian relational adjective is often parallel in function to the non-head noun of an English compound.

Examples of constructions with adjectival possessives appear in (2). The construction consists of the head noun preceded by an adjectival possessive. Just like relational adjectives, Russian adjectival possessives are derived from nouns by means of suffixation. Adjectival possessives are used to express a relation of possession or some other similar relation, such as 'proximity' (Barker 1995) or 'control' (Partee & Borschev 2000). Russian adjectival possessives roughly correspond to English prenominal possessives, e.g. *Mary's book*. (2a) has a number of possible interpretations, for example, a book that belongs to Masha, a book written by Masha, etc. (2b) refers to a chair which is somehow related to Petja – a chair that belongs to Petja, made by Petja, a chair that Petja is sitting in, etc.

Finally, as shown by (3), a genitive construction consists of a head noun followed by a DP assigned genitive case. Russian genitive constructions exhibit roughly the same syntactic properties and cover more or less the same range of possible meanings as English postnominal *of*-phrases, e.g. *mother of John*. (3a) refers to a picture that depicts Sveta; (3b) refers to a mat which is somehow related to the unicorn, most likely a mat that the unicorn sleeps on.

The central question of this thesis is as follows: genitives in Russian may overlap in meaning with adjectival possessives. For example, *Mashin dom* 'Masha's house' and *dom Mashi* 'the house of Masha' express the same relation between Masha and house, most likely the relation of possession. However, this overlap in meaning is not total. In some cases, the use of an adjectival possessive is impossible. For example, *ubijca Mashi* 'the murderer of Masha' refers to somebody who killed Masha, whereas *Mashin ubijca* 'Masha's murderer' would not be normally used to refer to somebody who murdered Masha, but rather to a murderer whom Masha hired, for example. On the other hand, sometimes the use of an adjectival possessive is preferred. For example, *Mashin voditel'* 'Masha's driver' most likely refers to somebody who drives Masha's car (presumably, with Masha in it), whereas *voditel' Mashi* 'the driver of Masha' is odd because it seems to refer to somebody who drives Masha and not her car.

A similar overlap in meaning is observed between genitives and relational adjectives. For example, the genitive construction *magazin igrushek* 'the store of toys' may be paraphrased as a relational adjective-noun construction: *igrushechnyj magazin* 'the toy store'. In this case, the relational adjective-noun construction expresses the same relation between a store and toys as the genitive construction: a store that sells toys, but as with adjectival possessives, this overlap in meaning between genitives and relational adjective-noun constructions is not total. In some cases, only the genitive construction may be used. For example, the genitive construction *prodavec knig* 'the seller of books' may not be paraphrased as a relational adjective-noun construction: **knizhnyj prodavec* 'the bookseller', is ungrammatical. On the other hand, the relational adjective-noun construction *shokoladnyj tort* 'the chocolate cake' may not be paraphrased as a genitive construction: *tort shokolada 'the cake of chocolate' is ungrammatical.

In this thesis, I develop an account for these facts in terms of the argument structure of the head noun of a construction. I assume, following Hoeksema (1984), Barker (1995), Partee & Borschev (2000), among others that nouns may be divided into relational and non-relational. Relational nouns such as *mother* or *driver* denote a two-place predicate and their denotation is best expressed as a set of pairs of entities. In contrast, non-relational nouns such as *team* or *chair* denote a one-place predicate and their denotation is best expressed as a set of entities. Relational nouns as opposed to non-relational ones can have internal arguments.

The crucial difference between DP constructions with relational and non-relational heads is that the relation expressed by a construction with a relational head is determined by the head's meaning, whereas a relation expressed by a construction with a non-relational head needs to be supplied by other sources, such as context, knowledge of the world, etc. The idea of a semantic relation that does not emerge from the meaning of either of the construction's parts but is rather identified using other means appears in many studies and is generally assumed to involve a free relation variable whose value is supplied by the context of use. Following Partee & Borschev (2000) and others, I refer to this free variable ranging over relations as the semantic relation 'R'.

I assume, following Kayne (1981) and Giorgi & Longobardi (1991) that in syntax, an internal argument of a head noun must be expressed as a DP. It follows then, that constructions with adjectival possessives and relational adjectives always involve the semantic relation 'R' rather than the head-argument relation. In contrast, genitive constructions, at least sometimes, can express the head-argument relation. I suggest that the overlap in meaning between genitives and adjectival possessives on the one hand and genitives and relational adjectives on the other hand occurs when the semantic relation 'R' in a construction with an adjectival possessive or a relational adjective may be interpreted as the same semantic relation as the one that holds between a head and its internal argument.

Contrary to a widespread assumption, I show that there are restrictions on what the semantic relation 'R' can be. I propose that the semantic relation 'R' must be a non-eventive relation. The semantic relation 'R' can be the same relation as that between the

head and its argument if this relation is not based on an event. Otherwise, only the genitive construction may be used. On the other hand, adjectival possessives and relational adjectives may not be paraphrased as genitives when the head noun is not relational.

0.2   Thesis outline

Chapter 1 introduces a number of relevant facts about relational DP constructions in Russian. First, I discuss two types of Russian adjectives – relational and qualitative – and the similarities and differences between them. Second, I show that Russian adjectival possessives share morphological properties with relational adjectives but exhibit different semantic and syntactic properties. Furthermore, I introduce Russian genitive constructions and discuss their semantic and syntactic properties. Finally, the last section of chapter 1 deals with similarities in semantic structure between Russian relational adjective-noun constructions and English noun-noun compounds.

Chapter 2 provides an outline of several studies that address the notion of a relational noun and DP constructions that express a relation between two entities from a theoretical perspective (Hoeksema 1984; Barker 1995; Partee & Borschev 2000, among others). Since relational nouns, possessive and genitive constructions, relational adjectives and compounds have never been addressed within one and the same research, this chapter discusses various studies that deal with one or more of these issues and focuses on those parts of these studies that are directly relevant for this thesis.

In chapter 3, I present the central puzzle of this thesis in more detail and develop a solution for this puzzle. This chapter outlines a number of basic assumptions concerning argument structure and its syntactic realization that enable us to implement this solution.

Chapter 4 focuses on the possible interpretations of the semantic relation 'R'. In particular, I focus on the semantics of –er nouns, following work by Levin & Rappaport (1988; 1992). They show that just like nouns that denote events or processes (e.g. *examination, investigation* (Grimshaw 1990)) these nouns may receive an eventive interpretation, i.e. they may be interpreted as containing an event argument. I suggest that restrictions on the interpretations of the semantic relation 'R' may be accounted for

assuming Kratzer's (1995) individual-level versus stage-level predicate distinction and Grimshaw's (1990) analysis of deverbal nouns.

Finally, in chapter 5, I summarize the main points of this thesis and outline some questions for further investigation.

Chapter One: Overview of Russian Data

1.1 Relational and qualitative adjectives in Russian

1.1.1 Derivational Morphology

The first type of Russian relational DP constructions to be considered is the one with a relational adjective. A relational adjective-noun construction expresses a relation between the entity denoted by the head noun and the entity denoted by the base noun of the adjective. The examples of this construction are repeated below:

(1)   a. igrushech-n-aja fabrika

            toy-ADJ-INFL   factory

            'a/the toy factory'

      b. knizh-n-yj   magazin

            book-ADJ-INFL store

            'a/the bookstore'

Russian has a number of suffixes that derive adjectives from nouns (Dudnikov 1974; Townsend 1975; Maltzoff 1985, among others). Table 1 below provides some examples of derivational suffixes in Russian that form relational adjectives (Townsend 1975:215-224):

Table 1. Suffixes that form relational adjectives

SUFFIX	NOUN	ADJECTIVE
-n-	*shkola* 'school' *kniga* 'book'	*shkol'-n-yj* 'school-ADJ' *knizh-n-yj* 'book-ADJ'
-sk-	*tsar'* 'tsar' *brat* 'brother'	*tsar-sk-ij* 'tsar-ADJ', 'imperial' *brat-sk-ij* 'brotherly'
-jan-	*derevo* 'wood' *serebro* 'silver'	*derev-jann-yj* 'wooden' *serebr-jan-yj* 'silver-ADJ'
-n'-	*vecher* 'evening' *leto* 'summer'	*vecher-n'-ij* 'evening-ADJ' *let-n'-ij* 'summer-ADJ'
-ov-	*med* 'honey' *bob* 'bean'	*med-ov-yj* 'honey-ADJ' *bob-ov-yj* 'bean-ADJ'

Russian relational adjective-noun constructions are often translated into English as noun-noun compounds. For example, *igrushechnaja fabrika* or *knizhnyj magazin* are translated as 'the toy factory' and 'the bookstore' respectively, with the Russian relational adjective parallel in function to the non-head noun in the English noun-noun compound. The fact that Russian relational adjective-noun constructions and English noun-noun compounds are often mutually translatable might suggest a similarity in their semantic structure. I will come back to this issue in section 1.4.

Adjectives that are not relational are called qualitative (Vinogradov 1986 [1947]:163-5; 175-8; Dudnikov 1974; Townsend 1975; Maltzoff 1985, among others). Qualitative adjectives in Russian also may be derived from nouns; however, constructions that contain this type of adjectives do not express a relation. Qualitative adjectives attribute a quality to the denotation of the noun they modify:

(2) a. bol'shoj dom

        big   house

        'a/the big house'

b. krasivaja devushka

   pretty   girl

   'a/the pretty girl'

In (2a), the adjective *bol'shoj* 'big' is qualitative in the sense that it attributes a quality to the denotation of the head noun *dom* 'house': being big is a quality of a house rather than a relation between a house and something that is big or bigness. Similarly, in (2b), the adjective *krasivaja* 'pretty' attributes a quality to the denotation of the head noun *devushka* 'girl'.

Table 2 contains some examples of derivational suffixes that derive qualitative adjectives from nouns (Townsend 1975:227-232). Note that while the most examples in table 1 are translated into English as nouns, the examples in table 2 are translated as adjectives:

Table 2. Suffixes that form qualitative adjectives

SUFFIX	NOUN	ADJECTIVE
-n-	*um* 'intelligence' *vkus* 'taste'	*um-n-yj* 'intelligent' *vkus-n-yj* 'tasty'
-ist-	*zerno* 'grain'	*zern-ist-yj* 'grainy, granular'
-liv-	*talant* 'talent' *dozhd'* 'rain'	*talant-liv-yj* 'talented' *dozhd-liv-yj* 'rainy'
-ovat-	*ugol* 'angle', 'corner' *plut* 'rogue'	*ugl-ovat-yj* 'angular', 'awkward' *plut-ovat-yj* 'roguish'
-av-	*krov'* 'blood' *dyra* 'hole'	*krov-av-yj* 'bloody' *dyr-jav-yj* 'holey'
-at-	*rog* 'horn'	*rog-at-yj* 'horned'

The distinction between relational and qualitative adjectives also exists in other languages. Examples of English relational adjectives below are from Levi (1978):

(3)   a. presidential interpretation

     b. bacterial infection

     c. biochemical engineer

The adjectives in (3) are derived from nouns by means of suffixation. All three constructions express a relation between the entity denoted by the head noun and the entity denoted by the noun that the adjective is derived from – the expressions in (3) may be interpreted as 'interpretation by a president', 'infection caused by bacteria' and 'engineer working in biochemistry' respectively.

       Gillon (1999:133) defines a relational adjective as ascribing a thematic relation holding between the denotation of the noun it modifies and some set of objects associated with the adjective. In contrast, a predicating (qualitative) adjective attributes a quality to the denotation of the noun it modifies. He refers to English relational adjectives (Gillon uses the term *thematic adjectives*) in the context of the discussion of whether cardinal numerals may be analyzed as adjectives. Although the details of this proposal are of no interest for the present study, it follows from his analysis that English relational adjectives exhibit similar properties to those of Russian relational adjectives, as we will see below.

       Booij (2002) points out the same distinction between relational and qualitative adjectives in Dutch. According to Booij, Dutch has a number of suffixes that derive relational adjectives from nouns whose only function is to indicate that there is a relation between the head of the DP and the base noun of the adjective:

(4)   a. muzik-aal   talent

        music-ADJ   talent

        'musical talent'

     b. Amerikaan-se   regering

        America-ADJ   government

        'American government' (Booij 2002:108, Table 3.5)

It may not be immediately obvious why certain denominal adjectives in Russian are classified by Townsend (1975) as relational but others as qualitative. At this point, I present the data in tables 1 and 2 above with the sole purpose of giving a general idea of the derivational morphology involved in the formation of denominal adjectives in Russian. Further discussion of the basis for this distinction appears in the following sections.

1.1.2 Inflectional morphology

The fact that both relational and qualitative adjectives are indeed adjectives is confirmed by inflectional morphology. Both types of adjectives agree in number, gender and case with the modified noun:

(5) a. krasiv-aja   devushka

        pretty-FEM.NOM.SG   girl-FEM.NOM.SG

        'a/the pretty girl'

    b. V gorode postroili   igrushech-n-uju   fabriku.

        in town   (they)built toy-ADJ-FEM.ACC.SG factory-FEM.ACC.SG

        'In the town was built a toy factory.'

(6) a. Eto   igrushech-n-aja   fabrika.

        This   toy-ADJ-FEM.NOM.SG   factory-FEM.NOM.SG

        'This is a toy factory'

    b. Ivan uvidel   krasiv-yx   devush-ek.

        John saw-PERF pretty-FEM.ACC.PL girl-FEM.ACC.PL

        'John has seen pretty girls'

1.1.3 Semantics

The distinction between the two types of adjectives is primarily semantic. According to a definition given in Townsend (1975:209), relational adjectives designate a relationship which characterizes the entity denoted by the modified noun as being *of,*

from or connected with something or someone. Qualitative adjectives designate a quality characteristic of the entity denoted by the modified noun. However, despite the fact that traditionally, a distinction is made between these two types of adjectives, the semantic boundary between them is vague in part because many relational adjectives may acquire a qualitative meaning (Vinogradov 1986 [1947]:175-8; Dudnikov 1974; Shvedova 1980 (I):542-3, among others).[4] The following examples are from Townsend (1975:210):

(7) a. serdech-n-aja   bolezn'
   heart-ADJ-INFL   disease
   'a/the heart disease'

    b. serdech-n-yj   chelovek
   heart-ADJ-INFL   person
   'a/the cordial, warm hearted person'

(8) a. knizh-n-yj   magazin
   book-ADJ-INFL   store
   'a/the bookstore'

    b. knizh-n-yj   jazyk
   book-ADJ-INFL   language
   'a/the bookish language'

(9) a. muzykal'-n-aja   shkola
   music-ADJ-INFL   school
   'a/the school of music'

---

[4] In fact, sometimes a more fine-grained distinction is made. For example, Vinogradov (1986 [1947]:177-8) suggests that all Russian adjectives should be divided into three categories: (i) possessive, (ii) pronominal and (iii) qualitative-relational. The last category should be further divided into three sub-categories: (iii a) qualitative, (iii b) relational and (iii c) derived from active participles. However, since this third category is not extremely relevant for the purposes of this thesis, I am going to assume the qualitative-relational distinction.

b. muzykal'-n-yj   rebenok

   music-ADJ   child

   'a/the musical child'

In (7) – (9) above, the a-expressions are interpreted as involving a relation, whereas the b-expressions are interpreted as expressing a quality of the modified nouns. The a-expressions clearly involve a reference to the entity denoted by the base noun of an adjective. For example, in (7a), *serdechnaja bolezn'* 'the heart disease' is a disease of the heart, in (8a), *knizhnyj magazin* 'the bookstore' is a store that sells books, etc. In contrast, the b-examples do not involve a direct reference to the entity denoted by the base noun of an adjective. Thus, in (7b), *serdechnyj chelovek* 'the cordial, warm hearted person' does not involve a direct reference to a person's heart. Similarly, in (8b), *knizhnyj jazyk* 'a bookish language' does not refer to a language that bears a relation to some books. It refers to a type of language similar to that used in books in general. For example, if we imagine a situation where there are no books left in the world, bookstores probably would disappear but we still would be able to use 'bookish' language.

     Some adjectives may be ambiguous between a relational and a qualitative reading depending on the noun they modify:

(10) a. igrushech-n-yj magazin

        toy-ADJ-INFL   store

        'a/the toy store'

     b. igrushech-n-yj pojezd

        toy-ADJ-INFL   train

        'a/the toy train'

The expression in (10a) is ambiguous. It may refer to a store that sells toys, in which case this is a relational reading. It also may refer to a store which is a toy, in which case this is a qualitative reading. Intuitively, being a toy is a quality rather than a relation. In contrast,

the expression in (10b) does not have a relational interpretation: it only can refer to a train which is a toy.

If such an adjective modifies a conjoined noun, it must have the same interpretation for both nouns – either relational or qualitative. In such cases, the meaning of the head noun may disambiguate the adjective. For example, when the adjective *igrushechnaja* 'toy' modifies the noun *fabrika* 'factory' the expression is ambiguous. It may refer to a factory that produces toys or to a factory that is a toy. However, when it modifies the noun *zdanije* 'building' the expression may only be interpreted as referring to a building which is a toy:

(11)   igrushech-n-yje   [fabrik-i   i   zdani-ja]
         toy-ADJ-INFL factory-PL and buiding-PL
   a.   '[factories and buildings] which are toys'
   b.   #'[factories producing toys] and [building which are toys]'
   c.   #'[factories and buildings] producing toys'

In addition to the fact that relational adjectives may acquire a qualitative reading, in some cases it is not clear whether a certain adjective should be classified as relational or qualitative based on its semantics alone. Let us have a look at the adjective *umnaja* 'smart', 'intelligent':

(12)   um-n-aja   devushka
        intelligence-ADJ-INFL girl
        'a/the smart girl'

This adjective is classified by Townsend (1975) as qualitative (see table 2 above). Intuitively, being smart is a quality of a girl rather than a relation between a girl and something that is smart. However, it does not seem impossible to analyze the expression *umnaja devushka* 'the smart girl' as referring to a girl who has intelligence. In other words, it is possible to regard this construction as relational in the sense that it expresses

a relation between a girl and intelligence.

Further examples of such borderline cases include adjectives such as *vkusnyj* 'tasty', *dozhdlivyj* 'rainy', *rogatyj* 'horned', etc. which fall into the qualitative category (see table 2). For example, expressions such as *vkusnyj sup* 'the tasty soup', *dozhdlivyj den'* 'the rainy day' or *rogatoje zhivotnoje* 'the horned animal' may be paraphrased as involving some kind of relation: 'a soup that has taste', 'a day with a lot of rain' and 'an animal that has horns', respectively.

However, if we compare this interpretation with the interpretation of relational adjective-noun constructions that I consider typical members of this category, e.g. *knizhnyj magazin* 'the bookstore', it may be possible to see a difference, at least at an intuitive level. *A bookstore* is a store that is somehow related to books but my intuition is that *a tasty soup* is not a soup that is somehow related to taste, as well as *a horned animal* is not an animal related to horns.

On the other hand, there are adjectives which based on their formal characteristics which I discuss below (see section 1.1.4) are considered relational, intuitively may seem to refer more to a quality than a relation. Examples of such adjectives are *derevjannyj* 'wooden' or *francuzskij* 'French':

(13) a. derev-jann-yj   dom
        wood-ADJ-INFL house
        'a/the wooden house'
    b. francuz-sk-ij   pisatel'
        French-ADJ-INFL writer
        'a/the French writer'

As the examples above demonstrate, the semantic distinction between the two types of adjectives is not straightforward. Despite the intuition that some adjectives denote relations and other denote qualities, it is hard to draw a line between a relationa and a quality and come up with a clear-cut semantic distinction between relational and qualitative adjectives. Since in this thesis, I am interested in semantics of relational

adjective-noun constructions, I should define a set of relational adjectives that I will focus on. There are a number of formal properties that distinguish relational and qualitative adjectives. In the next section, I outline some of these formal properties discussed in various sources. It will be shown that despite the intuition, adjectives such as *derevjannyj* 'wooden' or *francuzskij* 'French' have most of the formal properties of relational adjectives and therefore should be included in the category of relational rather than qualitative adjectives.

1.1.4 Formal properties of relational and qualitative adjectives

1.1.4.1 Attributive versus predicative use

As shown by the examples (14) – (16) below, qualitative adjectives may be used attributively and predicatively, whereas relational adjectives are normally used only attributively:

(14) a. umnaja devushka

smart girl

'a/the smart girl'

b. Devushka byla umnaja.

girl was smart

'The girl was smart'[5]

(15) a. dozhdlivyj den'

rainy day

'a/the rainy day'

b. Den' byl dozhdlivyj.

day was rainy.

'The day was rainy'

---

[5] Since Russian does not have an overt copula in the present tense, I use the examples in the past tense, for ease of exposition.

(16) a. knizh-n-yj   magazin

     book-ADJ-INFL store

     'a/the bookstore'

b. *Magazin byl   knizh-n-yj.

     store   was book-ADJ-INLF

     'The store was book'

Levi (1978) discusses English relational adjectives that she calls *nonpredicating* adjectives in the course of developing her theory of complex nominals. She refers to these adjectives as nonpredicating because just like their Russian counterpart, they are normally excluded from the predicate position. However, Levi (1978:259-260) points out that such adjectives are consistently more acceptable in this position when used in an explicit or implied comparison. Levi's examples (7.16) and (7.17) are repeated below as (17) and (18):

(17) a. Our firm's engineers are all mechanical, not chemical.

b. ??Our firm's engineers are all mechanical.

(18) a. That interpretation of the subpoena is presidential, not judicial.

b. ??That interpretation of the subpoena is presidential.

The same seems to be true in Russian as well. The expression in (16b) above improves considerably if the relational adjective is used in a comparison:[6]

(19)   magazin byl ne   product-ov-yj a   knizh-n-yj

        store   was neg food-ADJ-INFL but book-ADJ-INFL

        'It was a bookstore, not a grocery store.'

---

[6] I thank Amanda Pounder for pointing this out to me.

1.1.4.2 Order of adjectives

If a DP contains one qualitative and one relational adjective, the relational adjective must be closer to the head noun. As the following examples show, if this order is reversed, the construction is ungrammatical (the same observation is made by Gillon (1999) for English):

(20) a. bol'shoj igrushech-n-yj magazin
         big   toy-ADJ-INFL   store
         'a/the big toy store'

   b. *igrushech-n-yj bol'shoj magazin
       toy-ADJ-INFL   big   store
       'a/the toy big store'

The examples in (20) suggest that relational adjectives must be adjacent to the head noun. Note that similar facts are observed by other researchers. Quirk et al. (1972) observe that in English, denominal adjectives such as *social* immediately precede the noun and they are in turn preceded by noun modifiers, such as *London* or *church*:

(21) a. the extravagant London social life
   b. a grey crumbling Gothic Church tower

Ney (1983) also points out a similar distribution for English adjectives. Adjectives that denote nationality such as *American* precede noun modifiers such as *silk* that in turn immediately precede the head noun:

(22) a. a really nice American kitchen chair
   b. three Japanese silk blouses

Sproat & Shih (1988) examine the ordering of adjectives in a number of languages, such as English, Mandarin Chinese, Japanese, Greek, Kannada, Arabic, and

French, among others. In these languages, adjectives that denote material such as *wooden* or nationality (they use the term *provenance*) such as *Chinese* immediately precede the head noun:

(23) a. a large vermillion wooden block

     b. a large red Chinese vase

Sproat & Shih (1988) establish also that in all these languages, the ordering restrictions should be stated in terms of closeness to the head, rather than in terms of linear ordering. For example, if in English the order of adjectives is *shape/color/material* in French this order is reversed since in French as opposed to English adjectives follow the head noun: *material/color/shape*. Adjectives that these authors refer to as denominal, i.e. adjectives denoting material, nationality, etc. correspond to what I call here relational adjectives. The syntactic distribution of this class of adjectives seems to be similar across different languages.

However, addressing the ordering of adjectives, Sproat & Shih (1988) suggest that adjectives are ordered according to their semantics, i.e. the kinds of qualities that they denote. For example, adjectives specifying color precede adjectives specifying size, while adjectives specifying size precede adjectives specifying material, etc. In other words, the ordering of adjectives may follow from independent principles and not from the relational-qualitative distinction. Thus, the fact that relational adjectives tend to immediately precede the head noun should be considered to be a useful diagnostic in conjunction with other tests but is by itself not a sufficient condition for being a relational adjective.

1.1.4.3 Conjunction

Qualitative and relational adjectives may not be conjoined with each other:

(24) a. *novaja i igrushech-n-aja fabrika

       new and toy-ADJ-INFL factory

       'a/the new and toy factory'

  b. *krasivyj i derev-jann-yj dom

       beautiful and wood-ADJ-INFL house

       'a/the pretty/beautiful and wooden house'

Gillon (1999:135 (29)) points out the same facts for English:

(25) a. rich and famous advisor

  b. presidential and senatorial advisor

  c. *rich and presidential advisor

Of course, not only relational and qualitative adjectives may not be conjoined with each other. Just like the ordering of adjectives, this restriction on conjunction might reflect more general independent principles and should not be taken as a sufficient condition for being a relational adjective. For example, Vendler (1968) discusses the semantics of adjectives and shows that not all qualitative adjectives may be conjoined with each other:

(26) a. She is a slow and beautiful dancer.

  b. *She is a blonde and slow dancer. (Vendler 1968:89 (12) – (13))

The adjectives *blonde* and *slow* describe different qualities: a blonde dancer is a dancer who is blonde, whereas a slow dancer is a dancer who dances slowly. According to Vendler, (26b) can be broken down as follows: *she is a dancer who is blond* and *she is a dancer who dances slow*. Thus, since two different structures are involved the conjunction cannot work (for discussion see Vendler 1968).

