CASE SYNCRETISM AND WORD ORDER FREEZING IN THE RUSSIAN LANGUAGE

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Douglas B. Bloom
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For Grandapa Ed

Abbreviations

The following abbreviations are used throughout the text:

ACC	accusative
ADJ	adjunct
C-FOC	contrastive focus
DAT	dative
DECL	declaritive suffix
DU	dual
FEM	feminine
FOC	focus
FUT	future tense
GEN	genative
GEND	gender
IO	inside-out functional annotation
INST	instrumental
LOC	locative
MASC	masculine
NEG	negative
NOM	nominative
NUM	number
OBJ	object
PAST	past tense
PERF	perfective
PERS	person
PL	plural
PRES	present tense
SG	singular
SUBJ	subject
TOP	topic

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Chapter 1

Introduction

The Russian language displays a relatively high level of word order freedom. This is, of course, not rare among highly inflected languages, nor is this fact interesting within itself. The correlation between word order and inflection seems intuitive: inflection provides another means for accomplishing the task normally achieved by fixed word order in more sparsely inflected languages such as English: associating the constituents in phrase structure with their appropriate argument functions. Shifting this task from word order to morphology opens up a new degree of freedom within the language, allowing word order to express relations other than argument functions. Russian, a dependent marking language, makes use of case morphology to assign constituents their argument functions. Word order, not being needed for this task, instead encodes discourse functions such as topic and focus. But what happens when this system breaks down? What happens when case morphology cannot clearly indicate the argument roles of the constituents?

This work represents an analysis of word order "freezing", a phenomenon which has recently started gaining attention in linguistic literature. Works such as Mohanan and Mohanan (1994) and Lee (1999) for Hindi and Korean have suggested that, despite a relatively high level of word order freedom in these languages, given the proper environment, word order will become fixed and invariant. For Hindi, Korean, and as I shall attempt to demonstrate in the pages to follow, Russian, one environment for restricted word order variation occurs when case morphology fails to distinguish the grammatical roles of the various arguments.

For Russian, this phenomenon was first noted by Roman Jakobson who wrote that:

> "If in a language like Russian the nominal subject and object are not distinguished by morphological means, the relative order SO is compulsory." (Jakobson 1963)

In this paper I will attempt to capture a simple intuition about this characteristic of the Russian language. I will argue that, as a dependent-marking language, Russian makes use of the principles embodied in Constructive Case (Nordlinger 1998) to differentiate between the various arguments of the predicate. When Constructive Case is allowed to operate unhindered, the constituents can appear in various discourse-motivated positions in the phrase structure. If, however, Constructive Case cannot be used as a means for deciphering grammatical roles, these positions lose their availability, and the constituents are forced to appear in their canonical structural positions, which, for Russian, are ones in which the grammatical subject precedes the grammatical object.

1.1 Background Assumptions

1.1.1 Lexical-Functional Grammar

The analysis presented here is couched within the framework of Lexical-Functional Grammar (Kaplan and Bresnan 1982). Although I shall not go in depth into the structure of LFG, there are a few principles which deserve mentioning, particularly, the conditions on well-formedness of f(unctional)-structures. For a more complete discussion of the framework as a whole, see Kaplan and Bresnan (1982), Sells (1985), or the forthcoming Bresnan (Spring 1998 version).

LFG separates syntax into two distinct structures: c(onstituent)-structure, which models the dominance and precedence relations of the elements in phrase structure, and f(unctional)-structure, which captures the grammatical functions. These two segments are independent, yet associated with each other via functional annotations on the c-structure such as $(\uparrow \text{SUBJ}) = \downarrow$ which indicates that the constituent at that node is the value of the subject attribute in its mother's f-structure. Kaplan and Bresnan (1982) propose a set of well-formedness conditions which restrict the domain of possible f-structures.

Functional Uniqueness In a given f-structure, a particular attribute may have at most one value. (Kaplan and Bresnan 1982)

Functional uniqueness ensures that every attribute in an f-structure has exactly one value. Functional uniqueness does not, however, suggest that an attribute's value need be unary. Kaplan and Bresnan (1982) demonstrated that these values can, in fact, be complex, consisting of multiple attributes themselves, or even sets of values (Dalrymple and Kaplan 1997). Rather, functional uniqueness serves to eliminate instances of multiply defined attributes, where, for example, NUM might have two values in a single f-structure, one singular, one plural.

Completeness Every function designated by a PRED must be present in the f-structure containing that PRED. (Kaplan and Bresnan 1982)

Completeness ensures that all arguments of a predicate are present in the f-structure which bears the PRED value of that predicate. Completeness further stipulates that any f-structure that holds some semantic role of the predicate must also have a value for the PRED feature.

Coherence Every argument in an f-structure must be designated by a PRED. (Kaplan and Bresnan 1982)

Together with f-structure completeness, f-structure coherence ensures that all and only those arguments designated by a predicate are present in a given f-structure, eliminating extraneous attribute-value pairs, and ensuring the existence of all necessary arguments.

The well-formedness conditions on f-structures will play a key role in the argument for my treatment of the CASE value of syncretized case morphology. But equally important to this argument, and to my analysis as a whole, is the principle of Constructive Case. Therefore, I would like to take moment to provide a general description of this theory, introduced in Nordlinger (1998) and utilized in a slightly altered form in this thesis.

Constructive Case

Russian, like many languages, such as German ((Webelhuth 1992), (Choi 1996)), Finnish (van Steenbergen 1993), Walpiri ((Hale 1981), (Simpson 1991)), and Wambaya (Nordlinger 1998), does not utilize structural positions as the sole means of identifying argument functions. Instead, case morphology provides information about the relationship of nominals to the predicate. Therefore, Russian is what Nichols (1986) labels a dependent-marking language, distinguishing it from head-marking languages and purely "configurational" languages. In dependent marking languages, case morphology on the nominals carries information regarding the argument function of the constituent. For instance, nominative case in Russian is associated with subject functions, accusative with object functions. This mapping is not necessarily absolute: multiple cases may indicate the same argument function, and nominals with a specific case marking may hold many possible grammatical roles. For example, as we will see in §2.1.4, the genitive case in Russian is used for both possessive adjuncts as well as grammatical objects in negative constructions (King 1995). Subjects in Wambaya, a split-ergative language, appear in both nominative and ergative case (Nordlinger 1998).

Dependent-marking languages differ from head-marking languages in that the latter utilizes agreement morphology on the predicate and argument nominals to distinguish argument function.

(1) A-banbani-na-ng daluk bogen
1.SG-3.DU-see-PAST.PERF woman two

'I saw the two women.' (Mayali, (Nordlinger 1998))

Verbal morphology, in head-marking languages, specifies the agreement features of the predicate arguments. The verbal prefixes in the Mayali sentence in (1) above, "a-banbani", indicate that the verb, "na" is subcategorizing for a first-person singular subject and a third-person dual object. The subject and object nominals in the c-structure would then uniquely unify with their appropriate position in the f-structure. A coherent f-structure would only arise in the situation where the nominal specified for a particular argument in the f-structure matched with the agreement features specified by the verbal morphology. If they do not match, f-structure uniqueness violations would result.

Dependent-marking languages also differ from languages, such as English, which specify grammatical function using structural positions. Though dependent-marking languages can, and I will argue Russian does, make use of structural positions to indicate argument function, this is not their sole means of conveying argument relations. Instead, these languages use case morphology to aid in unifying nominals with their appropriate argument function. In order to model this phenomenon, Nordlinger (1998) developed a model within LFG called *Constructive Case*.

Constructive Case makes use of a feature of LFG called *inside-out function application*. Bresnan (Spring 1998 version) defines inside-out function application as:

(2) For an f-structure *f'* and attribute *a*, (*a f'*) designates the f-structure *f* such that $(fa) = f'$.

Inside-out function application, as the name suggests, works in the opposite direction from standard function application. In basic designators, such as (*f* SUBJ), f designates the outer f-structure containing the SUBJ f-structure. In other words, it indicates a path *through f* to some embedded SUBJ f-structure. Under inside-out function application, *f* designates the f-structure *contained* in the outer f-structure. In other words, (SUBJ *f*)[1] designates a path from *f outwards* to the f-structure in which *f* is the value of the SUBJ attribute.

Nordlinger introduces Constructive Case to account for argument linking in dependent-marking languages. She proposes that case morphemes in these languages carry an IO designator which specifies the grammatical function of the nominal bearing that

[1]In order to distinguish standard designators from inside-out designators, the f-structure specifier (*f* in the above example) appears on the right side of the function specifier as in (SUBJ *f*).

morphological ending. For instance, the -a suffix in Russian would have the following lexical entry:

(3) -a : $(\textsc{subj}\uparrow)$
$(\uparrow \textsc{case}) = \textsc{nom}$

The entry in (3) specifies both that the f-structure that the morpheme is a member of bears the attribute-value pair CASE = NOM and, through inside-out function application, that the f-structure that the morpheme is a member of is the SUBJ value of the f-structure that immediately encompasses it. Thus, the lexical entry in (3) licenses the f-structures in (4):

(4) $f\colon \left[\textsc{subj} \quad f'\colon \left[\textsc{case} = \textsc{nom} \right] \right]$

Structural positions can then be annotated using functional uncertainty for grammatical function, leaving the argument functions to be constructed by the case morphology. I will go into more detail about the exact process of associating grammatical functions with the appropriate arguments in §3.2.

1.2 Data

The data presented in this text was collected from a variety of sources. Data from published sources, such as journal articles or texts, is cited with publication and page number following the gloss. Data from the European Corpus Initiative corpus, "Multi-Lingual Corpus I", is annotated with (ECI) following the glosses. All other data was collected through a series of informants at Stanford University and the University of California at Berkeley who are all native Russian speakers.

1.3 Organization

In chapter 2 I will present basic word order facts about Russian. I display data demonstrating the apparent, clausally constrained, word order freedom in Russian.

Particular focus is given to the role discourse functions play in determining word order realization. Following the discussion of general word order facts, I present data demonstrating a loss of word order freedom in clauses in which case morphology fails to distinguish between the grammatical subject and grammatical object. I argue that this phenomenon of word order freezing derives from the syntax of the Russian language.

In chapter 3 I present a syntactic analysis of word order freezing. I argue that case syncretism suggests that "Indeterminate Case" (Dalrymple and Kaplan 1997) is the appropriate analysis for case assignment in morphemes which represent more than one case. I further argue that while Constructive Case can normally be used to distinguish the grammatical functions of the constituents, it cannot operate in the situation in which the CASE value of a nominal contains two cases which conflict on their standard grammatical function assignments. Because Constructive Case cannot be used with these nominals, I argue that they become restricted to phrase structure positions which are annotated with the specific grammatical functions of their daughters. The SVO linear order of these positions, then, explains the apparent fixed SVO order of "frozen" Russian clauses.

Chapter 4 summarizes the results from chapters 2 and 3, and presents some suggestions for further exploration into the issue of word order freezing in general, and in the Russian language in particular.

Chapter 2

Word Order in Russian

In this chapter I will present a brief overview of general word order facts in Russian. The central focus of this chapter, however, is to develop a typology of word order freezing in the Russian language. To that end, following the general discussion of transitive clauses, I will present a series of observations about clauses in which freezing occurs, contrasting this data with clauses which display greater word order freedom. It has been suggested that the freezing effects I will outline lie outside the realm of syntax. Instead, they suggest that they derive from speaker performance related phenomena.[1] I will present and discuss this argument and then present data which suggest that the observed phenomena are embedded in the syntactic structure of Russian transitive clauses, and as such, deserve a structural analysis.[2]

2.1 Word Order Freedom

The Russian language displays a relatively high level of word order freedom. In fact, in most declarative utterances, all 6 mathematically possible orderings of subject, object, and verb can occur without changing the basic meaning of the clause:

[1] I would like to thank Ivan Sag, who first pointed out this possible explanation to me. This argument is also discussed in King (1995:2 n.2).

[2] Although not discussed at much length in this work, there is data to suggest that word order freezing is not limited to transitive clauses in Russian. See, for example, §3.1, (34).

(5) a. Papa ljubit sɨna.
father-NOM loves son-ACC

'The father loves the son.'

b. Sɨna ljubit papa.
son-ACC-TOP loves father-NOM

c. ljubit sɨna papa.
loves-TOP son-ACC-TOP father-NOM

d. ljubit papa sɨna.
loves-TOP father-NOM-TOP son-ACC

e. Sɨna papa ljubit.
son-ACC-TOP father-NOM-TOP loves

f. Papa sɨna ljubit.
father-NOM-TOP son-ACC loves

The sentences in (5) all have the basic meaning 'The father loves the son.' This is not to suggest that variances in word order do not carry significance. As indicated by the TOP and FOC designations in (5), the various word orders are only available in restricted contexts, with SVO being the only universally acceptable word order. The relationship between word order and discourse functions will be further spelled out in the sections to follow. However, before we begin any description of word order in Russian, we should make a clear distinction between two types of speech which greatly affect word order freedom: Emotive and Non-Emotive speech.

2.1.1 Emotive vs. Non-Emotive Speech

The relative prominence of the nominal constituents in discourse greatly affects word order in Russian. New information (rheme) generally follows information that is in the accepted discourse context (theme). However, this order is not mandatory. As Krylova (1976) notes, if the speaker wishes to indicate the relative importance of the rheme over the theme, she may do so by placing the rheme before the theme. Krylova calls this ordering "emotive" speech, whereas the standard order is "non-emotive" speech. Yokoyama (1986) observes the same pattern, but applies a phonological analysis to it. She claims that there are two types of intonational patterns in Russian: Type I, the default patterning of a series of LH tones followed by a sentence final HL, and Type II, the pattern in which thematic material receives the LH tone patterning while the rhematic material, not in sentence final position, receives stress. I will utilize Krylova's categorization of emotive and non-emotive to refer to Type II and Type I intonational patterns respectively.

The question of emotive vs. non-emotive speech becomes important when considering Russian word order because the phenomenon which I am examining disappears in emotive speech. Even clauses which exhibit word order "freezing" allow for a relatively free order of constituents in emotive sentences. Therefore, it is important to note that all of the informant judgments and published data on which this work is predicated are provided assuming that the examples are uttered as non-emotive speech. The data extracted from corpora is also assumed to appear in an unemotive form.

2.1.2 Canonical Order

Russian is generally accepted to be an SVO language (Jakobson 1936), (Bailyn 1995), (Siewierska and Uhlirova 1998). This claim is based largely on the prominence of SVO as the most commonly observed word order. In the next chapter I will follow King (1995) in arguing that the Russian language actually displays a basic VSO order. Leaving that argument aside for now, however, it is the case that simple declarative sentences in Russian are almost always SVO. In fact, in analyzing the Essex Russian Language Project texts, Bivon (1971) found the SVO order to appear 79% of the time. This order is what Mohanan (1991) calls the "canonical" order and Jakobson (1963) refers to as the "dominant" order.

(6) a. Papa ljubit sina.
father-NOM loves son-ACC

'The father loves the son'

b. Lenin citiruet Marksa.
Lenin-NOM cites Marx-ACC

'Lenin cites Marx'

(Jakobson 1963)

Jakobson argues that the sentences in (6) represent the only stylistically neutral word order in Russian for these, as well as all other declarative utterances. Any other orderings require motivating factors such indicating the relative prominence of an element in discourse, or demonstrating contrast between an argument in an utterance and an earlier claim. Although these observations are correct, it is not strictly the case that the only stylistically neutral word order is SVO.

