

RUSSIAN AND POLISH VERBAL MORPHOLOGY:
COMPARATIVE FEATURE ENCODING

By

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For my family

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LIST OF ABBREVIATIONS

ACC	Accusative
Agr	Agreement
Asp	Aspect
AUX	Auxiliary
COND	Conditional
Dat	Dative
Deriv.	Derivational suffix
DS	D-Structure
DM	Distributed Morphology
F	Female
G	Gender
Inf.	Infinitive
Imperf.	Imperfective
INFL	Inflection (syntactic head)
INST	Instrumental
Interr.	Interrogative particle
LF	Logical Form
LOC	Locative (Prepositional) case
M	Masculine
MS	Morphological Structure
N	Neuter
Part.	Participle
Perf.	Perfective
PF	Phonological Form

PL	Plural
P-N	Person-Number
Pol	Polish
PST	Past
Refl	Reflexive
Rus	Russian
SG	Singular
SMPI	Syntax-Morphophonological Interface
SS	S-Structure
Theme	Thematic suffix
V _{-PST}	Nonpast verb
V _{PST}	Past verb
VI	Vocabulary Item
VP	Verb Phrase
VS	Verbalizing Suffix
φ-feat	Phi-features
1	1 st Person
2	2 nd Person

Abstract of Thesis Presented to the Graduate School
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The Slavic languages Russian and Polish exhibit notable similarities and differences in the way that they encode agreement on verbs. Case studies of Distributed Morphology (DM) in the Slavic family have generally not been comparative in nature. In this work I discuss comparatively the verbal structure and morphology of Russian and Polish verbs. In Distributed Morphology (Halle and Marantz 1993, 1994), phonological features are not assumed in syntax. Rather, syntax manipulates sets of abstract features only. In this system, subject agreement is assumed to take place in the syntax between sets of interpretable agreement (or phi-) features in the subject DP and a set of unvalued/uninterpretable features in a functional head (typically T). At Morphological Structure (MS), a dissociated morpheme Agr is created and adjoined to T. The phi-features of T are then copied to Agr. Following the creation of Agr, vocabulary insertion rules, which supply phonological content to terminal nodes, may apply to the Agr nodes. In this system, morphological paradigms such as the subject agreement paradigm arise due to the fact that vocabulary insertion rules may be underspecified relative to the features in the terminal nodes they apply to. When vocabulary insertion occurs, underspecified lexical insertion rules select the

phonological content that matches the most features for a given context. When examining paradigms from related languages, such as those examined here, one expects that variation in those paradigms would fall out from small differences in this system, either at the level of MS (disassociated nodes, impoverishment rules, etc.) or in the vocabulary rules themselves. I attempt to show this is the case for the Polish and Russian paradigms examined here.

CHAPTER 1 INTRODUCTION

Russian and Polish in the Slavic Context

Russian and Polish respectively represent the verbal paradigms of East and West Slavic and have both evolved from their common ancestor, Proto-Slavic (later Common Slavic). The modern Slavic languages are generally characterized by rich agreement, case, and aspectual systems. Russian is the native language of nearly 144 million people living in Russia and other territories of the former Soviet Union. Polish is spoken by approximately 40 million speakers living in Poland and many other countries around the world. The Russian verbal system is characteristic of other East Slavic languages, such as Ukrainian, while Polish exhibits characteristics found in other West Slavic languages such as Czech and Slovak.

Russian and Polish Verbs and Distributed Morphology

In this study I argue that the theory of Distributed Morphology (Halle and Marantz 1993) efficiently captures the verbal agreement paradigms of Russian and Polish. The processes of agreement and morphological merger establish the correct morpheme order in both languages before vocabulary insertion may occur.

Outline of this Study

Chapter 2 provides an overview of the theory of Distributed Morphology, the morphological processes of agreement and merger, and recent Slavic verbal linguistic research in DM and through other theoretical frameworks. Chapter 3 is an overview of grammar as it relates to the verbal structures of Polish and Russian. In Chapter 4, I comparatively analyze the two languages in all tenses through DM via derivations and

tree structures. Finally, Chapter 5 contains concluding remarks about this study and directions for future research in Slavic morphology.

CHAPTER 2 THEORETICAL BACKGROUND

Distributed Morphology

This work assumes the theory of Distributed Morphology, or DM (Halle and Marantz 1993, 1994). Crucial to DM is the relationship between vocabulary items (phonological information) and bundles of morphosyntactic features. DM assumes a separationist model in which phonological features play no role in syntactic derivations. Rather, syntax manipulates abstract features residing in terminal nodes. Phonological information is then supplied post-syntactically at vocabulary insertion (sometimes referred to as “Late Insertion”), which occurs at the level of MS (Morphological Structure).

Distributed Morphology differs from previous lexicalist theories in that it does not identify the lexicon as the locus of all word creation. In traditional lexicalist theory, the lexicon is a component of grammar comprised of syntactic/semantic content as well as phonological content. Along with syntax, the lexicon serves to connect sound and meaning by establishing relationships between complex constituents and their respective components. DM separates the lexicon into several distributed lists: List 1, List 2, and List 3. List 1 contains the roots of a language (sans phonology) as well as grammatical feature bundles on which the syntax operates. List 2, the Vocabulary, is the source of all phonological content that is added to terminal nodes after syntactic and morphological operations have occurred at SS and MS. By the Subset Principle, a vocabulary item is inserted into a terminal node if the features of the item match all or a subset of the features contained in the node. If the vocabulary item contains a feature not present in the terminal node, vocabulary insertion does not occur. Vocabulary items

thus compete for insertion into a terminal node with the morpheme that matches the greatest number of features “winning” and being inserted. List 3, the Encyclopedia, contains all special semantic content, including specific meanings of roots.

DM was developed to capture the different roles that sound and structure/meaning play in the syntax and the phonology. Syntax interprets only the grammatical features of the morphemes and organizes them into hierarchical structure; phonological information is opaque at this stage. Contrastively, the phonology has access to both phonological content and syntactic/semantic features. Morphology provides the link between syntax and phonology.

In DM, verbs acquire inflectional features via purely syntactic operations or other operations that are dependent on syntactic structural requirements, such as head movement and Morphological Merger¹ (Marantz 1988, Halle and Marantz 1993, 1994; Halle 1997). Two morphological processes that can occur at MS are described in the following sections: agreement and merger.

Agreement

The process of phi-feature agreement takes place in the syntax as phi-features are copied from the subject DP in SpecTP to T. In languages such as Russian and Polish which have morpho-phonologically independent agreement morphemes, a dissociated morpheme Agr is created at MS. Phi-features that will receive phonological content at Vocabulary Insertion are copied from T to the Agr head. This process creates two terminal nodes, T and Agr, which can be targeted by vocabulary insertion rules.

¹ I assume that head movement and Merger are identical processes that occur at MS (Harley 2004). I will refer to this operation as Merger throughout the rest of this work.

Morphological Merger and Adjacency

Morphological Merger, like the syntactic process of head movement, joins two terminal nodes under a single node:

Morphological Merger

At any level of syntactic analysis (D-structure, S-structure, phonological structure), a relation between X and Y may be replaced by (expressed by) the affixation of the lexical head of X to the lexical head of Y. (Marantz 1988)

Morphological Merger is distinct from the process of Fusion, another morphological process that occurs at MS: Fusion creates a single node from two nodes, while Merger maintains the two separate nodes under a category node. After Merger occurs, two VIs are inserted during vocabulary insertion under the categorical node.

Closely related to (and perhaps a prerequisite for) Morphological Merger is the notion of Adjacency, posited by Bobaljik (1994) as a condition that enables affixation.

Adjacency

An affix may merge with a stem with which it a) forms a complex head derived in the syntax, b) forms a complex head in the lexicon, or c) is adjacent to (Bobaljik 1994).

Bobaljik characterizes the condition of Adjacency as an intermediate configuration in the mapping between syntax and phonology. Adjacency is concerned only with elements which may affect the mapping process, such as heads; traces, empty projections, and adjoined items (i.e. adverbs) are irrelevant. Merger is similarly unaffected by traces or adjoined elements.