1.1.4.4 Short forms

Many qualitative, but not relational adjectives can have short forms that may be used only predicatively and agree only in number and gender with the modified noun (Shaxmatov 1941:494; Vinogradov 1986 [1947]:175; Babby 1973; Dudnikov 1974; Townsend 1975; Siegel 1976; Maltzoff 1985, among others). The examples in (27) – (28) below illustrate this point:

(27) a. Ona umn-aja.

        She   smart-LONG FORM

        'She is smart.'

    b. Ona umn-a.

        She smart-SHORT FORM

        'She is smart'

(28) a. umn-aja   devushka

        smart-LONG FORM   girl

        'a/the smart girl'

    b. *Umn-a   devushka.

        smart-SHORT FORM girl (Babby 1973:349 (1))

As shown by the examples in (29), it is morphologically possible to derive a short form from a relational adjective, but the construction will be ungrammatical:[7]

(29) a. *magazin byl knizh-en-Ø

        store   was   book-ADJ- SHORT FORM

    b. *fabrika byla igrushech-n-a

        factory was toy-ADJ-SHORT FORM

---

[7] Shvedova (1980 (I):558) notes that in Russian, semantic restrictions on the formation of short forms of adjectives are not very rigid. Therefore, in literature and poetry, relational adjectives may have short forms.

1.1.4.5 Comparatives and degree words

While many qualitative adjectives form comparatives, relational adjectives, normally, do not – something can be more or less *rainy* or *tasty* but not more or less *toy* or *book* (Shaxmatov 1941:494; Vinogradov 1986 [1947]:175; Dudnikov 1974; Townsend 1975; Gillon 1999, among others). The expressions with the qualitative adjectives *dozhdlivyj* 'rainy' in (30a) or *vkusnyj* 'tasty' in (30b) are fine, whereas the expressions with the relational adjectives *knizhnyj* 'book' in (31a) or *kirpichnyj* 'book' in (31b) is ungrammatical:

(30) a. Klimat v pustyne meneje dozhdlivyj, chem na poberezh'je.

          climate in desert less   rainy   than on seacoast

          'Climate in a desert is less rainy than that on a seacoast.'

      b. Tim schitajet, chto Pepsi vkusn-eje,   chem moloko s   maslom.

          Tim thinks   that Pepsi tasty-COMP than milk   with butter

          'Tim thinks that Pepsi is better than milk with butter'

(31) a. *Etot magazin knizh-n-eje,   chem tot.

          this store   book-ADJ-COMP than that

          'This store is more book than that one.'

      b. *Eta fabrika kirpich-n-eje,   chem ta.

          this factory birck-ADJ-COMP than that

          'This factory is more brick than that one.'

Also, as shown by ungrammaticality of the expressions in (32) below, qualitative but not relational adjectives may be modified by *very*.

(32) a. ochen' vkusnyj tort

          very   tasty   cake

          'a/the very tasty cake'

b. ochen' dozhdlivyj den'

   very   rainy   day

   'a/the very   rainy day'

(33) a. *ochen' knizh-n-yj   magazin

      very   book-ADJ-INFL store

      'a/the very bookstore'

b. *ochen' igrushech-n-aja fabrika

      very   toy-ADJ-INFL   factory

      'a/the very toy factory'

Gillon (1999) also observes the same formal restrictions on English relational adjectives: they resist comparative and superlative forms and modification by *very*. Note that the examples (34) – (35) are grammatical on a qualitative reading:

(34) a. *more lunar

b. *more presidential (Gillon 1999:134 (26.2))

(35) a. *very lunar

b. *very presidential (Gillon 1999:134 (27.2))

The same observations are made by Booij (2002) for Dutch. Relational adjectives in Dutch cannot be modified by a degree word, comparative or superlative:

(36) a. *erg president-ieel paleis

      very president-ADJ palace

      'very presidential palace'

b. *president-iel-er   paleis

      president-ADJ-COMP palace

      'more presidential palace'

Note that not all qualitative adjectives may form comparatives or be modified by *very*. It is possible only with those qualitative adjectives that denote relative and gradable qualities. For example, adjectives such as *pregnant* denote a quality that is neither relative nor gradable: somebody cannot be more or less pregnant or very pregnant. What is important is the fact that relational adjectives never form comparatives or modified by *very*.

1.1.4.6 Adverbs

Relational adjectives, as opposed to qualitative adjectives, do not normally allow the formation of adverbs ending in –*o* and –*e* (Shaxmatov 1941:494; Vinogradov 1986 [1947]: 175; Shvedova 1980 (I):541, among others):[8]

(37) a. krasivyj   >   krasiv-*o*

          'beautiful', 'pretty'   'beautifully'

      b. izlishnij   >   izlishn-*e*

          'unnecessary'   'unnecessarily'

(38) a. *igrushech-n-*o*

          toy-ADJ-ADV

      b. *knizh-n-*o*

          book-ADJ-ADV

---

[8] Note that other types of adverbials may be formed by relational adjectives:

(i)   a. govorit' po-frantsuz-sk-i
          speak   on-French-ADJ-ADV
          'speak French'
      b. vyrazhat'sja   po-knizh-n-omu
          express oneself on-book-ADJ-ADV
          'speak in a bookish manner'

However, in (i a), *po-francuzski* 'in French' looks more like a complement of the verb *govorit'* 'speak', whereas in (i b), the adjective knizhnyj has a qualitative meaning , similar to *knizhnyj jazyk* 'a bookish language' discussed in section 1.1.3 above.

1.1.4.7 Abstract nouns

Qualitative but not relational adjectives may form abstract nouns (Townsend 1975; Shvedova 1980 (I):541, among others):

(39) a. teplyj   >   teplota

       'warm'   'warmth'

    b. pustoj   >   pustota

       'empty'   'emptiness'

1.1.4.8 Diminutives

Qualitative but not relational adjectives form diminutives (Shaxmatov 1941:494; Vinogradov 1986 [1941]:175, among others):

(40) a. teplyj   >   tepl-en'k-ij

       warm   warm-DIMIN-INFL

    b. molodoj   >   molod-en'k-ij

       young   young-DIMIN-INFL

(41) a. knizh-n-yj   >   *knizh-n-en'k-ij

       book-ADJ-INFL   book-ADJ-DIMIN-INFL

    b. igrushech-n-yj   >   *igrushech-n-en'k-ij

       toy-ADJ-INFL   toy-ADJ-DIMIN-INFL

1.1.5 Relational – qualitative ambiguity

Adjectives that are ambiguous between a relational and a qualitative reading often exhibit the formal properties of qualitative adjectives outlined above but only with the qualitative interpretation. For example, they may have short forms or form comparatives, as shown in (42) and (43) respectively:

(42) a. *shkola byla muzykal'-n-a

school was music-ADJ-SHORT FORM

'The school was musical'

b. rebenok byl muzykal-en

child was music-ADJ.SHORT FORM

'The child was musical'

(43) a. *Novaja shkola muzykal'n-eje, chem staraja.

new school musical-COMP than old

'The new school is more musical than the old one.'

b. Etot rebenok muzykal'n-eje, chem ee roditeli.

this child musical-COMP than her parents

'This child is more musical than her parents'

Similarly, some adjectives that are ambiguous between a relational and a qualitative reading can be used predicatively, in which case they are interpreted as qualitative:

(44) a. igrushech-n-yj magazin

toy-ADJ-INFL store

'a/the store that sells toys' or 'a/the store which is a toy'

b. Magazin byl igrushech-n-yj.

store was toy-ADJ-INFL

'The store was a toy'

In (44a), the adjective *igrushechnyj* 'toy' is used attributively and the expression is ambiguous between a relational and a qualitative reading. However, in (44b), the same adjective is used predicatively and only the qualitative reading is available.

1.1.6 General conclusion

The observations outlined in the previous sections suggest that relational and qualitative adjectives are different creatures. Qualitative adjectives, such as *krasivyj* 'beautiful', 'pretty' or *bol'shoj* 'big' describe qualities of entities in the world. They often denote qualities that are relative and gradable. In contrast, relational adjectives signal that there is a connection between two entities – an entity denoted by their base noun and the entity denoted by the noun they modify. Although, as mentioned in section 1.1.3 the semantic boundary between the two types of adjectives is often blurry, some adjectives are clearly relational and others qualitative (e.g. *igrushechnyj* 'toy' versus *bol'shoj* 'big') and the formal pattern appears to be quite consistent. Table 3 below summarizes the formal properties discussed above that may serve as diagnostics:

Table 3. Formal properties of relational and qualitative adjectives

FORMAL PROPERTIES	ADJECTIVES	
	QUALITATIVE	RELATIONAL
PREDICATIVE USE	√	--
APPEARS CLOSER TO THE HEAD NOUN	--	√
CONJUNCTION WITH AN ADJECTIVE FROM THE OTHER CLASS	--	--
SHORT FORMS	√	--
COMPARATIVES	√	--
DEGREE WORDS (E.G. *VERY*)	√	--
ADVERBS IN −*O* AND −*E*	√	--
ABSTRACT NOUNS	√	--
DIMINUTIVES	√	--

However, there is a set of adjectives such as *derevjannyj* 'wooden', *shokoladnyj* 'chocolate' or *francuzskij* 'French' that seem to fall between these two categories. On the

one hand, the occurrence of some of these adjectives in predicative position is more acceptable:

(45) a. (?)Dom byl derev-jann-iy.
house was wood-ADJ-INFL
'The house was wooden'

b. (?)Tort byl shokolad-n-yj
cake was chocolate-ADJ-INFL
'The cake was (made of) chocolate.'

However, they exhibit most of the other formal properties of typical relational adjectives. For example, they tend to immediately precede the noun, do not form comparatives, may not be modified by *very* and do not have short forms:

(46) a. vkushnyj shokolad-n-yj tort
tasty chocolate-ADJ-INFL cake
'a/the tasty chocolate cake'

b. ?shokolad-n-yj vkushnyj tort
chocolate-ADJ-INFL tasty cake
'a/the chocolate tasty cake'

(47) a. *Etot dom derev-jann-eje, chem tot
this house wood-ADJ-COMP than that
'This house is more wooden than that one.'

b. *Etot pisatel' boleje francuz-sk-ij chem tot'
This writer more French-ADJ-INFL than that
'This writer is more French than that one.'

(48) a. *ochen' derev-jann-yj   dom

very   wood-ADJ-INFL house

'a/the very wooden house'

b. *ochen' francuz-sk-ij   pisatel'

very   French-ADJ-INFL writer

'a/the very French writer'

(49) a. *pisatel' byl francuz-ok

writer   was French-ADJ.SHORT FORM

'The writer was French.'

b. dom byl derev-jann-en

house was wood-ADJ-SHORT FORM

'The house was wooden.'

I assume that the fact that these adjectives so consistently exhibit the formal properties of relational adjectives suggests that they are relational. In such cases when the semantic criteria do not give a clear answer, i.e. the borderline cases, we can rely on the formal diagnostics. The question what kind of semantic properties they share with other relational adjectives does not concern me here and I leave this issue for future investigation.

1.2   Adjectival possessives

In this section, I turn to the discussion of Russian adjectival possessives.[9] Traditionally, in the Russian linguistic literature, adjectival possessives are treated as a subclass or relational adjectives (Townsend 1975; Vinogradov 1986 [1947]:177-8; Shvedova 1980 (I):541-5, among others). Russian adjectival possessives are derived morphologically. In particular, I focus on adjectival possessives derived by the

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[9] In fact, in Russian linguistic literature, these are referred to as *possessive adjectives*. Since in this thesis I am interested in contrast between these constructions and English prenominal possessives such as *John's chair* I use the term *adjectival possessive*.

derivational suffixes *-in-* and *-ov-*.[10] Adjectival possessives also agree with the modified noun. However, they differ from adjectives in that they have different semantics. In particular, as opposed to constructions with relational adjectives discussed above which may express relations such as selling or producing, constructions with adjectival possessives, such as *Mashin stul* 'Masha's chair' are often used to express relations of 'legal' possession, using Barker's (1995) terminology. Adjectival possessives can also be used to express a whole range of other relations. For example, *Mashino pis'mo* 'Masha's letter' or *Mashina fotografija* 'Masha's picture' most likely refer to a letter written by Masha and a picture that depicts Masha respectively (Koptjevskaja-Tamm & Shmelev 1994, among others). In the following sections, I also discuss some of the properties of Russian adjectival possessives that distinguish them from adjectives.

1.2.1   Russian adjectival possessives – Morphology

1.2.1.1 Derivational Morphology

Semantically, Russian adjectival possessives roughly correspond to English prenominal possessives such as *John's mother*. However, just like Russian relational (and many qualitative) adjectives, adjectival possessives are formed morphologically by means of derivational suffixes. Examples of Russian adjectival possessives formed by the suffixes *-in-* and *-ov-* are given in (50) and (51) respectively:[11]

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[10] Other suffixes form possessive adjectives (i.e. *adjectival possessives* here) as well. For example, according to Vinogradov (1986 [1947]:167), the suffix *-nin-* derives possessive adjectives from three kinship terms: *brat* 'brother' > *brat-nin* 'brother's', *muzh* 'husband' > *muzh-nin* 'husband's' and *zjat'* 'son-in-law' > *zjat-nin* 'son-in-law's'. In this thesis, I do not consider the suffix *-nin-* since the number of possessive adjectives it derives is quite limited. Other suffixes form possessive adjectives from nouns denoting animals and persons. For an extensive discussion of Russian suffixes that form possessive adjectives see Vinogradov (1986 [1947]:165-172), Shvedova (1980 (I):541-555). Possessive adjectives derived by means of the suffixes *-in-* and *-ov-*, as opposed to possessive adjectives derived by means of other suffixes resist qualitative interpretation (Shvedova 1980 (I):543). They always express a relationship of possession of an entity denoted by the head noun by a specific person or, in some cases, an animal and never a class or a kind (Vinogradov 1986 [1947]:166, Koptjevskaja-Tamm & Shmelev 1994). In this thesis, I focus on these two suffixes, following Shaxmatov (1941:494); Koptjevskaja-Tamm & Shmelev (1994), among others.

[11] The degree of productivity of these suffixes and frequency of use is a matter of debate. For example, according to Vinogradov (1986 [1947]:168), the suffixes *-in-* and *-ov-* become less and less productive in literary language but they are still in use in everyday speech. Townsend (1975:226) points out that in Russian, the suffix *-in-* is still in use, though the suffix *-ov-* is definitely archaic and that both types would be normally avoided by Russian speakers in favor of the genitive. On the other hand Koptjevskaja-Tamm &

(50) a. Sash-in-Ø   stul

       Sasha-POSS-INFL chair

       'Sasha's chair'

   b. Svet-in-Ø   portret

       Sveta-POSS   portrait

       'Sveta's portrait'

(51) a. otc-ov-Ø   stol

       father-POSS-INFL desk

       'father's desk'

   b. Oleg-ov-Ø   rjukzak

       Oleg-POSS-INFL backpack

       'Oleg's backpack'

1.2.1.2 Inflectional Morphology

Adjectival possessives agree in number, gender and case with the modified noun:

(52) a. Mash-in-a   stat'ja

       Masha-POSS-FEM.NOM.SG   article-FEM.NOM.SG

       'Masha's article'

   b. Mash-in-Ø   stol

       Masha-POSS-MASC.NOM.SG desk-MASC.NOM.SG

       'Masha's desk'

   c. Petja chital Mash-in-u   stat'ju.

       Petja read Masha-POSS-FEM.ACC.SG article-FEM.ACC.SG

       'Petja was reading Masha's article'

Shmelev (1994) show that adjectival possessives have functions that in many cases may not be fulfilled by genitives. For my purposes here, I do not make a distinction between the two types of suffixes in terms of productivity and frequency of their use.

Note that although adjectival possessives just like adjectives agree with the head noun, adjectival possessives have different declensions from regular adjectives. Since nothing in this thesis crucially depends on this, I will not discuss this issue in any detail here. For more data see Shvedova (1980 (I):555-6); Shaxmatov (1941:494).

1.2.2 Semantics of adjectival possessives

1.2.2.1 Specificity of referent

As Koptjevskaja-Tamm & Shmelev (1994) point out, Russian adjectival possessives may not be derived from nouns denoting substances, abstract entities, etc. Besides, they are always associated with a specific referent and never with a class or a kind, which distinguishes them from relational adjectives. Consider the examples below:

(53) a. sobach'-ja   eda

      dog-ADJ-INFL food

      '(the) dog food'

   b. sobach-ij   oshejnik

      dog-ADJ-INFL collar

      'a/the dog collar'

   c. sobach'-ja   budka

      dog-ADJ-INFL kennel

      'a/the dog kennel'

(54) a. sobak-in-a   eda

      dog-POSS-INFL food

      'a/the dog's food'

   b. sobak-in-∅   oshejnik

      dog-POSS-INFL collar

      'a/the dog's collar'

c.   sobak-in-a   budka

dog-POSS-INFL   kennel

'a/the dog's kennel'

The expressions in (53) most naturally refer to 'food for dogs', 'a collar for dogs' and 'a kennel for dogs' in general. Given a very specific context, they may refer to food, a collar and a kennel for a specific dog. However, the examples in (54) can only be interpreted as referring to food, a collar and a kennel for a specific dog.

1.2.2.2 Adjectival possessives and anaphora

Another property that distinguishes adjectival possessives from relational adjectives is that adjectival possessives may be used as antecedents of personal pronouns:

(55)   Ja xotel vzjat'   pap-in-u   sumku,   no on mne   jeje   ne dal.

I wanted take-INF papa-POSS-INFL bag-ACC but he   me-DAT   it-ACC neg gave

'I wanted to take papa's bag but he didn't give it to me.'

(Koptjevskaja-Tamm & Shmelev 1994:226)

In (55), the personal pronoun *he* refers to *papa* which in turn is referred to by the adjectival possessive *papina* 'papa's' and does not appear in the sentence as an actual noun. Note, however, that some speakers find examples such as the following grammatical:

(56)   Ja xotel vzjat' [otc-ovsk-uju]   sumku,   no on mne   jeje   ne dal.

I wanted take-INF [father-ADJ-INFL] bag-ACC but he   me-DAT   it-ACC neg gave

'I wanted to take the father's bag but he didn't give it to me.'

In (56), the adjectival possessive *papina* 'papa's' is replaced by the relational adjective *otcovskaja* derived from the noun *father*, where the relational adjective may be interpreted as an antecedent of the pronoun *jeje* 'it'.

However, this kind of reference is not typical for adjectives. The expression in (57) is ungrammatical when the pronoun *ix* 'them' is construed as referring to toys:

(57)   #Igrushech-n-aja fabrika   ix   eksportirujet.

toy-ADJ-INFL   factory   they-ACC   exports

'The toy factory exports them.'

This is reminiscent of a similar effect in English observed by Postal (1969):

(58) a. The girl with long legs$_i$ wants to insure them$_i$.

*The long-legged$_i$ girl wants to insure them$_i$. (Postal 1969:214 (25)).

Postal (1969:205) refers to such phenomena as 'anaphoric islands'; an anaphoric island is a part of a sentence which cannot contain an antecedent of an anaphor found outside of the island (for details see Postal 1969).

1.2.3   Formal restrictions

1.2.3.1 Adjectival possessives and plural nouns

Adjectival possessives may not be derived from the plural form of a noun. For example, the English expression *the girl's books* is translated into Russian as an adjectival possessive but the expression *the girls' books* must be translated as a genitive construction (Koptjevskaja-Tamm & Shmelev 1994):

(59) a. devochk-in-y knig-i

girl-POSS-INFL book-PL

'the girl's books'

b. knig-i   devoch-ek

book-PL girl-GEN.PL

'the girls' books'

This restriction on the formation of adjectival possessives is due to morphological constraints. Derivational affixes can only apply directly to the stem so the derivational affix is always closer to the stem than inflectional affixes. Derivational suffixes that form Russian adjectival possessives may not be attached to a plural form of a noun because in this case they would follow an inflectional suffix.

Note that this restriction does not apply to English prenominal possessives. In English, prenominal possessives may be derived from a singular as well as a plural form of a noun:

(60) a. the girl's book

      b. the girls' book

1.2.3.2 Adjectival possessives and complex nominals

For the same reason that adjectival possessive may not be derived from a plural form of a noun, they may not be derived from a phrase. Therefore, an English expression such as *my grandmother's room* may only be translated into Russian as a genitive construction:

(61) a. komnata   moej   babushk-i

          room   my-GEN grandmother-GEN

          'This is my grandmother's room'

      b. * moja babushk-in-a   komnata

          my   grandmother-POSS-INFL room

          'This is my grandmother's room'

Similar restrictions apply to relational adjectives. Note, however, that Russian also has compound adjectives based on coordination, as in (62a) and subordination, as in (62b). In compound adjectives, two stems are combined directly or by means of a connecting vowel (*o* or *e*) (Shvedova 1980 (I):318-27, among others):

(62) a. nauch-n-   o -texnich-esk-ije   svjazi

science-ADJ- o -technology-ADJ-INFL   connections

'connections in the field of science and technology'

b. sredn-   e -vek-ov-aja   arxitektura

middle-   e -century-ADJ-INFL architecture

'the medieval architecture'

In (62a), the compound adjective *nauchno-texnicheskije* is related to the conjoined noun *nauka i texnika* 'science and technology'. In (62b), the compound adjective *srednevekovaja* is related to the phrase *srednije veka* 'the Middle Ages'. However, I assume that formation of compound adjectives is a morphological process and that derivational affixes may only attach to a word and not to a phrase. Given this, the compound adjectives in (62) are not derived directly from their respective phrases:

(63)   *[sredn-ije vek-a]-ov-aja   arxitektura

[(the) middle-PL   age-PL]-ADJ-INFL   architecture

'the medieval architecture'

Instead, the compound adjectives in (62) are formed by joining two stems by means of a linking vowel and then the derivational suffix attaches to this new stem to form a relational adjective. However, whatever process is involved in the formation of Russian compound adjectives, I am not exploring this issue here. What is crucial for my purposes is that the derivational suffix in Russian cannot attach directly to a syntactic phrase.

Again, this restriction does not apply to English prenominal possessives:

(64) a. John's murderer

b. Brigit Jones' diary

c. the girl who lives next door's schoolbag

As these examples demonstrate, in English, the possessive clitic 's always attaches to a phrase, as opposed to Russian morphological suffixes that attach to a word.

1.2.4 Pragmatic restrictions

1.2.4.1 Adjectival possessives and indefinite referent

The referent of an adjectival possessive has to be definite. Consider the following examples (Koptjevskaja-Tamm & Shmelev 1994):

(65) a. devochk-in-Ø   portret

girl-POSS-INFL   portrait

'a/the portrait of [the] girl'

b. portret   devochk-i

portrait girl-GEN

'a/the portrait of [a/the] girl'

As Koptjevskaja-Tamm & Shmelev (1994:217) observe, the expression in (65a) is usually interpreted as referring to a girl known to both the speaker and the hearer, whereas (65b) may be interpreted as referring to either a definite girl or some unknown girl. Therefore, when the referent is indefinite a genitive construction is used.

1.2.4.2 Register restriction

A use of Russian adjectival possessives is often associated with informal speech. This is consistent with the observation that the majority of Russian adjectival possessives are derived from proper names and it explains why adjectival possessives may not be derived from full names or official titles. Examples from Koptjevskaja-Tamm & Shmelev (1994:218) illustrate this point:

(66) a. slov-a   pap-y

word-PL papa-GEN

'words of the father/of the pope'

b. pap-in-y   slov-a

papa-POSS-INFL word-PL

'father's words'

Koptjevskaja-Tamm & Shmelev (1994:218) point out that the genitive construction in (66a) is ambiguous: it may be interpreted as referring to words uttered by the father or words uttered by the pope. In contrast, the adjectival possessive in (66b) may only be interpreted as referring to words uttered by the father since speakers normally tend to associate the pope in Rome with more formal context than they associate their male parent.

1.2.5 Syntax

1.2.5.1 Attributive versus predicative use

Adjectival possessives, as opposed to relational adjectives, may be used both attributively and predicatively. The following examples illustrate this point:

(67) a. Eto Svet-in-Ø   portret.

this Sveta-POSS   portrait

'This is Sveta's portrait'

b. Etot portret – Svet-in-Ø.

this portrait   Sveta-POSS-INFL

'This portrait is Sveta's.'

(68) a. Eto babushk-in-a `   komnata

this grandmother-POSS-INFL room

'This is grandmother's room'

b. Eta   komnata – babushk-in-a.

This room   grandmother-POSS-INFL

'This room is grandmother's.'