(7) a. Kto napisal Evgenija Onegina?
who-NOM wrote E. O.-ACC

'Who wrote E. O.?'

b. Evgenija Onegina napisal Pushkin.
E. O.-ACC wrote Pushkin-NOM

'Pushkin wrote E. O.'

c. Pushkin napisal Evgenija Onegina.
Pushkin-NOM wrote E. O.-ACC

'Pushkin wrote E. O.'

(Yokoyama 1986)

In (7) either b. or c. is an acceptable answer to the question in a. Nonetheless, b. shows the standard intonational pattern where the final syntagm receives the HL pattern. However, b. is only acceptable as a non-emotive sentence if "wrote Evgenija Onegina" has been introduced into the discourse as in the question in a. Otherwise, c., regardless of the content of the preceding discourse, displays Type I intonation patterning. Despite the potential for other neutral orderings, SVO arises as the most common neutral word order, and I will therefore refer to this order as the canonical word order for Russian sentences.

2.1.3 Topic and Focus

Russian can be classified along with Hungarian, Catalan, Basque, Finnish, Korean, and a host of other languages under Kiss's (1995) heading of "Discourse Configurational Languages." Katalin Kiss suggests two qualifications which can independently motivate calling a language "discourse configurational":

(8) A. The (discourse-)semantic function 'topic,' serving to foreground a specific individual that something will be predicated about ... is expressed through a particular structural relation (in other words, it is associated with a particular structural position)

B. The (discourse-)semantic function 'focus,' expressing identification, is realized through a particular structural relation.

(Kiss 1995)

Topic

Given the wide variance on definitions of topic and focus throughout linguistic literature on the subject, there does not appear to be a standard formulation of what items can appropriately be labeled a topic. Most literature classifies topics as "what the sentence is about." ((Kiss 1995), (King 1995), (Yokoyama 1986), (Bailyn 1995)). In other words, topics express the material about which a sentence will predicate some property. For the purposes of this work I will adopt the notion of topic presented in Yokoyama (1986). Yokoyama suggests that each participant in discourse brings to the conversation a set containing information relevant to the discussion. She uses C_a to represent this set, called the matter of current concern to participant a. The matter of current concern is the subset of a participant's knowledge that is foremost on her mind, the issues she is currently contemplating.

Take two interlocutors, a and b. If C_a is the matter of current concern for participant a, and C_b is the matter of current concern for participant b, then $\mathrm{C}_a \cap \mathrm{C}_b$ defines the "shared current concern." Clearly $\mathrm{C}_a \cap \mathrm{C}_b$ can be the empty set: a may be contemplating the existence of the universe while b's sole concern is whether he has enough money to buy a hot dog from the corner stand. In general, though, in a conversation between a group of individuals, the shared current concern will contain material germane to the conversation. Yokoyama suggests that elements in this set are the only appropriate items for a topic position.[3]

Aissen (1992) and King (1995) separate topics into two different classes whose members share special semantic and syntactic properties: external and internal topics. The all-encompassing term "topic" usually refers to what Aissen labels internal topics. Internal topics are arguments of the verb which refer to current information in the discourse context. They appear in a non-canonical structural position. In contrast to internal topics, external topics are not arguments of the predicate though they may be coreferent with one. External topics are restricted to indicating a new topic for discussion. They also appear outside of the CP, and therefore cannot appear in subordinate clauses. King (1995) argues that both internal and external topics appear in Russian. For simplicity, I am limiting the discussion to follow to internal topics, and all references to the topic function will refer to internal topics.

Russian adheres to Kiss's principle A in (8). There is a special structural position for topics in Russian. Topics, in c-structure, precede the verb, but follow any complementizers. In the sentences below, taken from the discussion of topic in King (1995), the preverbal material represents the topic:

(9) [Èto plat'e] šila Inna.
this dress-TOP sewed Inna

'This dress-TOP, Inna sewed.'

(10) [Staruju lodku] [my] prodali.
old boat-TOP we sold

'We-TOP sold the old boat-TOP.'

(King 1995:106)

[3]Notice that this notion of topic, also adopted by King (1995), permits the existence of multiple topics. Multiple topics are, in fact, evidenced in Russian.

The preverbal elements above are always interpreted as topics unless these sentences are expressed as emotive speech and, therefore, these arguments might receive emphatic stress. In that case, as we will see below, they would be interpreted as focused. It is important to note that the topic position in Russian is not restricted to arguments which bear a particular grammatical role to the predicate; subjects, objects, and more oblique arguments can all appear in the topic position.

Focus

Focus is generally defined as indicating "new" material in the discourse. In other words, in its simplest sense, focused material is material which the speaker believes the addressee is unaware of. Adequately defining the set of elements which fall under the focus classification is significantly more complicated. Many have suggested various schemes for subcategorizing focus. However, for our present purposes it should suffice to define potentially focused items as members of the set $S \cap \overline{A}$ where S represents the set of propositions the speaker knows to be true (speaker's knowledge), and A represents the set of propositions which the speaker assumes is contained within the addressee's knowledge. In other words, focused material represents material that was, prior to utterance, exclusive to the speaker's knowledge from the speaker's perspective.

Paralleling the distinction between classes of topics, there are two types of focus we are interested in: emotive or contrastive focus, and non-emotive focus. Contrastive focus is the term King (1995) uses to refer to constituents whose status as focused elements derives from their being contrasted with an earlier proposition in the discourse. Contrastive focus can also be applied when the speaker wishes to indentify an individual element from a set of possible actors:

(11) [JÁNOS] ette meg a süteményt.
John-C.FOC ate PERF the cookie

'John-C.FOC ate the cookie'

(Hungarian, (King 1995:74))

In (11), *János* can receive contrastive focus assuming that the speaker and addressee share in common an understood set of possible cookie eaters. By utilizing contrastive focus, the speaker wishes to emphatically point out one of the members of that set, in this case, the suspected cookie eater, *János*. *János* is glossed in (11) as JÁNOS to indicate that it, like all constituents receiving contrastive focus, is marked with added stress. Because stress is added to a contrastively focused element, contrastive focus is only present in emotive speech. In Russian it is realized following any topics, but preceding the verb.

As the phenomenon under investigation only appears in non-emotive speech, we will not be heavily concerned with contrastive focus. On the other hand, non-emotive focus, which I will refer to using the general term *focus* can appear in both emotive and non-emotive speech, and will therefore have an effect on the word order effects described in the subsequent sections. This form of focus is the more familiar type of focus indicating material that is being newly introduced into discourse context.

(12) Q: What happened to the bird?

A: Pticu [ranil mal'čik.]
bird wounded boy

'A boy-FOC wounded-FOC the bird-TOP'

(King 1995:102)

In (12), *ranil mal'čik* appears in a focus position because, as an answer to the question, it presents new information into the discourse context; namely that the bird was wounded, and it was the boy who wounded the bird. As in (12), focused elements in Russian always appear clause finally. Counter to contrastive focus, these elements also do not disrupt the clause final falling tone of non-emotive speech.

Like their topic counterparts, any argument can appear in the focus position in Russian, regardless of its grammatical function. Therefore, Russian also satisfies Kiss's condition B from (8) for discourse configurational languages. Both topic and focus are positionally encoded in a Russian clause. In non-emotive speech, topics appear immediately preverbally, and non-contrastive foci appear clause finally.

2.1.4 The Genitive of Negation

Although objects in Russian generally appear in the accusative case, when a sentence is negated, it is possible for the object to appear in genitive case ((King 1995), (Babby 1980), (Neidle 1988)). The choice between genitive and accusative objects under negation is semantically motivated. Accusative objects in this construction are definite, whereas genitive objects are indefinite:

(13)

a Mal'čik ne vidit knigu.
boy-NOM not see book-ACC

'The boy does not see the/(?a) book.'

b Mal'čik ne vidit knigi.
boy-NOM not see book-GEN

'The boy does not see a/(?the) book.'

(King 1995:31)

In (13), the object, *knigu*, alternates between accusative and genitive with the effect of changing an addressee's impression of definiteness. An important property of the genitive of negation is that it only affects the grammatical object, but not the subject.

(14) *Malčika ne vidit knigu
boy-GEN not see book-ACC

'A boy does not see the book.'

(King 1995:31)

Shifting the case of the grammatical subject in (13) to genitive yields an ungrammatical sentence, (14).

Although not inherently tied to issues of word order, because the Genitive of Negation only applies to grammatical objects, it will provide a useful tool for testing subjecthood and objecthood in scrambled clauses.

2.2 Scrambling and Grammatical Functions

Because word order in Russian clauses encodes discourse functions rather than argument functions, as outlined in §2.1.3, a separate mechanism is necessary to tie constituents to their appropriate argument roles. Bresnan (Spring 1998 version) describes two mechanisms which achieve this goal utilizing features associated with morphological material on one of the constituents:

(15) a. 'dependent-marking'
$(\downarrow \text{CASE}) = \kappa \Rightarrow (\uparrow\ \text{GF}) = \downarrow$

b. 'head-marking'
$(\downarrow \text{AGR}) = (\uparrow\ \text{GF AGR}) \Rightarrow (\uparrow\ \text{GF}) = \downarrow$

As the conditional in (15)b. suggests, head-marking languages make use of agreement morphology on the predicate to indicate the grammatical functions of the various constituents. Dependent-marking languages, indicated by the conditional in (15)a., on the other hand, make use of case morphology on the arguments themselves to distinguish the various argument functions. Russian is an example of the latter: case morphology can be used to indicate the grammatical roles of the nominal constituents.

2.2.1 Assignment of Grammatical Functions in Non-Argument Positions

In the next chapter I will argue, in the spirit of King (1995), that there are canonical argument positions in c-structure which assign grammatical functions in the usual way, through functional annotations such as $(\uparrow\ \text{SUBJ}) = \downarrow$. However, as suggested in the discussion of topic and focus above, I will also, following King (1995), posit c-structure positions which use functional uncertainty of grammatical function in concert with case morphology to assign grammatical functions. These positions correspond to the preverbal topic and clause final focus positions which, as described above, are not restricted to constituents bearing a specific argument relationship to the predicate.

Because these positions do not structurally assign argument functions, a separate system is necessary to tie constituents generated in these positions to their appropriate grammatical role in f-structure. The exact mechanism through which this association will be achieved is discussed in great length in the next chapter. Because Russian is a dependent-marking language, though, case marking on the nominals plays a crucial role in assigning the grammatical functions to these arguments.

The Russian Case System

There are six cases in Russian: nominative, accusative, genitive, dative, locative, and instrumental.[4] Nouns are also separated into three gender classes: feminine, masculine, and neuter. With the exception of a very small class of nouns which show distinct nominative, accusative, and genitive case morphemes, all Russian nouns syncretise their accusative case ending with either their genitive or nominative ending. Which declension a noun in the singular follows is directly related to its gender. The largest class, those which syncretise accusative and genitive cases, consists of all masculine animate nouns[5] and those feminine nouns which end in a consonant. These nouns have distinct case marking for nominative and accusative cases, but share the same case morpheme for accusative and genitive. Because both the accusative and genitive cases are used for the object function in Russian, and nominative is used only for the subject function, this class of nouns clearly marks its grammatical function through case morphology.

The second class, whose syntactic properties this work is concerned with, does not as clearly indicate its grammatical function. This class includes the masculine inanimate nouns, the neuters, and feminine nouns which end in a "soft mark," a special letter which indicates palatalization of the preceding consonant. These nouns share

[4]Because locative marked nouns can only appear as objects to a preposition, this case is often refered to in the literature as the prepositional case. However, because locative case in Russian shows many of the same properties of locative case in other languages, I will refer to it under the more familiar name.

[5]Animacy in Russian is not directly related to animacy in its true sense. Nouns are classified as animate by having the property of being human. Several nouns denoting animal life are also considered animate, but nouns relating to plant life are strictly marked inanimate.

the same ending in nominative and accusative cases, but have distinct accusative and genitive endings. Because their nominative and accusative case ending are syncretised, case morphology cannot discriminate between the subject and object uses of these nouns.

2.3 Case Syncretism and Word Order Freezing

As I noted in the previous section, there is a small subset of animate nouns and a rather large collection of inanimate nouns whose case morphology syncretises in nominative and accusative case. This raises an interesting issue for the Russian language which, as a dependent-marking language, makes heavy use of case to resolve argument functions. If the morphology makes no distinction between accusative and nominative cases, then how can a speaker of the language determine the argument function of the nominals in a simple transitive declarative clause where both of the arguments to the predicate syncretise in the nominative and accusative cases?

In the next chapter I will present a potential structural analysis that will account for the speaker's ability to communicate grammatical roles in this situation. The analysis revolves around a syntactic phenomenon, noted in Russian by Roman Jakobson (Jakobson 1936), which involves the relatively free clausal word order "freezing" into SVO order. This effect has not gone undocumented, in fact several languages reportedly show freezing effects in various situations (Hindi (Mohanan and Mohanan 1994) and (Lee 1999), Korean (Lee 1999), Polish and Bulgarian (Siewierska and Uhlirova 1998)). In this section, I will present data which suggests that word order freezing is in fact occurring when two nominative and accusative case syncretised nominals are present.[6] I will then go on to present data that suggests that nom-acc nominals appear in a fixed syntactic position even when a noun with distinct case marking for nominative and accusative cases appears as an argument in the clause. It is important to note, with reference to the earlier discussion of emotive versus non-emotive speech,

[6]For simplicity and readability, I will refer to nominals that syncretise in nominative and accusative case as nom-acc nominals, and those that syncretise in accusative and genitive case as acc-gen nominals.

that the examples presented in this section are all expressed as non-emotive speech unless otherwise indicated. By utilizing marked stress patterns, using Yokoyama's (1986) distinction between marked and unmarked stress patterns described in §2.1.1, these word order effects disappear.

2.3.1 Simple Transitives

The question of word order freezing in the Russian language is traceable back to a paper by Roman Jakobson on Language Universals (Jakobson 1963). In this paper Jakobson argues for Greenberg's universal of SO default ordering, claiming that SO is the only ordering in Russian transitive clauses with two nom-acc arguments. He presents the following data to demonstrate his point:

(16) a. Mat' ljubit doč.
Mother-NOM-ACC loves daughter-NOM-ACC
'The mother loves the daughter.'

b. Doč ljubit mat'.
daughter-NOM-ACC loves mother-NOM-ACC
'The daughter loves the mother.'

c. *Doč ljubit mat'.
Daughter-NOM-ACC loves mother-NOM-ACC
'The mother loves the daughter.'

(Jakobson 1963:269)

Both *mat'* and *doč* fall into the class of feminine nouns which end in a soft-mark. Therefore, as indicated by the glosses, both are indistinguishable between nominative and accusative cases. By reversing the order of nominal constituents in (16)a. (shown in (16)b.), a new sentence is generated in SVO order. This contrasts with the sentences in (17) which have similar semantic content as (16)a.,[7] but which

[7]There is a distinction between the word choice in (16) and (17) not captured in the glosses. Where (16) contains the formal form of mother, (17) utilizes a more endearing form (equivalent to the distinction between "mother" and "mom" in English).

show free SO ordering.