Chomsky (1992) argues that lexical items are fully inflected upon insertion, and the verb along with its inflection raises to INFL at LF to check features established by the syntax. DM does not require a process of LF-checking to satisfy the requirements for

affixation; Adjacency creates an acceptable environment for Morphological Merger to occur between terminal nodes (say, V and T). The processes of Adjacency and Merger depicted in Figure 2-2 closely resemble those illustrated in the context of Russian and Polish syntactic trees illustrated in Chapter 4.

Syncretism, Impoverishment, and Morphosyntactic Features

Other potential operations assumed to be a part of MS include impoverishment rules. Such rules are responsible for deleting morphosyntactic features before vocabulary insertion takes place, often in specific morphosyntactic environments. The close relationship between syncretism and impoverishment reveals significant implications about inflectional features. As Frampton (2002) notes, impoverishment rules (or syntax-morphology interface rules) contribute to a 'rigidity' in morphological content; if these rules did not exist, linguistic innovation would only involve the incorporation of novel lexical items. Significantly, impoverishment rules can bleed the application of particular vocabulary insertion rules if some feature they depend upon for insertion is deleted. Due to the Subset Principle, in such cases the result is that a less specified rule (one not specified for the deleted feature) will apply instead, often giving rise to syncretisms in the paradigm. The Russian past has such an impoverishment rule which produces this exact outcome. Frampton explains that impoverishment indicates a bias toward the loss of inflectional morphological content, and once these lexical items are eliminated it is difficult to reestablish featural distinctions that once were upheld. Russian and Polish have both experienced this type of diachronic loss of surface features in varying degrees since the time of Proto-Slavic and later Common Slavic, albeit in different ways.

Slavic Morphology through DM

Some work has been done in the area of Slavic through a DM perspective, although usually involving individual case studies and not of a comparative nature. Figure 2-3 depicts Halle's (1995) analysis of Russian nominal and adjectival derivational morphology, although his template for all morphophonological items does include verbal elements (in fact, it applies to all Russian lexical categories except adverbs).

In Russian, nouns, adjectives, and verbs all require a theme marker followed by an item from one of the categories of parenthesized content as well as inflection. Finite verbs include the tense marker, whereas infinitives, gerunds, and participles have a separate set of suffixes. Halle attributes case syncretisms such as the Russian animate accusative-genitive paradigm to readjustment rules that operate after vocabulary insertion. The discussion of noun declension classes in Russian is beyond the scope of this work; however, Halle's rules of concord for NP phrases are analogous to those of the VP: features such as gender, animacy, number (and case for nouns) are copied onto specifiers and adjectives dominated by the noun, just as phi-features from the subject are copied from T to Agr at MS, as discussed in Halle (1997).

Halle (1997) outlines the Russian present and past tense verbal paradigms along with corresponding underspecified lexical insertion rules. He proposes that all phi-features are copied onto an Agr node that is a sister of the tense node; the Agr node and tense node remain distinct under a single head and each receive phonological information through insertion rules. Although all phi-feature content (person, number, and gender) is copied from the subject DP to the Agr node, not all three pieces of information are required to select the correct vocabulary item for insertion. For instance, the insertion rules for the Russian nonpast in Figure 4-1 contain only

information about person and number features, but not gender. I follow both Halle's lexical insertion rules as well as his description of the agreement process in this work.

In his work on 'floating' person-number and conditional markers in Polish, Embick (1995) explores the difference in interaction between these two affixes and the verb stem. The structures in (1a-b) and (2a-c) are in free variation in modern Polish and demonstrate the optional preverbal placement of the person-number marker and conditional particle.

- (1) a. Ty widzia-ł-e-ś go.
2.SG SEE-PST-M.SG-2.SG 3.SG.M.ACC
- b. Ty-ś widzia-ł go.
2.SG-2.SG SEE-PST.3.SG.M 3.SG.M.ACC
'You (M) saw him.'
- (2) a. Ty widzia-ł-by-ś go.
2.SG SEE-PAST-COND-2.SG 3.SG.M.ACC
- b. Ty by widzia-ł-e-ś go.
2.SG COND SEE-PST-M.SG-2.SG 3.SG.M.ACC
- c. Ty by-ś widzia-ł go.
2.SG COND-2.SG SEE-PST.3.SG.M 3.SG.M.ACC
'You (M) would see him.'

Embick analyzes previous accounts of the person-number and conditional markers (see Dogil 1987, Booij and Rubach 1987, Aguado and Dogil 1989, and Borsley and Rivero 1994), which generally emphasized the effect of the person-number marker on lexical phonological processes in the language, such as /o/-raising and stress. He argues that the locational restrictions and differences in interaction with different hosts are problems for the Lexicalist account. Diachronic change indicates that the person-number markers historically had a set of endings distinct from the indicative markers that essentially

established them as inflectional endings on the conditional –by- auxiliary. Embick posits that the person-number markers are affixed to a null stem in the indicative mood; in the conditional mood, the conditional particle takes the place of a null stem. A uniform treatment for the person-number markers regardless of their host (conditional marker, fronted *wh*-word, verb stem) is one of the strongest aspects of his argument, and it accounts for many facts regarding the distribution and optional movement of these markers and their interaction with a host. Although I will not formally discuss the person/number inflectional markers in the context of DM in this work, my account of the Polish verb paradigms and agreement is compatible with his ideas regarding the existence of a null stem in place of the conditional in indicative sentences. Embick is unclear about the placement of the person-number Agr morpheme. He suggests that there is a possibility for the Agr node to be located either within an auxiliary node or as a sister to the participle in V' , but he is noncommittal as to which structure is correct within the VP. In this work, the Agr node is always assumed to be a sister to the tense node in both Russian and Polish, but the variable placement of the person-number markers in Polish sentences creates multiple possibilities for future analysis.

Slavic Morphosyntactic Theory outside of DM

Other recent research in Slavic morphological and syntactic theory has been analyzed through various theoretical frameworks, which I will address in this section. Franks (1995) offers a comparative study of Slavic morphosyntax and adopts a Principles and Parameters theory, although similarities with DM can be found in aspects of his theoretical analysis. Franks describes a two-stage process of vocabulary insertion in Figure 2-4: at D-structure, morphological content is inserted (word stems) and featural Agr information remains underspecified until later in the derivation, at which

point it receives a lexical item that matches features specified by a morphosyntactic feature bundle. The general notion of vocabulary insertion involving the substitution of phonological content for morphosyntactic feature bundles matches that of DM, although in DM all nodes are given equal treatment regardless of whether they possess stem or affixal status. Franks' description of lexical entries (interpreted as VIs in my argument) complements Halle's (1997) notions of lexical insertion rules as well as the notion of syncretism: they must have access to full inflectional paradigms which consist of bundles of morphosyntactic features and their corresponding phonological content. Within each morphosyntactic feature matrix are smaller submatrices that specify separate binary morphological categorical relationships. The feature matrix in Figure 2-4 is a representation of the Russian word *knigu*, 'book' (ACC SG). Franks notes that all of the features of a morphological category within a feature bundle are subject to the same morphological processes and underspecification designates that they will be treated in a uniform manner by these processes.

Franks (1995) also outlines some of the differences between Russian and Polish that are central to my discussion: he posits that Agr morphemes in Russian (and East Slavic in general) can only be inserted as verbal affixes, whereas Polish Agr morphemes must always be realized, whether it is on a verbal host or another type of host (Chapter 3). In the Russian nonpast there is no copula, which Franks regards as an independent representation of Agr. Agr morphemes therefore have nothing to attach to in Russian nonpast constructions. Simple sentences with only a subject DP and NP predicate take different cases on the predicate noun in Russian and Polish; in (2a) the

Russian noun 'студент' has a nominative case ending, while in (2b) the Polish noun 'student' takes the instrumental.

- (2) a. Я студент. (Rus)
1 SG student.M.SG.NOM
'I am a student (M)'
- b. Jest-em student-em. (Pol)
BE-1 SG student-M.SG.INST
'I am a student (M)'

The nominative-instrumental case alternation does not apply in sentences with only a predicate adjective (3a-b). In these constructions, both Russian (3a) and Polish (3b) exhibit a nominative case ending on the adjective. Polish will only take a nominative ending on the adjective if it is not part of a NP; if there is a full NP, it takes the instrumental throughout the NP (3c). Russian nonpast sentences do not have instrumental case endings in a NP (3d).