1.2.5.2 Ordering adjectives and adjectival possessives

If a DP contains an adjective and an adjectival possessive, the adjectival possessive may precede or follow the adjective:

(69) a. mam-in-a   bol'shaja sumka

 mama-POSS-INFL big   bag

 'mama's big bag'

 b. bol'shaja mam-in-a   sumka

 big   mama-POSS-INFL bag

 'mama's big bag'

(70) a. Svet-in-o   sineje plat'je

 Sveta-POSS-INFL blue   dress

 'Sveta's blue dress'

 b. sineje Svet-in-o   plat'je

 blue   Sveta-POSS-INFL dress

 'Sveta's blue dress'

1.2.5.3 Conjunction

Adjectival possessives may not be conjoined with adjectives: (71a) contains a qualitative adjectives while (71b) contains a relational adjective:

(71) a. *mam-in-a   i   bol'shaja sumka

 mama-POSS-INFL and big   bag

 'mama's and bid bag'

 b. *Pet-in-Ø   i   derev-jann-yj   dom

 Petja-POSS-INFL and wood-ADJ-INFL house

 'Petja's and wooden house'

1.2.5.4 Degree words and comparatives

As the ungrammaticality of (72) below shows, just like relational adjectives, adjectival possessives may not be modified by degree words such as *very*:

(72) a. *ochen' babushk-in-Ø   dom

    very   grandmother-POSS-INFL house

    'a/the very grandmother's house'

 b. *ochen' Pet-in-Ø   pojezd

    very   Petja-POSS-INFL train

    'very Petja's train'

Just like relational adjectives, adjectival possessives usually do not form comparatives. This is determined by their semantics: a relation expressed by adjectival possessives is not relative or gradable. This is also true about relational adjectives.

However, it is possible to come up with examples of adjectival possessives used in a comparative context:

(73) a. Eta komnata bol'she mam-in-a,   chem moja.

    this room   more   mama-POSS-INFL than my

    'This room is more of (my) mother's than mine.'

 b. Petja bol'she pap-in-Ø,   chem mam-in-Ø.

    Petja more   papa-POSS-INFL than mama-POSS-INFL

    'Petja is more of (his) dad's than his mom's'

The examples in (73) have a colloquial flavor. (73a) most likely means that my mother uses this room or spends more time in this room more than I do and (73b) means that Petja is more attached to his father than to his mother, or some similar interpretation.

1.2.6 General conclusion

The data discussed above suggest that Russian adjectival possessives are not simply a subclass of adjectives (for one thing, they do not have the same declensions as adjectives). However, the fact that they share a number of semantic and syntactic properties with relational adjectives suggests that these two classes of lexical items are related. What is important for the approach to be developed in this thesis is the fact that Russian adjectival possessives just like relational (and some qualitative) adjectives are derived morphologically by means of derivational suffixes that attach to a word, as opposed to English prenominal possessives which are derived syntactically by means of the clitic *'s* which attaches to a phrase. The data about relational adjectives and adjectival possessives discussed above are presented as interesting background observations and as useful diagnostics, without trying to explain them. As was mentioned earlier, the facts such as the restrictions on linear ordering and conjunction may follow from more general independent principles. However, since nothing in this thesis crucially depends on this, I am not entering this discussion here.

1.3 Genitives

A Russian genitive construction consists of the head noun followed by a DP assigned genitive case. Russian postnominal genitives exhibit roughly the same syntactic properties and cover more or less the same range of possible meanings as English postnominal *of*-phrases (e.g. *picture of John*):

(74) a. portret Sash-i

portrait Sasha-GEN

'a/the portrait of Sasha'

b. babushka   Svet-y

grandmother Sveta-GEN

'a/the grandmother of Sveta'

Note that the formation of genitives as opposed to relational adjectives and adjectival

possessives does not involve derivational morphology. As a result, certain restrictions discussed in previous sections do not apply to genitives (e.g. derivation from plural nouns or phrases).

A question raised in various studies is whether a genitive DP is syntactically an argument or a modifier (Jensen & Vikner 1994; Partee & Borschev 1998; Partee & Borschev 2000, among others). In particular, Partee & Borschev (2000) maintain that in Russian, adjectival possessives are modifiers, whereas genitives are arguments. Grimshaw (1990) among others points out that arguments differ from modifiers in that only modifiers can be separated from the head by the copula, whereas this separation is never possible with arguments. Partee & Borschev (2000) show that in Russian, adjectival possessives but not postnominal genitives may be used predicatively – (75) is an example of an adjectival possessive whereas (76) is an example of a postnominal genitive:

(75) a. Mash-in-Ø   dom

       Masha-POSS-INFL   house

       'Masha's house'

   b. Tot dom –   Mash-in-Ø.

       that house – Masha-POSS-INFL

       'That house is Masha's'

(76) a. sled   tigr-a

       track tiger-GEN

       'a/the track of the/a tiger'

   b. *Tot sled – tigr-a.

       that track   tiger-GEN

       'that track is the/a tiger's'

The same fact was mentioned by Koptjevskaja-Tamm & Shmelev (1994), following Paducheva (1982).

However, as Koptjevskaja-Tamm & Shmelev (1994) point out, this observation needs to be clarified. The predicative use of the genitive is possible and even preferable when the use of an adjectival possessive is impossible for reasons discussed in section 1.2. Consider the examples below:

(77) a. Eta komnata – babushk-in-a.

        this room   grandmother-POSS-INFL

        'This is grandmother's room'

    b. ?eta komnata – babushk-i.

        this room   grandmother-GEN

        'This is grandmother's room'

(78) a. eta komnata – moej babushk-i.

        this room   my-GEN grandmother-GEN

        'This is my grandmother's room'

    b. *eta komnata – moja babushk-in-a

        this room   my grandmother-POSS-INFL

        'This is my grandmother's room'

In (77a), the adjectival possessive is perfectly well-formed and the predicative use of the genitive (77b) is indeed problematic. However, the adjectival possessive in (78b) is unacceptable because of the complex nominal *moja babushka* 'my grandmother'. In this case, as shown by (78a), the predicative use of the genitive is preferable.[12]

This observation is confirmed by the fact that in some genitive constructions, the semantic relation between the entity denoted by the head noun and the possessor is ambiguous. I assume that the semantic relation between the head and its argument is always determined by the meaning of the head by virtue of assigning a theta-role to this

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[12] For more discussion of the use of genitives and relational adjectives on the one hand and genitives and adjectival possessives on the other hand see Shvedova (1980 (II):70; Shaxmatov (1941:315, 318).

argument (I return to the notion of theta-role assignment in section 3.2.1). Thus, when genitive DPs are arguments, the relation between the entity denoted by the genitive DP and the entity denoted by the head noun is never ambiguous. For example, in (79), the genitive DP is an argument:

(79)   portret Sash-i

portrait Sasha-GEN

'a/the portrait of Sasha'

According to native speakers' judgments, the interpretation of the expression in (79) is that this is a portrait that depicts Sasha. Thus, the relation between *Sasha* and *portrait* is the relation of depicting and this relation is determined by the meaning of the relational head noun *portrait*.

However, as the following examples show, this is not always the case with Russian genitive constructions:

(80)   tort Mash-i   Ivanov-oj

cake Masha-GEN Ivanova-GEN

'Masha Ivanova's cake'

Since in (80) the possessor is expressed by a complex nominal, an adjectival possessive may not be formed and the genitive construction must be used. Again, according to native speakers' judgments, the most natural interpretation of (80) is a cake that belongs to Masha Ivanova. However, this is not the only interpretation. This expression also may refer to a cake that Masha Ivanova made, to a piece of cake that she is eating right now or even to a recipe originally used by Masha Ivanova, etc.

These observations undermine the claim that Russian postnominal genitives are always arguments. Due to various restrictions on the formation of adjectival possessives, a postnominal genitive is often the only means to express a relation that otherwise would be expressed by an adjectival possessive. This suggests that Russian postnominal

genitives may have other functions in addition to those they share with English postnominal *of*-phrases.

Partee & Borschev's (2000) claim may be restated as follows: a Russian postnominal genitive is an argument if the alternative construction with an adjectival possessive is available. When both constructions are available, the choice between a postnominal genitive and an adjectival possessive is determined by a number of pragmatic factors, such as, for instance, specificity of the referent or formal versus informal context (Koptjevskaja-Tamm & Shmelev 1994). However, since more formal restrictions apply to the formation of adjectival possessives than postnominal genitives, which is often the case with morphologically rather than syntactically derived constructions, only one construction may sometimes be available to the speaker even if this is not the best choice from a semantic or pragmatic point of view. I will elaborate on this issue in chapter 3.

1.4 English noun-noun compounds and Russian relational adjectives

1.4.1 English noun-noun compounds

English compounds have been dealt with in many studies (Marchand 1960; Downing 1977; Selkirk 1982; Lieber 1983; Hoeksema 1984; Cinque 1993, among others). In particular, noun-noun compounds such as *bookstore* constitute a large subclass of English compounds. Such compounds are often translated into Russian as relational adjective-noun constructions. I assume that the fact that these two constructions are often mutually translatable suggests the similarity in their semantic structure. Both types of constructions are interpreted as expressing a relation between two entities. This relation is not a part of the meaning of the parts of either of the constructions but it is a part of the meaning of the whole. Furthermore, the relation expressed by both constructions is arbitrary and the range of possible semantic relations between the head and its modifier is so broad that a general characterization of the relation is probably impossible (Selkirk 1982).

Marchand (1960) suggests that in English, compounds are formed when we see or want to establish a connection between two ideas, choosing the shortest possible way.

This connection may be very different and often becomes clear from the context only. For example, the compound *keyhole* in (81a) is formed to express a relation between *key* and *hole*. To indicate that there is a relation between the two entities denoted by these nouns English combines the two nouns into a compound:

(81) a. keyhole

     b. nightclub

     c. chocolate cake

The compounds in (81) above denote the relation of purpose, time and the made-of relation respectively. Note that in (81a) above, neither *key* nor *hole* has the notion of purpose as a part of their meaning. Nonetheless, this is exactly the meaning of the compound *keyhole* – a hole for the key. The same is true for the expressions in (81b-c).

     The following relational adjective-noun constructions are the Russian translations of the above compounds:

(82) a. zamoch-n-aja   skvazhina

         lock-ADJ-INFL   hole

         'a/the keyhole'

     b. noch-n-oj   klub

         night-ADJ-INFL club

         'a/the nightclub'

     c. shokolad-n-yj   tort

         chocolate-ADJ-INFL cake

         'a/the chocolate cake'

Just like in English compounds, in Russian, neither the relational adjective *zamochnaja* 'lock' nor the noun *skvazhina* 'hole' express the relation of purpose. This relation emerges from knowledge of the world rather than from the meaning of the two nouns.

Based on our knowledge of the world we are able to establish a possible relation between the two entities denoted by these nouns.

1.4.2 A note on Russian compound nouns

Russian also has compound nouns. Russian allows the formation of compound nouns based on coordination, as in (83a) and subordination, as in (83b). In compound nouns, two stems are joined directly or by means of a connecting vowel (*o* or *e*) (Townsend 1975; Shvedova 1980 (I):242-54, among others):

(83) a. divan – krovat'

      couch – bed

      'a/the couch-bed'

   b. sneg- o -zaderzhanije

      snow- o -retention

      'snow retention'

A coordination compound does not express a relation between the two entities but names an object that has properties of both entities denoted by its members. Thus, (83a) refers to an object that has properties of both a couch and a bed. In contrast, a subordination compound expresses some kind of relation between the entities denoted by its members.

I assume that in Russian, compound nouns (at least compound nouns formed by subordination) just like compound adjectives discussed in section 1.2.3.1 are formed morphologically and the formation of such compound nouns is more restricted than the formation of compounds in English. For example, the compound nouns in (83) exist in Russian but those in (84) do not:

(84) a. *avtobus- o -voditel'

      bus-   o -driver

      'a/the bus driver'

b. *anglij-sk-   o -uchitel'

English-ADJ- o -teacher

'a/the English teacher'

In contrast, in English, the formation of compounds is extremely productive. A phrase or a sentence can be a member of a compound, as in (85). Also, there exist compounds where a modifier is a another compound, as in (86):[13]

(85) a. [do-not-mess-with-me] attitude

b. [God-is-dead] theology

c. [I-am-so-handsome-you-cannot-resist-me] look

(86) a. bathroom robe

b. [bathroom robe] production

c. [bathroom robe production] crisis

d. [bathroom robe production crisis] committee...

Since the issue of Russian compound nouns does not play a direct role in this thesis (except for the fact that because of the limitation on compounding in Russian, speakers often have to use relational adjective-noun constructions where English uses compounds) I am not exploring it here. An extensive discussion of compound nouns in Russian is provided in Shvedova (1980 (I):242-54).

1.4.3 Deverbal compounds

A large class of English noun-noun compounds may not be translated into Russian as relational adjective-noun constructions. These are compounds that sometimes are referred to as 'deverbal' (Selkirk 1982) or 'synthetic' (Hoeksema 1984) compounds. In these compounds, the head noun is derived from a verb and the non-head noun is interpreted as an argument of the head noun:

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[13] See Hoeksema (1984) for more examples.

(87) a. van driver

     b. bookseller

As the examples below show, deverbal compounds may not be translated into Russian as relational adjective-noun constructions:

(88) a. *furgon-n-yj voditel'

        van-ADJ-INFL driver

        'a/the van driver'

     b. *knizh-n-yj prodavec

        book-ADJ-INFL seller

        'a/the bookseller'

To express this meaning, Russian uses genitive constructions:

(89) a. voditel' furgon-a

        driver van-GEN

        'a/the driver of a van'

     b. prodavec knig-Ø

        seller books-GEN.PL

        'a/the seller of books'

These data suggest that Russian adjective-noun constructions as opposed to English compounds cannot express the head-argument relation. In chapter 3, I show that the same account that I propose to explain restrictions on relations that may be expressed by Russian adjectival possessives may be used to explain why English deverbal compounds may not be translated into Russian as relational adjective-noun constructions.

Chapter Two: Relational Constructions from a Theoretical Perspective

2.0   Introduction

Having discussed Russian data relevant for this thesis I provide an overview of a number of studies that address the same issues from a theoretical perspective; in particular, studies that deal with relational nouns and relational DP constructions: possessive constructions, genitives, constructions with relational adjectives, and compounds (Hoeksema 1984; Barker 1995; Partee & Borschev 2000, among others).

An important question that the theory of relational DP constructions has to deal with is where the relation comes from. According to the proposal that I am going to adopt in this thesis, relational DP constructions may be divided into two categories. Relational DPs that belong to the first category contain relational head nouns. In this case, the relation that a particular construction expresses comes from the meaning of this noun. Relational DPs that belong to the second category contain non-relational head nouns. In this case, the relation expressed by the construction needs to be identified based on the context of use, knowledge of the world, etc. These constructions express a looser semantic relation between the head and a non-head member of a phrase. Following Partee & Borschev (2000) and others, I am going to refer to such a relation as the semantic relation 'R'.

A question that naturally arises from this is what nouns should be considered relational. In general, different authors seem to agree that nouns such as kinship terms (e.g. *grandmother*) or nouns derived from transitive verbs (e.g. *driver*) are relational, whereas nouns such as *chair* or *team* are non-relational. As can be seen from the discussion of the literature below, the term 'relational' refers to the fact that a lexical item semantically denotes a two-place predicate, a relation between two entities.

It is important to note that, to the best of my knowledge, no author has dealt with all the issues that are the focus of this thesis within one and the same study. This chapter addresses various bits and pieces of different analyses that deal with the notion of relationality, and discuss possessive and genitive constructions, relational adjectives and compounds in various contexts. Obviously, there are many other authors who deal with

these issues and I am referring only to these few studies to set a background for my thesis. Throughout this chapter, I am not going to provide an exhaustive summary of the works that are mentioned but rather focus on those parts of them that are directly relevant for my concerns.

Finally, it is important to emphasize that the term *relational adjective* is often used to refer to a different type of adjectives from those that the present work is concerned with. For example, Barker (1995) and Partee & Borschev (2000) use this term to refer to adjectives such as *favorite* or *own*, as in *my favorite movie* or *John's own chair*. These adjectives may be analyzed as a function. This function, when applied to a common noun changes its valence. For instance, the noun *chair* is non-relational but *favorite chair* is relational – if something is a favorite chair it must be somebody's favorite chair. Hoeksema (1984) discusses adjectival compounds such as *carefree* or *light sensitive*. In this case, the adjectives *free* or *sensitive* can be called relational in the sense that somebody or something is usually *free* or *sensitive from* or *to* something respectively. These compounds may be paraphrased as PPs: *free from care* and *sensitive to light*. I what follows, I will ignore such different uses of the term *relational adjective*.

2.1   Relationality and compounds – Hoeksema (1984)

Obviously, the literature on compounds is enormous (Marchand 1960; Downing 1977; Selkirk 1982; Lieber 1983; Cinque 1993, among others) and the present section is not aimed at giving a summary of this literature. My goal here is to provide an overview of those aspects of Hoeksema's analysis that are relevant for my purposes. Namely, Hoeksema focuses on the compositional semantics of compounds and clearly distinguishes relational and non-relational nouns. He examines a subclass of compounds sometimes referred to as *synthetic compounds*. In synthetic compounds, the right-hand member is a derived noun and the left-hand member is interpreted as an argument of the right-hand member (e.g. *van driver*). First, however, Hoeksema addresses non-derived relational nouns.

2.1.1   Relational nouns

According to Hoeksema's analysis, typical relational nouns are kinship terms, nouns such as *friend* or *enemy* and deverbal nouns. These nouns are relational because they denote a relation between two entities. One cannot possibly be a brother or an enemy unless there exists another person whose brother or enemy one is. Symbolically, this may be represented as follows:

(1)   x is a brother of y : brother(x, y)

Thus, a relational noun denotes a two-place predicate; it has two arguments. The first argument, x, is the subject of the relational noun, and the second argument, y, is its object. Relational nouns, similar to some transitive verbs, can be used intransitively when the object is contextually understood:

(2)   a.   Bill is an enemy. (Hoeksema 1984:81 (13))

     b.   Bill was drinking. (Hoeksema 1984:80)

In (2a), the natural interpretation is that Bill is an enemy of us. Similarly, (2b) is perfectly understandable as a statement that Bill was drinking something, probably alcohol. However, these two expressions illustrate different kind of argument omission. In (2a), it must be clear from the context whose enemy Bill is. In (2b), the context does not have to specify at all what Bill was drinking. In the case of a relational noun such as *enemy* an argument may be left out only if it is recoverable from the context. Meanwhile, with verbs with an optional internal argument such as *drink*, this argument is not necessarily expressed syntactically. The second argument of *enemy* is filled in by the context, whereas the second argument of a transitive verb such as *drink* is existentially bound.

Some verbs also may require a contextually supplied argument, e.g. *know*. For example, in (3b), the second argument of the verb *know* is supplied by the context of the conversation: Jane knows that she has a problem:

(3) a. A: Jane has a problem.

    b. B: She knows.

Hoeksema shows that the object of a relational noun can take the form of a prenominal possessive, an *of*-phrase complement or a first member in a noun-noun compound. In the last case, the object is reduced to its bare essentials, namely, to its head noun:

(4) a. John's friend

    b. friend of John

    c. Stones fan

Following Gazdar (1982), Hoeksema, working in the framework of categorial grammar, adds features to category labels that correspond to the names of prepositions. Thus, DP[*of*] will be the category of an DP preceded by *of*:[14]

(5)   *of* →   DP[*of*]/DP

He assumes that *of* is interpreted as the identity function to guarantee that an *of*-DP has the same meaning as the DP itself.

2.1.2 Synthetic compounds

Hoeksema starts his discussion of synthetic compounds with a passage from Bloomfield (1933:231-2). According to Bloomfield, in a synthetic compound, a compound member may be characterized by some feature of word-formation which differs from what would appear in an independent word. Compounds such as *blue-eyed*, *four-footed* or *thousand-legger* are examples of English synthetic compounds. The words *eyed*, *footed* or *legger* do not occur independently in the language though they occur as members of compounds. Bloomfield considers the compounds *long-tailed* or *red-bearded*

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[14] Hoeksema (1984) uses the term NP. In this thesis, assuming the DP hypothesis, I use the term DP.

to be synthetic as well. He points out that these compounds are not normally described as containing words *tailed* or *bearded* as in *tailed monkey* or *bearded lady*, but have as their underlying structures phrases *long tail* and *red beard* respectively. In other words, the compounds *long-tailed* or *long-bearded* are used independently of words like *tailed* or *bearded*. Hoeksema (1984:100) points out that one should not rely too much on the non-existence of one of the parts. The compounds *long-tailed* and *red-bearded* are structurally equivalent to *blue-eyed* and *four-footed* and should be considered to be of the same morphological type, regardless of the fact that *tailed* and *bearded* exist, but *eyed* and *footed* do not.

For my purposes here, I am interested in Hoeksema's discussion of the class of synthetic compounds that have deverbal heads. The left-hand member (the non-head noun) of such a compound is interpreted as an argument of the verbal base of the right-hand member:

(6) a. time sharing

b. sales management

c. word processor

d. wind generator

According to Hoeksema, in (6a), *time* is an argument of *sharing*. The noun *sharing* inherits its argument structure from its base verb *share*. The semantic relation between *time* and *sharing* is the same as that between *time* and the verb *share*. Similarly, in the compound *wind generator*, the semantic relation between the head noun *generator* and the non-head noun *wind* is the same as between *wind* and the verb *generate*. The same is true for the rest of the examples in (6).

Within Hoeksema's analysis, argument inheritance is expressed in categorial grammar. The details of this framework are not relevant for my concerns. What is crucial, however, is that Hoeksema analyzes the type of synthetic compounds given in (6) as relational noun compounds. The relation expressed by such compounds is the same as that between the head noun's base verb and the entity denoted by its object.

In contrast, in compounds with a non-relational head, a non-head noun is a modifier of the head noun and not an argument. The interpretation of a relation expressed by these compounds is not fixed and their semantic representation involves the semantic relation 'R', i.e. a free variable that is interpreted based on context. For example, a compound such as *dog shit* is a shit produced by a dog, whereas the compound *dog food* is not food produced by a dog but food for a dog. Since the head noun *dog* is not relational it is incapable of supplying a semantic relation expressed by the compound and as a result, this relation needs to be identified using other means.

2.2   Relationality and possessive constructions

Prototypical examples of relational DP constructions are constructions that express possessive relations. In English, possession may be expressed by prenominal possessives, such as *John's mother* or postnominal *of*-phrases such as *mother of John*. However, prenominal possessives and postnominal *of*-phrases may express a whole range of other relations as well. For example, the expression *John's book*, in addition to the so-called 'legal' possession interpretation (Barker 1995), i.e. a book that John owns, may be interpreted as a book written by John, etc. Similarly, the expression *Mary's picture* may not only be interpreted as a picture that Mary owns but also as a picture painted by Mary or a picture that depicts Mary. This section discusses a number of studies that deal with possessive constructions and their interpretations.

2.2.1   Barker (1995)

2.2.1.1 Possessive constructions: lexical versus extrinsic possession

Barker's analysis makes a distinction between lexical possession and extrinsic possession. Lexical possession refers to constructions where the relation established between the possessor and the thing possessed comes directly from the lexical meaning of the possessee noun, i.e. the head noun in a possessive construction. In other words, constructions that express lexical possession have a relational head noun. In contrast, extrinsic possession refers to constructions where the relation is not determined by the head noun. This is a vague relation that may be ownership, creation, control, adjacency

and some other distinct pragmatic relationships. Possessive constructions that express the extrinsic possession relation have a non-relational head noun.

According to Barker's analysis, classes of relational nouns that give rise to lexical possession include kinship terms, deverbal nouns, gerunds, and nouns denoting a part-whole relation. Kinship terms are prototypical examples of relational nouns. For instance, if a particular entity is a grandmother, this entails that there exists somebody else that she is a grandmother of.

Barker considers deverbal nouns such as *gift* or *purchase* to be relational as well. He assumes that some morphologically related verbs and nouns share a functional argument structure. For example, the noun *gift* is related to the verb *give* which denotes a relation between an agent (*the giver*), a theme (*the gift*) and a recipient an entity will be in the extension of the noun *gift* only if there is a giver and a recipient associated with the described object (Barker 1995:51).

Barker observes that gerunds also systematically denote relations that give rise to lexical possessives:

(7) a. John sang the national anthem.
  b. John's singing the national anthem (Barker 1995:64 (25))

Barker points out that (7b) entails that John is a participant in the event of singing described by the possessive. There is no interpretation under which this expression would describe a singing event in which John is not the singer but is related to singing in some other way. That is, the noun *singing* is relational in the sense that its lexical meaning determines the relation expressed by the possessive construction *John's singing*.

Finally, Barker considers nouns that denote a part-whole relation to be relational as well. Body part nouns are prototypical examples of such nouns but many other nouns also may denote a part-whole relation:

(8) a. John's nose
  b. the cake's ingredients

c. the table's top

d. the story's end

Usually, we think of entities denoted by nouns such as *nose, ingredients, top* or *end* as being part of a whole. As Barker points out, it is possible to come up with an extrinsic possession interpretation for (8a). For example, if we imagine an art class where everybody is preoccupied with drawing a nose, the expression *John's nose* may refer to John's artistic enterprise. Nevertheless, the most natural interpretation of (8a) would be John's body part. As to the examples in (8b-d), it is even more problematic to think of any other interpretation: (8b) refers to the ingredients that the cake is made of, (8c) refers to the top part of the table; finally, (8d) refers to the last part of the story.

In contrast, nouns that give rise to extrinsic possession are not relational. As mentioned earlier, extrinsic possession refers to constructions that express a relation that is not determined by the lexical meaning of the head noun. Barker calls such a relation 'proximity'. The use of an extrinsic possessive entails that the described entity is near to the possessor entity, where the relevant dimension or measuring relative nearness depends largely on pragmatic factors. Suppose, John utters the following sentence:

(9)   I am afraid my yogurt tastes a little funny. (Barker 1995:74 (35))

The relation between *John* and *his yogurt* may be interpreted in a number of ways. For example, *John's yogurt* may refer to the portion of yogurt that John is eating. It also may refer to the yogurt that John himself made, as opposed to the store bought supply. Finally, it may refer to all yogurt – homemade and store-bought – that John has in the house.