(17) a Mama ljubit papu.
Mother-NOM loves the father-ACC

'The mother loves the father.'

b Papu ljubit mama.
Father-ACC loves mother-NOM

'The mother loves the father.'

The difference in word order freedom between (16) and (17) can be attributed to the difference in case marking patterns on the argument nominals. In (17), both the subject and object nouns have distinctive case morphology for nominative and accusative case. The only characteristic separating (17) from (16) is that in (16) *neither* the subject nor object arguments have distinctive case morphology for nominative and accusative case. They are both nom-acc nominals.

What is more striking is that, although all six possible orderings of Greenberg's major constituents (S, V, and O) are possible realizations of the sentences in (17),[8] only SVO is possible for "Mat' ljubit doč" in non-emotive speech, though it is possible to get other orderings under a marked stress pattern. This same "freezing" effect occurs with ditransitives. In the case of ditransitives, the dative object is free to move into the topic and focus positions described above, but the SVO ordering of the nom-acc nouns cannot be violated.

(18) *Kofe da'ot mat' pap'e.
coffee-NOM/ACC gives mother-NOM/ACC father-DAT

'The mother gives the coffee to the father'

If two nom-acc nouns appear in an utterance, the first nom-acc nominal is always considered nominative, and therefore the subject, the second, the accusative object.

[8]As discussed earlier, these orderings are constrained by discourse context. Although all orders are possible, they may not all be appropriate in a given context.

2.3.2 Syntax or Performance?

King (1995) raises the question as to whether the observations in §2.3.1 are the result of a syntactic phenomenon or merely a performance effect. The example in (19) might be used as evidence for the latter claim, which she argues for.

(19) a.

Vse	ljubjat	sina,	no	tol'ko	mat'	ljubit	doč.
everyone	loves	son-ACC	NEG	only	mother-NOM-ACC	loves	daughter-NOM-ACC

'Everyone loves the son, but only the mother loves the daughter'

b.

Sina	ljubjat	vse,	no	doč	ljubit	tol'ko	mat'.
Son-ACC	loves	everyone	NEG	daughter-NOM-ACC	loves	only	mother-NOM-ACC

'Everyone loves the son, but only the mother loves the daughter'

However, such examples should not discourage one from adopting the "freezing" analysis suggested by the data in §2.3.1. It is important to note, for example, that the sentence in (19)b. is only acceptable as a non-emotive utterance if both clauses appear in OVS order. So, (20) is unacceptable as a non-emotive sentence.

(20)

*Vse	ljubjat	sina,	no	doč	ljubit	tol'ko	mat'.
Everyone	loves	son-ACC	NEG	daughter-ACC	loves	only	mother-NOM

'Everyone loves the son, but only the mother loves the daughter'

Also, (19)b. is only acceptable in a context in which focus is being placed on *doč*. Thereby suggesting that there is an implicit stress on *doč* and that the data in (19) is itself the result of the desire to maintain parallel order between the two clauses. In the subsequent sections I will show data which suggests that, despite this evidence, there is a syntactic restriction on the distribution of nom-acc nominals.

2.3.3 Evidence from Topicalization

Although still mired in the debate between performance and syntactic viewpoints on freezing, topicalization in transitives in which both arguments are nom-acc nominals provides further evidence of the strength of word order freezing. Recall that topics in Russian appear preverbally, and precede all other clausal constituents.[9]

(21) [Na stole] stojala lampa.
on table-TOP stood lamp
'The lamp stood on the table-TOP.'

(Chvany 1973:266)

Kroeger (1993) and Bresnan (Spring 1998 version), suggest a test for determining the topic status of a constituent. By framing the sentence under examination as the response to an interrogative, theme / rheme relations can easily be fixed. For instance, the question:

(22) a. What is Doug typing?

b. Doug is typing his thesis.

establishes both Doug and the act of his typing in the theme of an appropriate response, and the object of his typing, the thesis, in the rheme of an appropriate response. The effectiveness of this test is clearer in a language, such as Russian, which makes heavy use of structural positions for topic and focus. Take for example the sentence:

(23) Marksa citiruiet Lenin.

(Jakobson 1963)

[9]Excepting, of course, external topics which are outside of the scope of this discussion. See King (1995) for discussion of external topics in Russian, and Aissen (1992) for a discussion of external topics in general.

which can appear in any context. Using the interrogative test, the other five orders, which are restricted to particular contexts, appear:

(24) a. Who cites Marx?
Marksa citiruet Lenin. (OVS)

b. What does Lenin do to Marx?
Marksa Lenin citiruet. (OSV)

c. What does Lenin do?
Lenin Marksa citiruet. (SOV)

d. Who does Lenin cite commonly?
Citiruet Lenin Marksa. (VSO)

e. Who commonly cites Marx?
Citiruet Marksa Lenin. (VOS)

The order of the constituents reflects their placement in the theme or rheme. Elements in the theme precede those in the rheme. We might expect this regularity to be present in all transitive clauses in Russian, regardless of whether the arguments are both nom-acc nominals or *neither* are nom-acc nominals. However, as (25) – (26) demonstrate, this is not the case.[10]

(25) a. What does the horse see?

b. Lošad' vidit myš'.
horse-NOM see mouse-ACC

'The horse sees the mouse.'

(26) a. Who sees the mouse?

[10]The caveat that we are limited to non-emotive speech must be emphasized at this point, as all six orders are possible given emotive speech, so the relations in (24) would hold for a sentence with two nom-acc arguments, as well, given emotive speech.

b. *Myš' vidit lošad'.

'The horse sees the mouse.'

c. Lošad' vidit myš'.

Both arguments in the declaratives in (25) – (26), *myš'* and *lošad'* are from the class of feminine nouns that syncretizes nominative and accusative cases in the singular. In (25) we get the expected result. The subject, appearing in the theme, precedes the object, which is in the rheme. In (26), however, our expectations are not realized. The interrogative in (26)a. sets the context such that "sees mouse" is in the theme, and the response "horse" is in the rheme. This leads us to expect (26)b. to be the appropriate response to (26)a., parallel to (24)c. However, because *myš'* and *lošad'* are nom-acc nominals, the word order in the declarative response is frozen into SVO, and (26)c. is the only acceptable response. In fact, the other four word orders are not available as responses either.

The data for topicalization suggest the following two observations:

(27)

Acc-gen topics, regardless of their grammatical function, appear preverbally.

Nom-acc topics must remain in situ, maintaining the SVO order.

2.3.4 Evidence from Asymmetric Predicate Agreement

All of the examples so far have examined word order in clauses where the predicate appears in present tense. Verbs in present tense only show agreement with the subject for person and number. Thus, verbal morphology does not provide any information towards distinguishing the argument roles of the nominal constituents when they are both, as they have been in all of my previous examples, third person singular. However, the verbal agreement morphology is expanded to include gender in the past tense.[11] A sentence which contains two nom-acc arguments which differ in gender and a past-tense finite verb, then, should contain enough information to disambiguate any potentially ambiguous argument roles. Thus the need to resolve ambiguity is not a motivation for freezing in these clauses. Nonetheless, the same freezing patterns are evidenced in past tense clauses with nom-acc arguments:

(28) Ditja videlo myš'
child-NOM-NEUT saw-PAST-NEUT mouse-ACC-FEM
'The child beat the mouse'

(29) a *Ditja myš' videlo.

b *Videlo ditja myš'.

c *Videlo myš' ditja.

d *Myš' videlo ditja.

e *Myš' ditja videlo.

The arguments in (28) are asymmetric with respect to their agreement with verbal morphology. The verb, videlo, specifies that it takes a neuter subject. *Ditja* is neuter, however, *myš'* is not. Therefore only *ditja* should be able to unify with the subject position in the sentence. This is the behavior we would expect if the word order freezing previously observed were the result of a performance effect. We now have enough information in the clause to resolve the various grammatical roles of the nominal constituents. Nonetheless, word order freezing still occurs. Of course, this effect is not seen in past-tense transitives which do not contain nom-acc arguments. In these sentences all six orders are still possible.

Clauses with two nom-acc arguments are frozen into SVO even if verbal morphology provides enough information to distinguish the subject from the object.

[11] Forbes (1964) argues that the past tense in Russian is a tense in name only. Rather it is formed from the past participle which at one time appeared with butje, 'to be', which for historical reasons has disappeared, leaving only the past participle.

2.3.5 Transitives with One Nom-Acc Syncretized Noun

So far we have only discussed transitives in which both arguments are nom-acc nouns. In this section I will present data which suggests that the same freezing effects are evidenced in clauses which contain only one nom-acc argument. Given that at least one of the arguments carries enough information through its case morphology to indicate its grammatical function, we would naturally expect that such clauses show a greater freedom of word order than clauses in which neither argument can unambiguously indicate its grammatical function. In fact, as might be expected, an object which does not syncretise nominative and accusative cases shows the same positional possibilities in a clause with a nom-acc subject as it does in a clause which does not contain any nom-acc nouns:

(30) a. Lošad' pila vodu.
horse-NOM-ACC drank water-ACC

'The horse drank the water'

b. Vodu lošad' pila.
water-TOP horse drank

c. Lošad' pila vodu
horse drank water-FOC

In (30), "vodu", whose nominative form, "voda" is distinct from its accusative form, can appear preverbally as a topic, (30)b., postverbally as a focused element, (30)c., or in its canonical, discourse-neutral position, (30)a. Transitive clauses with only one nom-acc argument *do* exhibit greater word order freedom over clauses in which all arguments are nom-acc nouns. They show not only the SVO order, but OSV as well.

However, these are the only two orders that are acceptable in a transitive clause where the subject argument is a nom-acc noun. The other four orders are unavailable:

(31) a. *Lošad' vodu pila. (SOV)

b. *Pila lošad' vodu. (VSO)

c. *Pila vodu lošad'. (VOS)

d. *Vodu pila lošad'. (OVS)

Notice that the OSV order only involves the object appearing outside of its canonical, postverbal position. The subject in an OSV utterance is generated in its canonical linear position. However, in order for the other four orders to arise, namely SOV, VSO, VOS, and OVS, the subject would also need to appear outside its canonical position. That the sentences in (31) are ungrammatical suggests that, even in transitives whose objects are not nom-acc nouns, nom-acc subjects are fixed in their structural position. Nom-acc subjects obligatorily appear immediately preverbally.

In fact, the same pattern arises for clauses in which the sole nom-acc argument is an object. It is precisely the utterances in which the object appears outside of its canonical position which are deemed ungrammatical. The sentences in (33) are unacceptable given the same interpretation as the sentences in (32).

(32) a. Mal'čik videl lošad'.
boy-NOM saw horse-NOM-ACC

'The boy saw the horse.'

b. Videl malčik lošad'.

(33) a. ??Lošad' malčik videl.

b. ??Lošad' videl malčik.[12]

Russian objects canonically appear postverbally, following the subject. The nom-acc object appears in this position in the grammatical sentences in (32). In (33) the OSV and OVS orderings involve the object appearing in a preverbal position. That the position of the object is the only difference between the sentences in (32) and (33) suggests that the ungrammaticality of the sentences in (33) arises from the object appearing outside of its canonical position.

[12]Some informants found these utterances acceptable, but at first were confused by them, associating *lošad'* with the subject, and expecting accusative case on *malčik.*

Nom-acc arguments, regardless of the other arguments in the clause, remain in their canonical positions. Nom-acc subjects are always immediately preverbal, nom-acc objects, postverbal, preceding any focused elements.

Chapter 3

Modeling Word Order Freezing

In the previous chapter, I presented data which suggests that word order freezing in transitive clauses with two nominals whose case morphology syncretizes in the nominative and accusative cases is a syntactic, rather than performance related, phenomenon. More specifically, whereas nominals which show distinct case morphology for the nominative and accusative cases can be base-generated in several possible positions, there is strong evidence that the class of nominals which syncretizes case morphology in nominative and accusative cases are restricted to specific structural positions. In this chapter, I present an analysis of Russian phrase structure which accounts for the general freedom of word order in transitive Russian clauses while explaining the loss of word order freedom associated with the class of nom-acc nouns.

3.1 SVO vs. VSO

Before I begin my analysis, I should address an issue which is of central concern to any analysis of Russian word order since King (1995), namely the basic position of the subject relative to finite verbs. Much of the work presented here is built on Tracy King's analysis of topic and focus in Russian. Prior to King (1995) the standard analysis of Russian was that the underlying clause structure was SVO (Jakobson 1936), (Jakobson 1963), (Siewierska and Uhlirova 1998), (Siewierska et al. 1998). This matched the observation that, statistically speaking, SVO is the most prevalent surface word order (Bailyn 1995), (Siewierska et al. 1998), (Bivon 1971). It is also the only word order acceptable in all contexts, and is, therefore, what Jakobson (1936) refers to as "stylistically neutral." In her 1993 Stanford dissertation, however, Tracy King suggested that the underlying clause structure in Russian is actually VSO, with subjects in SpecVP and finite verbs appearing in INFL. Obviously, this argument is not without controversy, as it seems counter to empirical evidence suggesting that Russian is actually an SVO language. In fact, John Bailyn spent a significant portion of his Cornell dissertation, Bailyn (1995), attacking this claim. In earlier work on the subject of word order freezing in Russian, Bloom (1998), I too expressed skepticism about King's analysis. Although this debate is largely outside the scope of the present work, elements of my analysis follow directly from observations King (1995) makes in support of her argument. Therefore, I would like to revisit some of my earlier questions about her analysis, and present possible answers.

King predicates her argument for a VP internal subject largely on two observations:

a. The order of constituents when the entire utterance is focused is VSO.

b. Sentences in which the subject precedes the verb indicate that the subject is a topic.

She provides a thorough justification of the first observation, which is based on the work presented in Krylova (1976). In this work, Krylova proposes that all sentences in Russian can be broken down into a theme and rheme, where the theme corresponds to information understood to be in the discourse context for both the speaker and addressee, and the rheme is "new" information, information being introduced into discourse context by the speaker. The categories of rheme and theme correspond roughly to standard conceptions of focus and topic respectively, including the ones presented in King (1995) adopted here. Krylova presents a series of sentences in which all of the information in the utterance appears in the rheme, leaving an empty theme.

(34) a. Šel dozd'.
goes rain
'It is raining.'

b. Byla osen'.
was fall

'It was fall.'

c. Nezametno podkralas' noč.
stealthily arrived night

'Night arrived stealthily.'

(Krylova 1976:29)

Since, as Krylova points out, the utterances in (34) have a zero theme, there are no topicalized elements in any of the sentences. We would therefore expect that all constituents would appear in their default order.[1] The default order then, is one in which the finite verb precedes the subject. An analysis which placed the canonical structural position for subject in SpecIP would necessarily predict that the subjects in (34) precede the verbs. However, as demonstrated in (35), this would produce an ungrammatical result.