- (3) a. Он симпатичн-ый. (Rus)
3 SG handsome-M.SG.NOM
'He is handsome.'
- b. On jest przystojn-y. (Pol)
3 SG BE.3.SG handsome-M.SG.NOM
'He is handsome.'
- c. On jest przystojn-ym chłopak-iem. (Pol)
3 SG BE.3.SG handsome-M.SG.INST man-M.SG.INST
'He is a handsome man.'
- d. Он симпатичн-ый человек. (Rus)
3 SG handsome-M.SG.NOM man.M.SG.NOM
'He is a handsome man.'

I will adopt the notion argued by Franks (1995) that the connection between pro-drop and Agr behavior in Slavic is one of parametric variation between East and West:

Russian appears to be a non-pro-drop language with only gender/number agreement in the past, whereas Polish is pro-drop and employs, in addition to gender and number agreement, an enclitic-type person-number auxiliary marker.

Researchers who have analyzed the behavior of Slavic clitics have used various approaches such as Prosodic Inversion (Halpern 1992b, 1995), Incorporation (Borsley and Rivero 1994), Long Head Movement (Embick and Izvorski 1994, 1996), and PF filtering (Bošković 1995), although they generally acknowledge the importance of Merger and Adjacency in their work (Embick and Izvorski 1996, Franks and King 2000, Lavine 2001). Embick and Izvorski (1996) explore the word order of participle-auxiliary elements in Slavic, arguing for instances of Morphological Merger instead of movement in the syntax. Many of the auxiliaries they discuss demonstrate enclitic behavior and are treated as such; in these cases the participle-auxiliary order is established through the merger of the clitic auxiliary and participle host. Constraints on the placement of clitics that occur in certain Slavic languages are illustrated in (4a-d) in Slovak.

- (4) a. Ja so-m napísal list. (Slovak)
 1 SG AUX-1 SG written letter
 'I (M) have written a letter.'
- b. Napísal som list.
- c. *Som napísal list.
- d. *Ja napísal som list. (Embick and Izvorski 1996)

The Polish person-number markers have a relatively free distribution, but are prohibited from appearing further to the right than immediately following the verb (5d):

- (5) a. Kiedy widzia-ł-e-ś królika? (Pol)
 When SEE-PST-M.SG-2.SG rabbit
 'When did you see the rabbit?'
- b. Kiedy-ś widzia-ł królika?
 When-2.SG SEE-PST rabbit
- c. Kupi-l-i-śmy lustro.
 BUY-PST-M.PL-1.PL mirror
 'We (M) bought a mirror.'
- d. *Kupili lustro-śmy. (Kipka 1989)

Franks and King (2000) debate the clitic status of the Polish conditional marker *by*, as it can appear in sentence-initial position and it must always act as a host for the person-number markers whenever it occurs before the verb. However, when *-by-* appears following the verb, it must attach to the verb and cannot exist further to the right (6a-b).

- (6) a. Zrobi-ł-**by**-m prac-ę.
 DO-PST-COND-1 SG work-F.SG.ACC
 'I would do the work.'
- b. *Zrobi-ł pracę **by**-m.

Franks and King (2000) attribute the unclear status of *by* to its synchronic change from an inflected clitic auxiliary modal to an uninflected modal clitic. The East Slavic languages do not have auxiliary clitics; however, there is a preference for the conditional marker *би* to appear following the verb or immediately following an overt subject DP.

Franks and King's analysis of Polish person-number markers treats singular and plural markers differently: they argue that singular person-number markers are inflectional when they occur on verbs and clitics when they occur on other hosts; plural person-number markers are inflectional or clitics when they are conflated with a verb, and clitics when they occur on other hosts. Franks and King acknowledge the potential usage of Merger to account for the combination of the conditional AUX + Agr in Slovak, Polish, and colloquial Czech.

In his analysis of the /-no/-to/ morpheme in Polish, Lavine (2001) argues for the use of Morphological Merger to account for the mismatch between morphosyntactic structure and the morphophonological component. The morphosyntactic features of the

/-no/-to/ morpheme are generated at SS and joined together with the verb at MS when Merger occurs. Similar to the person-number markers, there is an Adjacency requirement for the /-no/-to/ auxiliaries that enables their subsequent merger with the verb.

Summary

In Chapter 2 I have provided an overview of the theory of Distributed Morphology and Slavic research conducted both within the theory of DM and in other theoretical frameworks. I have also outlined several morphological processes assumed to operate in Slavic: agreement, Adjacency, and Morphological Merger. Agreement begins in the syntax, where phi-features are copied from the subject DP to a tense node. At MS, the dissociated morpheme Agr is created and all phi-feature information is copied to it. Tense and agreement features remain separate after agreement occurs. The morphological process of Merger operates after syntax and manipulates adjacent terminal nodes before any phonological content is added. Various theoretical frameworks have been used to conduct Slavic linguistics research aside from DM, yet many studies acknowledge the use of Merger to account for certain linguistic phenomena, such as participle-auxiliary constructions and the mobile behavior of the person-number marker in Polish. After discussing the DM and general Slavic theoretical background, I will examine the grammar of Russian and Polish in Chapter 3.

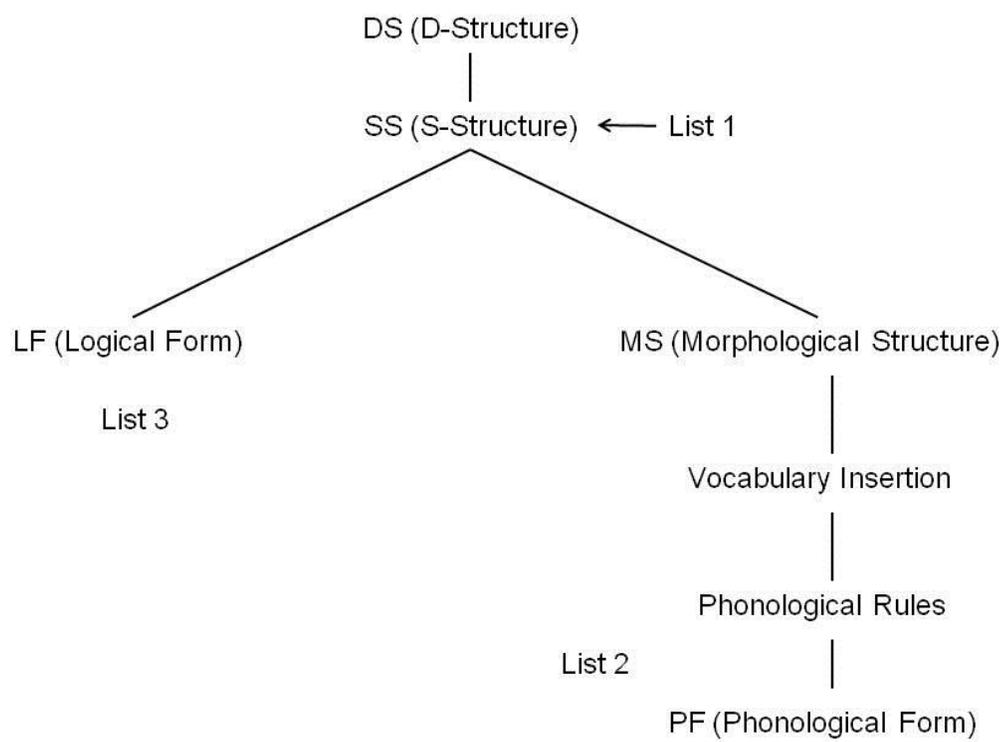


Figure 2-1. DM Model

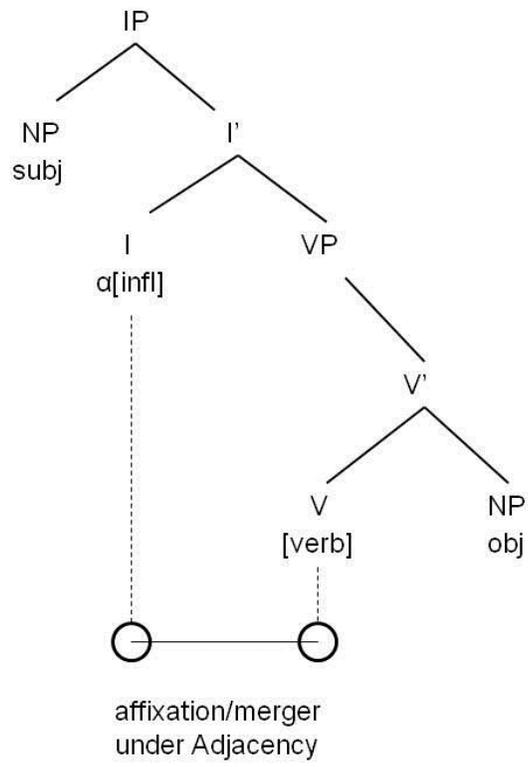


Figure 2-2. Merger via Adjacency (Bobaljik 1994)