This multiplicity of interpretations arises from the fact that the noun *yogurt* is not relational. Its lexical meaning does not give rise to any specific relation to *John*. The extrinsic possession is vague across those three (or more) interpretations. Barker assumes that the extrinsic possession is vague in the same way that the use of a personal pronoun can be vague. Just like an expression with a free pronoun cannot be evaluated against a model until there is some assignment of variables to entities, an expression that contains

the extrinsic possessive cannot be evaluated until there is some assignment of the possession relation to a particular extension. Thus, according to Barker, the extrinsic possession relation that he calls 'relation π' is a variable over two-place relations whose value is fixed by the context of use. This is similar to the semantic relation 'R' in Partee & Borschev's (2000) which I will discuss in section 2.2.3.

Barker's distinction between lexical and extrinsic possession is reminiscent of (though maybe not identical to) the traditional distinction between the alienable and inalienable possession. Within Barker's analysis, alienable possession corresponds to extrinsic possession, such as in *John's chair*. Inalienable possession, as in *John's father* or *John's nose*, is a case of lexical possession, in Barker's terms.

Barker points out that typically, inalienable nouns, such as kinship terms, body parts, etc. denote relations, whereas inalienable nouns such as *chair* denote sets. In languages that make a grammatical distinction between alienable and inalienable possession, i.e. the alienable/inalienable contrast is expressed morphologically and/or syntactically, nouns such as kinship terms or body parts are marked as inalienable. However, if such a noun translates as a one-place predicate, e.g. *nose* in the expression *John's nose* discussed above, and as such receives a non-relational interpretation it would be marked as alienable.

An important additional point that Barker makes is that all relational nouns have a secondary non-relational interpretation. He assumes that just as the lexicon provides a variety of senses for verbs like *eat* having a different number of arguments it will provide a variety of senses for nouns like *child*. The sense of *child* as a one-place predicate picks out the class of all children, whereas in its relational sense, it denotes a two-place relation. Predicates are listed in the lexicon with their full set of possible arguments, where arguments that are not necessarily expressed appear in parentheses:

(10) a. eat: <event, agent, (patient)>

     b. child: <entity, (parent)>

2.2.1.2 The *of*-phrase test

As an independent test for whether a noun is relational or not Barker proposes the possibility of adding a postnominal *of*-phrase. This is reminiscent of Hoeksema's (1984) proposal to label the category of relational nouns as CN/DP[*of*]. Barker predicts that relational nouns can take a postnominal *of*-phrase complement but non-relational nouns cannot. For instance, the kinship term *grandmother* is a relational noun whereas the noun *wolf* is not relational. Barker's analysis thus correctly predicts that the noun *grandmother*, but not *wolf* may take the *of*-phrase complement:

(11) a. This is the grandmother of Little Red Riding Hood.

     b. *This is the wolf of Little Red Riding Hood.

Barker proposes to distinguish between relational and non-relational nouns by comparing nouns that have equivalent extensions but which differ in their grammatical entailments concerning the existence of other related entities – for example, *birthday* versus *day*. A day may be considered a birthday only if it is related to a particular person (who was born on that day). The assumption is that *day* is a one-place predicate, while *birthday* denotes a relation between a day and a person who was born on this day. Any day can be a birthday and every birthday is a day. It follows then that the set of all days and the set of all birthdays are identical. However, these two words differ in that *day* is a one-place predicate, whereas *birthday* is a two-place predicate. The prediction about compatibility with the postnominal *of*-phrase holds for *birthday* and *day* as well:

(12) a. the birthday of John

     b. *the day of John (Barker 1995:51)

Similarly, Barker contrasts the relational noun *child* with the non-relational noun *human*. These nouns differ in that *child* in one of its senses denotes a two-place relation, whereas *human* denotes only a one-place relation. It is possible to see the contrast in (13) below:

.

(13) a. the child of John

     b. *the human of John

As noted above, the noun *child* has two senses. It may denote a two-place relation, in which case it will have two arguments – x is a child of y : child (x, y). It also may stand for a one-place predicate, in which case its extension will be a set of entities. In this case, the noun *child* refers to people under a certain age. Note that in (13a), only the relational interpretation is available – this expression may only be interpreted as referring to John's daughter or son. However, the noun *human* lacks the two-place-predicate interpretation and as such is incompatible with the *of*-phrase.

2.2.1.3 Some problems with the *of*-phrase test

It should be mentioned that the *of*-test issue is not that straightforward. An obvious problem with this test is that some nouns that within the present approach are clearly non-relational under certain circumstances do take *of*-phrase complements:

(14) a. a thing of beauty

     b. a man of honor

According to the analysis adopted here, nouns such as *thing* and *man* are not relational: if something is a thing or a man this does not logically presuppose the existence of any other entities that stand in a relation to it. Nevertheless, the genitive constructions in (14) are grammatical and express a relation: (14a) means something like 'a thing that has beauty' and (14b) means 'a man that has honor'.

A similar problem is posed by the genitive constructions in Russian that correspond to the English postnominal *of*-phrases. As pointed out in the previous chapter, there are many cases in which an adjectival possessive may not be formed for various reasons. In this case, the only way to express the possession relation is by means of a genitive construction. This means that each time an adjectival possessive may not be derived the equivalent genitive construction would be grammatical regardless of whether

the head noun is relational or not. Note that in (15) and (16), both the a- and the b-expressions are well-formed, whereas in (17) and (18), only the b-expressions are grammatical, i.e. in these cases, only genitive constructions may be used:

(15) a. babushk-in-a   komnata
   grandmother-POSS-INFL room
   'a/the grandmother's room'

  b. komnata babushk-i
   room grandmother-GEN
   'a/the room of grandmother's'

(16) a. devochk-in-a sobaka
   girl-POSS-INFL dog
   'a/the girl's dog'

  b. sobaka devochki
   dog girl-GEN
   'a/the dog of a/the girl's'

(17) a. *moja babushk-in-a   komnata
   my grandmother-POSS-INFL room
   'my grandmother's room'

  c. komnata moej babushka-i
   room my-GEN grandmother-GEN
   'a/the room of my grandmother'

(18) a. *devochk-in-a iz sosednej kvartiry sobaka
   girl-POSS-INFL from neighboring apartment dog
   'the girl who lives next door's dog'

b. sobaka devochk-i iz sosednej kvartiry

    dog   girl-GEN   from   neighboring   apartment

    'the girl who lives next door's dog'

Similar restrictions apply to relational adjectives. As mentioned in the previous chapter, although Russian allows the formation of compound adjectives, for whatever reasons it is not always possible to derive such an adjective. When a compound adjective is not available a genitive construction is used:

(20) a. *krasnyj derev-jann-yj / krasno-derev-jann-yj stol

        red   wood-ADJ-INFL red-wood-ADJ   table

        'a/the redwood table'

    b. stol krasn-ogo derev-a

        table red-GEN   wood-GEN

        'a/the redwood table'

The constructions in (20) contain the non-relational head noun *stol* 'table'. However, since a compound adjective may not be derived from the phrase *krasnoje derevo* 'redwood' the genitive construction is well-formed.

Despite the counterexamples that show that the *of*-phrase test is not entirely reliable, for the purposes of this thesis I am going to assume it to be a valid test, at least for English constructions. The generalization that only relational nouns may take *of*-phrase complements is valid in many cases. It is possible that the examples and similar constructions discussed above as counterexamples may be explained, in which case they would become predictable exceptions rather than genuine counterexamples. For instance, expressions such as *a thing of beauty* or *a man of honor* have an archaic flavor. The formation of such constructions is not very productive and seems to be restricted to a few fixed expressions.

As to Russian constructions, the issue is more complex since Russian genitives seem to have more functions than their English counterpart. For example, when adjectival

possessives or relational adjectives may not be formed the appropriate meaning is expressed by genitives (I will return to this issue in chapter 3, section 3.3.4). This suggests that the Russian equivalent of the *of*-phrase test may still work but for a limited set of cases.

2.2.2   Partee & Borschev (2000)

The study by Partee & Borschev provides the basic question for this thesis. They examine prenominal possessives and postnominal *of*-phrases in English and adjectival possessive and postnominal genitives in Russian. The focus of their study is on constructions such as those in (21) (the examples in (21) retain their terminology):

(21)   a.   English prenominal 'Saxon' Genitives: *John's*

      b.   English postnominal 'Saxon' Genitives: *of John's*

      c.   English genitive construction: *PP with of-ACC*

      d.   Russian adjectival possessive: *Mashin dom* 'Masha's house'

      e.   Russian postnominal genitive: *tigr-a* (tiger-GEN) 'of a/the tiger'

According to Partee & Borschev's analysis, these constructions differ as to the source of the relation expressed. They propose a split approach to English genitive constructions: argument-like versus modifier-like genitives. The argument-like genitives involve what they call 'inherent R' whereas modifier-like genitives involve 'free R', where 'R' stands for *relation*. 'Inherent R' is supplied by the lexical meaning of the head noun of a construction, whereas 'free R' is a free variable identified based on the context of use. Partee & Borschev suggest that Russian postnominal genitives as opposed to their English counterpart are always argument-like and therefore should be given a uniform analysis. In what follows, I highlight some parts of their study that are relevant for my concerns, such as their treatment of the semantic relation 'R' and the notion of relationality with respect to possessive and genitive constructions.

2.2.2.1 The semantic relation 'R'

A substantial part of Partee & Borschev's (2000) analysis of possessive and genitive constructions is the source and interpretation of the semantic relation 'R'. The idea of a vague semantic relation between the head and non-head members of a phrase that does not involve theta-role assignment appears in a number of studies (e.g. Higginbotham 1983; Partee 1983/97; Barker 1995; Giorgi & Longobardi 1991; Partee & Borschev 2000, among others). It is assumed in this literature that, just like a free pronoun used without a linguistic antecedent, such a relation is a free variable that receives its value from context. Similarly to Barker (1995), who suggests a relation 'π' for extrinsic possession, Partee & Borschev (2000) suggest that the relation expressed by a genitive construction with a non-relational head noun is a free variable evaluated based on the context of use. The idea is that when the head noun of a construction is not relational it cannot take arguments and cannot determine the relation to the entity denoted by the non-head member of the construction. In this case, the relation needs to be defined by other means, such as context.

Partee & Borschev (2000) discuss a number of ways in which the semantic relation 'R' may be introduced. In particular, under Partee's (1983/97) approach, if the head noun is relational, e.g. *brother* it supplies the inherent 'R', i.e. the relation expressed by the genitive construction *brother of John* comes from the meaning of the noun *brother*. In contrast, if the head noun is not relational, e.g. *team*, the semantic relation 'R' expressed by the genitive construction *team of John's* comes from the genitive *of John's*. Thus, according to Partee (1983/97), inherent 'R' and the free 'R' come from different sources.

This approach contrasts with Jensen & Vikner's (1994) analysis of genitive constructions where genitives always combine with a relational noun. Just like Partee's (1983/97), they suggest that if a noun is relational, e.g. *brother*, it has an inherent 'R' and the relation between brother and John in the genitive construction *brother of John* comes from the meaning of *brother*. However, if a noun is non-relational, e.g. *team,* it undergoes type-coercion (following Pustejovsky 1995): an operation that coerces a noun denoting a one-place predicate (i.e. a non-relational noun) to a two-place predicate noun, e.g. *team* to

an appropriate meaning *team of*. Thus, in the genitive construction *team of John's*, the relation expressed comes again from the head noun.

The examples (22) and (23) represent Jensen & Vikner (1994) and Partee's (1983/97) approaches respectively. Partee & Borschev (2000) use the subscript to indicate that the semantic relation 'R' is a free variable, just like a pronoun:

(22)　*of Mary's*:　　　$\lambda R [\lambda x [R \text{ Mary } (x)]]$

　　　(shifted) *team*:　$\lambda y [\lambda x [\text{team}(x) \& R_i (y) (x)]]$

　　　team of Mary's:　$\lambda x [\text{team } (x) \& R_i (\text{Mary}) (x)]$

(23)　of Mary's:　　　$\lambda P \lambda x [P(x) \& R_i (\text{mary}) (x)]$

　　　(non-shifted) *team*: team

　　　team of Mary's:　$\lambda x [\text{team}(x) \& R_i (\text{Mary}) (x)]$

　　　(Partee & Borschev 2000:184 (13)–(14))

The major difference between the two analyses is that Jensen & Vikner's (1994) analysis treats all genitives as argument-like constructions since the head noun is always relational, whereas Partee's (1983/97) approach suggests two types of genitives: argument-like genitives (those that have a relational head noun) and modifier-like genitives (those that have a non-relational head noun).

Although Partee & Borschev (2000) admit certain empirical advantages of Jensen & Vikner's (1994) unified approach that I am not going to discuss here, they follow Partee (1983/97) in assuming that the relations expressed by genitive constructions with relational versus non-relation head nouns comes from different sources. Partee & Borschev (2000) maintain that English genitive constructions fall into two semantically distinct categories, i.e. argument-like genitives versus modifier-like genitives and therefore should be given different accounts.

2.2.2.2 Prenominal possessives and postnominal *of*-phrases in English

The question that Partee & Borschev address is illustrated by their examples (4)

and (5) given below as (24) and (25). Prenominal possessives in (24a) and (25a) and postnominal genitives in (24b) and (25b) are grammatical. The question is why (24c) is a good expression in English but (25c) is odd:

(24) a. John's team

     b. A team of John's

     c. That team is John's

(25) a. John's brother

     b. A brother of John's

     c. (#) That brother is John's

Assuming that *team* is a non-relational noun, whereas *brother* is a relational noun, (24b) is an example of a modifier-like genitive construction, whereas (25b) is an example of an argument-like genitive construction. Since the noun *team* is not relational, it does not take arguments and the genitive phrase *of John's* in this case is a modifier. In contrast, since the noun *brother* is relational, it can take arguments and the genitive phrase *of John's* is an argument and therefore, a complement of the noun *brother*. Assuming that arguments can only be realized as complements to the head and not as predicates (see section 1.3 above), the expression in (25c) is odd because an argument PP *of John's* is used predicatively, i.e. it is separated from its head *brother*.

2.2.2.3 Adjectival possessives and postnominal genitives in Russian

Partee & Borschev also discuss adjectival possessives and postnominal genitives in Russian. Recall from the discussion in chapter 1 that Russian adjectival possessives roughly correspond to English prenominal genitives such as *John's brother* whereas Russian postnominal genitives involve a DP assigned genitive case and correspond to English postnominal *of*-phrases such as *brother of John*. For the reader's benefit, I give examples of the two constructions again:

(26) a. Mash-in-Ø   dom

        Masha-POSS-INFL   house

        'Masha's house'

    b. dom   Mash-i

        house   Masha-GEN

        'a/the house of Masha'

What is crucial for the purposes of this chapter and eventually for the whole thesis is Partee & Borschev's observation that Russian adjectival possessives and postnominal genitives may sometimes but not always be used to describe the same range of cases:

(27) a. Pet-in-Ø   stul

        Petja-POSS-INFL   chair

        'Petja's char'

    b. stul   Pet-i

        chair   Petja-GEN

        'chair of Petja's' (Partee & Borschev 2000:188 (21a), (22a))

(28) a. Mam-in-Ø   portret

        mama-POSS-INFL   portrait

        'mama's portrait'

    b. portret   mam-y

        portrait   mama-GEN

        'portrait of mama' (Partee & Borschev 2000:188 (21b), (22b))

In (27a) and (28a), the relation between *Petja* and *chair* and *mama* and *portrait* respectively may be as various as with the English prenominal genitives. This relation may be possession proper, 'authorship', the relation of 'being portrayed', etc. Note that the expression in (28b) is not ambiguous: it refers to the portrait that depicts mama. In contrast, (27b) has as many interpretations as the adjectival possessive in (27a). I suggest

that this is due to the fact that *portrait* as opposed to *chair* is a relational noun and as such determines the relation expressed by the construction. This suggests that in (28b), the genitive phrase *mamy* 'of mama' is an argument, whereas in (27b), the genitive phrase *Peti* 'of Petja' is a modifier. I explore this issue in more depth in chapter 3.

As Partee & Borschev point out, sometimes adjectival possessives and postnominal genitives do not have the same interpretation. Consider their example (23) given below as (29):

(29) a. ubijca   Pet-i

      murderer Petja-GEN

      'a/the murderer of Petja'

   b. #Pet-in-Ø   ubijca

      Petja-POSS-INFL murderer

      'Petja's murderer'

In Russian, the expression *ubijca Peti* 'a murderer of Petja' and *Petin ubijca* 'Petja's murderer' do not have the same interpretation. The expression in (29a) refers to someone who murdered Petja, whereas the expression in (29b) is most naturally interpreted as referring to a murderer who bears some other relation to Petja, for example, someone hired by Petja.

Partee & Borschev raise the following question, even though this is not the focus of their study: given the claim that Russian adjectival possessives are modifiers whereas postnominal genitives are arguments and that the sets of possible relations that the two constructions may express do not always overlap, how to account for a high degree of overlap in meaning between the two constructions?

Recall that the same phenomenon can be observed in relational adjective-noun constructions and genitives. Namely, relational adjectives sometimes express the same meaning as their genitive counterpart, while sometimes they have a different interpretation. I suggest that due to a similar morphology, Russian adjectival possessives and relational adjectives are capable of expressing a similar range of meanings and that

constructions that involve adjectival possessives and relational adjectives are interpreted by applying very similar pragmatic and lexical semantic devices. I propose that this phenomenon should be given a uniform explanation based on morphological properties of both constructions in question. I develop my analysis of Russian adjectival possessive, relational adjectives and their overlap in meaning with genitives in the next chapter.

2.3 Relational adjectives

In the literature, there has been very little theoretical discussion of relational adjectives in terms of argument structure. Giorgi & Longobardi (1991) address this issue within their discussion of the syntax of DPs (they use the term 'referential adjectives'). They observe that relational adjectives may not express an internal argument but only a looser semantic relation – the semantic relation 'R'. The following example illustrates this point:[15]

(30) a. l'invasione italiana dell'Albania

lit.: the invasion Italian of Albania

b. *l'invasione albanese da parte dell'Italia

lit.: the invasion Albanian by Italy (Giorgi & Longobardi 1991:126 (21a-b))

In (30b), the internal argument of the relational noun *invasione* 'invasion' is expressed by the relational adjective *albanese* 'Albanian' which results in ungrammaticality of the expression.

Giorgi & Longobardi (1991) mention a number of cases often cited as counterexamples to the claim that relational adjectives may not express an internal argument:

(31) a. lo sfruttamento minorile

the juvenile exploitation

---

[15] Giorgi & Longobardi (1991) provide only the literal translation, relevant to their purposes.

b. il bombardamento londinese

the London bombing (Giorgi & Longobardi's (1991:243 (i))

Giorgi & Longobardi (1991) observe that in these examples, the relational adjectives *minorile* 'juvenile' and *londinese* 'London' are interpreted as 'concerning minors' or 'concerning London' and not really as expressing a thematic object. Instead, the relational adjectives in (31) express the semantic relation 'R' as opposed to an internal argument.

Giorgi & Longobardi (1991) point out that the acceptability of such examples decreases if there is an agent expressed through a *by*-phrase:

(32) a. ?*lo sfruttamento minorile da parte delle grandi imprese

the juvenile exploitation by big firms

b. ?*il bombardamento londinese da parte dei tedeschi

the London bombing by the Germans (Giorgi & Longobardi 1991:243 (ii))

The presence of the agent expressed by a *by*-phrase triggers the relational interpretation of the head noun. In other words, the presence of the agent – the external argument – suggests that the head noun should be construed as having an argument structure, which in turn, forces the interpretation of the relational adjective as an internal argument.

The same observation can be made for Russian relational adjectives:

(33) a. razrushenije gorod-a   Napoleon-om

destruction city-ACC Napoleon-INSTR

'destruction of a/the city by Napoleon'

b. (?)gorod-sk-oje razrushenije

city-ADJ-INFL   destruction

'a/the city destruction'[16]

---

[16] Some speakers of Russian find this construction ungrammatical. However, it is definitely better than the construction in (33c), where the agent is expressed.

c. *gorod-sk-oje   razrushenije Napoleon-om

   city-ADJ-INFL   destruction Napoleon-INSTR

   'a/the city destruction by Napoleon'

In (33a), the relational noun *razrushenie* 'destruction' is interpreted as referring to the destruction of a particular city, whereas in (33b), it is interpreted as referring to destruction of cities in general, or 'concerning a city', in Giorgi & Longobardi's (1991) terms. Finally, (33c) contains the *by*-phrase *by Napoleon* that triggers the relational interpretation of the noun *destruction*. Since in this case, the relational adjective *gorod-sk-oje* 'city' is construed as expressing an internal argument the expression ungrammatical. I will explore this issue in detail in chapter 4.

Chapter Three: The Puzzle and its Solution

3.1 The puzzle

3.1.1 Adjectival possessives, relational adjectives and genitives – an overlap in meaning

The first piece of the puzzle consists of the fact that in Russian, constructions involving adjectival possessives or relational adjectives have a partial overlap in meaning with genitive constructions. Although adjectival possessives and relational adjectives have a wider range or interpretations than the corresponding genitive constructions, sometimes they express the same relation. In (1) below, (1a) is a construction with an adjectival possessive whereas (1b) is a genitive construction:

(1) a. Mash-in-a   fotografija

          Masha-POSS-INFL   picture

          'Masha's picture'

    b. fotografija Mash-i

          picture   Masha-GEN

          'a/the picture of Masha'

Though both (1a) and (1b) express a relation between *picture* and *Masha*, the two expressions allow different interpretations: (1a) has a number of interpretations – the relation between *picture* and *Masha* may be interpreted as 'possession proper' (i.e. ownership), authorship (i.e. a picture taken by Masha), or 'depicting' (a picture that depicts Masha), and given an appropriate context, other interpretations are possible as well. For example, if there was a conversation about pictures, this DP may refer to a picture that Masha was talking about or a picture that Masha received as a present. In contrast, the genitive construction in (1b) has only one interpretation: a picture that depicts Masha.

In (2) below, (2a) is a construction with a relational adjective, whereas (2b) is a genitive construction. There is a difference in interpretation – (2a) does not contain a reference to a specific president. In contrast, (2b) implies that this is an advisor of a specific president. Nonetheless, both expressions denote a relation between *advisor* and *president*:

(2) a. prezident-sk-ij   sovetnik
         president-ADJ-INFL   advisor
         'a/the presidential advisor'
     b. sovetnik   prezident-a
         advisor   president-GEN
         'a/the advisor of the president'

The examples below illustrate the same range of possible interpretations for English prenominal possessives and postnominal *of*-phrases in (3) and relational adjectives and postnominal *of*-phrases in (4):

(3) a. Mary's picture
     b. a picture of Mary

(4) a. a presidential advisor
     b. an advisor of/(to) the president

The prenominal possessive in (3a) can have a number of interpretations, including the relation of depicting, whereas the postnominal *of*-phrase in (3b) may only be interpreted as an image of Mary. Similarly, the expression in (4a) may be interpreted as referring to an advisor who advises the president, hired by the presidential office, or an advisor that behaves like a president (in which case this is a qualitative reading), whereas (4b) can only have the first interpretation, namely, the advisor who advises the president.

Russian and English examples show that when there is an overlap in meaning between genitive constructions on the one hand and constructions involving prenominal possessives or relational adjectives on the other hand, the latter may be ambiguous between several meanings but one interpretation is the same as that of the genitive counterpart.

3.1.2 Relations expressed only by genitives

The second piece of the puzzle is represented by cases in which a certain relation may not be expressed by a construction with an adjectival possessive or a relational adjective, but only by a genitive construction. Cases in which constructions with an adjectival possessive and a genitive construction do not express the same relation were pointed out by Partee & Borschev (2000). They observe that there are restrictions on relations that may be expressed by means of adjectival possessives. Consider the example below:

(5) a. ubijca   Mash-i
         murderer   Masha-GEN
         'a/the murderer of Masha'

     b. Mash-in-Ø   ubijca
         Masha-POSS-INFL   murderer
         'Masha's murderer'

In Russian, the expression *ubijca Mashi* 'murderer of Masha' in (5a) and *Mashin ubijca* 'Masha's murderer' in (5b) do not have the same interpretation. The expression in (5a) most naturally refers to someone who murdered Masha, whereas the expression in (5b) would only be acceptable if it refers to a murderer who bears some other relation to Masha, for example, someone whom Masha hired.

The same is also true for constructions with relational adjectives:

(6) a. prodavec knig-Ø

      seller   books-GEN.PL

      'a/the seller of books'

  b. *knizh-n-yj   prodavec

      book-ADJ-INFL seller

      'a/the bookseller'

(7) a. planirovanije gorod-a

      planning   city-GEN

      'planning of a/the city'

  b. gorod-sk-oje   planirovanije

      city-ADJ-INFL planning

      'urban planning'

The expression in (6a) refers to someone who sells books, whereas the expression in (6b) is ungrammatical. In (7), though both constructions are acceptable, they have different interpretations: (7a) refers to planning of a specific city, whereas (7b) may only be interpreted as planning of cities in general.

The examples in (8) below show that similar restrictions apply to English constructions with relational adjectives:

(8) a. the murderer of the president

  b. the presidential murderer

(9) a. the invasion of Russia (by Napoleon)

  b. (Napoleon's) Russian invasion

The expression in (8a) refers to somebody who killed the president, whereas (8b) normally cannot be used to refer to Lee Harvey Oswald for instance, but rather to a murderer hired by the presidential office, for instance. Similarly, the constructions in (9)

have a slightly different interpretation: (9a) refers specifically to Napoleon's invasion of Russia, whereas (9b) is only acceptable if it means something like one of Napoleon's invasions that happens to be Russian as opposed to Japanese.[17] Following Kayne (1981), the contrast illustrated by (7) – (9) is explained in terms of the internal versus external argument distinction, which is discussed in section 3.2.