(35) a. *Dozd' šel.
rain goes

b. *Osen' byla.
fall was

c. *Noch nezametno podkralas'.
night stealthily arrived

Another possible interpretation of the sentences in (34) is that they are unaccusatives ((Engar 1993), (Borschev and Partee 1998)). Then one mught claim that the "subjects" in these sentences are, in fact, grammatical objects. There are two problems with this claim: there are sentences which obligatorily appear in VSO and which contain predicates which are clearly not unaccusatives and it is not that case

[1] This expectation assumes that the sentences in (34) are expressed as non-emotive utterances. As was discussed in Chapter 2, emotive utterances permit placement of contrastively focused material in a preverbal position.

that all of the "subjects" in (34) show properties of being gramamtical objects, such as optionally appearing in the genitive case under the scope of negation.

First, King and Krylova both provide examples of intransitives which do not appear to be unaccusatives and yet show a VSO order:

(36) a. Neslyšno proletela kakaja-to neizvestnaja ptica.
noiselessly fly past some unknown bird

'Some type of unknown bird flew noiselessly past.'

b. Prislal muž den'gi.
sent husband money

'My husband sent (me) the money.'

King (1995)
The sentences in (36) show the same VSO order as those in (34) when fully focused. Yet we would hardly want to call "fly" or "send" an unaccusative.

Secondly, Engar (1993) and Borschev and Partee (1998) argue that unaccusatives can be easily identified in Russian because the argument which corresponds to the "subject" in a non-negated unaccusative sentence can appear in the genitive under the scope of negation. This is not, however, the case for unergatives. Negating the sentence in (36)b., however, yields evidence that it is not an unaccusative:

(37) a. Ne prislal muž den'gi.
NEG sent husband-NOM money

'My husband did not send (me) the money.'

b. *Ne prislal muža den'gi.
NEG sent husband-GEN money

The evidence in (37) suggests that (36)b. is not an unaccusative. If it were an unaccusative, then we would expect (37)b. to be grammatical. This follows from the observation that grammatical objects can undergo the genitive of negation and from Engar's (1993) and Borschev and Partee's (1998) observations that subjects of unaccusatives in Russian act like grammatical objects in that they, too, can undergo the genitive of negation.

This pattern of VSO ordering is also seen in wh-questions where the subject is not the element under question. In these clauses, the finite verb precedes the subject.

King's treatment of the second observation, that subjects which precede finite verbs are always topicalized, is not as complete. As I indicated in Bloom (1998), this analysis appears to generate incorrect predications about sentences such as:

(38) Lenin citiruet Marksa
Lenin-NOM cites Marx-ACC

'Lenin cites Marx'

The SVO order exhibited in (38) is the only acceptable order for a discourse initial utterance. More specifically, in the situation where $C_s \cap C_a$ is the empty set, when the speaker and addressee do not share a common current concern, the word order of a declarative is almost always SVO.[2] Any other ordering of constituents would require that information exist in the shared current concern to motivate variance from SVO. However, since King's working definition of topic is $C_s \cap C_a$, in this case the empty set, the subject of this clause is not strictly, according to her analysis, in a topic position. Nor is it contrastively focused since this utterance is acceptable as non-emotive speech.

How, then, can we reconcile the evidence for a post-verbal subject with evidence that canonical word order requires that subjects appear in SpecIP? According to King's analysis, the only available position for the subject in (38) is following the finite verb unless it receives topic status. The problem, then, becomes one of motivating placing certain subjects, none of which exist in the shared current concern, into a topic position, while excluding others.

King proposes several possible solutions for this problem, including automatically placing "subjects of predication" (Kiss 1995) and first and second person pronouns into $C_s \cap C_a$. Perhaps her strongest argument, however, comes from Yokoyama (1986). Olga Yokoyama argues that the placement of the subject into a preverbal

[2] Here I return to the notation introduced in Chapter 2 to describe discourse context. C_s is the set containing the elements of current concern to the speaker, and C_a the set of elements of current concern to the addressee. Then $C_s \cap C_a$ is the shared current concern.

position in discourse initial contexts does not reflect the privileged status of certain subjects in receiving a topic interpretation. Rather, she suggests that subjects tend to appear preverbally because animate arguments high on the thematic hierarchy tend to receive a topic interpretation. Both King and Yokoyama provide examples of utterances in which there are no grammatical subjects and yet an animate, thematically prominent argument, such as a dative experiencer, appears preverbally.

The exact criterion for the placement of a subject in a topic position rather than post-verbally is not quite clear, and further research is needed to derive a satisfactory classification. Nonetheless, two regularities are clear from the discussion of Russian word order in various works including King (1995), Kiss (1995) and Yokoyama (1986), namely: not all subjects can precede a finite verb, and, in general, arguments realized as grammatical subjects receive a topic interpretation, accounting for the common SVO order.

This regularity can be easily captured within the framework of LFG through the c-structure annotations on the phrase structure node corresponding to the topic position. In the pages to follow, I will make use of an optional $(\uparrow \text{SUBJ}) = \downarrow$ (written surrounded by parentheses to indicate optionality such as $((\uparrow \text{SUBJ}) = \downarrow)$) annotation on the node annotated to indicate the TOP function. The exact placement of this node in c-structure will become clearer as I present King's analysis of Russian phrase structure in the next section. The important concept to note is that, by marking a topic node with $((\uparrow \text{SUBJ}) = \downarrow)$, that position can structurally assign the SUBJ function without requiring that any nominal appearing in that position serve as a grammatical subject.

3.2 Modeling Discourse Motivated Word Order Movement

Nearly all accounts of Russian word order attribute variation in linear precedence to changes in the relative prominence of the constituents in discourse ((Krylova 1976), (Jakobson 1936), (Forbes 1964), (Pulkina 1993)). In all of these analyses, current, thematic, information precedes newer, rhematic, information in the surface realization of Russian clauses. As I discussed in the previous chapter, this order is only violated in the case where a particular item receives marked stress. In these emotive utterances, the stressed material appears preverbally, following any topicalized elements.

King (1995) provides an analysis of Russian phrase structure in LFG in which the basic constituent order is VSO. Although this analysis is controversial, for the reasons outlined above, I will adopt her analysis of basic Russian transitive clauses with one slight modification. King utilizes constraint equations in the lexical entries of case affixes to ensure that nominals are assigned the proper case. Verbs, then, carry attribute-value pairs in their lexical entries which specify the cases of the arguments it subcategorizes for. For instance, the lexical entry for the masculine, accusative suffix "-u" would appear as in (39):

(39) -u ($\uparrow$ CASE) $=_c$ ACC
($\uparrow$ GEND) = MASC

Abstracting away the process of attaching case morphology to lexical nouns, any nominal bearing the suffix in (39) then would have to be assigned accusative case during f-structure unification. This requirement is satisfied by attribute-value pairs in the predicate's lexical entry. King suggests that verbs specify the case features for the material they subcategorize for. For example, the lexical entry for the verb *čitat*, 'to read', would appear as in (40):

(40) čitat' V ($\uparrow$ PRED) = 'to read <SUBJ, OBJ>'
($\uparrow$ SUBJ CASE) = NOM
($\uparrow$ OBJ CASE) = ACC

Then a nominal marked with the accusative suffix in (39), such as "papu", could only unify with the object argument in any f-structure headed by *čitat'*.

While this approach successfully associates grammatical functions with case markings, it misses the intuition that case markings define case information rather than simply constrain the nominals to which they are affixed to appear only in positions where that case is licensed.

In place of King's theory of case assignment, I adopt Constructive Case (Nordlinger 1998), as outlined in Chapter 1, as a means for mapping grammatical functions to case values. Following Nordlinger (1998), I posit that lexical entries for the case markers contain attribute-value pairs which assign a value to the CASE attribute, as well as an inside-out function specifier which specifies the grammatical function of a nominal bearing that case marker. For instance, the lexical entry for the '-u' accusative case marker, which under King's theory appeared as in (39) is listed as in (41) below:

(41) -u ($\uparrow$ CASE) = ACC
($\uparrow$ GEND) = MASC
(OBJ $\uparrow$)

As discussed in chapter 1, the inside-out function specifier, (OBJ $\uparrow$) indicates that the nominal bearing this suffix is a member of the OBJ f-structure of its parent's f-structure. To take a more concrete example, the following is the lexical entry for "papu", the accusative form of "father".

(42) papu N ($\uparrow$ PRED) = 'father'
($\uparrow$ GEND) = MASC
($\uparrow$ NUM) = SG
($\uparrow$ PERS) = 3
($\uparrow$ CASE) = ACC
(OBJ $\uparrow$)

The lexical entry in (42), then, specifies that "papu" is a third person, singular, masculine, accusative noun which serves as the grammatical object of some f-structure which encloses the f-structure containing the information in (42). Inserting "papu" into c-structure creates the requirement that any complete, coherent f-structure for the phrase containing "papu" at least contain the material in (43):

(43)
$$f\!: \left[\begin{array}{ll} \textsc{obj} & f': \left[\begin{array}{ll} \textsc{pred} & \text{`father'} \\ \textsc{gend} & \textsc{masc} \\ \textsc{num} & \textsc{sg} \\ \textsc{pers} & 3 \\ \textsc{case} & \textsc{acc} \end{array} \right] \end{array} \right]$$

In other words, the information in (42) creates the requirement that **two** f-structures exist, the f-structure containing the information in the lexical entry for "papu", f', and the f-structure in which the previous f-structure holds the OBJ function, f.

I depart from Nordlinger's analysis, however, on one point. A key advantage that constructive case provides to the LFG framework is an account of structural positions which appear to license lexical material, regardless of its relationship to the predicate (SUBJ, OBJ, ADJ, ...). In order to account for the ability of lexical material bearing any grammatical function to appear in a given c-structure position, Nordlinger makes use of the general, non-head functional annotation, $(\uparrow \textsc{gf}) = \downarrow$. She follows Simpson (1991) in using GF as a shorthand representation of a disjunction of grammatical functions ($\textsc{subj} \vee \textsc{obj} \vee \textsc{obl} \vee \textsc{adj} \vee \ldots$). Because GF is really just a disjunction of grammatical functions, the set of possible f-structures corresponding to a c-structure annotated with $(\uparrow \textsc{gf}) = \downarrow$ would contain an f-structure for each possible value of GF.

(44)

S

$(\uparrow \textsc{gf}) = \downarrow$

X

$$f\!: \left[\textsc{subj}\ f'\!: \left[\begin{array}{ll} \textsc{pred} & X \\ \ldots & \end{array} \right] \right] \quad f\!: \left[\textsc{obj}\ f'\!: \left[\begin{array}{ll} \textsc{pred} & X \\ \ldots & \end{array} \right] \right] \quad f\!: \left[\ldots\ f'\!: \left[\begin{array}{ll} \textsc{pred} & X \\ \ldots & \end{array} \right] \right]$$

A lexical item, α, carrying the inside-out function designator, $(\textsc{subj} \uparrow)$, in its lexical entry, then, restricts the domain of possible f-structures to those in which α bears the

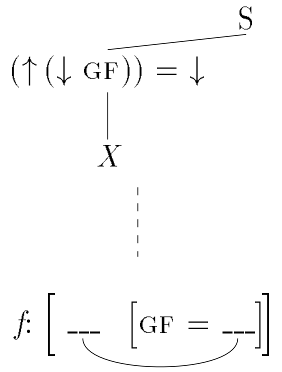
SUBJ relation to the predicate. Thus, by overgenerating and then restricting the set of possible f-structures, Nordlinger's account permits case morphemes to "construct" their grammatical function.

There is one issue with this account, however, which has heavy consequences for the analysis I present below.[3] Because the grammatical function of the constituent is actually defined by the $(\uparrow \text{GF}) = \downarrow$ annotation, leaving the case morpheme to restrict the possible values of GF, there is no requirement that the case morpheme affixed to the material appearing below a node annotated with $(\uparrow \text{GF}) = \downarrow$ actually contain an IO designator for its grammatical function. This situation might arise, for example, if there was no clear sense in which a particular case morpheme could be associated with a grammatical function. A lexical item which lacks $(\text{SUBJ} \uparrow)$ can still appear under a node annotated $(\uparrow \text{GF}) = \downarrow$ and bear the SUBJ role in the corresponding f-structure if other principles such as completeness and coherence can eliminate the other possible f-structures.

Here Nordlinger's account somewhat departs from the spirit of constructive case in that the lexical material need not actually construct its grammatical role. The analysis I present in this work crucially relies on the intuition that lexical material that does not construct its grammatical function cannot appear in c-structure positions, such as those annotated $(\uparrow \text{GF}) = \downarrow$, which expect the argument function to be generated by the case morphology. In order to capture this intuition, I follow a suggestion presented as a possible reanalysis in Nordlinger (1998:67). Rather than annotate c-structure nodes with $(\uparrow \text{GF}) = \downarrow$, I choose to annotated those nodes with $(\uparrow (\downarrow \text{GF})) = \downarrow$. This notation, first presented in Kaplan and Bresnan (1982), should be read as "I am the value of the attribute in my parent's f-structure represented by the value of the GF attribute in my f-structure." Returning to (44), redrawn with this new annotation, we can see that a node annotated in this fashion only constructs one f-structure, rather than overgenerating for each grammatical function:

[3] Many thanks to Joan Bresnan for first pointing out this issue, and to Ash Asudeh and Ida Toivonen for extensive discussions of this problem and potential solutions.

(45)



Lexical items, under this system, hold the grammatical role specified as the value of GF attribute in their lexical entries. Lexical material lacking the GF attribute in a position annotated $(\uparrow(\downarrow \text{GF})) = \downarrow$ would cause an f-structure coherence violation as it would fail to hold a grammatical function subcategorized for by the predicate. This is exactly the result we wanted: case morphology constructs rather than restricts the grammatical function of the lexical item it is affixed to, and any non-head which fails to construct its grammatical function cannot be generated in a position which does not structurally assign a grammatical role.