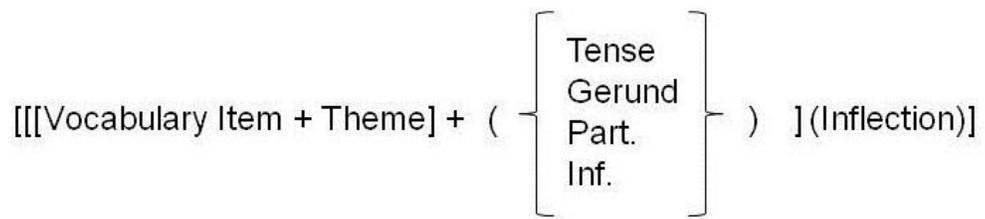


Figure 2-3. Russian Morphological Template (Halle 1995)

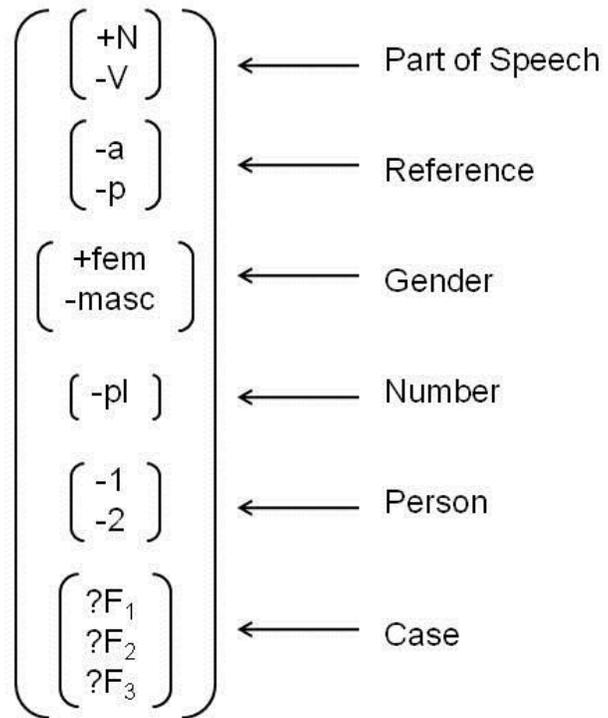


Figure 2-4. Morphosyntactic Feature Matrix (Franks 1995)

CHAPTER 3 OVERVIEW OF RUSSIAN AND POLISH GRAMMAR

This chapter provides an overview of Russian and Polish grammar as it relates to this study with a focus on the structural aspects of the verbal system and morphology of both languages. Nominal and adjectival declension will therefore not be addressed. It should be noted, however, that the rich agreement system of Slavic languages requires that all adjectives agree with their head noun in a(n) DP/NP in terms of number, gender, and case features.

The Russian Verbal System

The nonpast Russian verb consists of an optional aspectual prefix, verb stem, a derivational morpheme (a theme vowel) that acts as a classificatory suffix, phi-feature agreement (gender, number, person), and in verbs that select it, a reflexive suffix (Townsend 1980, Timberlake 1993).

(7) Russian Nonpast Verb Structure [(Asp) [V-_{PST}] [Deriv.] [φ-feat] (Refl)]]

Russian verb endings are mostly invariable, while verb stems vary to a large degree. The thematic ligature, or theme vowel, is a suffix added to the verb stem. Russian nonpast verbs are usually divided into two classes in Russian pedagogy depending on their thematic ligature; verbs classified as first conjugation have [-e-] or [-o-] if the stress is word-final, the choice being determined by lexical verb stress. Second conjugation verbs have [-i-] as their thematic ligature. The Russian infinitive may take the following endings: [-tʲ], [-tʲi], [-chʲ]. Table 3-1 shows the endings for first conjugation verbs; Table 3-2 shows second conjugation verb endings. It should be noted that Russian nonpast verbs do not mark gender features on the verb. In both conjugation classes 1 and 2, the thematic ligature is absent from the first person

singular and third person plural forms. The conjugation class determines the third person plural ending (the [-i-] ligature selects [-at/-jat] and the [-e-] ligature selects [-ut]).

While I recognize the practical necessity of identifying Russian verb endings as either first or second conjugation in a classroom setting, I will refer to the verbal suffixes without their supporting ligature in this study. Table 3-3 shows Russian verb endings as they will be discussed throughout this work.

The structure of the Russian past differs from that of the nonpast in that it possesses what is traditionally called an “L-morpheme” following the thematic ligature. The L-morpheme marks past tense on the verb. In addition, the Russian past often resembles the infinitive more closely, as it is formed by subtracting the infinitival ending and affixing the L-morpheme and the agreement suffix. Furthermore, the Russian past tense verb shows gender and number feature distinctions and does not mark person features.

(8) Russian Past Verb Structure
[(Asp) [V_{+PST}] [L-morph] [φ-feat] (Refl)]]

Table 3-4 shows a sample past conjugation, with the L-morpheme and Gender-Number marker suffixed onto the verb stem; Table 3-5 shows the endings separately.

Russian Irregular Verb Forms

As in most languages, there are verbs in Russian that are irregular and do not fit the paradigms described above. As there are many types of irregular Russian verbs, I will highlight a few of the more commonly used verbs. Consonant/vowel mutations often indicate irregularity in verb conjugation, and the individual exceptions must be memorized by a learner or native speaker of Russian. Table 3-6 shows the conjugation for *есть* [jest'] ‘to eat’; Table 3-7 shows the conjugation for *дать* [dat'] ‘to give’.

Both of these high-frequency verbs appear to exhibit a similar conjugation pattern, using [-m] for first person singular endings and epenthesizing a [-d-] in the nonpast plural forms. The past forms of *дать* are normal; on the surface, the past endings of *есть* appear normal but are clearly not formed by simply removing the infinitival ending and affixing the L-morpheme and gender-number suffix. Another fairly productive type of irregular verb does not have the L-morpheme in the past tense masculine forms; Table 3-8 shows the present tense conjugation of *печь* [pech'] 'to bake', which demonstrates a stem consonant shift ч → к in both tenses. Table 3-9 illustrates the irregular past tense conjugation.

Some other verbs of this type include *нести* [nesti] 'to carry', *лезть* [lezt'] 'to climb', *мочь* [moch'] 'to be able', *везти* [vezti] 'to transport by vehicle', *жечь* [žech'] 'to burn', *исчезнуть* [ischeznut'] 'to disappear', *лечь* [lech'] 'to lie down', *погибнуть* [pogibnut'] 'to be killed', and *расти* [rasti] 'to grow up'.

The Polish Verbal System

The Polish nonpast verb consists of an optional aspectual prefix, the verb stem, a verbalizing suffix similar to the derivational suffix found in the Russian nonpast, phi-feature agreement, and a reflexive suffix if the verb stem selects it (Swan 1983, Czaykowska-Higgins 1988, Rothstein 1993).

- (9) Polish Nonpast Verb Structure
 [(Asp) [V-_{PST}] [VS] [φ-feat] (Refl)]]

Like Russian, Polish nonpast verb endings do not show very much variation, but their stems vary largely. The Polish infinitive may appear with the following endings: -ć [-ch'] (in most cases), and -c [-ts] if the stem underlyingly ends with a velar or a velar + [-n]. Polish verbs are usually divided into three conjugation classes; the first and

second conjugation classes both have two possible shapes for verbal suffix, determined by phonological factors, while the third conjugation class has only one set. Conjugation class I is characterized by –am/-asz (-em/-esz) first person and second person singular endings, and a sample conjugation is shown in Table 3-10 for both suffix types.