3.1.3 Relations expressed only by constructions with relational adjectives

Finally, the last piece of the puzzle is as follows. Certain relations can be expressed only by a relational adjective-noun construction, as shown by the example in (10a); the genitive construction in (10b) is ungrammatical:

(10) a. shokolad-n-yj tort
   chocolate-ADJ-INFL cake
   'a/the chocolate cake'

  b. *tort shokolad-a
   cake chocolate-GEN
   'a/the cake of chocolate'

It is hard to come up with a Russian example of an adjectival possessive whose genitive paraphrase would be as bad as the example in (10b). Note, however, that if we replace the adjective *shokoladnyj* 'chocolate' with the adjectival possessive *Mashin* 'Masha's' the genitive construction will be worse than the construction with an adjectival possessive:

(11) a. Mash-in-Ø tort
   Masha-POSS-INFL cake
   'Masha's cake'

---

[17] Examples cited throughout this thesis may not reflect actual historical facts.

b. (?)tort Mash-i

    cake   Masha-GEN

    'a/the cake of Masha's'

This is consistent with the proposal made in chapter 1 that non-argument genitive DPs are only acceptable if an adjectival possessive is not available. Since in (11), an adjectival possessive is available the genitive construction in (11b) is merely less preferred.

Another example of an adjectival possessive that normally would not be paraphrased as a genitive construction is given in (12): (12a) is perfectly grammatical whereas (12b) is odd:

(12) a. Mash-in-∅   voditel'

      Masha-POSS-INFL   driver

      'Masha's driver'

b. #voditel' Mash-i

      driver   Masha-GEN

      'a/the driver of Masha'

As opposed to (12), the head noun in (12) is relational – it is derived from the transitive verb *drive*. In (12a), the expression is interpreted as referring to a driver who bears some relation to Masha – most likely drives Masha's car. In contrast, (12b) seems to be interpreted as referring to a driver who drives Masha. Since the internal argument of the noun *driver* as well as that of its base verb *drive* may only be a vehicle or a similar object (12b) is semantically odd.

Having explained the contrast in (12), the following question still remains about the constructions in (10) and (11): why is (11b), though not the first choice of a native speaker still, in principle, grammatical, whereas (10b) is obviously ill-formed? If Russian postnominal genitives are not always arguments why is *tort shokolada* 'the cake of chocolate' ungrammatical? In other words, if the genitive DP in (11b) can express a non-argument, why cannot it express a non-argument in (10b)? As suggested in section 1.3

above, apparently, (10b) and (11b) are different types of genitives. I return to this question in section 3.3.4.

To summarize, in Russian, constructions that involve adjectival possessives and relational adjectives may be paraphrased as genitive constructions and preserve one of their interpretations. That is, there is an overlap in meaning between adjectival possessives and genitives as well as between relational adjective-noun constructions and genitives. However, this overlap in meaning is not total. Sometimes, constructions with an adjectival possessive and genitives are both available but have different interpretations; sometimes, a relational adjective-noun construction is fine, but its genitive paraphrase is ungrammatical. In the rest of this chapter, I attempt first, to explain this asymmetry in meaning between the three constructions in question and second, based on this explanation predict the ungrammaticality of certain constructions.

3.2 Assumptions

Before outlining a possible solution for the puzzle presented above, a number of assumptions are in order. In section 3.2.1, I outline two assumptions concerning argument structure and section 3.2.2 presents four assumptions on the syntactic expression of this argument structure.

3.2.1 Argument structure

My first assumption, following Hoeksema (1984), Barker (1995), Partee & Borschev (2000) and others, is that nouns can be relational or non-relational. Recall that relational nouns denote a two-place predicate, or a set of pairs of entities, whereas non-relational nouns denote a one-place predicate, or a set of entities. For example, the noun *mother* is a two-place predicate and its extension is a set of pairs of entities, whereas the noun *chair* is a one-place predicate and its extension is a set of entities:

(13) a. *mother*: $\lambda x \, \lambda y (\text{mother } (x, y))$

    b. *chair*: $\lambda x \, (\text{chair } (x))$

Given this, the expressions *John's mother* and *John's chair* may be given the semantic representations in (14a) and (14b) respectively:

(14) a. *John's mother*:   the x: [mother(x) & mother (x, John)]

     b. *John's chair*:   the x: [chair (x) & R (x, John)]

As can be seen from the representation above, the interpretation of the construction in (14b) involves the semantic relation 'R'. Recall that the semantic relation 'R' is a free variable that receives its value from the context i.e. the context should make it sufficiently clear what kind of relation the construction expresses. For example, in (14b), there are a number of possible relations that can hold between *John* and *chair*: 'R' can be 'owns', 'sits in', 'made', etc. One of these interpretations of 'R' is chosen based on context and knowledge of the world.

The semantic representation of the possessive constructions in (14) suggests the other assumption about argument structure, namely regarding the presence of the semantic relation 'R' in some constructions. I assume that there is a distinction between real internal arguments that bear a thematic role on the one hand and non-arguments that bear the semantic relation 'R' to the head on the other hand (I will discuss the relevance of the internal-external argument distinction below). I shall refer to the latter as *quasi-arguments*. A similar distinction has been proposed by Higginbotham (1983) and, following Kayne (1981), by Giorgi & Longobardi (1991).

According to the Theta-criterion (Chomsky 1981; 1986), each argument is assigned a unique theta-role by the head. This means that the meaning of the head determines the semantic relation that holds between this head and its argument. Therefore, the interpretation of the semantic relation between the head and its real (internal) argument is never context-dependent. For example, in (15) below, *the president* is a real internal argument of *murder*:

(15) a. Lee Harvey Oswald murdered the president.

     b. * Lee Harvey Oswald murdered.

As shown by the ungrammaticality of (15b), the verb *murder* requires the presence of its internal argument.[18] For the event denoted by *murder* (the event of murdering) to take place two participants are required. One participant corresponds to the agent of the event (expressed as an external argument), whereas the other participant corresponds to its patient (expressed as an internal argument). In this construction, the relation between *Lee Harvey Oswald* and *the president* is always interpreted as the relation of 'having murdered'.

Now, consider an example with the relational noun *murderer*:

(16)   Lee Harvey Oswald is the murderer of the president.

In (16), the semantic relation between the head noun *murderer* and the non-head noun *president* is always interpreted as the relation of 'having murdered'. This is the same relation as the one that holds between the verb *murder* and its internal argument *president* in (15) above. This suggests that *president* is a real internal argument of the noun *murderer* and that just like a real internal argument of the verb *murder* it receives a theta-role from the head noun *murderer*. This is consistent with an observation made by Roeper (1987:270) that there is a set of thematic affixes that maintain thematic roles throughout a morphological derivation (I return to the discussion of *–er* nouns and argument inheritance in chapter 4). It follows then, that when the head noun is relational (e.g. derived from a transitive verb) it can take an internal argument to which it assigns a theta-role.

On the other hand, a quasi-argument is a type of modifier. It is a non-head element of a phrase that does not receive a theta-role from the head but stands in some other semantic relation to the head. The crucial difference between constructions with real arguments and constructions with quasi-arguments is that in the latter, the semantic

---

[18] Of course, not all real internal arguments are obligatory. For example, there are optionally transitive verbs, such as *eat* or *drink*, whose internal arguments are optional. However, it seems that these verbs constitute a well-defined class and the membership in this class is determined by semantic properties of a verb that do not concern me here. In the case of other transitive verbs, the presence of an internal argument is required.

relation is not determined by the meaning of the head. For example, in an expression such as *chair of John's*, *John* is a quasi-argument of the head noun *chair*. In this case, the head noun is not relational; it is incapable of assigning a theta-role to an internal argument and determining a semantic relation. Therefore, the quasi-argument *John* stands in a semantic relation to *chair* which is not determined by the meaning of the head noun and may only be identified based on context. In this case, the construction involves the semantic relation 'R'.

Table 4 below summarizes the two assumptions concerning argument structure:

Table 4. Assumptions on argument structure

TYPE OF HEAD	TYPE OF ARGUMENT	THETA-ROLE	RELATION 'R'	INTERPRETATION OF THE SEMANTIC RELATION	
				FIXED	CONTEXT-DEPENDENT
RELATIONAL	REAL ARGUMENT	√	--	√	--
NON-RELATIONAL	QUASI-ARGUMENT	--	√	--	√

3.2.2 Syntax

The next set of assumptions concerns syntactic expression. First, following Abney (1987) and others I assume the DP-hypothesis according to which the lowest maximal projection of N is NP which does not dominate material such as determiner, possessor, etc. According to this analysis, the determiner, D, is the head of the nominal phrase; the structure of a DP is as represented in (17) below:

(17)

```
            DP
          /    \
        DP      D'
               /  \
              D    NP
                   |
                   N
```
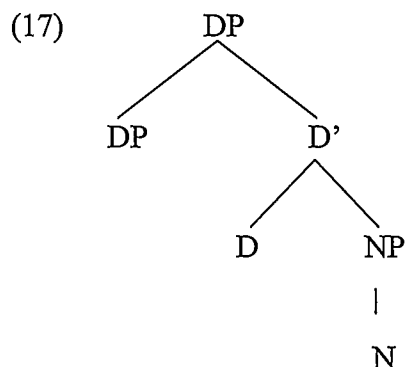
Second, following Williams (1981), I assume that in D-Structure, all arguments except for the external argument are realized within the maximal projection of their head. This means that internal arguments are complements to the head and are included within the lowest maximal projection of their head. In contrast, modifiers are realized outside the lowest maximal projection, i.e. modifiers are adjuncts which are not included within the lowest maximal projection of the head. By the lowest maximal projection I mean the lowest phrasal node dominating the head. This is shown in the structure in (18) below:

(18)

```
              DP
            /    \
          DP      D'
                 /   \
                D     NP₂
                     /    \
                   YP      NP₁
                adjunct    /   \
               (modifier) N₀    XP
                             complement
                             (argument)
```
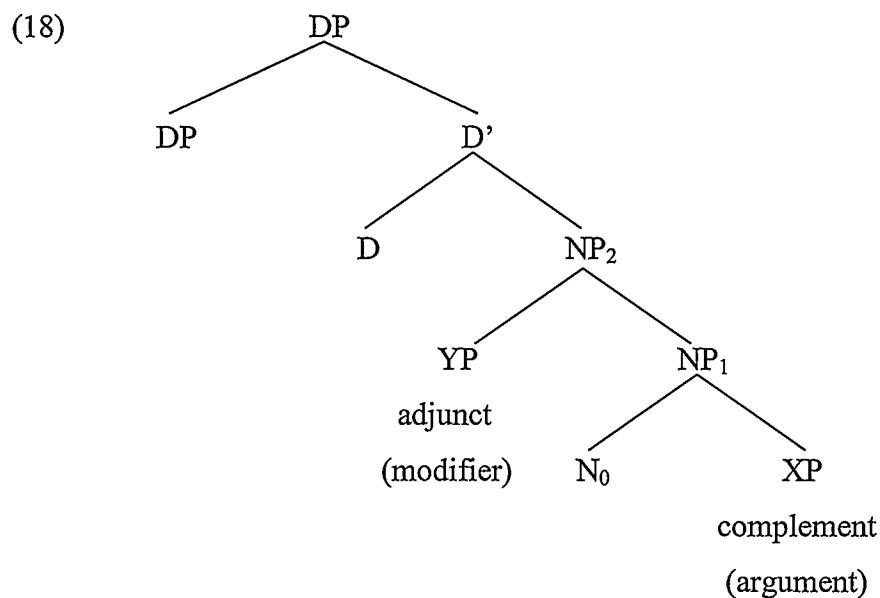
In (18), NP_1 is the lowest maximal projection dominating the head N_0 and the complement XP is realized within the NP_1, whereas the adjunct YP is realized within NP_2.

Third, I assume that attributive APs are modifiers, i.e. they are adjuncts to heads. According to Radford (1988:209(161)) and others, working in a pre-DP-hypothesis framework, attributive APs are generated by the following rule:

(19) N'   →   AP N' [Attributive Rule: optional]

Within this framework, the highest maximal projection of N is NP, which includes determiners, possessors, etc. Thus, N' in (19) corresponds to the lowest maximal projection of the head N_0 under the DP-hypothesis, i.e. to NP_1. Assuming the DP-hypothesis, the rule in (19) may be rewritten as follows (Abney 1987; Valois 1996, among others):

(20) a. DP   →   (D) NP
     b. NP   →   (AP*) NP

According to (20b), AP is an optional element within a NP, the potential number of APs within a single NP/DP is unlimited and APs are adjuncts to the head Ns as they are attached to NPs and not to Ns. This gives rise to the following structure:

(21)

```
              DP
            /    \
          D       NP
                 /  \
               AP    NP
                    /  \
                  AP    NP
                         |
                         N
```
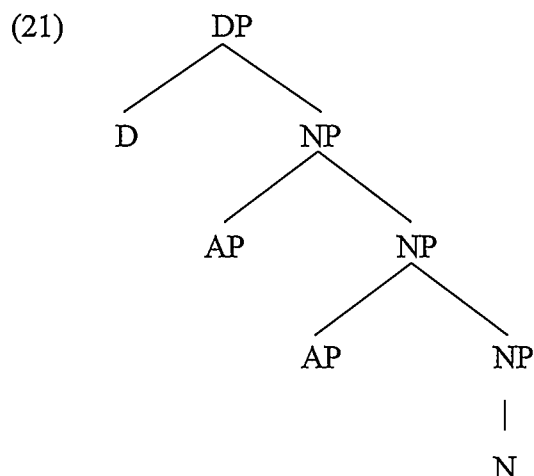
Given these assumptions, the distinction between internal and external arguments is crucial. Since external arguments are not realized within the lowest maximal projection dominating their head, they may be expressed by APs. However, APs may not express an internal theta-role since internal arguments must be realized within the lowest maximal projection of their head (Kayne 1981):[19]

(22) a. Everyone deplored Russia's destruction of China.

b. Everyone deplored China's destruction by Russia.

(23) a. Everyone deplored the Russian destruction of China.

b. *Everyone deplored the Chinese destruction by Russia.

(Kayne 1981:111 (72-73))

In (22), both sentences are grammatical. Both arguments of *destruction*, internal (*China*) and external (*Russia*) are expressed as DPs. However, in (23), one of the two arguments is expressed as an AP. As shown by the contrast in grammaticality between (23a) and

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[19] I should make clear that Kayne (1981) only briefly addresses this issue in the course of his discussion of ECP extensions. The properties of adjectives – either relational or qualitative – are not the focus of his paper.

(23b), internal arguments, as opposed to external arguments may not be expressed by adjectives.

Fourth, following Chomsky (1970), Williams (1981), Grimshaw (1990) and others, I assume that there is a regular relation between the argument structures of morphologically related words. For example, nouns derived from verbs may retain the argument structure of these verbs. Thus, nouns derived from transitive verbs may preserve the internal argument of their base verb. This is illustrated by (24):

(24) a. The professor examined the papers.

   b. The professor's examination of the papers took a long time.

In (24a), the DP *the papers* is an internal argument of the verb *examine* assigned a theta-role by this verb. Similarly, in (24b), the semantic relation between *examination* and *the papers* is the same as between *examine* and *the papers* in (24a). The same is true with respect to nouns derived from transitive verbs by means of the agentive suffix *–er*:

(25) a. Marilyn drives a school bus.

   b. Marilyn is a driver of a school bus.

The semantic relation between *driver* and *a school bus* in (25b) is the same as the semantic relation between the verb *drive* and its internal argument *a school bus* in (25a). Here I present this property of deverbal nouns simply as an assumption which would suffice for the purposes of this chapter. I discuss this issue in more depth in chapter 4.

Having outlined the basic assumptions let us turn to the actual solution of the puzzle. In the following section, I propose a morpho-syntactic account for the facts described in section 3.1. I show that this account also may be used to explain the similarity and difference between Russian relational adjective-noun constructions and English compounds.

3.3 The solution

3.3.1 Genitives and possessives

Let us first have a look at the English postnominal *of*-phrase construction *the murderer of John*. In this expression, *John* is interpreted as an internal argument of *murderer* and the relation between *John* and *murderer* is the relation of murdering. The semantic representation of this expression is given in (26):

(26)   *the murderer of John*:   the x: [murderer (x) & murder (x, John)]

The genitive construction *the murderer of John* is assigned the following syntactic structure:

(27)

```
              DP
            /    \
          D       NP
         the     /  \
               N      PP
               |     /  \
                    P    DP
          murderer  of   /\
                        John
```
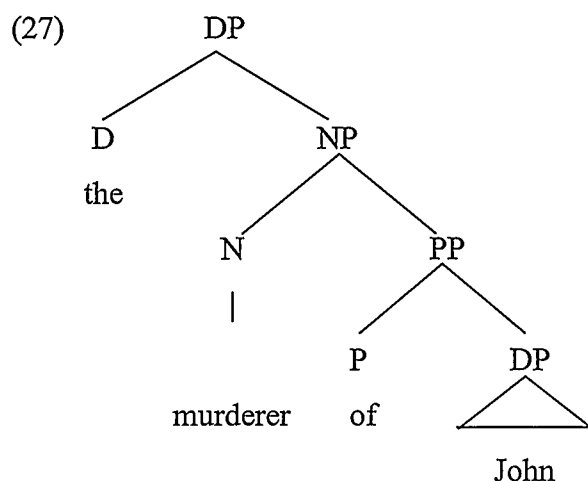
Now let us turn to the prenominal possessive *John's murderer*. In English, there are (at least) two ways of interpreting this expression. One way would be to interpret *murderer* as a two-place predicate and *John* as an internal argument of *murderer*. In this case, the semantic relation between *John* and *murderer* is the same as the relation between the verb *murder* and its internal argument, i.e. the relation of murdering. The semantic representation of this expression is given in (28):

(28)   *John's murderer*:   the x: [murderer (x) & murder (x, John)]

The other way to interpret the expression *John's murderer* is to interpret *murderer* as a one-place predicate and *John* not as an internal argument of *murderer* but as a quasi-argument bearing the semantic relation 'R' to *murderer*. In this case, the expression is ambiguous because the relation between *John* and *murderer* is not determined by the meaning of the head noun *murderer* any more. Now this expression can refer to a murderer whom John hired or, given a specific context, to a murderer who bears some other salient relation to John. The semantic representation of this interpretation is given in (29):

(29)   *John's murderer*:   the x: [murderer (x) & R (x, John)]

I suggest that this ambiguity reflects the fact that the expression *John's murderer* can have two distinct D-structures: the structure in (30) corresponds to the first interpretation, where *John* is interpreted as an internal argument of *murderer* and involves movement of the DP from the internal argument position to the Spec-DP:[20]

(30)

$$
\begin{array}{c}
\text{DP} \\
\diagup\quad\diagdown \\
\text{DP}\qquad\text{D'} \\
\text{John}_i \\
\qquad\text{D}\qquad\text{NP} \\
\qquad\text{'s} \\
\qquad\qquad\text{N}\qquad\text{DP} \\
\qquad\text{murderer}\qquad t_i
\end{array}
$$

---
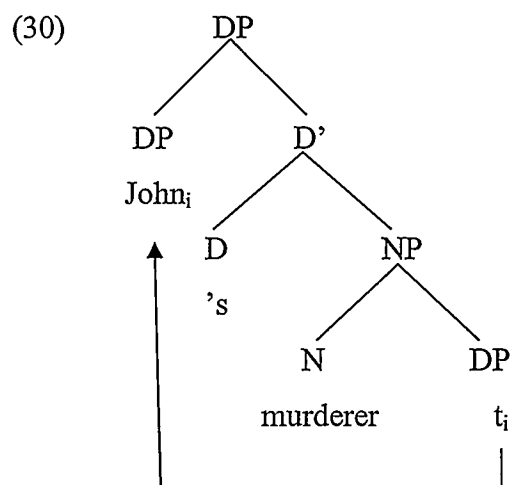
[20] Abney (1987:78-85) discusses various possibilities of the position of *'s*. In particular, he suggests that *'s* may be analyzed as a determiner or as a postpositional case marker. Although, as Abney points out, there is little evidence clearly favoring one analysis over the other he prefers *'s*-as-case-marker analysis based on the fact that historically, *'s* was a case morpheme and also because in many languages (e.g. Hungarian) lexical determiners may co-occur with possessors. Since nothing in this thesis crucially depends on it, I adopt the *'s* -as-determiner analysis because the other analysis involves a more complicated syntactic structure.

The structure in (31) corresponds to the other interpretation, where *John* is interpreted as bearing a semantic relation 'R' to *murderer*. I propose that in this case, the structure does not involve movement – *John* is base-generated in the Spec-DP position:

(32)

```
            DP
          /    \
       DP        D'
      John      /  \
              D      NP
             's     /  \
                   murderer
```
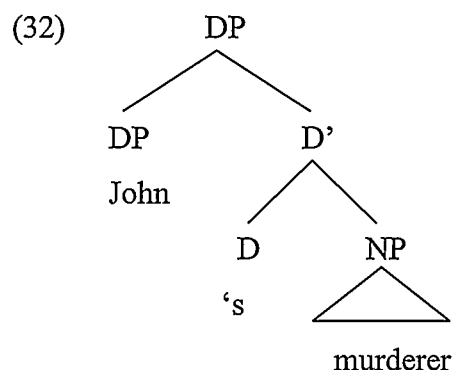
Now let us have a look at the corresponding Russian constructions: (33a) is an example of a genitive construction whereas (33b) is an example of an adjectival possessive:

(33) a. ubijca   Mash-i

       murderer Masha-GEN

       'a/the murderer of Masha'

  b. Mash-in-Ø   ubijca

       Masha-POSS-INFL   murderer

       'Masha's murderer'

Just like the English expression *the murderer of John*, the Russian expression in (33a) only may refer to somebody who murdered Masha and is assigned the semantic representation in (34) and the syntactic structure in (35):

(34)   *the murderer of Masha*:   the x: [murderer (x) & murder (x, Masha)]

(35)

```
                DP
              /    \
            D       NP
            Ø      /   \
         (a/the)  N      DP
                 ubijca   /\
                         /  \
                murderer  Mashi
                        Masha-GEN
```
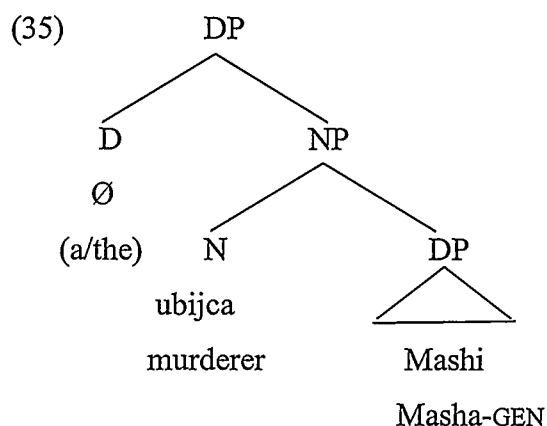
The construction with the adjectival possessive *Mashin ubijca* 'Masha's murderer', just like its English counterpart *John's murderer* may have a number of interpretations. However, as pointed out by Partee & Borschev (2000), the Russian adjectival possessive, as opposed to its English counterpart, is not usually interpreted as referring to somebody who murdered Masha.[21] That is, unlike in English, the relation expressed by the genitive construction in (33a) may not be expressed by the adjectival possessive in (33b). The Russian adjectival possessive may receive only one semantic interpretation, i.e. the interpretation that does not involve an argument-head relation:

(36)   *Masha's murderer*:   the x: [murderer (x) & R (x, Masha)]

The question is why may the English prenominal possessive *John's murderer*, but not the Russian adjectival possessive *Mashin ubijca* 'Masha's murderer' have a reading which is the same as the only interpretation of its genitive counterpart? I propose that the difference between English prenominal possessives and Russian adjectival possessives is that in English, prenominal possessives are formed syntactically, whereas in Russian, adjectival possessives are formed morphologically. In other word, in English the formation of a prenominal possessive such as *John's murderer* does not involve a

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[21] This interpretation is not absolutely excluded, i.e. it may be pushed given a very specific context, for example, during a criminal investigation, *Masha's murderer* may be used by a detective to refer to somebody who murdered Masha as opposed to *Petja's murderer*, i.e. somebody who murdered Petja.

morphological change, whereas in Russian, the formation of an adjectival possessive such as *Mashin ubijca* 'Masha's murderer' involves a morphological change – the addition of the suffix that turns a noun into an adjective. Also, in English, a prenominal possessive is phrasal – as shown in chapter 1, *'s* is attached to phrases, whereas in Russian, morphological suffixes that form adjectival possessives are attached to a word.