There is, however, a cost to this modification to constructive case. As Nordlinger (1998:68) points out, in order to account for case stacking and agreement phenomena in other languages such as Warlpiri, lexical items would still need to carry the IO designator in addition to the GF attribute-value pair. This is to account for situations in which one might, because of case stacking, need to reference (SUBJ ADJ ↑) from within a lexical entry, which would be impossible without IO designators. The lexical entry in (42) would now appear as in (46):

(46) papu N (↑ PRED) = 'father'
(↑ GEND) = MASC
(↑ NUM) = SG
(↑ PERS) = 3
(↑ CASE) = ACC
(↑ GF) = OBJ
(OBJ ↑)

Lexical entries for the case morphemes now, unfortunately, contain redundant grammatical function information. However, the benefit achieved through this analysis outweighs this cost.[4]

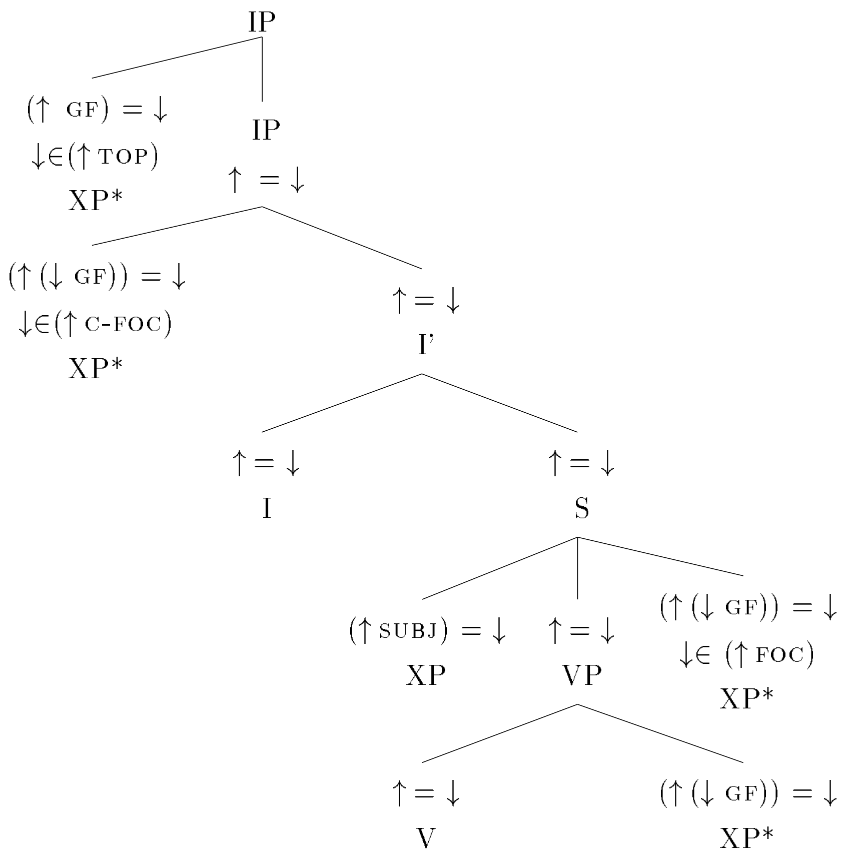
Constructive case captures the intuition that case markers actually define the case of the nominals to which they attach. My decision to utilize constructive case has deeper consequences for the analysis presented here, as will become obvious in the next section. For now, let us turn to the c-structure of simple Russian clauses.

There are three general segments to c-structure under King's analysis: topic, discourse-neutral, and focus. Discourse-neutral material appears in the VP. King suggests that there is a structural subject position in SpecVP. Infinitival verbs and all other arguments, then, would be daughters of V'. In this way, King can account for subject-object asymmetries while still maintaining a VP-internal subject analysis. Finite verbs, under this analysis, appear in I, and topics appear in SpecIP[5], and foci appear as a sister to V' or in SpecIP following the topic position if contrastive focus. All of the discourse functional nodes, under King's analysis, utilize functional uncertainty of grammatical function so as to allow any XP which holds some grammatical function to appear in those positions. As discussed above, however, I am adopting a slightly different analysis in which these nodes are annotated $(\uparrow (\downarrow \text{GF})) = \downarrow$ rather than with the $(\uparrow \text{GF}) = \downarrow$ annotation of the functional uncertainty account. This annotation also allows any XP which holds a grammatical function to appear in those positions, but has the further effect of limiting those positions to only those items lexically marked for their grammatical function through the GF attribute-value pair.

[4]A more desirable solution, also suggested by Nordlinger (1998:68), would involve decomposing grammatical functions into a feature matrix along the lines of Bresnan and Zaenen (1990) or Kiparsky (1998). Johnson (1988) demonstrated that attributes can themselves be a set of attribute-value pairs. However, I have been unable to, within the current formulation of the LFG framework, devise an implementation of this analysis.

[5]She distinguishes between external and internal topics. Internal topics are, as I stated, in SpecIP. External topics appear outside of SpecIP as a sister to CP. For simplicity I will only refer to internal topics.

(47)



(King 1995)[6]

All of the argument functions of discourse functional material, as well as the argument functions of an element not appearing in the structural subject position, would be determined via constructive case.

[6]I have replaced the nodes King marks with (↑ GF) = ↓ with (↑ (↓ GF)) = ↓ as per the discussion above. Here, and throughout the remainder of this work, I have replaced the VP node in King's analysis with a "small clause" S node projecting the subject NP position as well as a VP which corresponds to King's V'. King's decision to maintain the subject inside the VP as a sister to V' rather than utilizing a small clause analysis relates to her initial formulation of her analysis under government-binding theory. This change should not affect any of the results of her analysis of Russian syntax. In fact, King suggests that the infinitival verb and object form a constituent which can appear outside of its canonical position without the subject. Assuming only maximal projections can "move" from their canonical positions, this observation is nicely captured by the small clause analysis, but lost under the VP internal subject analysis.

3.2.1 An Example

To further illustrate the interaction of constructive case, the $(\uparrow (\downarrow \text{GF})) = \downarrow$ annotation, and structurally assigned argument positions, let us work through the derivation of the sentence "Papa čital knigu", "Father read a book".

The lexical entries are listed in (48)–(50) below:

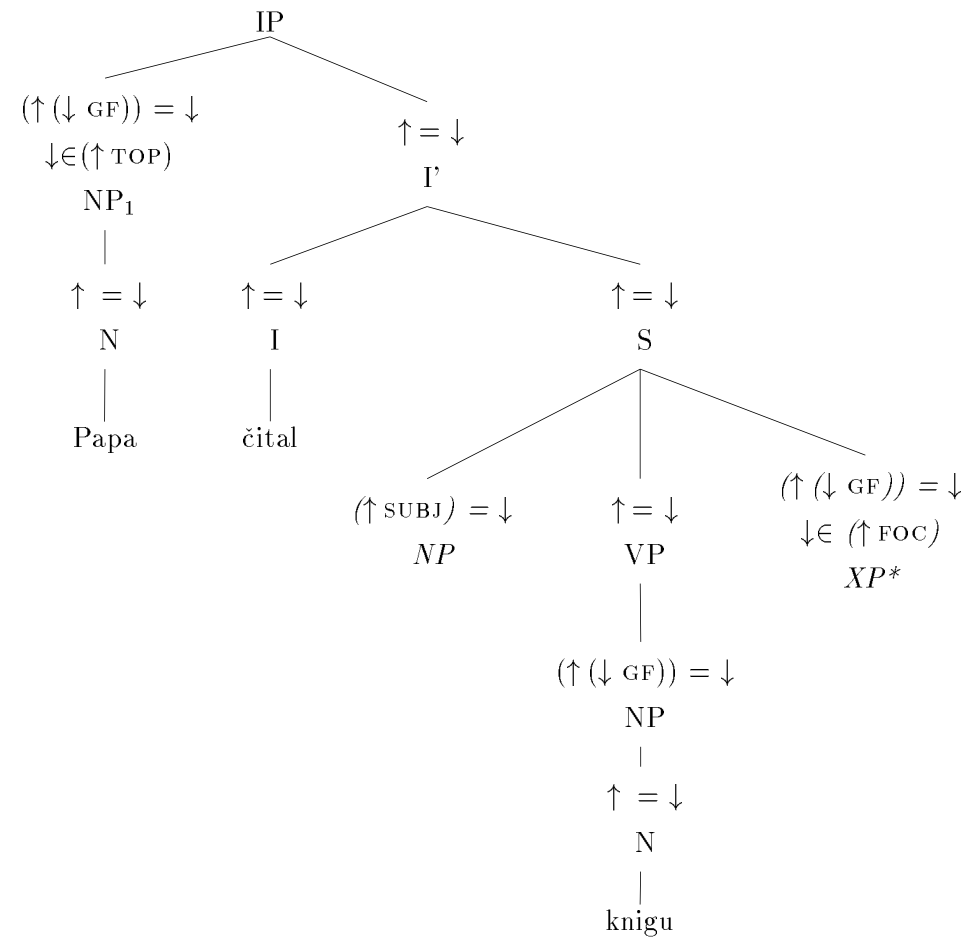
(48) čital I $(\uparrow \text{PRED}) = \text{'read <SUBJ, OBJ>'}$
$(\uparrow \text{SUBJ GEND}) = \text{MASC}$
$(\uparrow \text{TENSE}) = \text{PAST}$

(49) papa N $(\uparrow \text{PRED}) = \text{'father'}$
$(\uparrow \text{GEND}) = \text{MASC}$
$(\uparrow \text{PERS}) = 3$
$(\uparrow \text{NUM}) = \text{SG}$
$(\uparrow \text{CASE}) = \text{NOM}$
$(\uparrow \text{GF}) = \text{SUBJ}$
$(\text{SUBJ}\uparrow)$

(50) knigu N $(\uparrow \text{PRED}) = \text{'book'}$
$(\uparrow \text{GEND}) = \text{FEM}$
$(\uparrow \text{PERS}) = 3$
$(\uparrow \text{NUM}) = \text{SG}$
$(\uparrow \text{CASE}) = \text{ACC}$
$(\uparrow \text{GF}) = \text{OBJ}$
$(\text{OBJ}\uparrow)$

Notice that, in contrast to the case assignment system argued for in (King 1995), the verb does not carry case information about its arguments. Instead, case is carried by the arguments themselves. Grammatical functions, then, are marked lexically as in (49) and (50).

(51) [7]



The $\uparrow\ =\downarrow$ annotation on the I node projects the f-structure projected by "čital" over the entire IP. The f-structures projected by the nominal constituents are then unified with this f-structure through the annotations on their respective nodes. The individual f-structures projected by each of the constituents are provided in (52):

(52) a. čital –

$$f\colon \begin{bmatrix} \text{PRED} & \text{`read <SUBJ, OBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{GEND} & \text{MASC} \end{bmatrix} \\ \text{TENSE} & \text{PAST} \end{bmatrix}$$

[7]Under the principle of economy of expression (Bresnan Spring 1998 version), all non-essential nodes are eliminated from phrase structure. I have, however, included unnecessary projections for the purpose of indicating the other structural positions in which the arguments may appear given discourse context motivation. These italicized nodes will aid in the explanation of "free" word order to follow.

b. papa –

$$f\!: \left[\textsc{subj}\ f'\!: \left[\begin{array}{ll} \textsc{pred} & \text{‘father’} \\ \textsc{gend} & \textsc{masc} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \textsc{nom} \\ \textsc{gf} & \textsc{subj} \end{array} \right] \right]$$

c. knigu –

$$f\!: \left[\textsc{obj}\ f''\!: \left[\begin{array}{ll} \textsc{pred} & \text{‘book’} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \textsc{acc} \\ \textsc{gf} & \textsc{obj} \end{array} \right] \right]$$

d. NP_1 –

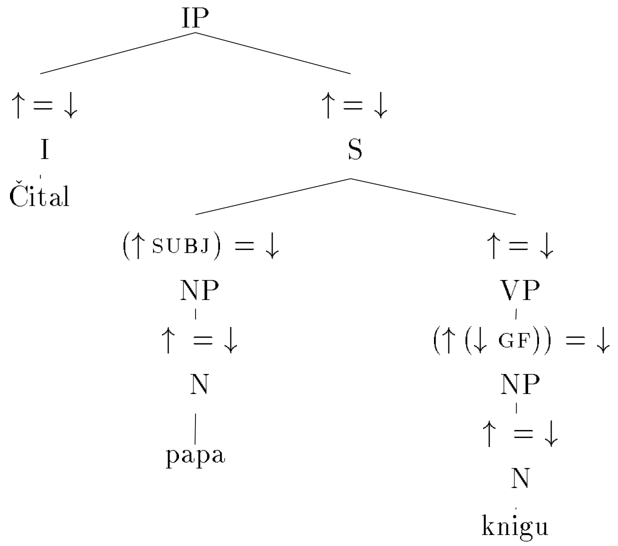
$$f\!: \left[\begin{array}{ll} \textsc{top}\ f'''\!: & [\ \ ] \\ \textsc{subj}\ f'\!: & \left[\begin{array}{ll} \textsc{pred} & \text{‘father’} \\ \textsc{gend} & \textsc{masc} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \textsc{nom} \\ \textsc{gf} & \textsc{subj} \end{array} \right] \end{array} \right]$$

Note that, in (52)b. and (52)c., the inside-out function specifiers in the lexical entries for “papa” and “knigu” cause these constituents to project *two* f-structures, an outer f-structure which maps to the f-structure of the IP as a whole, and an inner f-structure which holds an argument relation to the outer f-structure and contains the attribute-value pairs contained in their respective lexical entries. (52)d. shows the f-structure of the NP_1 node unified with its daughter's f-structure. This node adds the TOP f-structure to the greater f-structure and ties that f-structure to the SUBJ function. Unifying these f-structures produces (53):

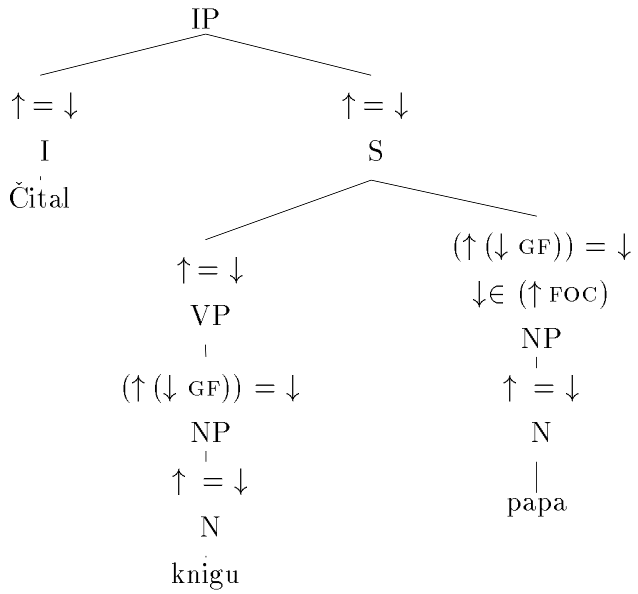
(53)
$$
f\!:\left[\begin{array}{ll}
\text{TOP} & [\ \ ] \\
\text{PRED} & \text{`read <...>'} \\
\text{TENSE} & \text{PAST} \\
\text{SUBJ} & \left[\begin{array}{ll}
\text{PRED} & \text{`father'} \\
\text{GEND} & \text{MASC} \\
\text{PERS} & 3 \\
\text{NUM} & \text{SG} \\
\text{CASE} & \text{NOM} \\
\text{GF} & \text{SUBJ}
\end{array}\right] \\
\text{OBJ} & \left[\begin{array}{ll}
\text{PRED} & \text{`book'} \\
\text{GEND} & \text{FEM} \\
\text{PERS} & 3 \\
\text{NUM} & \text{SG} \\
\text{CASE} & \text{ACC} \\
\text{GF} & \text{OBJ}
\end{array}\right]
\end{array}\right]
$$

As discussed in Chapter 1, this is the only possible complete and coherent f-structure for the c-structure in (51). Notice also that *Papa* appears in the topic position. This is not, however, the only possible c-structure position that *Papa* can appear in while maintaining f-structure coherence. Because *Papa* is lexically marked $(\text{SUBJ} \uparrow)$ and $(\uparrow \text{GF}) = \text{SUBJ}$, it can also appear in both the structural subject position, sister to VP, as well as the focus position under V'. *knigu* too can appear in other positions. Because it is lexically marked $(\text{OBJ}\uparrow)$ and $(\uparrow\ \text{GF}) = \text{OBJ}$, it cannot appear in the structural subject position without violating f-structure uniqueness, but it *can* appear in both the topic position in SpecIP, as well as the focus position under V'. In this particular utterance, where only the subject is topicalized and no item is focused, the italicized positions in (51) are not available to the constituents. However, discourse context can motivate placement of the constituents into the italicized positions. The interaction between discourse context and the availability of discourse-marked c-structure positions, then, produces the apparent "free" word order within Russian clauses:

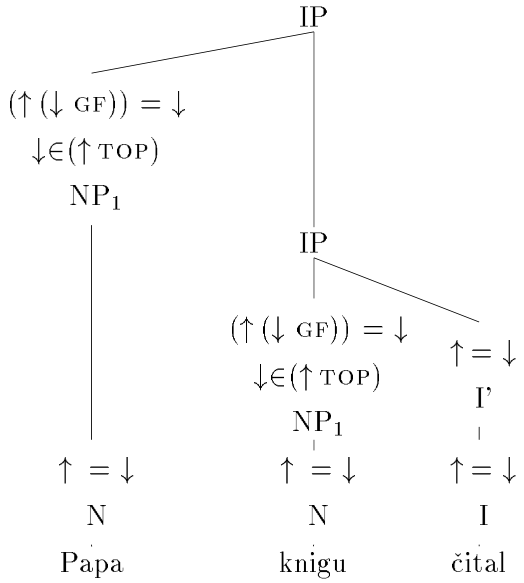
(54) a. VSO –



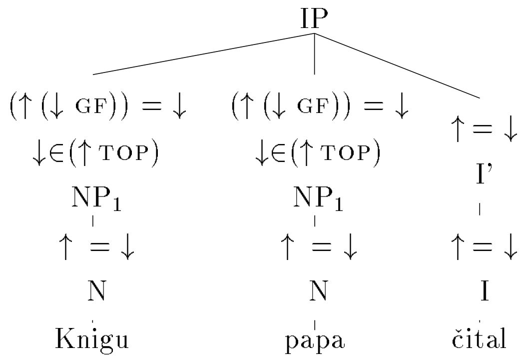
b. VOS –



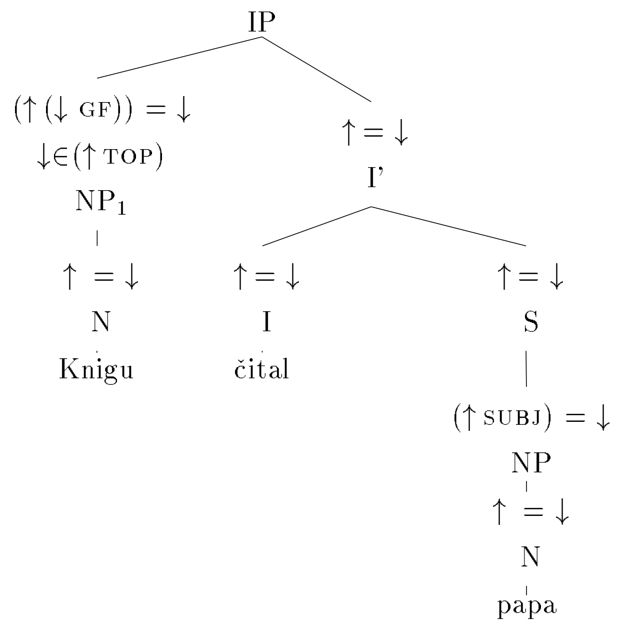
c. SOV –



d. OSV –



e. OVS –



The freedom of word order in Russian clauses follows directly from the interactions between constructive case, functional uncertainty, and discourse context.

3.3 Modeling Lexical Case

In all of the examples examined thus far, application of constructive case has been relatively straightforward. Nominative nominals in Russian carry the inside-out function (IO) specifier (SUBJ ↑) and attribute-value pair (↑ GF) = SUBJ in their lexical entries, accusative nominals (OBJ↑)and (↑ GF) = OBJ. A problem arises, however, when we attempt to apply the same treatment to nom-acc nouns. These nouns have properties of both nominative and accusative nominals. How then can we model case in the lexical entries of nom-acc nouns?

One option is to simply specify that there is an inherent lexical ambiguity behind any use of nom-acc nouns. That there are actually **two** lexical entries for each nom-acc noun, one in the nominative case, one in the accusative case. This analysis, however has a fatal flaw: it would allow nom-acc nouns to show the same distribution as other nouns. Because these nouns could carry either the IO specifier and GF value (SUBJ ↑), (↑ GF) = SUBJ or (OBJ ↑), (↑ GF) = OBJ, they could be generated in any c-structure in which a subject or object can appear. Therefore, it would be possible to generate a sentence in which the object preceded the subject, as in (54e) above, with two nom-acc arguments. However, as displayed in Chapter 2, this constituent order is not available in a sentence with two nom-acc nominals. Therefore, given the multiple lexical entry analysis, we would need additional stipulations that sentences containing nom-acc arguments match the word order facts laid out in Chapter 2. This is clearly an undesirable characteristic.

What if, instead of positing multiple lexical entries for each nom-acc noun, these nominals carry both the (SUBJ ↑) **and** (OBJ ↑) IO specifiers? It should be clear that this analysis would run a-ground from functional uniqueness. Having two constituents marked for the same argument functions would be a violation of f-structure uniqueness. In fact, such an analysis would show violations of f-structure uniqueness if an utterance contained even just one nom-acc noun as there are multiple values for the same attribute in each lexical entry:

(55) a. Mat' N (↑ PRED) = 'mother'
(↑ CASE) = NOM
(↑ CASE) = ACC
(↑ GF) = SUBJ
(↑ GF) = OBJ
(SUBJ↑)
(OBJ↑)

b. Doč' N (↑ PRED) = 'daughter'
(↑ CASE) = NOM
(↑ CASE) = ACC
(↑ GF) = SUBJ
(↑ GF) = OBJ
(SUBJ↑)
(OBJ↑)

(56) **"The mother loves the daughter"**

$$
* \left[\begin{array}{ll}
\textsc{pred} & \text{`love <\ldots>'} \\
\textsc{tense} & \textsc{pres} \\
\begin{array}{c} \textsc{subj} \\ \textsc{obj} \end{array} & \left[\begin{array}{ll}
\textsc{pred} & \text{`mother'} \\
\textsc{pred} & \text{`daughter'} \\
\textsc{case} & \textsc{nom} \\
\textsc{case} & \textsc{acc} \\
\textsc{gf} & \textsc{subj} \\
\textsc{gf} & \textsc{obj}
\end{array}\right]
\end{array}\right]
$$

The existence of multiple values for each of the attributes represents an f-structure uniqueness violation. Clearly, we cannot treat nom-acc nouns like other nominals with respect to constructive case.

3.3.1 Underspecified Case

One option for handling case assignment in nom-acc nouns is to leave the CASE attribute underspecified in their lexical entries. Then the lexical entries in (55) above would appear as in (57) below:

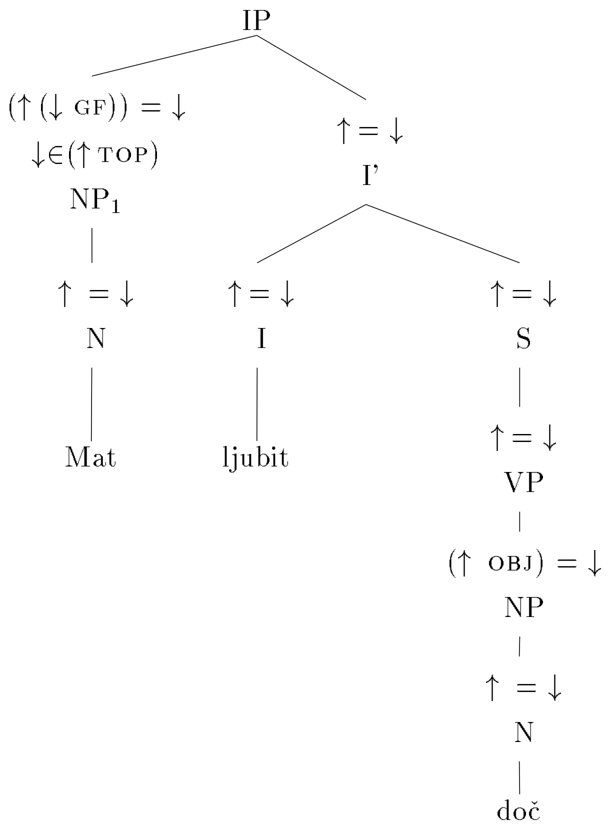
(57) a. Mat' N $(\uparrow \textsc{pred}) = \text{`mother'}$
no value for case

b. Doč' N $(\uparrow \textsc{pred}) = \text{`daughter'}$
no value for case

Because these nouns lack a value for the CASE attribute, they cannot be assigned grammatical functions via constructive case. The lexical entries for all nom-acc nominals would lack values for the GF attribute. Their lack of grammatical function information restricts their placement in c-structure. Any constituent appearing as a daughter to a node with the annotation $(\uparrow (\downarrow \textsc{gf}) = \downarrow)$ must bear a grammatical function relation within the higher f-structure in order to satisfy f-structure completeness and coherence. Nom-acc nouns, under this analysis, would not satisfy this requirement. They are, therefore, restricted to appearing under positions which structurally assign the grammatical functions of their constituents.

The c-structure in (58) maps to the f-structure in (59):

(58)



(59)

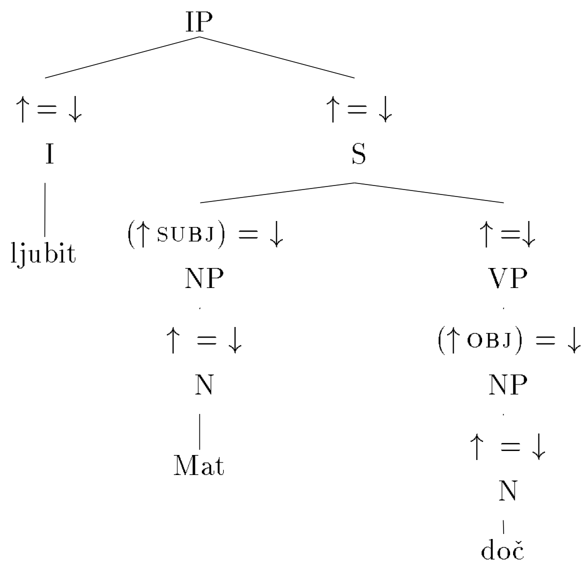
$$f: \left[\begin{array}{ll} \textsc{top} & [\ \ ] \\ \textsc{pred} & \text{`love} <\textsc{subj, obj}>\text{'} \\ \textsc{tense} & \textsc{pres} \\ \textsc{gf} & \left[\begin{array}{ll} \textsc{pred} & \text{`mother'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \end{array}\right] \\ \textsc{obj} & \left[\begin{array}{ll} \textsc{pred} & \text{`daughter'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \end{array}\right] \end{array}\right]$$

Because the predicate subcategorizes for a subject, which lacks a corresponding argument in the f-structure, this f-structure violates completeness. Also, because it contains a grammatical function (GF) which is not subcategorized for by the predicate, it fails f-structure coherence.

If, however, the arguments appear in structural argument positions in c-structure, then the violations of completeness and coherence disappear, as in (60) and(61):[8]

[8]I have added a structural object position to the analysis at this point. Doing so will not in any way affect the analysis presented in King (1995) nor the results she achieves from her analysis. It will, however, provide a c-structure position in which to generate an object with underspecified case. I will maintain the existence of this position throughout the remainder of my analysis.

(60)



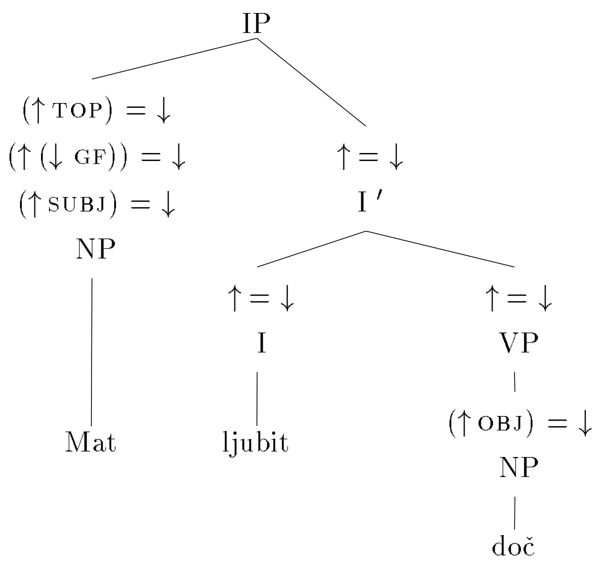
(61)

$$
f\!: \begin{bmatrix}
\textsc{pred} & \text{`love <SUBJ, OBJ>'} \\
\textsc{tense} & \textsc{pres} \\
\textsc{subj} & \begin{bmatrix} \textsc{pred} & \text{`mother'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \end{bmatrix} \\
\textsc{obj} & \begin{bmatrix} \textsc{pred} & \text{`daughter'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \end{bmatrix}
\end{bmatrix}
$$

Because grammatical function is now assigned structurally, there is no need rely on constructive case to link the constituents to their proper argument function. The f-structure in (61) is now both complete and coherent. It also lacks the uniqueness violations caused by the attempts at assigning constructive case to nom-acc nominals outlined above. However, this solution is not trouble free. First there is the problem of word order in this utterance. Although the VSO ordering above is not ungrammatical, it is not the desired word order for an unemotive, completely discourse-neutral utterance. As discussed above, the subject in this situation receives a topicalized interpretation because it serves as the subject of predication. We therefore want it to appear in the preverbal topic position. However, as displayed in (58) - (59), this would lead to f-structure completeness and coherence violations.

This is certainly not a fatal flaw. I need only posit a preverbal topic position which is annotated (($\uparrow$ SUBJ) = $\downarrow$) so as to optionally assign the subject function to the NP in that position. This position, as discussed in §3.1, is motivated by the tendency for subjects to appear in this preverbal, topic position in Russian clauses. Any material in this new c-structure position would preclude any constituents from being generated in the postverbal subject position as two subject arguments would cause a uniqueness violation in the corresponding f-structure. Given this additional node, the c-structure tree below could be generated to account for the desired SVO order:

(62)



The c-structure tree in (62) shows the predicted word order while sharing much the same f-structure as (61).[9]

[9] There is one difference between the minimal f-structure corresponding to (62) and the f-structure in (61). Because the subject in (62) is in a topic position, the minimal complete and coherent f-structure would be one in which there was an internal f-structure corresponding to the topic function, and linked to the subject position.

Unfortunately another, more serious problem exists with this solution. Prepositions in Russian govern the case of the P-Objs they license. For instance, the preposition "vokrug", "around", must be followed by an NP bearing genitive case, the preposition, "pro", "about", obligatorily is followed by an accusative NP (Forbes (1964), Pulkina (1993)). Nom-acc nouns, then, can appear after prepositions which select for nominative and accusative case, but not after those which select only for genitive, locative, dative, or instrumental marked objects. This restriction raises a problem for an analysis in which nom-acc nouns are underspecified for case.

There are two general ways in which the preposition can govern the case of its object in LFG:

- Constraining equations in the lexical entry of the preposition or predicate.
- Defining equations or the form $(\uparrow \text{OBJ CASE}) = \downarrow$ in the lexical entry of the preposition or predicate.