Conjugation class II is characterized by –ę for first person singular and either –isz or -ysz for the second person singular. Table 3-11 shows the endings of second conjugation verbs.

Conjugation class III is characterized by –ę for first person singular and –esz for second person singular. Table 3-12 shows the ending of third conjugation verbs.

As with the Russian verb suffixes, I will use the Polish nonpast suffixes without their thematic vowel throughout this study. Table 3-13 lists these suffixes.

The Polish past tense verb consists of an optional aspectual prefix, the verb stem, an L-morpheme, subject agreement, and the reflexive suffix, if applicable. Unlike the nonpast, Polish past tense verbs inflect for gender, person, and number; the gender-number morpheme and the person-number morpheme follow the L-morpheme. The L-morpheme can take two forms in Polish: [-l-] before a front vowel, and [-w-] elsewhere.

(10) Polish Past Verb Structure
[(Asp) [V_{+PST}] [L-morph] [Gender-Number] [Person-Number] (Refl)]]]]]

Table 3-14 shows the past tense paradigm for Polish verbs. Table 3-15 shows person-number agreement suffixes separately.

As Table 3-14 demonstrates, there is no person-number agreement for third person singular or plural in the Polish past tense. Table 3-16 shows gender-number agreement suffixes; M SG* denotes first and second person only, as third person masculine

singular forms are completely unmarked for gender, number, and person and end with the L-morpheme.

Polish Irregular Verb Forms

Most irregular verbs in Polish exhibit a consonant mutation in the stem and/or have past forms that look completely anomalous compared to their nonpast counterparts. In this section I will provide sample conjugations of several irregular Polish verbs in all tenses. Table 3-17 shows the conjugation pattern for mieć [mijech'] 'to have', Table 3-18 shows the conjugation pattern for wiedzieć [wiedzijech'] 'to know', and Table 3-19 shows the conjugation pattern for brać [brach'] 'to take'.

The past tense paradigms of mieć and wiedzieć exhibit a similar pattern: all of the singular forms exhibit a vowel alternation before the L-morpheme (-e- to -a-), while in the plural forms, the masculine endings are true to the verb stem and the feminine endings continue the vowel alternation. The past tense conjugation of brać is normal; the nonpast exhibits forms that do not match the infinitive/verb stem. Other irregular Polish verbs include chcieć [xchech'] 'to want', jechać [jexach'] 'to go by vehicle', rwać [rvach'] 'to tear, rip', dać [dach'] 'to give', być [bich'] 'to be', iść [ish'ch'] 'to go by foot', jeść [jesh'ch'] 'to eat', etc. Polish does not have any irregular verbs that do not have the L-morpheme attached in the past tense, as Russian does.

Tense

Tense in Russian

The Russian imperfective tense can be used to express situations of any type in the past, present, and future tense. The future tense is constructed in two ways: the combination of an auxiliary (the verb быть [bit'] 'to be') and imperfective infinitive, or a perfective aspectual prefix attached to the verb stem. Perfective verbs distinguish past

or future; past perfective verbs are typically used to express situations that are conceptualized as being complete, culminated or ended. The future perfective (also referred to as simple future) expresses the completion of a future situation. (11a-c) demonstrate uses of the Russian imperfective to express past, present, and future actions; (12a-b) show the usage of the Russian perfective to express future and past events.

- (11) a. Вчера вечером она смотрел-а телевизор. (past imperf.)
 [fchera vecherom ona smotrel-a televizor]
 Last night 3.SG.F WATCH-SG.F television
 'Last night she watched television.'
- b. Алёна жив-ёт в Москв-е. (present imperf.)
 [a'ona živ'ot v moskv'e]
 Alyona LIVE-3.SG in Moscow-F.SG.LOC
 'Alyona lives in Moscow.'
- c. Завтра днём я буд-у играть в футбол. (future imperf.)
 [zafta dn'om ja budu igrat' f futbol]
 Tomorrow day 1.SG BE-1.SG PLAY-inf. in football
 'Tomorrow during the day I'm going to play football.'
- (12) a. Я прочита-ю эт-у книг-у. (future perf.)
 [ja pro-chita'-u etu knigu]
 1.SG perf-READ-1.SG this-F.SG.ACC book-F.SG.ACC
 'I will read this book.' (to completion)
- b. Он с-делал свой домашнее задание. (past perf.)
 [on z-delal svoj domashne'e zadani'e]
 3.SG.M perf-DO-SG.M refl. home assignment
 'He completed his homework.'

Tense in Polish

Tense functions similarly in Polish as it does in Russian: the imperfective is realized in the past, present, and future tenses, and the perfective only in the past and future tenses. The main difference between the two languages lies in the distinction between constructions of the compound future in the imperfective tense. Russian creates this construction through a conjugated form of *быть* 'to be' plus the infinitive

form of an imperfective verb; in Polish, there are two options for forming the compound future. In one construction, there is a conjugated form of the verb być [bich'] 'to be' plus the third person past tense form of an imperfective verb; person-number agreement is absent from the imperfective verb in this context. The other construction also includes a conjugated form of być followed by the infinitive of the imperfective verb, identical to the Russian compound future construction. The first construction roughly translates as the English present progressive 'going to do X', and the second use translates as 'will be doing X', where X is a verb. Both are considered correct by native speakers of Polish, although the być + past tense construction is more frequently used (Swan 2002).

(13a-b) demonstrate the two constructions for the imperfective compound future tense.

- (13) a. Czy będzie-sz studiował? (być + third person past tense)
 [chɨ bɛʒie-sh studijovaw]
 Interr. BE-2.SG STUDY-3.SG.M
 'Are you going to study?'
 b. Czy będzie-sz studiowa-ć? (być + imperfective infinitive)
 [chɨ bɛʒie-sh studijova-ch']
 Interr. BE-2.SG STUDY-Inf.
 'Will you be studying?'

Aspect

Aspectual distinctions in Slavic languages are among the richest features of their verbal systems. In both Russian and Polish, these distinctions are expressed through the use of imperfective or perfective verbs, depending on context and intent of the speaker. Perfective verbs describe situations in their entirety as well as completed or culminated situations. Imperfective verbs describe all other situations and are unmarked aspectually; as a result, they may be appropriate for various contextually determined uses. The most common uses for imperfective verbs include but are not

limited to: (i) progressive, (ii) statement of fact, and (iii) habitual. Nearly all verbs are either perfective or imperfective, but not all verbs are members of an aspectual pair.

Aspect is distinguished on verbs through several different strategies: (1) the use of prefixes on simple imperfectives to create perfective verbs. Once attached to the verb, they alter the semantics of the verb, e.g. Rus. читать [chitat'] 'to read', про-читать [pro-chitat'] 'to finish reading something', по-читать [po-chitat'] 'to read for a while' (no length of time is specified); (2) suffixes can be added to perfective verbs to produce an imperfective verb, e.g. Rus. рассказать (perf.) [raskazat'] 'to tell' and its imperfective form, рассказывать [raskazivat']; (3) stem suppletion, i.e. Pol. pomagać (imperf.) [pomagach'] 'to help' and pomóc (perf.) [pomoch'].

Mood

Both Russian and Polish have three moods: indicative, conditional, and imperative. In this section I will briefly discuss the uses of each mood type.

Indicative

The indicative mood is used in Russian and Polish to describe events/actions that have already occurred, are currently taking place, or will take place in the future. It can be used in statements, questions, and exclamations with markers to indicate tense; generally, all statements that are not considered imperative or conditional are in the indicative mood.

Conditional

The conditional mood is used in a variety of ways in both Russian and Polish to denote irrealis situations. Russian uses the invariable particle бы [bi] and the past tense to indicate both hypothetical conditions and the subjunctive mood; Polish uses the particle –by- [bi] followed by past tense person-number markers. In Russian the бы

particle usually follows the verb, but it is not required to; in Polish, the –by- particle and person-number markers must either affix to the verb or to a preverbal clausal element, such as *gdy* [gdi] ‘if’, *jeśli* [jesh’li] ‘if’, *że* [že] ‘that’, etc. The Russian particle can optionally be shortened to ‘б’, often in colloquial contexts, as in (14c). In (14d), the particle directly follows the subject and not the verb for emphasis; this is similar to –by- attaching to an element higher in the clause in Polish. (14a-d) illustrate conditional sentences in Russian.