To illustrate this point, let us suppose for the sake of argument that just like its English counterpart, the Russian adjectival possessive *Mashin ubijca* 'Masha's murderer' could be interpreted in two ways. In other words, suppose that contrary to the fact, it could refer both, to a murderer who bears some relation to Masha other than murdering or to a murderer who murdered Masha. The syntactic structures necessary for these two interpretations are given in (37) and (38) respectively:

(37)

```
                    DP
                   /  \
                  /    \
                 D      NP
                       /  \
                      /    \
                    AP      NP
                     |      /\
                     |     /  \
                     A    ubijca
                    /\    murderer
                   /  \
                  N   -aff
                Masha  -in
                Masha  -POSS
```

(38)   *   DP

```
                    DP
                  /    \
                 D      NP
                      /    \
                    AP      NP
                    |      /   \
                    A     N     DP
                   / \   ubijca  tᵢ
                  Nᵢ  -aff  murderer
                Masha  -in
                Masha  -POSS
```
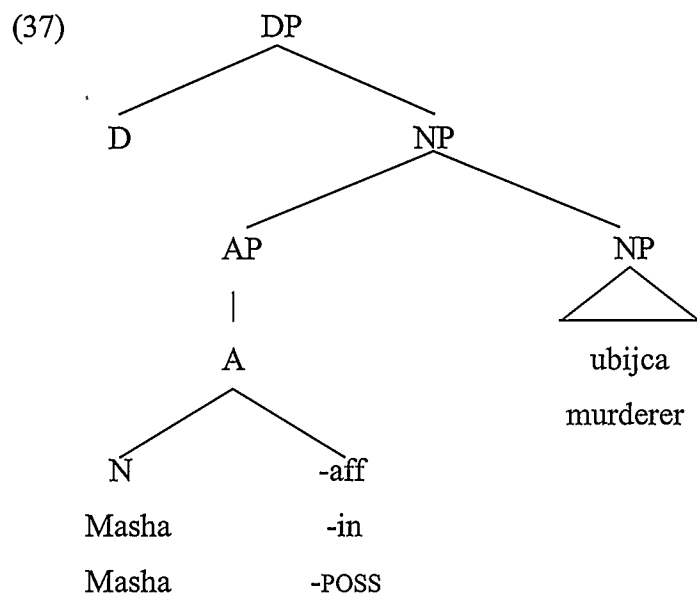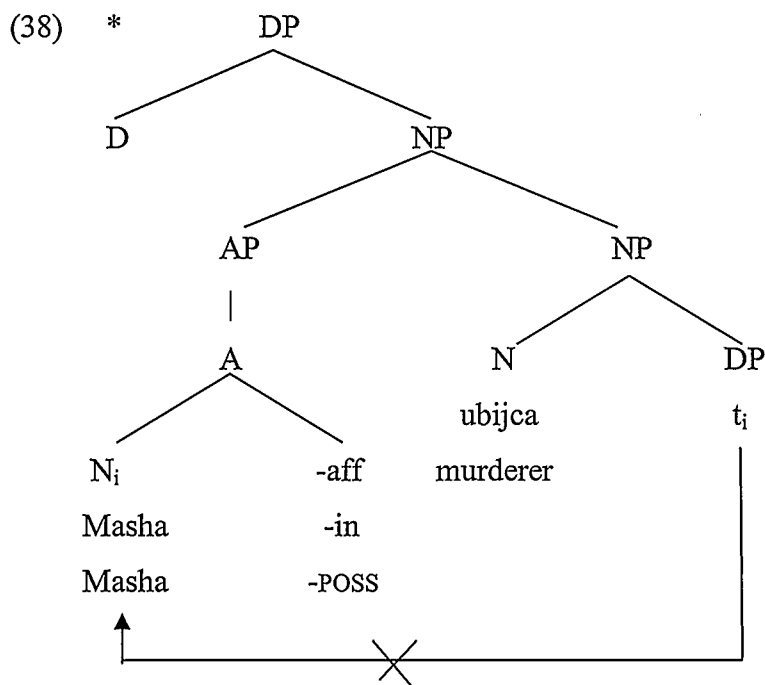
As the structure in (38) suggests, the movement option available for English prenominal possessives is not available in Russian. The movement from the internal argument position is impossible for a number of reasons. For example, we would have to move a phrase into a word position, namely, a DP from the internal argument position into an adjective position. Also, according to the Empty Category Principle (ECP), the trace must be c-commanded by its antecedent, which is impossible in (38) (Chomsky 1981; 1986).

3.3.2   Genitives and relational adjectives

The presence of two independent underlying structures for English constructions with prenominal possessives is confirmed by constructions with relational adjectives. Consider the example in (39) below:

(39)   the presidential murderer

Since attributive APs are modifiers, a relation between the entity denoted by *murderer* and the entity denoted by the base noun of the relational adjective *presidential* (i.e.

president) is not determined by the meaning of the head noun *murderer* but is identified based on context. A semantic relation that is not context-dependent is possible only between head and its argument. Therefore, the expression *presidential murderer* must involve the semantic relation 'R'. This expression refers to a murderer who is somehow related to the president or presidency. Thus, (39) is assigned the semantic representation in (40) and the syntactic structure in (41):

(40)   *the presidential murderer*:   the x: [murderer (x) & R (x, president)]

(41)

```
              DP
             /  \
            D    NP
                /  \
              AP    NP
              |    /__\
              A   murderer
             /  \
            N    aff
        president  -ial
```
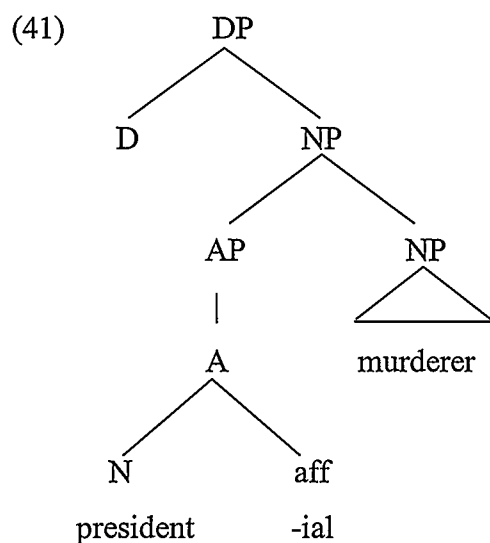
Presidential murderer, as opposed to *John's murderer* does not have the second interpretation, where *president* would be construed as an internal argument of *murder*. If we look at the structure in (42) below, we understand why:

(42)　　*

```
              DP
            /    \
           D      NP
                /    \
              AP      NP
              |      /    \
              A     N      DP
            /   \  murderer  tᵢ
          Nᵢ    aff
        president -ial
```
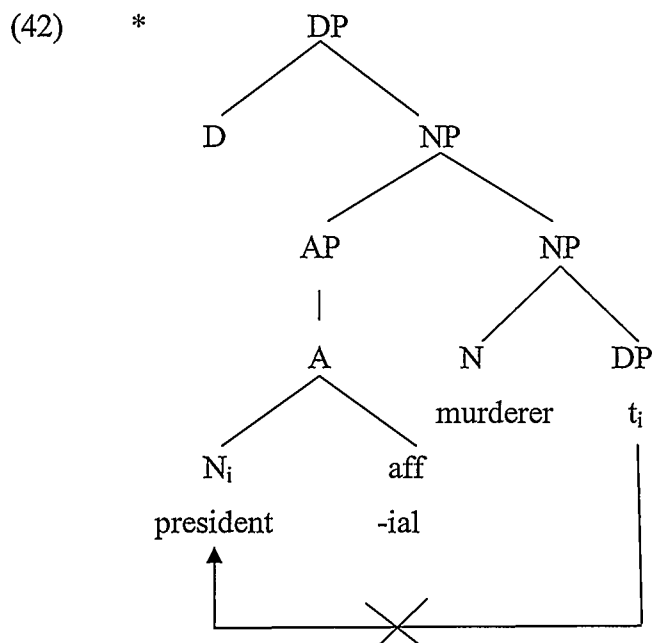
The structure in (42) is ruled out for exactly the same reasons as the structure in (38) above that represents the Russian adjectival possessive. Given the fact that the movement option is ruled out the relational adjective-noun construction *presidential murderer* may not express the same relation as the genitive construction *the murderer of the president*.

Now let us turn to Russian. Similar restrictions apply to Russian relational adjectives. As the ungrammaticality of (43b) below shows, the genitive construction in (43a) cannot be paraphrased as a relational adjective-noun construction:

(43) a.　prodavec　knig-Ø

　　　　　seller　　books-GEN

　　　　　'a/the seller of books'

　　b.　*knizh-n-yj　　prodavec

　　　　　book-ADJ-INFL　seller

　　　　　'a/the bookseller'

The grammatical expression in (43a) has the following semantic representation:

(44)   *the seller of books*:   the x: [seller (x) & sell (x, books)]

The genitive construction *prodavec knig* 'seller of books' has the syntactic structure shown in (45), whereas the syntactic structure in (46) is ruled out for the same reason as (38) and (42) – the movement is impossible:

(45)

```
                    DP
                  /    \
                D        NP
                |       /   \
                Ø      N       DP
             (a/the) prodavec   /\
                     seller    /  \
                              knig
                          book-GEN.PL
```

(46)   *

```
                        DP
                     /      \
                   D          NP
                   |        /      \
                   Ø      AP          NP
                (a/the)   |         /    \
                          A        N      DP
                        /   \   prodavec  t_i
                      N_i    -aff  seller
                     kniga  -n(iy)
                     book   -ADJ
```
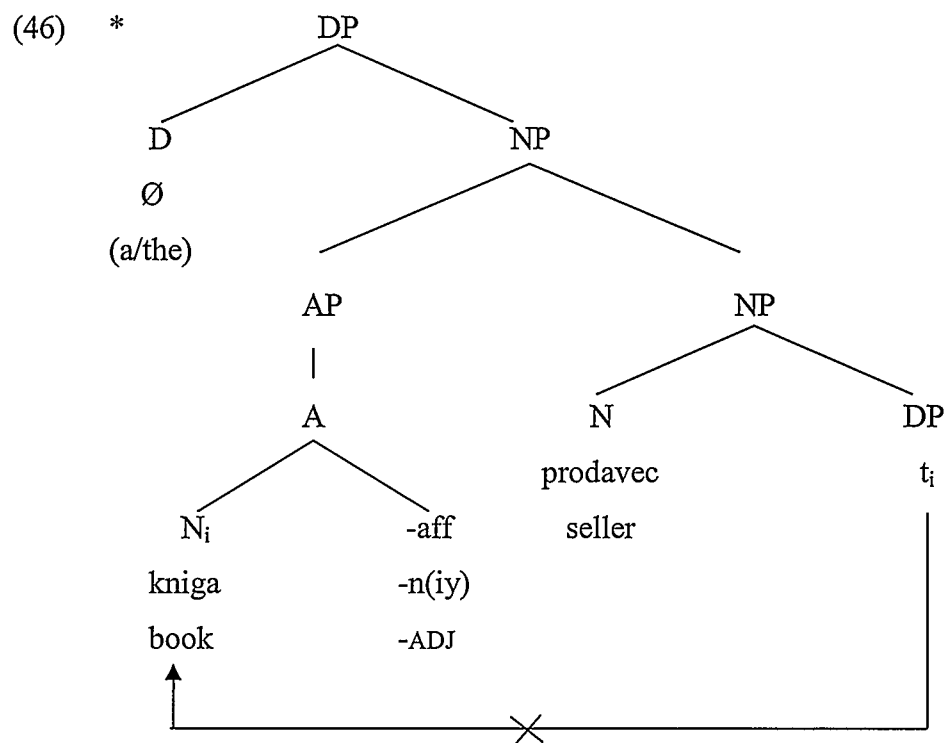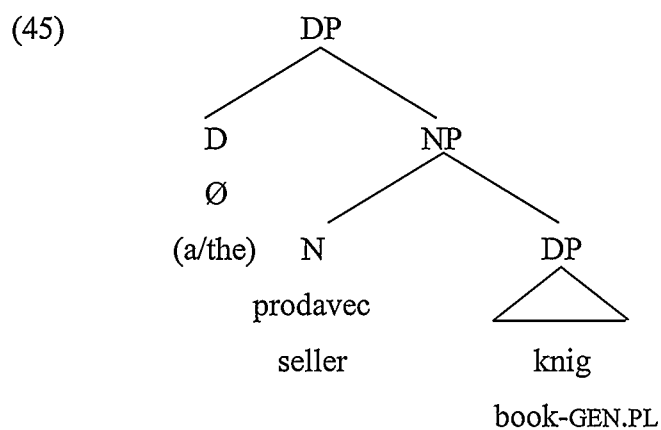
The data above show that relational adjective-noun constructions may not express the head-argument relation when the head noun is derived from a verb. It is impossible to move a DP into an AP position, so this interpretation may not be derived by movement. If relational adjectives are base-generated in their S-structure position and there is no movement involved, they are not within the lowest maximal projection dominating the head so they cannot express an internal argument of the head.

3.3.3 Genitives, possessives and relational adjectives – an overlap in meaning

As pointed out by Partee & Borschev (2000), despite the existence of cases such as those discussed in section 3.3.1 there is still an overlap in meaning between Russian adjectival possessives and genitives. Furthermore, an overlap is also possible between relational adjective-noun constructions and genitives. I propose that this overlap in meaning occurs when the semantic relation 'R' (i.e. a free variable) involved in adjectival possessives and relational adjective-noun constructions may be interpreted as the same relation that holds between the head noun and its argument in the genitive construction.

As a starting point, let us assume for a moment, that in Russian, genitive DPs are always argument-like, while adjectival possessives are modifier-like, as suggested by Partee & Borschev (2000). Recall from section 1.3 that they draw this conclusion based on the fact that in Russian, adjectival possessives but not genitive DPs can occur in the predicative position. Let us first have a look at a genitive construction:

(47)   fotografija Mash-i

             picture   Masha-GEN

             'a/the picture of Masha'

If genitive DPs are arguments the semantic relation between the head of a genitive construction and the genitive DP is fixed – it is never ambiguous or context-dependent. In (47), *Masha* is an argument of *picture* and the relation between *Masha* and *picture* may only be interpreted as the relation of depicting – this is *a picture that depicts Masha*. This expression has the following semantic representation:

(48)   *the picture of Masha*:   the x: [picture (x) & depict (x, Masha)]

It is also possible to express this meaning by means of a construction with an adjectival possessive. In addition to other possible interpretations, the expression in (49) may be interpreted as 'picture that depicts Masha':

(49)   Mash-in-a   fotografija

Masha-POSS-INFL   picture

'Masha's picture'

(50)   *Masha's picture*:   the x: [picture (x) & R (x, Masha)]

If adjectival possessives in Russian are modifiers there is no fixed semantic relation between the head of the construction and the base noun of the adjectival possessive since such a relation exists only between heads and their real arguments. Consequently, constructions with adjectival possessives involve the semantic relation 'R' that is filled in based on context. We would expect such constructions to have more than one possible interpretation. This is the case with the expression *Mashina fotografija* 'Masha's picture' in (49): it may refer to a picture taken by Masha or a picture bought by Masha, etc. However, it also may refer to a picture depicting Masha in which case the semantic relation between the head *picture* and the quasi-argument *Masha* would be the same as the semantic relation between the head *picture* and the real argument *Masha* in the genitive construction in (47).

Now let us have a look at relational adjective-noun constructions. The example below shows that they also may have a genitive counterpart:

(51) a. igrushech-n-aja fabrika

toy-ADJ-INFL   factory

'a/the toy factory'

b. fabrika igrush-ek

factory toy-GEN.PL

'a/the factory of toys'

In both cases, the expression means 'a factory that produces toys'. In other words, the construction with a relational adjective expresses the same relation as between the head and its argument in the genitive construction – the relation of producing. The semantic relation 'R' incorporated in the relational adjective-noun construction in (51a) may be interpreted as the same relation as the one expressed by the genitive construction.

The data presented in sections 3.3.1 – 3.3.3 suggest that the adjectival possessives and relational adjectives on the one hand and genitives on the other hand express the same relation if the semantic relation 'R' involved in the former constructions may be interpreted as the same relation as that between the head and its argument. However, this does not account for the facts above, as long as there is no answer for the question when this happens, i.e. what determines whether or not the semantic relation 'R' may express the same relation as that between the head and its argument. This issue is dealt with in chapter 4.

3.3.4 Relations expressed by constructions with relational adjectives

Finally, as we have seen, some relational adjective-noun constructions may not be paraphrased as genitives. Given the distinction between relational and non-relational nouns, I propose that genitive constructions are ungrammatical if the head noun of the relational adjective-noun construction is not relational, i.e. cannot take arguments. For example, the head noun *cake* in (52a) below is a non-relational noun in the sense of Hoeksema (1984), Barker (1995) and Partee & Borschev (2000). If something is a cake it is not necessarily related to something or somebody. Consequently, it cannot take arguments and the genitive construction in (52b) is ungrammatical:

(52) a. shokolad-n-yj   tort

       chocolate-ADJ-INFL cake

       'a/the chocolate cake'

    b. *tort   shokolad-a

       cake   chocolate-GEN

       'a/the cake of chocolate'

Note that the English expression *a cake of chocolate* is grammatical if the noun *cake* is construed as a unit of measure (E.Ritter, p.c.). This observation supports the 'relational' view: when *cake* is interpreted as a unit of measure it becomes relational, just like *a bar of chocolate* or *a glass of milk*.

Let us again consider the examples below where the relational adjective *shokoladnyj* 'chocolate' is replaced with the adjectival possessive *Mashin* 'Masha's':

(53) a. Mash-in-Ø   tort

       Masha-POSS-INFL cake

       'Masha's cake'

    b. (?)tort Mash-i

       cake Masha-GEN

       'a cake of Masha's'

Recall that the expression in (53a) may be interpreted as referring to a cake that Masha made or a cake that Masha is eating or the cake that Masha received as a present, etc. The genitive construction in (53b) is not as bad as the genitive construction *tort shokolada* 'the cake of chocolate' in (52b). As mentioned earlier, there is a crucial difference between the genitive construction in (53b) and a genitive construction such as *fotografija Mashi* 'the picture of Masha' or *ubijca Mashi* 'the murderer of Masha'. The genitive construction in (53b) may have many different interpretations as well.

Following the discussion in chapter 1, contrary to Partee & Borschev's (2000) claim, the genitive DP in (53b) is not an argument. Now I return to the question raised in

section 3.1.3, namely, why is (53b), even if not the perfect choice of a native speaker, still acceptable, whereas (52b) obviously ungrammatical? If Russian postnominal genitives are not always arguments what makes *tort shokolada* 'the cake of chocolate' ill-formed? In other words, if the genitive DP in (53b) can express a non-argument, why can it not express a non-argument in (52b)?

These observations suggest that the construction in (52b) and (53b) are different types of genitives. The type represented by (53b) is used to express relations of possession and the relations of 'proximity', using Barker's (1995) terminology. This type of postnominal genitives is parallel in meaning to adjectival possessives and serves as a kind of spare device when an adjectival possessive is not available. Perhaps, when speakers encounter an expression such as *tort Mashi* 'a cake of Masha's' or *stul Peti* 'a chair of Petja's' they directly associate it with the corresponding adjectival possessive and interpret it the same way as they would interpret the adjectival possessive. Therefore, even when an adjectival possessive is available, the use of such a genitive would be less preferred but not ill-formed.

The other type of genitives may not be paraphrased as adjectival possessives and the relations they express have nothing to do with possession or 'proximity'. Paducheva (1982:52) mentions several cases when the substitution of the genitive DP with a pronoun is impossible (Koptjevskaja-Tamm & Shmelev 1994 extend this analysis to adjectival possessives. I extend it to relational adjectives as well.):[22]

(54) a. zoloto volos-Ø

       gold   hair-GEN

     'gold of hair'

---

[22] Paducheva (1982) discusses the interpretation of postnominal genitives and personal pronouns, in particular the contrast between *moy prihod* 'my arrival' and ungrammatical **prihod menja* 'arrival of me' where the prenominal possessive *moy* 'my-NOM' may not be replaced by *menja* 'my-GEN'. Koptjevskaja-Tamm & Shmelev (1994) show that just like personal pronouns, in some cases, adjectival possessives in nominative case may not be replaced by the base noun of these adjectival possessives in genitive case.

b. vzgljad   Napoleon-a

   look   Napoleon-GEN

   'a/the look of Napoleon'

The head noun *gold* in the genitive construction in (54a) is non-relational under the approach developed here. Similarly, (54b) refers to a look like that of Napoleon (Paducheva (1982) uses the expression (54b) in the sense of comparison). These constructions may be analyzed as parallel to English constructions such as *a thing of beauty* or *a man of honor* discussed in chapter 2. Although in Russian, as opposed to English the formation of such construction is quite productive it is restricted to the specific meaning: (54a) means 'hair like gold', (54b) can mean 'a look like that of Napoleon'. Note that as opposed to possessive or 'proximity' relation a substance or an entity denoted by the genitive DP is not involved: hair like gold has nothing to do with the actual substance of gold and a look of Napoleon is not a look of the actual person named Napoleon.

Yet another set of examples given in Paducheva (1982:52) is different in nature:

(55) a. stakan vod-y

          glass   water-GEN

          'a/the glass of water'

     b. gruppa student-ov

          group student-GEN.PL

          'a/the group of students'

The genitive constructions in (55) express amount and the head nouns in these constructions – *stakan* 'glass' and *gruppa* 'group' – denote units of measure and are therefore relational.

Whether the non-head nouns in the genitive constructions in (53) - (55) are arguments or modifiers depends on the particular theory and analysis of these constructions. It is evident, however, that Russian postnominal genitives do not belong to

a homogenous class of argument-like constructions. If these observations are correct, Russian genitives just like their English counterpart should be given a split analysis. However, this issue is beyond the scope of this thesis and I am not going to pursue it here.

3.4   English deverbal compounds and Russian relational adjectives

Here I show that the account proposed in the previous section may shed light on the question discussed in chapter 1, namely the similarity and difference between Russian relational adjective-noun constructions and English noun-noun compounds. In particular, I suggest that English 'deverbal' or 'synthetic' compounds may not be translated into Russian as relational adjective-noun constructions because of the difference in their morphological structure.

In deverbal compounds, the head noun is derived from a verb and the non-head noun is interpreted as an argument of the head noun (Selkirk 1982; Hoeksema 1984, among others). However, the only way Russian can express this relation is by means of a genitive construction:

(56) a.   van driver

  b.   bookseller

(57) a.   vodetel'   furgon-a

  driver   van-GEN

  'a/the driver of a van'

  b.   prodavets   knig-Ø

  seller   books-GEN
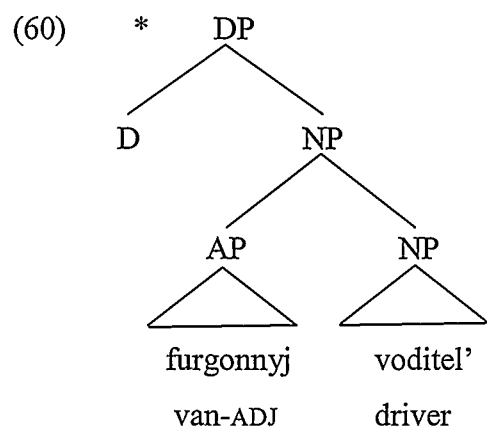
  'a/the bookseller'

As the example (58) shows, it is morphologically possible to form a relational adjective-noun construction that would be equivalent to an English deverbal compound; semantically, however, it would be ill-formed:

(58) a. *furgon-n-yj   voditel'

       van-ADJ-INFL   driver

       'a/the van driver'

   b. *knizh-n-yj   prodavec

       book-ADJ-INFL   seller

       'a/the bookseller'

I propose to explain the ungrammaticality of (58) in terms of the argument structure of the head noun. In compounds with the head derived from a transitive verb, the non-head member can express an internal theta-role assigned to a thematic object of the verb from which the head noun is derived. The internal argument expressed by the non-head member of the compound is realized within the lowest maximal projection dominating the head, which is demonstrated by a simplified version of the structural representation of the deverbal compound *van driver*: the non-head noun *van* is interpreted as an internal argument of the head noun *driver*:

(59)
```
              N
            /   \
          N       N
         van     driver
```
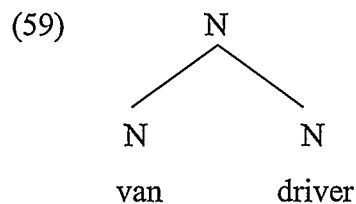
However, to form an equivalent construction in Russian, the non-head noun must be turned into an adjective. Given the assumption that attributive APs are adjuncts to heads they may not express an internal argument since they are realized outside of the lowest maximal projection dominating the head and the movement option is also excluded for reasons explained above:

(60)   *   DP
```
            DP
           /  \
          D    NP
              /  \
            AP    NP
           /\     /\
          /  \   /  \
      furgonnyj  voditel'
      van-ADJ    driver
```

This explains why Russian relational adjective-noun constructions may not express the head-argument relation and as a result may not be used as a translation of English deverbal compounds.

Chapter Four: Interpreting 'R' and –*er*

4.0 Introduction

The data discussed in chapter 3 raise a question about the possible interpretations of the semantic relation 'R'. In the literature, it is assumed that 'R' is a free variable which receives its value from context and that there are no obvious restrictions on what 'R' can be (Higginbotham 1983; Partee & Borschev 2000, among others). In particular, we would then expect that 'R' could in principle be the same relation as the one that holds between the head and its argument in an *of*-phrase or a genitive construction. This assumption seems to be valid for cases such as *Mashina fotografija* 'Masha's picture': this expression involves 'R' and one of the possible interpretations of 'R' is the relation of depicting. In this case, the relation 'depict' is the same relation as the one that holds between the head and its argument in the *of*-phrase construction *a picture of Mary*, where *Mary* is an argument of *picture*: a picture that depicts Mary.