The first option is to use a constraining equation to constrain the case of the P-Obj to the appropriate case. For instance, the lexical entry of "vokrug" might appear as in (63):

(63) vokrug P $(\uparrow \text{PRED}) =$ 'around <OBJ>'
$(\uparrow \text{OBJ CASE}) =_c \text{GEN}$

The solution algorithm, then, would check the minimal f-structure of any sentence containing "vokrug" against the constraining equation, $(\uparrow \text{OBJ CASE}) =_c \text{GEN}$, rejecting any f-structure in which the attribute-value pair, CASE = GEN, does not appear in the f-structure corresponding to the object of the preposition. The constraining equation, therefore, leaves the P-Obj argument only open to nominals bearing a specific case. For prepositions which lack a PRED value, the constraining equation in (64) would appear in the lexical entry of the of the verb:

(64) $(\uparrow \text{OBL}_\theta \text{ OBJ CASE}) =_c X$

Where X is the appropriate case value, given the preposition.

Utilizing constraining equations to limit the possible cases of prepositional objects causes a problem for the underspecification account of case on nom-acc nouns. Because these nominals are underspecified for case, any f-structure in which these nouns serve as the P-Obj would necessarily lack a case value. However, an empty case value cannot satisfy a constraint equation which requires that ($\uparrow$ OBL$_\theta$ OBJ CASE) contain a specific value. Therefore, nom-acc nouns could **not** appear as the object of a preposition which subcategorizes for an accusative object. However, as discussed above, these nouns are permitted to appear in such positions.

The second option for ensuring that the object of a preposition bears the appropriate case is to utilize a defining equation such as

($\uparrow$ OBJ CASE) = ACC or ($\uparrow$ OBL$_\theta$ OBJ CASE) = ACC

Like the constraining equation solution, the defining equation would appear in the lexical entry for the preposition or, in the case of a preposition which lacks a PRED value, in the lexical entry of the governing verb. This equation may also appear as an annotation on a c-structure node in the phrase structure rules as in (65):

(65) $$\begin{array}{lccc} \text{PP} & \longrightarrow & \text{P} & \text{NP} \\ & & \uparrow = \downarrow & (\downarrow \text{CASE}) = \text{ACC} \\ & & & (\uparrow \text{OBJ}) = \downarrow \end{array}$$

The defining equation, too, would limit the P-Obj position licensed by a preposition to a noun phrase carrying a specific case value. Any NP whose value of CASE ddisagrees with the value assigned by the defining equation would form an f-structure which fails the uniqueness condition. This follows from the local f-structure corresponding to the P-Obj containing two values for the CASE attribute: one assigned by the defining equation, and a conflicting value assigned in the lexical entry of the noun that serves as the head of the P-Obj.

This solution does not suffer from the same problem as the constraining equation solution, as a noun which is underspecified for case could still serve as the object of a preposition whose argument is restricted to accusative case. Because the defining equation actually sets the value of the CASE attribute, rather than simply mandating a specific attribute appear, an object whose lexical entry is underspecified for case would still bear the appropriate case value in f-structure.

However, this solution creates a new problem for the underspecification account. The case value assigned by a defining equation would never conflict with an underspecified value of the CASE attribute, as would be provided by the lexical entry of a nom-acc noun in the underspecification account. This means that, regardless of the case restrictions a particular preposition places on its objects, a nom-acc noun would always be able to serve as that object. However, nom-acc nouns can only appear as the objects of prepositions which specify nominative or accusative objects. So, although the distribution of nom-acc nouns is no longer over-restricted, the defining equation solution causes that distribution to be under-restricted, allowing nom-acc nouns to serve as the object of prepositions which subcategorize for instrumental, dative, genitive, or locative as well as nominative and accusative arguments.

Regardless of how the case of P-Objs is restricted, leaving the CASE attribute of nom-acc nouns underspecified fails to correctly account for their distribution as objects of a preposition.

3.3.2 Indeterminate Case

Another possible option would be to adopt the approach taken in Dalrymple and Kaplan (1997). In this paper, Dalrymple and Kaplan suggest that attribute values in general, and case in particular, may appear as a set of possible values rather than a single value. A lexical CASE feature, according to Dalrymple and Kaplan, can appear as the set, {X, Y, Z ...}, where X, Y, Z represent the cases whose properties the constituent displays. Under this system nom-acc nouns would bear the case value:
CASE = {NOM, ACC} and would be able to function as either a nominative or accusative noun.

This analysis does not suffer from the issue raised above about the underspecification account. Because nom-acc nouns, under the indeterminate account, contain a specific value for the CASE feature, they cannot appear as objects of prepositions which subcategorize for an object whose case is neither nominative nor accusative. This restriction is ensured through f-structure uniqueness. If a nom-acc noun appeared as the object of a preposition which subcategorized for an object whose case was neither nominative nor accusative, then the f-structure of that object would contain two values for the CASE feature: one contributed by the preposition and one by the lexical entry of the nom-acc noun.

Nom-acc nominals, under this account, would also not be restricted from serving as the P-Obj of a preposition which takes an accusative or nominative object. Recall that, because nom-acc nouns were underspecified for case, they could not satisfy a constraining equation which checked for nominative or accusative case on the object. Thus, nom-acc nouns were incorrectly restricted from appearing as arguments to certain prepositions. Given the indeterminate case value, however, constraining equations on the CASE value of the P-Obj could be satisfied. If any of the elements in the argument's case value match the case value mandated by the constraining equation, the requirement will be satisfied. Because this value in the lexical entries of nom-acc nouns contains both nominative and accusative case, these nominals could serve as the objects of, and only of, prepositions which take nominative or accusative objects.

The set-theoretic approach to case assignment in nom-acc nominals holds another advantage over the underspecification account. A large class of nouns which do not syncretise nominative and accusative cases, syncretise accusative and genitive cases. The underspecification account would cause us to treat these nouns exactly like nom-acc nouns. They would have an underspecified case value in their lexical entry. Because their case value would exactly match the case value of nom-acc nouns, these nouns would share the same distribution as nom-acc nouns. Clearly we do not want this to be the case. Nom-acc nouns hold a special syntactic status which other nouns do not share. If we were to accept the underspecification account, this problem could only be avoided by either positing multiple lexical entries for these nouns or multiple case values in a single lexical entry. The latter solution is ruled out for the same reason it was ruled out for nom-acc nouns: it would inherently produce f-structure uniqueness violations. The multiple lexical entry account, on the other hand, would not cause the same problem that it did for nom-acc nouns. Accusative/genitive syncretising nouns **can**, unlike nom-acc nouns, appear anywhere an accusative or genitive noun can appear.

Nonetheless, the indeterminate case account allows us to completely sidestep the issue of how to differentiate nom-acc and acc-gen nominals. There is no need to posit multiple lexical entries for one while denying that same analysis to the other. Just as nom-acc nouns hold the case value {NOM, ACC}, acc-gen nouns bear the case value {ACC, GEN}. Then, just like nom-acc nouns, acc-gen nouns show the same properties as either a genitive or accusative noun.

The indeterminate case account is not, however, without it problems. Because a noun with multiple elements in its case value shares attributes of all of the cases in its set, it falls into the same trap that the multiple case value account above has, namely, constructive case would assign it multiple grammatical functions. As outlined above, this has the effect of both causing f-structure uniqueness violations as well as incorrectly predicting the limited distribution of nom-acc nouns. The f-structure uniqueness problem can be eliminated by positing multiple lexical entries for these nouns, each one with only one IO designator, however the latter problem, the incorrect prediction about constituent distribution, cannot likewise be solved.

3.3.3 Limiting the Assignment of Constructive Case

The issue of multiple GF assignment with indeterminate case need not eliminate it as a possibility for case assignment to case syncretised nouns. In fact, the problem is not general to all instances of case syncretism. Although nom-acc nouns could potentially hold two different argument roles dependent on which case is determined to apply, namely subject and object, the same is not true of acc-gen nouns. Both accusative and genitive nouns hold the same argument role. As described in the previous chapter, both accusative and genitive nouns can serve as a grammatical object in negated clauses. Outside of negative constructions, genitive nouns cannot hold any argument role. Therefore, under constructive case, acc-gen nouns would only contain the IO designator, (OBJ$\uparrow$) and attribute value pair ($\uparrow$ GF) = OBJ in their lexical entries.

The root of the problem with the interaction of constructive case with indeterminate case, then, is the potential assignment of conflicting grammatical functions to a constituent with a case value cardinality greater than 1. Nominative nouns cannot serve as grammatical objects nor can accusative nouns serve as grammatical subjects in Russian. However, given indeterminate and constructive case we would expect that the lexical entry of nom-acc nouns contain the proper IO designators and GF values for both nominative **and** accusative nouns. This would yield a lexical entry as in (66)a.:

(66) a. Mat' N ($\uparrow$ PRED) = 'mother'
($\uparrow$ CASE) = {NOM, ACC}
($\uparrow$ GF) = SUBJ
($\uparrow$ GF) = OBJ
(SUBJ$\uparrow$)
(OBJ$\uparrow$)

b. Papu N ($\uparrow$ PRED) = 'father'
($\uparrow$ CASE) = {ACC, GEN}
($\uparrow$ GF) = OBJ
(OBJ$\uparrow$)

However, one of the IO designators and GF values will always conflict with one of the cases: NOM with OBJ, ACC with SUBJ. Yet, with acc-gen nouns such as "papu" in (66)b., this conflict does not exist. The IO designator, (OBJ$\uparrow$), and GF value, OBJ, are perfectly compatible with both of the cases in the case value set. Indeterminate case in conjunction with constructive case produces the proper predictions for acc-gen nouns. This follows from the lack of conflict between case and grammatical function with these nouns. Any c-structure placement in which these nouns receive the interpretation of grammatical object is perfectly plausible regardless of the interpretation of case.

The difference in correctness of integration of constructive case with indeterminate case values between nom-acc and acc-gen nouns suggests the need for a restriction on the assignment of grammatical functions to nominals bearing specific case features. We want to formalize the observation that, in Russian, nominative marked nouns cannot serve as grammatical objects, and non-nominative marked nouns cannot serve as grammatical subjects.[10] This observation can be formalized through the introduction of the following conditional equations:

(67) a. $\text{NOM} \in \text{CASE} \Rightarrow \neg((\uparrow\ \text{GF}) = \text{OBJ}) \wedge \neg(\text{OBJ}\ \uparrow)$

b. $\text{N-NOM} \in \text{CASE} \Rightarrow \neg((\uparrow\ \text{GF}) = \text{SUBJ}) \wedge \neg(\text{SUBJ}\ \uparrow)$

where n-nom stands for the disjunction of all non-nominative Russian cases: ACC∨ GEN∨ DAT∨ INST∨ LOC. These conditional equations can also be represented in the form of f-structure filters as in (68):

(68) a. $\left[{}^{*}\text{OBJ} \quad \left[\text{CASE}\left\{\text{NOM}\right\}\right]\right]$

b. $\left[{}^{*}\text{SUBJ} \quad \left[\text{CASE}\left\{\text{N-NOM}\right\}\right]\right]$

Following Bresnan (Spring 1998 version) and Andrews and Manning (1993), these equations test "for the presence of a feature as a condition for functional specification." Bresnan (Spring 1998 version:75)

This restriction is obeyed by the lexical entry for "papu" in (66)b., but not by the lexical entry for "mat' " in (66)a. In (66)b., an acc-gen noun is assigned the object function. Because the only conditional concerning accusative and genitive marked nouns, (66)b., only restricts these nominals from serving as grammatical subjects, all accusative and genitive nouns should be able to serve as the object of a transitive verb. This is in fact the case, as outlined above. However, the lexical entry in (66)a. suggests both that nominative nouns should be able to serve as grammatical objects and accusative nouns should be able to serve as grammatical subjects. Neither prediction is borne out. Nominative nouns can only serve as grammatical subjects, accusative nouns, grammatical objects. The conditionals in (67) prevent us from assigning grammatical functions to these arguments constructively. Neither ($\text{SUBJ}\uparrow$)

[10]Much of the work on Genitive of Negation in Russian assumes the possibility of genitive marked subjects under the scope of negation (Borschev and Partee 1998). Several researchers, however, have argued that these "subjects" are in fact grammatical objects in a preverbal topic position ((Babby 1980), (Neidle 1988), (Engar 1993)). This observation assumes the validity of their arguments.

and ($\uparrow$ GF) = SUBJ nor (OBJ$\uparrow$) and ($\uparrow$ GF) = OBJ can appear in the lexical entries of nom-acc nouns. Constructive case cannot assign grammatical functions to these nouns.

Because nom-acc nominals do not specify their grammatical functions in their lexical entries, their distribution in c-structure is severely restricted. As was the case for the underspecification of case account under which nom-acc nominals did not resolve grammatical functions through constructive case, nom-acc nouns are forced, because of their lack of inherent grammatical function, to appear in c-structure positions which assign grammatical functions structurally. Otherwise, as displayed in (58) – (59), the minimal f-structure corresponding to the c-structure would violate both completeness and coherence.

3.4 Word Order Freezing

That nom-acc nouns are "frozen" into certain c-structure positions in non-emotive utterances follows directly from the treatment of case outlined above. Because nom-acc nouns, unlike other nouns, cannot be assigned grammatical functions through constructive case, grammatical function is assigned, as it is in languages such as English which lack constructive case all together, configurationally. Revisiting the word order facts from the previous chapter, we can see that they follow directly from the configurational assignment of grammatical functions.