- (14) a. Я сам на-писал **бы** ему.
 [ja sam na-pisal bi jemu]
 1.SG refl. PERF-WRITE-M.SG COND. 3.SG.M.Dat
 ‘I would have written to him myself.’
- b. Это бы-л-о **бы** хорошо.
 [eto bi-l-o bi xoroшо]
 That BE-PST-Neut.SG COND. good
 ‘That would be fine.’
- c. Вы мог-л-и **б** при-еха-ть около трёх?
 [vi mog-l-i b pri-eha-t’ okolo tr’ox]
 2.PL BE ABLE-PST-PL COND. PERF-ARRIVE-Inf. around three
 ‘Would you (PL) be able to come around three?’
- d. Я **бы** не по-ш-л-а.
 [ja bi ne po-sh-l-a]
 1.SG COND. NEG. PERF-GO-PST-F.SG
 ‘I wouldn’t have gone.’

The conditional can be used to express wishes (15a-b), thoughts/opinions (16a-b), or desires (17a-b) in both Russian and Polish. In Russian subordinate clauses, the particle *бы* is incorporated into *чтобы* [shtobi] ‘so that, in order to’.

- (15) a. Жела-ю, **чтобы** ты мог **помо-чь** мне. (Rus)
 [žela-ju shtobi ti mok pomoch’ mn’e]
 WISH-1.SG COND. 2.SG BE ABLE.PST.M.SG HELP-Inf. 1.SG.DAT
 ‘I wish that you could help me.’
- b. Życz-y, **że-by-ś** przy-jecha-ł-a. (Pol)
 [žich-i že-bi-sh’ pshi-jexa-w-a]
 WISH-3.SG that-COND-2.SG PERF-ARRIVE-PST-3.SG.F
 ‘He wishes that she would come.’

- (16) a. Мы не считаем, чтобы это было трудно.
 [mi ne s-chita'e-m shtobi eto bi-l-o trudno]
 1.PL NEG PERF-CONSIDER-1.PL COND this BE-PST-N.SG difficult
 'We don't consider this as [being] difficult.'
- b. Waṭpi-ę, czy-by on mógł to
 [vɔtpij-ɛ̃ chi-bi on mug-w to]
 DOUBT-1.SG COND. 3.SG.M BE ABLE-PST.3.SG.M that
 z-rozumie-ć.
 z-rozumie-ch']
 PERF-UNDERSTAND-Inf.
 'I doubt whether he would be able to understand that.'
- (17) a. Я не хочу, чтобы ты говорил про это. (Rus)
 [ja ne xoch-u shtobi ti govori-l pro eto]
 1.SG NEG WANT-1.SG COND. 2.SG TALK-PST-M.SG about this
 'I don't want you to talk about this.'
- b. Chc-ę, że-byś tego nie robił. (Pol)
 [xɕs-ɛ̃ że-bi-sh' tego n'e robi-w]
 WANT-1.SG that-COND-2.SG that NEG DO-PST-3.SG.M
 'I don't want you to do that.'

Finally, the conditional may be used in Russian and Polish clauses of purpose, as in

(18a-d):

- (18) a. Она открыла окно, чтобы не было так жарко.
 [ona otkri-l-a okno shtobi ne bi-l-o tak žarko]
 3.SG.F OPEN-PST-F.SG window COND NEG BE-PST-N.SG so hot
 'She opened the window so it wouldn't be hot.'
- b. Я пришёл, чтобы рассказать вам об этом.
 [ja pri-shol shtobi raskazat' vam ob etom]
 1.SG PERF-ARRIVE-PST.M.SG COND TELL-Inf. 2.PL.DAT about it
 'I came to tell you (PL) about it.'
- c. Pracuję, żeby mieć pieniądze.
 [praɕuj-ɛ̃ że-by-m mi'aw pi'eni'ɔdze]
 WORK-1.SG COND-1.SG HAVE-3.SG.M money
 'I'm working in order to have money.'
- d. Studiuję, żeby zdać egzamin.
 [studi'uj-ɛ̃ że-by-m z-da-w-a egzamin]
 STUDY-1.SG COND-1.SG PERF-PASS-PST-3.SG.F exam
 'I'm studying so that I'll pass the exam.'

Imperative

The imperative mood in Russian and Polish is used to express commands and requests. In Russian, it is formed by dropping the third person plural suffix and adding either -й, -и, or -ь for the singular/informal form or -йте, -ите, -ьте for the plural/polite form. Table 3-20 demonstrates the creation of the imperative in Russian through the third person plural.

The Polish imperative is formed very similarly to the Russian imperative, except that the imperative endings are added to the third person singular form instead of third person plural. The imperative endings are $-\emptyset$ for 2nd person singular/informal forms and $-cie$ for 2nd person plural/formal forms. The formation of the imperative in Polish is dependent on the conjugation class of the verb. Table 3-21 demonstrates the derivation of a variety of imperatives in Polish.

Grammatical Case and Verb Government

Research on agreement within NPs has typically asserted that the elements of a NP agree in gender, number, and case with the head NP (Anderson 1982). Babby (1987) alters this claim: in Russian quantifier phrases, the head noun controls the number and gender of its constituents, but not case. He argues that case is assigned to the head noun's maximal projection (N^m) and then percolates down to all appropriate lexical categories (modifiers and complements) in a phrase. He also discusses "discontinuous agreement" in quantifier phrases, where certain adjectives agree in case with the head noun and others agree in case with the quantifier (19a-b) and (20a-b). In (19a), if 'бутылок' is assumed to be the head noun, the adjective 'последние' (NOM) does not agree with it in case. In (20a), if 'пять' is assumed to be the head noun, then the adjective 'добрых' (GEN) does not agree with it in case. The source of case

assignment in Russian quantifier phrases is rarely agreed upon in the literature and is beyond the scope of this work.

- (19) a. последние пять бутылок
 Posledn-ie pjat' butil-ok
 last-NOM.PL five.NOM bottles-GEN.PL
 'the last five bottles'
- b. *последних пять бутылок
 posledn-ix pjat' butil-ok
 last-GEN.PL five.NOM bottles-GEN.PL
- (20) a. добрых пять бутылок
 dobr-ix pjat' butil-ok
 good-GEN.PL five.NOM bottles-GEN.PL
 'a good five bottles'
- b. *добрые пять бутылок
 dobr-ie pjat' butil-ok
 good-NOM.PL five.NOM bottles-GEN.PL

Oblique cases are normally assigned in Russian and Polish by a specific lexical item, such as the Russian verb завидовать [zavidovat'] 'to envy', which selects a dative NP complement (21). Its idiosyncratic dative case requirement is specified in the lexical entry of the verb. Verbs may take complement NPs in different cases depending on their individual lexical entries. The Polish verb rozmawiać 'to talk' may take either an instrumental or locative NP complement, depending on the context; in (22), a locative complement follows the verb.

- (21) Бедные всегда завидуют богатым.
 bjedn-i'e vsegda zavid-ujut bogat-im
 poor.NOM.PL always envy-3.PL rich-DAT.PL
 'The poor always envy the rich.'
- (22) My rozmawia-my o literatu-rze.
 [mi rozmawia-mi o literatu-že]
 1.PL TALK-1.PL about literature-SG.LOC
 'We are talking about literature.'

Reflexive Verbs

In both Russian and Polish, the reflexive particle may be selected by the verb for various semantic purposes, including reflexivity and reciprocity. Other verbs are prohibited from appearing with the reflexive particle. When attached to the verb, the reflexive particle does not always create a purely reflexive meaning on the verb; cf. Rus. (по)бояться [(po)bojat'sa] 'to be afraid', случаться/случиться [sluchat'sa/sluchit'sa] 'to happen, occur', просыпаться/проснуться [prosiPAT'sa/prosnut'sa] 'to wake up'; Pol. lubować się [lubovach' siɛ] 'delight in', domagać się [domagach' siɛ] 'to demand', starać się [starach' siɛ] 'to try'. When the reflexive particle is required to be attached to the verb, it indicates reflexive action experienced by the agent of the sentence, as in (23a-b):

- (23) a. Мужчина бреет-ся. (Rus)
[mužchina bre'e-t-sa]
Man.SG.NOM SHAVE-3.SG-Refl
'The man is shaving (himself).'
- b. Kot się myje. (Pol)
[kot shɛ mije]
Cat.SG.NOM Refl. WASH-3.SG
'The cat is washing (itself).'