However, this is not always the case. For example, the expression *presidential murderer* involves 'R'. Assuming that the interpretation of 'R' is completely free the prediction is that in an appropriate context, one of the interpretations of the relation between *president* and *murderer* would be 'having murdered', i.e. the same as the relation between the head and its argument in the *of*-phrase construction *the murderer of the president*. Contrary to this prediction, this expression cannot be used to refer to someone who murdered a president, like Lee Harvey Oswald, for instance. In other words, in this case 'R' may not be interpreted as the relation 'having murdered'.

This contrasts with an expression such as *presidential advisor*, where 'R' can be interpreted as the relation of advising: a presidential advisor is an advisor who advises the president. In this case, 'R' can be the same relation as that between the head and its argument, namely, the relation of 'advising'. The question is if 'R' is free, why can it be interpreted as the head-argument relation in an expression such as *Mary's picture*, i.e. the relation of depicting or *presidential advisor*, i.e. the relation of advising, but not in the expression *presidential murderer*, where 'R' cannot be 'having murdered'.

In this chapter, I argue that contrary to what is usually assumed, there are restrictions on what 'R' can be. I propose that 'R' cannot stand for a relation based on an event. In particular, I focus on the semantic interpretation of *–er* nouns. Following Levin & Rappaport (1988; 1992), I show that just like nouns that denote events or processes (e.g. *examination, investigation* (Grimshaw 1990)) these nouns may receive an eventive interpretation, i.e. they may be interpreted as containing an event argument, or e-argument, for short (Kratzer 1995). I adopt Kratzer's (1995) distinction between individual-level predicates and stage-level predicates. She shows that only stage-level predicates have the e-argument. I propose that 'R' cannot be a predicate that has an e-argument. In other words, 'R' can be an individual-level but not a stage-level predicate.

4.1 Stage-level predicate, individual-level predicate and the e-argument

4.1.1 'R' as an individual-level predicate

As a starting point, let us have a look at the following examples:

(1) a. presidential advisor

     b. presidential lover

     c. presidential driver

     d. presidential hairdresser

(2) a. Mary's mother

     b. Mary's husband

     c. Jim's picture

     d. John's chair

The examples in (1) contain relational adjective-noun constructions whereas the examples in (2) contain prenominal possessives. According to the analysis adopted here,

the expressions in (1) and (2) have 'R' as a part of their semantics and may be assigned the following semantic representations:[23]

(3) a. λx: [advisor (x) & R (x, president)]

     b. λx: [lover (x) & R (x, president)]

     c. λx: [driver (x) & R (x, president)]

     d. λx: [hairdresser (x) & R (x, president)]

(4) a. λx: [mother (x) & R (x, Mary)]

     b. λx: [husband (x) & R (x, Mary)]

     c. λx: [picture (x) & R (x, Jim)]

     d. λx: [chair (x) & R (x, John)]

Intuitively, what these examples have in common besides 'R' is that they involve what I will call a 'non-eventive' relation. For example, a presidential advisor is not somebody who once wrote a letter to the president with a piece of advice in it. It has to be someone who advises the president or the presidential office on a regular basis. In fact, it is possible to be a presidential advisor without ever actually having given any advice to the president. In other words, the relation between *president* and *advisor* in the expression *presidential advisor* is not based on an event of advising. The same is true with respect to the prenominal possessives in (2): *Mary's mother, Mary's husband, Jim's picture* and *John's chair* all imply a relation that holds for a certain period of time and is not based on an event.

I propose that this intuitive idea may be captured in terms of Kratzer's (1995) distinction between stage-level predicates and individual level predicates. According to her analysis, stage-level predicates and individual-level predicates differ in their

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[23] Of course, the most natural interpretation of the expressions in (2a) is as referring to Mary's female parent and (2b) as referring to Mary's spouse. However, we can imagine a situation where Mary is a family counselor and *Mary's mother* and *Mary's husband* refer to her clients – one of the mothers and one of the husbands that Mary is working with. Note that such interpretation is not available with the genitive constructions *mother of Mary* and *husband of Mary*, which suggests the presence of 'R' in semantics of prenominal possessives but not *of*-phrases.

argument structure. Namely, stage-level predicates have an extra argument position occupied by the e-argument (Davidson 1967). Individual-level predicates lack this extra argument position.

4.1.2 Kratzer's (1995) evidence for the extra argument position

4.1.2.1 Temporal and spatial expressions and the e-argument

Kratzer's first piece of evidence for the existence of an e-argument in certain predicates has to do with temporal and spatial expressions. Temporal and spatial expressions can modify stage-level predicates but not individual-level predicates. Kratzer's examples are given in (5) (Kratzer 1995:128 (12)-(14)):[24]

(5)   a. Manon is dancing on the lawn.

          [dancing (Manon, e) & on-the-lawn(e)]

   b. Manon is dancing this morning.

          [dancing (Manon, e) & this-morning(e)]

   c. Manon is a dancer (*on the lawn/this morning).

          Dancer (Manon)

The examples (5a-b) contain a stage-level predicate which has an extra argument that is filled in by a variable. The expressions *on the lawn* and *this morning* relate to the verb *is dancing* by filling in this extra argument position. In contrast, *is a dancer* in (5c) is an individual-level predicate and as such lacks an extra argument position. For this reason, it cannot be modified by the locatives *on the lawn* and *this morning*.

---

[24] Kratzer (1995) uses 'l' for a spatial/temporal location instead of 'e' to represent the event argument in the semantic representation of a predicate:

i.   Manon is dancing on the lawn.
       [dancing (Manon, l) & on-the-lawn(l)]

4.1.2.2 'Quantifier split' constructions

Kratzer (1995) argues that at the relevant level of representation, subjects of stage-level predicates are within VP, whereas subjects of individual-level predicates are in the Spec IP position. The argument goes as follows: Kratzer assumes that the e-argument is always the external argument of a predicate and that a predicate may have at most one external argument. She follows Williams (1981) in assuming that in D-structure, all arguments except the external one are realized within the maximal projection of their predicate. If a predicate has the e-argument it will always be its external argument. If a predicate does not have the e-argument but has an agent argument, the agent argument will be its external argument.

Since all stage-level predicates have the e-argument, it is always the external argument and all other arguments, including the argument corresponding to the S-structure subject, are internal. In other words, subjects of stage-level predicates are base-generated within VP. In contrast, since individual-level predicates do not have the e-argument, some other argument may be external. For example, if a predicate has an agent argument, the agent will be its subject and will be its external argument. Thus, subjects of individual-level predicates are base-generated in Spec IP, i.e. outside VP.

Kratzer (1995) shows the effect of the extra argument using examples of German 'quantifier split' constructions (Kratzer 1995:133 (20), (21)):

(6) a. ... weil uns viele Lehrer   geholfen haben.
         since us many teachers helped have
         '...since many teachers helped us.'
     b. Lehrer   haben uns viele geholfen.
         teachers have   us   many helped
         'As for teachers, many of them helped us'

(7) a. ... weil das viele   Lehrer   wissen.
         since   this many   teachers know
         'since many teachers know this'

b. *Lehrer wissen das viele.

teachers know this many

'As for teachers, many of them know this.'

The sentences in (6) contain a stage-level predicate, while the sentences in (7) contain an individual-level predicate. The a-sentences contain the unsplit quantifier phrase *viele Lehrer*, whereas the b-sentences contain the split quantifier phrase. As the examples demonstrate, quantifier split is possible with subjects of stage-level predicate but not with subjects of individual-level predicates – the sentence (7b) is ungrammatical.

Kratzer (1995) proposes that the quantifier split construction is the result of movement of a common noun phrase out of its DP. Given that subjects of individual-level predicates are base-generated in Spec-IP, in S-structure, they may stay in their original position or adjoin to IP. In either case, they are ungoverned. Hence movement from subject of individual-level predicates will always lead to violation of Condition on Extraction Domains (Huang 1982; Diesing 1988). This explains the ungrammaticality of (7b) above.

In contrast, if subjects of stage-level predicates are base-generated in Spec VP, in S-structure, they may stay in their original position – in which case they are in a governed position and movement from these subjects will not lead to a CED violation – the example (6b) is grammatical. Thus, assuming that subjects of stage-level predicates are base-generated within VP and that they can stay there at S-structure we would expect that, at least sometimes, the movement from these subjects is possible:[25]

4.1.2.3 *When/if* clauses and the e-argument

One more piece of evidence for the extra argument position in stage-level predicates is supplied by *when/if*-clauses. Intuitively, the difference between *when* and *if*

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[25] Kratzer (1995) shows that sometimes the extraction from these subjects is ungrammatical. This happens when the subject of a stage-level predicate moves on to Spec IP. Then it occupies an ungoverned position and the movement from this subject will again lead to CED violation. However, what is crucial for Kratzer here is the contrast between extractions from subjects of individual-level versus stage-level predicates: the extraction from subjects of individual-level predicates is never possible.

could be described as follows: *when* introduces a repetitive event, or an event that can take place more than once. On the other hand, *if* introduces a state or a one-time event. In case an event in question can take place more than once, *if* introduces a single instance of this event. If this intuition is correct, we would expect *when*-clauses to appear with stage-level predicates, whereas *if*-clauses to appear with individual-level predicates.

Now, let us see whether this intuition is valid. Consider the following examples:

(8) a. If Mary knows French, she knows it well. (Kratzer 1995:131 (17a))

b. *When Mary knows French she knows it well. (Kratzer 1995:129 (15a))

(9) a. If the library has this book, it must be on the second floor.

b. *When the library has this book, it must be on the second floor.
(Kratzer 1995:129 (16))

The predicates *knowing French* and *having this book* denote states. *Knowing French* or *having this book* do not happen occasionally – one either *knows French/has this book* or one does not *know French/has this book*. Consequently, they are individual-level predicates. The intuition is confirmed – the examples (8b) and (9b) with *when*-clauses are ungrammatical whereas those in (8a) and (9a) with *if*-clauses are fine.

Now, let us consider another pair of examples:

(10) a. When a Moroccan knows French, she knows it well.

b. When Mary knows a foreign language, she knows it well.
(Kratzer 1995:129 (15b,c))

The expressions in (10) are grammatical though they contain the same verb *know* which has been established to denote a state rather than an event. However, in (10a), the subject of *know* is an indefinite noun phrase *a Moroccan*, whereas in (10b), the object of *know* is an indefinite noun phrase *a foreign language*. How is this relevant? Kratzer (1995) shows that *when/if* distinction has to do with variable binding. In (10a), the indefinite DP *a*

Moroccan represents a free variable, in accordance with the analysis of (in)definiteness proposed by Heim (1982). This makes *know* an eventive (stage-level) predicate: every time we encounter *a Moroccan* who *knows French*, she knows it well, where *she* each time refers to a different Moroccan. In (10b), the indefinite noun phrase *a foreign language* introduces a variable. Again, *know* is used as a stage-level predicate: each time Mary knows a foreign language she knows it well, where *it* each time refers to a different language.

As Kratzer (1995) points out, the distinction between stage-level and individual-level predicates is context-dependent and vague. For example, *having brown hair*, as opposed to *standing on a chair* is intuitively an individual-level predicate. However, we can imagine a situation when somebody dyes her hair every other day. In this case, *having brown hair* would become a stage-level predicate and as such would have an extra argument position for the *e*-argument (Kratzer 1995:125-6). Despite the fact that it is context-dependent and vague, this distinction seems to be useful in explaining the ungrammaticality of certain constructions and defining the restrictions on the possible interpretations that 'R' can have.

4.2   Grimshaw's (1990) analysis

4.2.1   Complex event nominals versus simple event nominals

Having outlined Kratzer's (1995) evidence in favor of the extra argument position occupied by the e-argument let us turn to Grimshaw (1990). According to Grimshaw's analysis, two types of nouns should be distinguished: those denoting complex events on the one hand and those denoting simple events on the other hand. She mentions that this division roughly corresponds to the distinction between process nominals and result nominals respectively. Result nominals refer to the output of a process or an element associated with the process, whereas process nominals refer to a process itself or an event. Grimshaw's example is given in (11) (Grimshaw 1990:49 (5)):

(11) a. The examination/exam was long/on the table.

   b. The examination/*exam of the patients took a long time/*was on the table.

The noun *examination* is ambiguous between a process and a result interpretation. In (11a), it is interpreted as referring to a concrete entity and occurs in the same context as the noun *exam* that only may be interpreted as a result nominal. In (11b), the noun *examination* is interpreted as a process and the noun *exam* does not occur in the context that the noun *examination* may be used in. In particular, it may not take arguments – the relevance of this point will become clear below.

The distinction that Grimshaw makes is between nouns that have an associated event structure and nouns that do not. She argues that complex events nominals have an associated event structure whereas simple event nominals (or result nominals) do not. Furthermore, Grimshaw shows that many nouns are ambiguous between the complex event interpretation and the simple event interpretation. For example, *examination* is an example of such a noun. According to Grimshaw's analysis, when the noun *examination* refers to a process it is a complex event nominal that has an event structure associated with it. In contrast, when the same noun refers to a concrete entity it is a simple event nominal that does not have an event structure associated with it.

It seems that under Grimshaw's analysis, the terms *event structure* and *argument structure* do not refer to the same thing. Although she discusses at length the notion of argument structure she provides no explicit definition of the notion 'event structure' and the difference, if any, between the two notions. The following represents my own understanding of the role these two notions play in Grimshaw's analysis. Apparently, the event structure exists on a more abstract level than the corresponding argument structure. If we assume for the sake of argument, leaving aside verbs such as *know* or *belong*, that usually, verbs have events associated with them, then the event structure presumably refers to the structure of the event associated with a certain verb. For example, an event associated with the verb *murder* is an event of murdering. Thus, the event structure associated with this verb tells us that in order for the event of murder to take place two participants are needed – if one participant is missing, the event of murder cannot happen. The event structure also provides information about the relation between these two participants. Roughly, we know that there must be an action directed towards one of the participants and that one participant is the performer of this action and the other

participant is the recipient of this action and that it involves a change of state of the recipient. Thus, the event structure tells us how many participants are required for a particular event to take place and what the relation between these participants is.

The argument structure refers to the aspect of event structure that is relevant for the syntactic expression of the predicate. According to Grimshaw (1990:7-8), argument structure is a structured representation over which relations of prominence are defined. The organizing principle of argument structure is the hierarchy of prominence. The external argument is the most prominent; internal arguments also have prominence relative to each other. She assumes the version of the hierarchy in which the Agent is the highest (i.e. the most prominent) argument. Next are ranked Experiencer, Goal/Source/Location and Theme. Thus, the prototypical argument structure is represented in (12) (Grimshaw1990:8(1)):

(12)   (Agent (Experiencer (Goal/Source/Location (Theme))))

For example, one of the arguments of the verb *murder* is an agent while the other one is a theme (or a patient). Assuming the prominence theory, agent is the most prominent argument and it is realized in syntax as an external argument (subject), whereas patient is realized as an internal argument (object). Thus, the argument structure of the agentive verb *murder* would look as follows:

(13)   *murder* (x   (y))

In (13), x corresponds to the external argument – in this case the agent and y corresponds to the internal argument – the theme.[26] Following the representation adopted in this thesis, (13) is represented as (14):

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[26] Grimshaw uses parentheses – (x (y)) to represent the hierarchy – the more parentheses precede an argument the less prominent this argument is. The representation in (181) does not suggest that *theme* is an optional argument of the verb *murder*.

(14)   *murder*:   λy λx [murder (x, y)]

The semantic representation in (14) shows that the verb *murder* is a function that first applies to the y-argument (the internal argument) and subsequently to the x-argument (the external argument).

The presence of an event structure implies the presence of an argument structure that must be satisfied syntactically. It is plausible that syntax only has direct access to argument structure, i.e. the formal semantic expression of a concept that speakers associate with predicates, but not to the more abstract event structure. Nominals that have an associated event structure, i.e. complex event nominals, such as *examination* under one of their interpretations have an event structure and an argument structure that must be satisfied. In contrast, nouns that do not have an event structure associated with them, i.e. simple event nominals, such as *exam*, have no argument structure.

4.2.2   Disambiguating nominals

Grimshaw argues that the argument structure of complex event nominals has exactly the same status as that of verbs, in the sense that it must be syntactically satisfied. This analysis predicts that complements to complex event nominals are obligatory. However, as we saw earlier, nouns may be ambiguous between the complex event interpretation and the simple event interpretation. Grimshaw shows that it is possible to distinguish between these two interpretations using adjectives such as *frequent*, the interpretation of possessives and *by*-phrases that occur with these nouns.

4.2.2.1 Adjectives

Nouns such as *expression* may be modified by adjectives parallel in meaning to adverbials modifying the base verb of these nouns. In this case, such nominals receive an eventive interpretation. For example, an adjective such as *frequent* is incompatible with the non-eventive interpretation of a noun. When a noun receives an eventive interpretation its arguments are obligatory. Grimshaw's example is given in (15) (Grimshaw 1990:50 (7)):

(15) a. The expression is desirable.

      b. *The frequent expression is desirable.

      c. The frequent expression of one's feelings is desirable.

      d. We express *(our feelings).

In (15a), the noun *expression* receives a non-eventive interpretation and does not take arguments. The presence of the adjective *frequent* in (15b) triggers the eventive interpretation. In this case, the presence of arguments is obligatory and this explains the ungrammaticality of (15b). In (15c), the addition of an internal argument makes the sentence grammatical. Finally, as (15d) demonstrates, the base verb *express* takes the same internal argument as the noun and the presence of this argument is also obligatory. This confirms the view that the argument structure of derived nouns has the same status as that of their base verbs – it must be satisfied.

4.2.2.2 Possessives

The behavior of possessives provides another piece of evidence for the claim that complex event nominals have an argument structure that must be satisfied. When the possessive is interpreted as a subject, the noun receives the complex event interpretation. In fact, as Grimshaw shows, the presence of the subject serves to disambiguate the nominal in the direction of the complex event interpretation. Grimshaw's examples are given in (16) (Grimshaw 1990:51 (10a-b)):

(16) a. The examination took a long time.

      b. (*)The instructor's examination took a long time.

In (16a), the noun *examination* receives a simple event interpretation and is acceptable without the internal argument. However, when the possessor DP is added as in (16b), there are two possible interpretations of the possessor. If it is interpreted as a kind of modifier – i.e. in terms of my analysis, it is associated with *the examination* by 'R' – the sentence is still grammatical even though the noun *examination* does not take an

argument. However, if the possessor DP is interpreted as an external argument, the sentence is ungrammatical without the internal argument. Grimshaw mentions that this is consistent with Lebeaux's (1986) observation that if 'a subject' is present the presence of an object is obligatory. Recall that the same observation is made by Giorgi & Longobardi (1991) (see section 2.4.2).

The presence of 'agent-oriented' adjectives such as *intentional* and *deliberate* forces the subject interpretation of a possessive DP. This, in turn, triggers the eventive interpretation of the noun. Grimshaw's example is given in (17) (Grimshaw 1990:51-2 (11)):

(17) a.   *The instructor's intentional/deliberate examination took a long time.

b.   The instructor's intentional/deliberate examination of the papers took a long time.

Since the prenominal possessive is interpreted as a subject and agent, the noun *examination* receives the complex event interpretation and as such has an argument structure. The sentence in (17a) is ungrammatical because this argument structure is not satisfied. When the internal argument is added in (17b), the sentence becomes grammatical.

4.2.2.3 *By*-phrase

Another subject-like element that helps to disambiguate sentences with complex event/simple events nominals is a *by*-phrase. Grimshaw points out that just like a possessive, the *by*-phrase is licensed by the argument structure. This predicts that when we find a *by*-phrase in a predicate, it will have the same effect as a possessive interpreted as an external argument – the *by*-phrase will force the complex event interpretation of an ambiguous noun. Grimshaw's example is given in (18) (Grimshaw 1990:52 (14)):

(18) a.   The expression *(of aggressive feelings) by patients.

b.   The assignment *(of unsolvable problems) by the instructor.

    c. The examination *(of the papers) by the instructor.

    d. The development *(of inexpensive housing) by the city.

    e. The destruction *(of the city) by the enemy.

Since in the examples above, the *by*-phrase is interpreted as a subject it forces the complex event reading of the nouns *expression, assignment, examination, development* and *destruction*. Grimshaw points out, however, that just like possessives, *by*-phrases also may be interpreted as modifiers in which case they do not trigger the complex event reading. Grimshaw gives the following examples:

(19) a. An examination by a competent instructor will reveal...

      b. The assignment by Fred was no good.

      c. Pine Tree Hollow – a development by Homes Associates.
         (Grimshaw 1990:53 (15))

In (19), an entity expressed by a *by*-phrase is associated with an event nominal by 'R'. For example, (19a) does not refer to a specific examination conducted by a specific instructor but rather to a kind of examination, the one conducted by a competent instructor as opposed to a dilettante instructor. In this case, the noun *examination* has a result reading. Similarly, in (19b), the noun *assignment* is interpreted as a concrete entity, an assignment done by Fred, i.e. it receives a non-eventive interpretation. If we interpret (19b) as *assignment assigned by Fred* the sentence is ungrammatical. Also, (19c) refers to a development by Homes Associates as opposed to a development by some other company and the noun *development* is construed as a result rather than event.

4.2.3 Derived nouns and the e-argument

    Now I am going to bring together the two analyses discussed above, namely Kratzer's (1995) argument for the extra argument position in stage-level predicates and Grimshaw's (1990) analysis of complex event versus simple event nominals. Both Grimshaw (1990) and Kratzer (1995) follow Chomsky (1970) and Williams (1981) in

assuming a regular relation between morphologically related words and their argument structures. Grimshaw demonstrates that nouns such as *examination, development, assignment,* etc., allow a complex event or, as I will call it, eventive interpretation. This is due to the fact that being derived from verbs they may retain their base verb's argument structure. When such a noun receives the eventive interpretation due to one or more factors discussed in the previous section, it has an argument structure that must be satisfied just like the argument structure of its base verb.

Assuming Kratzer's (1995) analysis, under the eventive interpretation, nouns such as *examination, development, assignment,* etc., are expected to preserve not only the external and internal arguments of their respective base verbs but also the e-argument, as this is a part of the argument structure of any stage-level predicate.

Therefore, the argument structure of complex event nominals also contains the e-argument. However, in case of ambiguous nominals, when they receive the simple event interpretation or, non-eventive interpretation they do not have the argument structure including the e-argument. Thus, the two possible interpretations of a noun such as *examination* may be represented as follows (following Williams 1981, the external argument is underlined):

(20)   *examine*: $\lambda y\,\lambda x\,\lambda e$ [examine (e, $\underline{x}$, y)]

(21) a. *examination*: $\lambda y\,\lambda x\,\lambda e$ [examination ($\underline{e}$, x, y)]
     b. *examination*: λx [examination ($\underline{x}$)]

First, look at the representation of the verb *examine* in (20). This verb denotes a stage-level predicate and as such has the e-argument. Furthermore, it has two other arguments one of which is realized in S-structure as its subject and the other one as its object. The representations in (21) correspond to two different interpretations of the derived noun *examination*: (21a) is the eventive interpretation; in this case, *examination* has an event structure associated with it and an argument structure that must be satisfied: two arguments that are syntactically realized as a subject and an object and the e-argument.

Finally, (21b) represents the non-eventive interpretation. Under the non-eventive interpretation, the noun *examination* does not have an event structure associated with it and does not have an argument structure. Its semantic representation is the same as that of nouns that denote one-place predicate, such as *chair* (see the discussion in chapters 2 and 3).

Given the two analyses being followed here, external arguments of verbs and nouns have different status. Recall that according to Kratzer's (1995) analysis, the external argument of verbs denoting an individual-level predicate is base-generated in its S-position, i.e. outside the VP. The external argument of verbs denoting a stage-level predicate is the e-argument which is base-generated outside the VP whereas the S-structure subject is base-generated inside the VP and then moves to its S-structure position outside the VP. The notion *external argument* requires some clarification. Namely, the question is what should be considered to be an external argument of a stage-level predicate – the e-argument or the S-structure subject, i.e. agent, etc.? In what follows, I use the term *external argument* to refer to the S-structure subject, i.e. what is syntactically realized as a subject of both individual-level and stage-level predicates. Given this, the external argument of verbs, both individual-level predicates and stage-level predicates is syntactically realized and is assigned a thematic role.

In contrast, following Williams (1981), di Sciullo & Williams (1987) and Higginbotham (1985), Grimshaw (1990) proposes a non-thematic, referential argument that serves as the external argument of nouns. They call this the R-argument (for 'referential'). I will refer to this argument as D (denotational), to avoid confusion with 'R' that in this thesis stands for the semantic relation 'R'. This argument does not appear as a complement to the head and there is no sense in which D is a Theme, a Goal, etc. Following Higginbotham (1985), the external argument of nouns may be satisfied in two ways. First, it may be satisfied by reference, as in (22a) or quantification, as in (22b) when it is bound by a determiner:

(22) a. The unicorn is cute.   cute (the x (unicorn (x))

     b. All unicorns are white. $\forall$x (unicorn (x) $\rightarrow$ is white (x))

In (22), the external argument of the DP *the unicorn* is satisfied by reference. In other words, the external argument of this DP is its own denotation.

Second, external arguments of nouns may be satisfied by predication, when a noun is used predicatively:

(23) a. Alfred is a unicorn.   unicorn (Alfred)

      b. Nelly is an elephant.   elephant (Nelly)

In (23), the external arguments of *unicorn* and *elephant* are *Alfred* and *Nelly* respectively.