3.4.1 Simple Transitives

As described in §2.3.1, while all six possible orders of the major constituents are possible in a transitive clause whose arguments have distinct case morphology for nominative and accusative cases, a transitive clause whose arguments are both nom-acc nouns can only be realized in SVO ordering. I have repeated the data from the previous chapter below as (69) and (70):

(69) a Mama ljubit papu
Mother-NOM loves the father-ACC

'The mother loves the father'

b Papu ljubit mama
Father-ACC-TOP loves mother-NOM

'The mother loves the father'

(70) a Mat' ljubit doč
Mother-NOM loves daughter-ACC

'The mother loves the daughter'

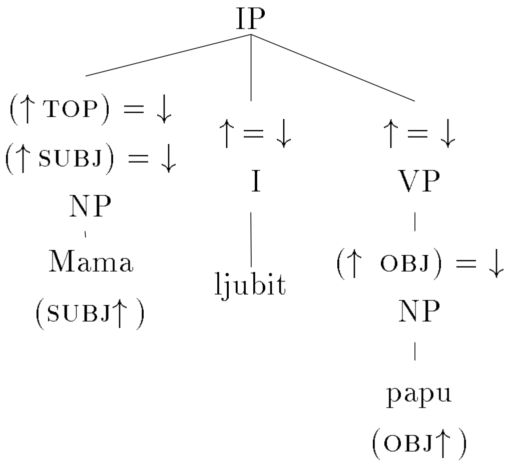
b Doč ljubit mat'
daughter-NOM loves mother-ACC

'The daughter loves the mother'

c *Doč ljubit mat'
Daughter-ACC-TOP loves mother-NOM

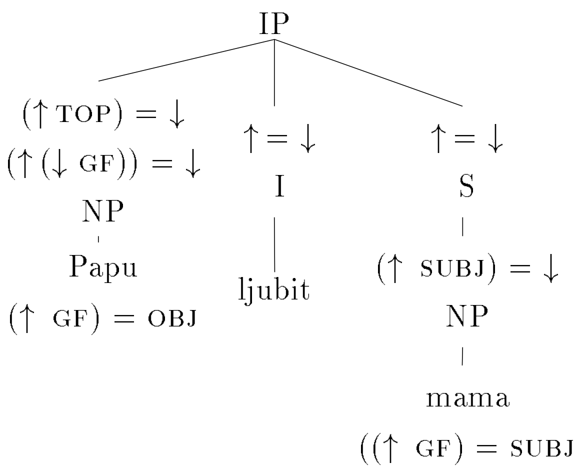
(69) displays the relative freedom of word order in simple transitive clauses. The nominative and accusative arguments are linked to their appropriate argument functions, subject and object respectively, regardless of their linear position in the clause. The sentences in (69) can be modeled by the analysis presented as in (71) below:

(71) a.



$$
f\!: \left[\begin{array}{ll}
\textsc{pred} & \text{`love <}\textsc{subj, obj}\text{>'} \\
\textsc{tense} & \textsc{pres} \\
 & \\
\textsc{top} & [\quad] \\
\textsc{subj} & \left[\begin{array}{ll} \textsc{pred} & \text{`mother'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \textsc{nom} \end{array}\right] \\
 & \\
\textsc{obj} & \left[\begin{array}{ll} \textsc{pred} & \text{`father'} \\ \textsc{gend} & \textsc{masc} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \textsc{acc} \end{array}\right]
\end{array}\right]
$$

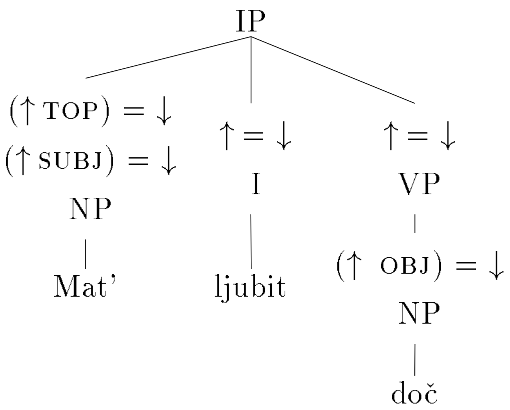
b.



$$f\!: \left[\begin{array}{ll}
\text{PRED} & \text{`love <SUBJ, OBJ>'} \\
\text{TENSE} & \text{PRES} \\
 & \\
\text{TOP} & [\quad] \\
\text{SUBJ} & \left[\begin{array}{ll} \text{PRED} & \text{`mother'} \\ \text{GEND} & \text{FEM} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{NOM} \end{array}\right] \\
 & \\
\text{OBJ} & \left[\begin{array}{ll} \text{PRED} & \text{`father'} \\ \text{GEND} & \text{MASC} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \text{ACC} \end{array}\right]
\end{array}\right]$$

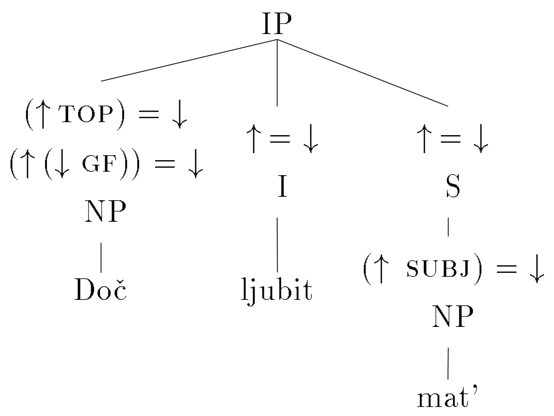
Both SVO and OVS orderings are possible for utterances which carry grammatical function information via constructive case. The difference between SVO and OVS arises, as predicted, from the relative prominence of the arguments in discourse. Topicalizing the object argument with either a focused or discourse neutral subject, yields an OVS utterance. However, this is not the case for sentences with two nom-acc arguments. For these utterances, the OVS word order is not available. This observation is predicted by the inability of nom-acc nouns to utilize constructive case as discussed in §concase:

(72) a.



$$f\!: \left[\begin{array}{ll}
\text{PRED} & \text{`love <SUBJ, OBJ>'} \\
\text{TENSE} & \text{PRES} \\
\text{TOP} & [\quad] \\
\text{SUBJ} & \left[\begin{array}{ll}
\text{PRED} & \text{`mother'} \\
\text{GEND} & \text{FEM} \\
\text{PERS} & 3 \\
\text{NUM} & \text{SG} \\
\text{CASE} & \left\{\text{NOM, ACC}\right\}
\end{array}\right] \\
\text{OBJ} & \left[\begin{array}{ll}
\text{PRED} & \text{`daughter'} \\
\text{GEND} & \text{FEM} \\
\text{PERS} & 3 \\
\text{NUM} & \text{SG} \\
\text{CASE} & \left\{\text{NOM, ACC}\right\}
\end{array}\right]
\end{array}\right]$$

b.



$$f\!: \left[\begin{array}{ll} \textsc{pred} & \text{'love <}\textsc{subj, obj}\text{>'} \\ \textsc{tense} & \textsc{pres} \\ & \\ \textsc{top} & [\quad] \\ \textsc{subj} & \left[\begin{array}{ll} \textsc{pred} & \text{'mother'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \left\{\textsc{nom, acc}\right\} \end{array}\right] \\ & \\ \textsc{gf} & \left[\begin{array}{ll} \textsc{pred} & \text{'daughter'} \\ \textsc{gend} & \textsc{fem} \\ \textsc{pers} & 3 \\ \textsc{num} & \textsc{sg} \\ \textsc{case} & \left\{\textsc{nom, acc}\right\} \end{array}\right] \end{array}\right]$$

Like the f-structure / c-structure pair in (71)a., the pair in (72)a. constructs a valid sentence with topicalized subject and discourse-neutral object. The f-structure in this case is complete, coherent, and obeys uniqueness. We would, however, like to rule-out the sentence in (72)b. as this word order, given the same interpretation as (72)a. is ungrammatical. This ungrammaticality is predicted by the inability of any f-structure to satisfy completeness, coherence, and uniqueness when paired with the c-structure in (72)b. Because "Doč", as a nom-acc noun, does not mark its grammatical function lexically like "mama" and "papu", the corresponding f-structure is left without the grammatical object subcategorized for by the predicate. This is a violation of f-structure completeness. In fact, the only possible word order for this sentence which will produce a valid c-structure/f-structure pair is the SVO order in (72)a. Nor would we expect a different result given the additional agreement information provided by a finite verb in the past tense. Although the predicate would contain the a-v pair ($\uparrow$ SUBJ GEND) = X, the subject would still lack an IO designator indicating its grammatical function and would, therefore, be limited to structurally assigned argument positions.

A careful reader might point out that my c-structure rules permit a VSO order for a sentence with nom-acc arguments as well. This order **is** grammatical if the grammatical subject is inanimate or low on the thematic hierarchy (73), repeated from §3.1:

(73) a. Šel dožd".
goes rain

It is raining.

b. Byla osen'.
was fall

It was fall.

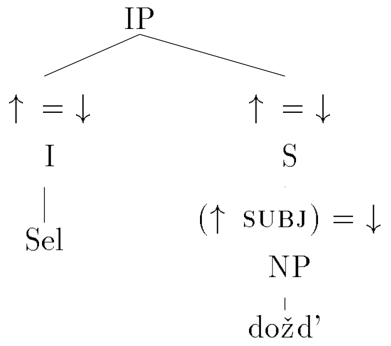
c. Nezametno podkralas' noč.
stealthily arrived night

Night arrived stealthily.

(Krylova 1976)

In each of the sentences in (73), a finite verb is followed by a nom-acc noun. These sentences are predicted to be grammatical as in (74):

(74)



$$f: \begin{bmatrix} \text{PRED} & \text{`goes <SUBJ>'} \\ \text{TENSE} & \text{PRES} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{`rain'} \\ \text{GEND} & \text{FEM} \\ \text{PERS} & 3 \\ \text{NUM} & \text{SG} \\ \text{CASE} & \{\text{NOM, ACC}\} \end{bmatrix} \end{bmatrix}$$

Both the grammaticality of the various word order permutations of simple Russian transitive clauses, and the relative fixedness of transitives with nom-acc arguments follows directly from the interaction between set-theoretic case values and constructive case coherence.

3.4.2 Topicalization

Recall that, although topicalized elements normally appear preverbally in Russian clauses, in clauses with a nom-acc object, a topicalized object will remain *in situ* as demonstrated below utilizing the interrogative test (Kroeger 1993):

(75) a Lenin citiruet Marksa
'Lenin cites Marx'

b Who cites Marx?
Marksa citiruet Lenin. (OVS)

(76) a What does the horse see?

b Lošad' vidit moshe
horse-NOM-ACC see mouse-NOM-ACC
'The horse sees the mouse.'

(77) a Who sees the mouse?

b *Moshe vidit lošad'
'The horse sees the mouse.'

c Lošad' vidit moshe.

We would, given the analysis presented, expect this difference between nom-acc nominals and those that bear distinct nominative and accusative case morphology. Because the arguments in (75) can be assigned grammatical functions via constructive case, the structural topic positions are available to them. However, the object in (76) must receive its argument function structurally. Because none of the preverbal topic positions assign are annotated ($\uparrow$ OBJ) $= \downarrow$, there not any possible topic positions for the object to appear in. In fact, the only position which is available to a nom-acc object, under my analysis, is the canonical position, as sister to the verb. Hence, it remains in situ regardless of discourse motivated movement.

3.4.3 Transitives with One Nom-Acc Syncretized Noun

Finally, my analysis makes the predictions that all though word order in clauses with only one nom-acc argument should appear to be fairly free,

- a nom-acc subject which receives a topicalized interpretation should never appear postverbally,
- an object should never intervene between the verb and a nom-acc subject,
- a nom-acc object should never appear preverbally.

These predictions follow from the restriction that nom-acc nouns remain in the structurally marked argument positions which, for the subject are immediately preceding and following the verb, and for an object, following the verb.

In fact, all of these predictions are borne out in the data:

(78) a. Lošad' pila vodu
horse-NOM-ACC drank-SUBJ-GEND-FEM water-ACC
'The horse drank the water'

b. | Sišik | pil | vodu |
|---|---|---|
| detective-NOM | drank-SUBJ-GEND-MASC | water-ACC |

'The detective drank the water'

(79) a. Who was drinking the water?

b. Vodu pilo tzičik-FOC.

c. Lošad' pila vodu.
Vodu pila lošad'-FOC.

The interrogative in (79)a. should prompt a response in which the water appears in a preverbal, topical position and the subject is in a postverbal, focus position as in (79)b. However, as can be seen in (79)c., this order is not available to sentences whose subject of predication is a nom-acc nominal. Nor can the object, in this case "vodu", intercede between the topicalized subject and the verb.

(80) *Lošad' vodu pila.

Although the object can be topicalized into a preverbal position in a sentence whose subject argument is a nom-acc noun, that topicalized element must precede the subject.

Finally, clauses with a nom-acc object show a fixed postverbal position:

(81)

Mal'čik	videl	lošad'
boy-NOM	saw	horse-NOM-ACC

'The boy saw the horse.'

(82) ??Lošad'-TOP malčik videl.
??Lošad'-TOP videl malčik.

A nom-acc marked object cannot be generated in the preverbal, topic position.

Chapter 4

Conclusion

This work has centered on examining and analyzing the relationship between syncretism of case morphology in nominative and accusative cases and word order freezing in the Russian language. Although I have attempted a thorough analysis of this phenomenon within the framework of LFG, much work remains to be done to explain how this observed effect and, in particular, the analysis of that effect presented here fits into a cross-linguistic perspective on word order freezing. In this chapter I am going to present some possible directions for further research on this topic, particularly examining word order freezing in other languages. Although not discussed here, one possible direction for continuing work on this topic might be to pursue an analysis in other emerging frameworks such as Optimality Theory (Prince and Smolensky 1993), as suggested in Lee (1999). Before examining further research, I would like to summarize the analysis presented in the previous chapters.

4.1 Summary

It has long been noted that word order in Russian encodes discourse functions such as topic and focus. By following King (1995), I have further assumed that there is an inherent configurational structure that is hidden by the apparent "free" placement of constituents into discourse-configurational positions. Thus, despite the possibility of all six word orders appearing in discourse, there is a configurational structure in which the constituents appear by default, reflected by the fact that SVO is overwhelmingly the most prevalent order.

In order to support a system of discourse-configurationality while correctly linking constituents to their argument roles, Russian makes use of case morphology, creating a close tie between each case and specific grammatical functions. There are instances, however, where case morphology cannot be used to distinguish between the various arguments. It is precisely in this environment, I argue, that the discourse-configurational positions become unavailable, and the constituents appear in their canonical positions in the underlying configurational structure.

This account serves to strengthen the claim made by Constructive Case, that case morphology in dependent-marking languages directly constructs the grammatical roles of the constituents. The fact that word order becomes restricted when the case morphology cannot be used to construct grammatical functions provides added support to this argument. Word order can be used to encode discourse information precisely because it is not necessary to encode grammatical function information. Furthermore, it captures the simple observation that word order freezing results from a loss of information about grammatical function linking, requiring that word order take over this task. Thus the analysis predicts the observed phenomenon, that morphologically sparse languages show a relatively fixed word order, whereas higher degrees of word order freedom are observed in morphologically rich languages.

4.2 Cross-Linguistic Variation

As I mentioned earlier, the phenomenon of word order freezing occurring in dependent-marking languages when case cannot distinguish grammatical roles is not limited to Russian. Data presented in Lee (1999) and Mohanan (1992) suggest that this phenomenon exists in both Hindi and Korean.

One of the interesting phenomena presented in Lee (1999) about the Korean language seems directly related to the discussion of word order freezing presented here about Russian. Lee notes that, in informal contexts, case markers can be dropped, thereby eliminating the morphological information tying the nominal arguments to their grammatical functions. When this occurs, word order freezes into SOV:

(83) a. Mary ku kay ccoch-nun-ta.
Mary that dog chase-PRES-DECL

'Mary is chasing that dog.'

b. Ku kay Mary ccoch-nun-ta.
that dog Mary chase-PRES-DECL

(i) 'That dog is chasing Mary.'

(ii) *'Mary is chasing that dog.'

(Lee 1999)

This phenomena is directly analogous to the case of nom-acc nouns in Russian. Because the case markers are not present in these utterances, constructive case cannot operate. Therefore, there nouns must receive their grammatical functions through other, structural means. The analysis presented here for Russian, can also correctly account for this particular word order effect in Korean, given a discourse-configurational analysis of Korean phrase structure.

Certainly, there seems to be a cross-linguistic generalization that word order freezing and Constructive Case "ambiguity" are linked. This is precisely the intuition that I have attempted to encode in my analysis, that Constructive Case relies on distinct case morphology / argument function mappings, and when those mappings do not exist, Constructive Case cannot operate, leaving word order to encode grammatical function.

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