The reflexive particle can also be used to indicate reciprocal action on a verb, as demonstrated in examples (24a-b):

- (24) a. Они по-жени-л-и-сь. (Rus)
[oni po-ženi-l-i-s']
3.PL PERF-MARRY-PST-PL-Refl
'They got married (to each other).'
- b. Spotyka-l-i-śmy się w kawiarni. (Pol)
[spotika-l-i-sh'mi shɛ f kawiarni]
MEET-PST-M.PL-1.PL Refl in café-LOC.
'We met in a café.'

Passive voice is expressed in Russian and Polish through the use of the reflexive; in these instances it occurs on verbs where it may optionally be attached. (25a-c) shows examples of the passive construction in both languages.

- (25) a. В Москве новые дома стро-ят-ся. (Rus)
[v moskv'e novi'e doma stro-jat-sa]
In Moscow new houses BUILD-3.PL-Refl
'In Moscow new homes are being built.'
- b. Костюм крои-т-ся портн-ым. (Rus)
[kostjum kro'i-t-sa portn-im]
Suit.SG.NOM CUT-3.SG-Refl tailor-SG.INST
'The suit is being made by a tailor.'
- c. Wod-ę się gotuj-e. (Pol)
[vod-ɛ̃ shɛ̃ gotuj-e]
Water-F.ACC Refl COOK-3.SG
'Water is being boiled.'

Summary

In Chapter 3, I have discussed the morphology of Russian and Polish verbs, including tense, aspect, mood, and case. In both languages, verbs play a crucial role in syntax and semantics and exhibit morphologically rich agreement characteristics. I have also discussed the endings of the nonpast and past tenses for Russian and Polish, which will be presented a second time in the following chapter as lexical insertion rules. Other linguistic processes, such as agreement and merger, will be discussed in Chapter 4.

Table 3-1. First conjugation endings for Russian nonpast verbs, [-e-] and [-o-] endings

Infinitive	Person/Number	Verb stem + ending	Gloss
Читать [chitat']			'to read'
	1 SG	чита́-ю [chita-ju]	'I read'
	2 SG	чита́-е-шь [chita-je-sh']	'you (SG) read'
	3 SG	чита́-е-т [chita-je-t]	'he/she/it reads'
	1 PL	чита́-е-м [chita-je-m]	'we read'
	2 PL	чита́-е-те [chita-je-t'e]	'you (PL) read'
	3 PL	чита́-ют [chita-jut]	'they read'
Ждать [ždat']			'to wait'
	1 SG	жд-у́ [žd-u]	'I wait'
	2 SG	жд-ё-шь [žd-jo-sh']	'you (SG) wait'
	3 SG	жд-ё-т [žd-jo-t]	'he/she/it waits'
	1 PL	жд-ё-м [žd-jo-m]	'we wait'
	2 PL	жд-ё-те [žd-jo-t'e]	'you (PL) wait'
	3 PL	жд-у́т [žd-ut]	'they wait'

Table 3-2. Second conjugation endings for Russian nonpast verbs

Infinitive	Person/Number	Verb stem + ending	Gloss
Говорить [govorit']			'to speak'
	1 SG	говор-ю́ [govor-ju]	'I speak'
	2 SG	говор-и́-шь [govor-i-sh']	'you (SG) speak'
	3 SG	говор-и́-т [govor-i-t]	'he/she/it speaks'
	1 PL	говор-и́-м [govor-i-m]	'we speak'
	2 PL	говор-и́-те [govor-i-t'e]	'you (PL) speak'
	3 PL	говор-я́т [govor-jat]	'they speak'

Table 3-3. Russian nonpast verb endings

Person/Number	Suffix
1 SG	-у/-ю [-u/-ju]
2 SG	-шь [-sh']
3 SG	-т [-t]
1 PL	-м [-m]
2 PL	-те [-t'e]
3 PL	-ут/-ют [-ut/-jut] or -ат/-ят [-at/-jat]

Table 3-4. Russian past conjugation

Infinitive	Gender/Number	Verb stem + ending	Gloss
Готовить [gotovit']	M SG	гото́ви-л [gotovi-l-∅]	'to cook'
			'I (M) cooked'
			'you (M) cooked'
	F SG	гото́ви-л-а [gotovi-l-a]	'he cooked'
			'I (F) cooked'
			'you (F) cooked'
N SG	гото́ви-л-о [gotovi-l-o]	'she cooked'	
		'it cooked'	
PL	гото́ви-л-и [gotovi-l-i]	'we cooked'	
		'you (PL) cooked'	
			'they cooked'

Table 3-5. Russian past verb endings

Gender/Number	L-morpheme	Gender-Marker morpheme
M SG	-л- [-l-]	-∅
F SG	-л- [-l-]	-а [-a]
N SG	-л- [-l-]	-о [-o]
PL	-л- [-l-]	-и [-i]

Table 3-6. Conjugation of есть

Person/Number	Nonpast	Gender/Number	Past
1 SG	é-м [je-m]	M SG	é-л [je-l-∅]
2 SG	é-шь [je-sh']	F SG	é-л-а [je-l-a]
3 SG	é-т [jes-t]	N SG	é-л-о [je-l-o]
1 PL	ед-и́-м [jed-i-m]	PL	é-л-и [je-l-i]
2 PL	ед-и́-те [jed-i-t'e]		
3 PL	ед-я́т [edj-at]		

Table 3-7. Conjugation of дать

Person/Number	Nonpast	Gender/Number	Past
1 SG	да́-м [da-m]	M SG	да́-л [da-l-∅]
2 SG	да́-шь [da-sh']	F SG	да-л-а́ [da-l-a]
3 SG	да́-т [das-t]	N SG	да́-л-о [da-l-o]
1 PL	дад-и́-м [dad-i-m]	PL	да́-л-и [da-l-i]
2 PL	дад-и́-те [dad-i-t'e]		
3 PL	дад-у́т [dad-ut]		

Table 3-8. Present Tense Conjugation of печь

Person/Number	Nonpast	Gender/Number	Past
1 SG	пек-ý [pek-u]	M SG	пѣк [pjok-Ø]
2 SG	печ-ѣ-шь [pech-jo-sh']	F SG	пек-л-á [pek-l-a]
3 SG	печ-ѣ-т [pech-jo-t]	N SG	пек-л-ó [pek-l-o]
1 PL	печ-ѣ-м [pech-jo-m]	PL	пек-л-í [pek-l-i]
2 PL	печ-ѣ-те [pech-jo-t'e]		
3 PL	пек-ут [pek-ut]		

Table 3-9. Past Tense Conjugation of печь

Person/Gender/Number	Past
1 M SG	пѣк [pjok-Ø]
2 M SG	пѣк [pjok-Ø]
3 M SG	пѣк [pjok-Ø]
1 F SG	пек-л-á [pek-l-a]
2 F SG	пек-л-á [pek-l-a]
3 F SG	пек-л-á [pek-l-a]
3 N SG	пек-л-ó [pek-l-o]
1 M/F PL	пек-л-í [pek-l-i]
2 M/F PL	пек-л-í [pek-l-i]
3 M/F PL	пек-л-í [pek-l-i]

Table 3-10. First conjugation endings for Polish nonpast verbs, -am/-asz and -em/-esz

Infinitive	Person/Number	Verb stem + ending	Gloss
Pytać [pitach']			'to ask'
	1 SG	pyt- a-m [pit- a-m]	'I ask'
	2 SG	pyt- a-sz [pit- a-sh]	'you (SG) ask'
	3 SG	pyt- a [pit- a]	'he/she/it asks'
	1 PL	pyt- a-my [pit- a-mi]	'we ask'
	2 PL	pyt- a-cie [pit- a-ch'e]	'you (PL) ask'
	3 PL	pyt- a-ja [pit- a-jõ]	'they ask'
Umieć [umijech']			'to know how to do something'
	1 SG	umi- e-m [umi- je-m]	'I know how'
	2 SG	umi- e-sz [umi- je-sh]	'you (SG) know how'
	3 SG	umi- e [umi- je]	'he/she/it knows how'
	1 PL	umi- e-my [umi- je-mi]	'we know how'
	2 PL	umi- e-cie [umi- e-ch'e]	'you (PL) know how'
	3 PL	umi- e-ja [umi- e-jõ]	'they know how'