The consequence of this difference between external arguments of verbs and nouns is that an external argument of verbs is syntactically realized as a subject and is associated with a thematic argument of this verb. Meanwhile, an external argument of nouns is a referent of the whole DP (or the DP that the noun is predicated of if it is used predicatively); it is not realized syntactically in the sense that a verb's external arguments are. When nouns such as *observation* or *expression* receive a non-eventive interpretation their external argument is satisfied by reference or by predication, just like those of nouns *unicorn* and *elephant*. However, when such nouns receive an eventive interpretation they denote events and in this case, the external argument of such a noun is the e-argument and not the external argument of their base verbs. This is reflected in the semantic representation of two different interpretations of the noun *examination* in (21) above.

4.3   Interpreting *–er* nouns

4.3.1   The eventive interpretation of *–er* nouns

As shown in the previous section, deverbal nouns such as *examination* or *development* may have an eventive interpretation, in which case they have an argument structure that must be syntactically satisfied just like the argument structure of their base verbs. This argument structure includes the e-argument which is the external argument of such nominals.

Following Levin & Rappaport (1988; 1992), this proposal is extended to nouns derived from verbs by means of the agentive suffix *–er*. They argue that nouns such as

grinder or *destroyer*, i.e. nouns often referring to agents or instruments of the action denoted by their base verb, can be ambiguous between an eventive and a non-eventive interpretation. Levin & Rappaport (1992) show that there is a correlation between the inheritance of the argument structure and the eventive interpretation: *–er* nouns that inherit argument structure receive the eventive interpretation whereas *–er* nouns that do not inherit argument structure receive the non-eventive interpretation.[27]

They point out that the expression *the destroyer of the city* can only refer to someone who has participated in the event of destroying the city and thus presupposes that the event of destroying has occurred. In contrast, the noun *destroyer* on the non-eventive interpretation can refer to something intended to be used for the purpose of destroying. For instance, a warship designed to serve this function can be called *a destroyer* even if it has never destroyed anything. Thus, for an *–er* noun to receive an eventive interpretation it has to have an event associated with it.

Coming back to the discussion of the noun *murderer*, for the expression such as *the murderer of John* to make sense (or to have a referent), John and murderer must be participants in the same event of murdering. In other words, if *X* is *the murderer of John*, it entails that there has been an event of murdering and that John and X were participants in this event: *X* was the agent of the event and *John* was its patient.

In light of Kratzer (1995) and Grimshaw's (1990) analyses, the argument structure of deverbal nouns such as *murderer* may be derived in the following way. Let us start with the argument structure of the verb. First, let us assume the following argument structure for transitive and intransitive verbs in general that denote a stage-level predicate, where *e* represents the e-argument:

(24) a. *transitive*: $\lambda y \, \lambda x \, \lambda e \; [verb \; (e, \underline{x}, y)]$

      b. *intransitive*: $\lambda x \, \lambda e \; [verb \; (e, \underline{x})]$

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[27] However, this does not work the other way around. As discussed in section 4.5.2 below, nouns such as *picture* can have complements but do not receive an eventive interpretation.

Transitive verbs have three arguments. The e-argument is the external argument which is base-generated outside VP (following Kratzer 1995). Two other arguments are internal in the sense that they are base-generated within VP. Intransitive verbs have two arguments where the external argument is the e-argument and the other argument is base-generated VP internally.

Given this representation for transitive and intransitive verbs in general, the argument structure of verbs *drive* and *dance* may be represented as follows:

(25) a. *drive*: $\lambda y \, \lambda x \, \lambda e \, [\text{drive (e, } \underline{x}, \text{ y)}]$

  b. *dance*: $\lambda x \, \lambda e \, [\text{dance (e, } \underline{x})]$

Each of the verbs in (25) has the e-argument. The transitive verb *drive* has two other arguments, one of which is realized in S-structure as the subject of the predicate and the other as its object. The intransitive verb *dance* has one other argument which is realized in S-structure as the subject of the predicate.

Now let us have a look at the argument structure of the –*er* nouns derived from the verbs above, namely *driver* and *dancer*. If deverbal nouns may preserve the argument structure of their base verbs, they are expected to retain the e-argument as well since it is a part of the argument structure of the base verb. Thus, the argument structure of the nouns *driver* and *dancer* may be represented as follows:

(26) a. *driver*: $\lambda y \, \lambda x \, \exists e \, [\text{drive (e, } \underline{x}, \text{ y)}]$

  b. *dancer*: $\lambda x \, \exists e \, [\text{dance (e, } \underline{x})]$

As the examples (26a) and (26b) show, the nouns *driver* and *dancer* have the same arguments as their base verbs including the e-argument. The difference between the two types of argument structure – that of the base verb and that of the derived noun – is that in (25) above, the e-argument is a free variable. That is, the e-argument is bound by λ, i.e. it is unsaturated. Meanwhile, in (26), the e-argument is bound by the existential quantifier, i.e. there exists an event of *driving* or *dancing* such that the external argument

of the nouns *driver* and *dancer* respectively denote participants in these events. Note that since deverbal nouns such as *driver* or *dancer* do not denote events the external argument of these nouns is not the e-argument.

4.3.2   The non-eventive interpretation of *–er* nouns

Nouns derived by the suffix *–er* may also receive a non-eventive interpretation (Levin & Rappaport 1988; 1992). In this case, they do not preserve the argument structure of their base verb, including the e-argument. This is illustrated by the examples below where nouns derived from transitive verbs appear without an internal argument:

(27) a. John is a driver.

      b. Mary is a seller.

      c. Bill is a murderer.

The semantic representation of the nouns in (27) is given in (28):

(28) a. *driver*: λx [driver (x)]

      b. *seller*: λx [seller (x)]

      c. *murderer*: λx [murderer (x)]

In short, the difference between the eventive interpretation and the non-eventive interpretation of the same noun may be represented as in (29) – (29a) is the eventive interpretation of the noun *murderer*, whereas (29b) is the non-eventive interpretation of the same noun:

(29) a. *murderer*: $\lambda y\, \lambda x\, \exists e$ [murder (e, $\underline{x}$, y)]

      b. *murderer*: λx [murderer ($\underline{x}$)]

The semantic representation in (29a) suggests that the noun *murderer* denotes a set of entities such that every member of this set is the agent of some event of murdering (the e-

argument is existentially bound). In contrast, the representation in (29b) suggests that this noun denotes a set of entities and no member of this set is associated with any event of murdering.

4.3.3   Eventive ambiguity and adjectives

Levin & Rappaport (1988:1074) point out that when *–er* nouns are derived from intransitive verbs, i.e. verbs that do not take internal arguments, we must rely directly on the interpretation of the noun, as the presence or absence of a complement cannot be used as a diagnostic for eventive versus non-eventive interpretation.

I suggest, however, that adjectives such as *frequent* or *occasional* may be used to disambiguate such nouns. When put into an appropriate context, such adjectives force an eventive interpretation of *–er* nouns derived from both transitive and intransitive verbs in the sense that both types of *–er* nouns become associated with the event denoted by their base verb:

(30) a.   John is a professional murderer but he has not murdered anybody yet.

  b.   #John is a frequent/infrequent/occasional murderer but he has not murdered anybody yet.

(31) a.   Mary is a beautiful skier/dancer but she does not ski/dance any more.

  b.   #Mary is a frequent/infrequent/occasional skier/dancer but she does not ski/dance any more.

For *John* to be considered *a frequent murderer* there must be events of murdering occurring with intervals that would be small enough to call it frequent. Similarly, for *Mary* to be viewed as *a frequent skier* or *dancer* she must engage in the activity associated with the verbs *ski* and *dance*, respectively often enough.

Adjectives such as *frequent/infrequent/occasional* contrast with adjectives such as *beautiful*. As has been pointed out by Vendler (1968), the sentence in (32) is ambiguous:

(32)   She is a beautiful dancer.

According to Vendler (1968), the adjective *beautiful* can modify the noun *dancer* under both interpretations – eventive and non-eventive. Under the eventive interpretation, the adjective *beautiful* is not ascribed to the subject absolutely, but only with respect to a verb which is morphologically recoverable from a noun ascribed to the same subject. When somebody says: 'She is a beautiful dancer' the speaker does not imply 'she is beautiful'. The sentence means that she is a dancer who dances beautifully. Under the non-eventive interpretation, the adjective is ascribed directly to the subject, regardless of its base verb. In this case, this sentence means that she is a dancer who is beautiful.

In contrast, the sentence *She is a frequent dancer* is not ambiguous because the adjective *frequent* cannot be ascribed directly to the subject but only with respect to the activity associated with the morphologically recoverable verb. For this reason, there is a contrast between (33a-b) and (33c):

(33) a. She is a frequent/infrequent/occasional dancer.
      b. She is a dancer who dances frequently/infrequently/occasionally.
      c. *She is a dancer who is frequent/infrequent/occasional.

Since in (33c), the noun *dancer* receives the non-eventive interpretation the sentence is ungrammatical.

4.4   Constructions with 'R'

4.4.1   Prenominal possessives and 'R'

Now let us turn to the discussion of possessive constructions such as *John's murderer*. Recall that the expression *John's murderer* is ambiguous. It may be interpreted as referring to a murderer who murdered John. In this case, *John* is interpreted as an internal argument of *murderer* and the relation between *John* and *murderer* will be the relation 'having murdered'. This interpretation involves movement of the internal argument of *murderer* to the Spec-DP position. As argued in chapter 3, this movement

option is excluded for a relational adjective-noun construction such as *presidential murderer*.

John's murderer also may be interpreted as referring to a murderer who bears some other relation to *John*. In this case, the relation between *John* and *murderer* is defined by context – for example, this may refer to a murderer whom John hired. In this case, *John* is not an internal argument of *murderer* but a quasi-argument related to the head noun by means of 'R'. No movement is involved – the DP *John* is base-generated in its S-structure position. In this sense, the syntactic structure assigned to this interpretation is the same as that assigned to the relational adjective-noun construction *presidential murderer*.

Under the first interpretation, the noun *murderer* preserves the argument structure of its base verb *murder* as suggested by the fact that it has an internal argument and that the relation between the noun *murderer* and its internal argument is the same as that between the verb *murder* and its internal argument. In this case, the expression *John's murderer* receives the eventive interpretation since it is based on a single event of murdering and its representation includes the (existentially bound) e-argument.

Under the second interpretation, the noun *murderer* does not preserve the argument structure of its base verb. *John* is not interpreted as an internal argument of *murder* and the relation between *John* and *murderer* must be identified by means of 'R'. This relation is not supplied by the meaning of the head noun *murderer*.

The eventive and the non-eventive interpretation of the noun *murderer* are represented in (34) and (35) respectively:

(34)   *John's murderer*:   eventive

$\lambda x \ \exists e \ [\text{murder} \ (e, \underline{x}, \text{John})]$

(35)   *John's murderer*:   non-eventive

the x [murderer (x) & R (x, John)]

Going back to the question raised in the beginning of this chapter, this explains why 'R' cannot be interpreted as the relation 'having murdered' in an expression such as *presidential murderer*. As was shown in the beginning, 'R' stands for a permanent, 'non-eventive' relation that is not based on a single event. In other words, 'R' must be an individual-level predicate, a predicate that does not have the e-argument. Meanwhile, the relation of 'having murdered' is based on an event while the argument that expresses the event – the e-argument – is absent from the semantic representation of the expression *presidential murderer* as well as from the semantic representation of the non-eventive interpretation of *John's murderer*. I elaborate more on this issue in section 4.5.2.

4.4.2   Adjectival possessives, relational adjectives and 'R'

Now let us have a look at constructions with adjectival possessives and relational adjectives. Recall that the Russian adjectival possessive *Mashin ubijca* 'Masha's murderer' and the English relational adjective-noun construction *presidential murderer* are not interpreted as referring to somebody who murdered Masha and the president respectively. Both constructions correspond to the non-eventive reading of the English prenominal possessive:

(36)   *Mashin ubijca*:   non-eventive

        'Masha's murderer'   the x [murderer (x) & R (x, Masha)]

(37)   *the presidential murderer*: non-eventive

        the x [murderer (x) & R (x, president)]

Recall that the expression *John's murderer* is assigned two different underlying structures depending on the interpretation. When *John* is interpreted as an internal argument of *murderer* there is movement from the internal argument position. However, this option is not available for constructions with adjectival possessives or relational adjectives, such as *Mashin ubijca* 'Masha's murderer' or *presidential murderer* (see chapter 3, section 3.3.1).

This analysis also predicts the ungrammaticality of such relational adjective-noun constructions as in (38):

(38) a. *frequent/infrequent/occasional presidential murderer

b. *frequent/infrequent/occasional presidential senatorial advisor

In English, adjectives such as *frequent/infrequent/occasional* are incompatible with nouns that lack an eventive interpretation. In Russian, however, such adjectives do not modify nouns such as *murderer* under any interpretation:

(39) a. *chastyj/redkij   ubijca

   frequent/rare   murderer

   'a/the frequent/infrequent murderer'

b. *chastyj/redkij   ubijca   president-ov

   frequent/rare   murderer president-GEN.PL

   'a/the frequent/infrequent murderer of presidents'

The ungrammaticality of (39a) may be explained by the fact that *ubijca* 'murderer' receives the non-eventive interpretation. However, (39b) is ungrammatical even though the eventive reading is available. At this point, I do not have a well-articulated explanation for this contrast between English and Russian. Nonetheless, the fact that English does not allow constructions such as in (38) supports the distinction between eventive and non-eventive interpretations of *–er* nouns.

4.5   Non-derived nouns

4.5.1   Non-deverbal nouns denoting events

The data discussed so far suggest that nouns derived from verbs have a potential eventive interpretation. They inherit an event structure associated with their base verb. However, some nouns which are not derived from verbs may also have an eventive interpretation. Those are nouns that inherently denote a process and have an event

associated with them. Examples would be such nouns as *war*, *orgasm* or *party*. The idea that these nouns denote events is confirmed by the fact that they may be modified by adjectives such as *occasional, frequent* or *constant*:

(40) a. The Elves did not concern themselves with the occasional/frequent/constant wars between the Goblins and Dwarfs.

    b. Mary's occasional/frequent/constant orgasms were a constant trouble for her neighbors.

    c. John used to have occasional/frequent/constant parties in his backyard.

These nouns contrast with non-derived nouns which are not associated with an event. The examples would be such nouns as *picture, store* or *factory*. I address such nouns in the following section.

4.5.2 'Pictures' versus 'murderers'

Now I return to the question posed in the introduction, namely, if 'R' is free, why can it be interpreted as the head-argument relation in the expression such as *Mary's picture*, i.e. the relation of depicting or *presidential advisor*, i.e. the relation of advising but not in the expression such as *presidential murderer*, where 'R' cannot be 'having murdered'? I have already discussed this issue in section 4.4.1 with respect to the interpretation of prenominal possessives.

As I mentioned at the end of the previous section, nouns such as *picture* contrast with non-deverbal nouns such as *war*, *orgasm* or *party* in that the former denote entities which do not happen, last or end. These nouns cannot be modified by adjectives such as *frequent* or *constant*:

(41) a. *This is a frequent/infrequent/occasional picture.

    b. *There used to be a frequent/infrequent/occasional bookstore.

    c. *Mary works in a frequent/infrequent/occasional factory.

As a result, when these nouns take arguments, the relation between the entity denoted by such a noun and the entity denoted by the genitive DP (its argument) is never based on an event. Therefore, in this case, 'R' may be interpreted as the same relation as that holding between the head and its argument.

Note that these nouns take optional internal arguments:

(42)   John bought a picture (of Mary).

The crucial suggestion that these examples make is that on its own, the presence or absence of an internal argument may not be taken as an indication of the eventive or non-eventive interpretation. Both types of nouns – nouns derived from verbs (e.g. *murderer, examination*) and non-derived nouns (e.g. *picture*) – may take internal arguments for independent reasons. Nouns such as *murderer* take internal arguments when they preserve the argument structure of their base verbs. Nouns such as *picture* may take internal arguments because part of the lexical meaning of the noun *picture* is that it must depict something. The internal argument of *picture* is interpreted as referring to the content of the picture.

The question remains, why can the expression *presidential advisor* be interpreted as referring to somebody who advises the president? This may be explained as follows. As pointed out in section 4.1.1, the expression *presidential advisor* cannot refer to somebody who advised the president on a single occasion, for example, once wrote a letter to the president with a piece of advise in it; this must be a permanent relation. It is possible to imagine a situation when one never actually advised the president but is still a presidential advisor. Since the relation of advising, as opposed to the relation of murder, is more naturally viewed as not based on a single, instantaneous event it may be expressed by 'R'.

The same point is illustrated by Russian relational adjective-noun constructions such as in (43), where a relational adjective modifies a deverbal noun and the whole construction expresses a relation between the head and its argument:

(43) a. knizh-n-yj   pereplet

       book-ADJ-INFL binding

       'a/the book binding/cover'

    b. zolot-yje   priisk-i

       gold-ADJ.INFL digging-PL

       'the gold mines'

Since the relation expressed by (43) is not based on an event it can be expressed by 'R'. Thus, these examples have the same status as the English relational adjective-noun construction *presidential advisor* and are not counterexamples to my claim that a relational adjective cannot express an internal argument of a deverbal noun (cf. section 1.4.3).

4.6   Summary

This chapter demonstrates that contrary to the assumption that seems to be generally accepted in the literature, there are restrictions on what interpretations 'R' can receive. Namely, assuming Kratzer's (1995) individual-level versus stage-level predicate distinction, where stage-level predicates but not individual-level predicates have an extra argument position occupied by the e(vent)-argument, 'R' can be an individual-level predicate but not a stage-level predicate. In other words, 'R' cannot be interpreted as a relation that is based on an event. I also discuss Grimshaw's (1990) analysis of deverbal nouns according to which nouns derived from verbs preserve their base verb's argument structure. In light of Kratzer's (1995) analysis, nouns that denote complex events such as *examination* or *expression* have the e-argument under one of their interpretations. Following Levin & Rappaport (1992), I extend Grimshaw's (1990) analysis to nouns derived by the suffix *–er*. These nouns also may receive an eventive interpretation in the sense that they also may have the e-argument as a part of their argument structure. This explains why the expression such as *presidential murderer* is not interpreted as *murderer who murdered the president*: under this interpretation, the noun *murderer* would receive the eventive interpretation, i.e. the relation between *murderer* and *president* would be

based on an event of murder. In contrast, the expression *Mary's picture* may be interpreted as *the picture that depicts Mary* since this relation is not based on an event. The same applies to the expression *presidential advisor* since the relation expressed by this construction, namely the relation of advising is not based on a single event and as such may be expressed by 'R'.

Chapter Five: Conclusion

5.1 Some further questions

This study raises a number of questions. First, as shown in chapter 1, the semantic definition of relational versus qualitative adjectives is a problem. On the one hand, constructions with adjectives classified as qualitative may be interpreted as expressing a relation. On the other hand, some adjectives classified as relational express a quality and not a relation. However, the fact that the two types of adjectives exhibit different formal properties suggests that adjectives that belong to each type share some semantic properties as well even though these properties are not easily captured. To define these properties more work needs to be done in the area of semantics of adjectives.

Second, as suggested by the discussion in chapter 3, the claim that in Russian, genitive constructions should be uniformly analyzed as argument-like constructions is problematic. It seems that Russian has at least two different types of genitives. The first type corresponds to the adjectival possessive and is used when the formation of the adjectival possessive is impossible for phonological, semantic or pragmatic reasons. Genitives that belong to this category do not behave like arguments: they may have more than one possible interpretation. Besides, if the corresponding adjectival possessive is available, such genitives would be the less preferred option. The second type of genitives are internal arguments of the head noun. Head nouns of such constructions are relational and the interpretation of such genitives is not context-dependent. This leads to the conclusion that Russian genitives should be given a split analysis, just like their English counterpart.

The next question concerns a possible analysis of deverbal nouns such as *murderer* or *development* versus non-derived nouns such as *picture* in the context of English prenominal possessives. In this thesis, I assumed that the prenominal possessive *John's murderer* should be assigned two underlying syntactic structures. When the noun *murderer* receives an eventive interpretation is retains the argument structure of its base verb *murder*. The internal argument of *murderer* is base-generated in the same position as the internal argument of its base verb. Under this interpretation, the syntactic structure

assigned to *John's murderer* involves movement from the internal argument's original position into Spec-DP.

The question is whether a prenominal possessive such as *John's picture* should be analyzed as involving movement. According to approaches such as that proposed by Grimshaw (1990), the prenominal possessive *John's picture* should be assigned only one syntactic structure which does not involve movement. According to this analysis, the distinction is between nouns that have an associated event structure and nouns that do not. Only those nouns that have an associated event structure have an argument structure. Since the noun *picture* does not have an event structure associated with it, it does not have an argument structure and *John* appears in Spec-DP in this construction independently of the *of*-phrase construction *picture of John*.

Grimshaw (1990) proposes a distinction between arguments and complements. In her analysis, the relation of arguments to the head is necessarily mediated by the argument structure, i.e. the argument taking head must have an argument structure associated with it. On the other hand, complements are related to a lexical semantic representation position in the representation of the head. In other words, even heads that do not have an argument structure associated with them may take complements.

Note that the terms 'argument' and 'complement' belong to different domains: 'argument' refers to a participant in the event denoted by a verb or, a participant of a relation denoted by a relational noun; 'complement' refers to the syntactic realization of these participants. For example, according to one of the assumptions of this thesis, in syntax, arguments are realized as complements to the head. In other words, the distinction should be made not between arguments and complements but rather between complements that are arguments and complements that are not. Thus, according to Grimshaw (1990), complements of deverbal nouns such as *examination* are arguments, whereas complements of nouns such as *picture* are not.

Then the question is: if these complements are not arguments what are they? What is the status of 'non-argument' complements of nouns such as *picture*? If they have a different status from complements of nouns such as *examination* how to account for the

fact that the relation between the head and such a complement is never context-dependent, just like between a deverbal noun and its argument.

On the other hand, nouns such as *picture* could be analyzed in the same way as nouns such as *murderer* or *development*, i.e. whether or not a noun has an associated event structure and an argument structure is irrelevant for syntax. However, intuitively, given Davidson's (1967) event argument and Kratzer's (1995) individual-level – stage-level distinction, there must be some difference between nouns with an associated event structure and noun without an event structure.

One possible way out would be to maintain that event structure and argument structure are not related in the way proposed by Grimshaw (1990) and that the presence or absence of argument structure does not follow directly from presence or absence of event structure.

5.2   Summary

This thesis provides a morpho-syntactic account for the puzzle pointed out by Partee & Borschev (2000), namely, the partial overlap in meaning between adjectival possessives and genitive constructions in Russian. In many cases, genitive constructions consist of the head and an argument and the interpretation of the relation denoted by such a construction is not context-dependent; it is determined by the meaning of the head noun. In contrast, adjectival possessive constructions consist of the head and a quasi-argument. The interpretation of the relation denoted by these constructions is context-dependent; it involves the semantic relation 'R' which is filled in based on context. Russian adjectival possessives may not express internal arguments since the movement from the argument's original position is impossible. They contrast with English prenominal possessives that may be interpreted as internal arguments because of the availability of the movement option.

I extend this analysis to Russian and English relational adjective-noun constructions that also may overlap in meaning with genitives. Similarly to Russian adjectival possessives, relational adjectives in Russian and English are derived by means of a morphological affix that attaches to a word. Just like Russian adjectival possessives,

relational adjectives may express quasi-arguments but not internal arguments. Relational adjective-noun constructions involve the semantic relation 'R' which is interpreted based on the context of use.

I propose that the partial overlap in meaning between genitives and adjectival possessives on the one hand and genitives and relational adjective-noun constructions on the other hand occurs when the semantic relation 'R' involved in constructions with adjectival possessives and relational adjectives is interpretable as the same relation as that between the head and its argument. This account suggests that contrary to the general assumption, there are restrictions on interpretation of the so-called free variable 'R'. Assuming Kratzer's (1995) individual-level versus stage-level predicate distinction and Grimshaw's (1990) analysis of deverbal nouns, the semantic relation 'R' may be interpreted as the same relation as that between the head and its argument when this relation is not based on an event, i.e. when this is a non-eventive predicate.

Following Levin & Rappaport (1988; 1992), I show that *–er* nouns also may receive an eventive interpretation, i.e. they may be interpreted as containing the e-argument. In this case, they have an event structure associated with them and an argument structure that must be syntactically satisfied. This explains why the English relational adjective-noun construction *presidential murderer* may not be interpreted as referring to somebody who murdered the president. Since relational adjectives may only express quasi-arguments and not real internal arguments, this construction involves the semantic relation 'R' that may not be an eventive predicate.

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APPENDIX A

TRANSLITERATION CHART

Cyrillic Alphabet	Latin character
А а	A a
Б б	B b
В в	V v
Г г	G g
Д д	D d
Е е	Je je*
Ё ё	Jë jë*
Ж ж	Zh zh**
З з	Z z
И и	I i
Й й	J j
К к	K k
Л л	L l
М м	M m
Н н	N n
О о	O o
П п	P p
Р р	R r
С с	S s
Т т	T t
У у	U u
Ф ф	F f
Х х	X x
Ц ц	C c
Ч ч	Ch ch**
Ш ш	Sh sh**
Щ щ	Shch shch**
Ъ ъ	"
Ы ы	Y y
Ь ь	'
Э э	E e**
Ю ю	Ju ju
Я я	Ja ja

* These characters are used instead of 'ye' and y' that appear in the Chicago Manual of Style, US Board on Geographic Names.

** For typographical reasons, these characters are from the Chicago Manual of Style, US Board on Géographic Names. The rest of the chart is based on the Chicago Manual of Style, 'linguistic' system.