Table 3-11. Second conjugation endings for Polish nonpast verbs, -ę and -isz/-ysz

Infinitive	Person/Number	Verb stem + ending	Gloss
Myśleć [mish'lech']	1 SG	myśl- ę [mish'l- ɛ̃]	'to think' 'I think'
	2 SG	myśl- i-sz [mish'l- i-sh]	'you (SG) think'
	3 SG	myśl- i [mish'l- i]	'he/she/it thinks'
	1 PL	myśl- i-my [mish'l- i-mi̯]	'we think'
	2 PL	myśl- i-cie [mish'l- i-ch'e]	'you (PL) think'
	3 PL	myśl- ą [mish'l- ɔ̃]	'they think'
	Słyszeć [swishech']	1 SG	słysz- ę [swish- ɛ̃]
2 SG		słysz- y-sz [swish- i-sh]	'you (SG) hear'
3 SG		słysz- y [swish- i]	'he/she/it hears'
1 PL		słysz- y-my [swish- i-mi̯]	'we hear'
2 PL		słysz- y-cie [swish- i-ch'e]	'you (PL) hear'
3 PL		słysz- ą [swish- ɔ̃]	'they hear'

Table 3-12. Third conjugation for Polish nonpast verbs, -ę/-esz

Infinitive	Person/Number	Verb stem + ending	Gloss
Kupować [kupovach']	1 SG	kupuj- ę [kupuj- ɛ̃]	'to buy' 'I buy'
	2 SG	kupuj- e-sz [kupuj- e-sh]	'you (SG) buy'
	3 SG	kupuj- e [kupuj- e]	'he/she/it buys'
	1 PL	kupuj- e-my [kupuj- e-mi̯]	'we buy'
	2 PL	kupuj- e-cie [kupuj- e-ch'e]	'you (PL) buy'
	3 PL	kupuj- ą [kupuj- ɔ̃]	'they buy'

Table 3-13. Polish nonpast verb endings

Person/Number	Suffix
1 SG	-m/-ę [-m/- ɛ̃]
2 SG	-sz [-sh]
3 SG	-∅
1 PL	-my [-mi̯]
2 PL	-cie [-ch'e]
3 PL	-(j)ą [- (j)ɔ̃]

Table 3-14. Polish past conjugation

Infinitive	P/G/N	Verb stem + ending	Gloss
Mówić [muvich']			'to speak'
	1 M SG	mówi- ł-e-m [muvi-w- e-m]	'I (M) spoke'
	1 F SG	mówi- ł-a-m [muvi-w- a-m]	'I (F) spoke'
	2 M SG	mówi- ł-e-ś [muvi-w- e-sh']	'you (M) spoke'
	2 F SG	mówi- ł-a-ś [muvi-w- a-sh']	'you (F) spoke'
	3 M SG	mówi- ł [muvi-w- ∅-∅]	'he spoke'
	3 F SG	mówi- ł-a [muvi-w- a]	'she spoke'
	3 N SG	mówi- ł-o [muvi-w- o]	'it spoke'
	1 M PL	mówi-l- iś-my [muvi-l- i-sh'-mi]	'we (M) spoke'
	1 F PL	mówi-ł- yś-my [muvi-w- i-sh'-mi]	'we (F) spoke'
	2 M PL	mówi-l- iś-cie [muvi-l- i-sh'-ch'e]	'you (M PL) spoke'
	2 F PL	mówi-ł- yś-cie [muvi-w- i-sh'-ch'e]	'you (F PL) spoke'
	3 M PL	mówi-l- i [muvi-l- i-∅]	'they (M) spoke'
	3 F PL	mówi-ł- y [muvi-w- i-∅]	'they (F) spoke'

Table 3-15. Polish past verb endings: Person-Number agreement

Person/Number	Suffix
1 SG	-m [-m]
2 SG	-ś [-sh']
3 SG	-∅
1 PL	-śmy [-sh'mi]
2 PL	-ście [-sh'ch'e]
3 PL	-∅

Table 3-16. Polish past verb endings: Gender-Number agreement

Gender/Number	Suffix
M SG*	-e [-e]
F SG	-a [-a]
N SG	-o [-o]
M PL	-i [-i]
F PL	-y [-i]

Table 3-17. Conjugation of mieć

P/N	Nonpast	P/G/N	Past
1 SG	m-a-m [m-a-m]	1 M SG	mia-ł-e-m [mia-w-e-m]
2 SG	m-a-sz [m-a-sh]	1 F SG	mia-ł-a-m [mia-w-a-m]
3 SG	m-a [m-a]	2 M SG	mia-ł-eś [mia-w-e-sh']
1 PL	ma--my [m-a-mi]	2 F SG	mia-ł-a-ś [mia-w-a-sh']
2 PL	m-a-cie [m-a-ch'e]	3 M SG	mia-ł [mia-w-Ø]
3 PL	m-a-ją [m-a-jõ]	3 F SG	mia-ł-a [mia-w-a]
		3 N SG	mia-ł-o [mia-w-o]
		1 M PL	mie-l-i-ś-my [mie-l-i-sh'-mi]
		1 F PL	mia-ł-y-ś-my [mia-w-i-sh'-mi]
		2 M PL	mie-l-i-ś-cie [mie-l-i-sh'-ch'e]
		2 F PL	mia-ł-y-ś-cie [mia-w-i-sh'-ch'e]
		3 M PL	mie-l-i [mie-l-i-Ø]
		3 F PL	mia-ł-y [mia-w-i-Ø]

Table 3-18. Conjugation pattern for wiedzieć

P/N	Nonpast	P/G/N	Past
1 SG	wiedz-ę [wiedz-ẽ]	1 M SG	widzia-ł-e-m [vizja-w-e-m]
2 SG	widz-i-sz [viz-i-sh]	1 F SG	widzia-ł-a-m [vizja-w-a-m]
3 SG	widz-i [viz-i]	2 M SG	widzia-ł-e-ś [vizja-w-e-sh']
1 PL	widz-i-my [viz-i-mi]	2 F SG	widzia-ł-a-ś [vizja-w-a-sh']
2 PL	widz-i-cie [viz-i-ch'e]	3 M SG	widzia-ł [vizja-w-Ø]
3 PL	widz-ą [vidz-õ]	3 F SG	widzia-ł-a [vizja-w-a]
		3 N SG	widzia-ł-o [vizja-w-o]
		1 M PL	widzie-l-i-ś-my [vizie-l-i-sh'-mi]
		1 F PL	widzia-ł-y-ś-my [vizja-w-i-sh'-mi]
		2 M PL	widzie-l-i-ś-cie [vizie-l-i-sh'-ch'e]
		2 F PL	widzia-ł-y-ś-cie [vizja-w-i-sh'-ch'e]
		3 M PL	widzie-l-i [vizie-l-i-Ø]
		3 F PL	widzia-ł-y [vizja-w-i-Ø]

Table 3-19. Conjugation pattern for brać

P/N	Nonpast	P/G/N	Past
1 SG	bior-ę [bior-ɛ̃]	1 M SG	bra-ł-e-m [bra-w-e-m]
2 SG	bierz-e-sz [bież-e-sh]	1 F SG	bra-ł-a-m [bra-w-a-m]
3 SG	bierz-e [bież-e]	2 M SG	bra-ł-e-ś [bra-w-e-sh']
1 PL	bierz-e-my [bież-e-mi]	2 F SG	bra-ł-a-ś [bra-w-a-sh']
2 PL	bierz-e-cie [bież-e-ch'e]	3 M SG	bra-ł [bra-w-∅]
3 PL	bior-ą [bior-ɔ̃]	3 F SG	bra-ł-a [bra-w-a]
		3 N SG	bra-ł-o [bra-w-o]
		1 M PL	bra-l-i-ś-my [bra-l-i-sh'-mi]
		1 F PL	bra-ł-y-ś-my [bra-w-i-sh'-mi]
		2 M PL	bra-l-iś-cie [bra-l-i-sh'-ch'e]
		2 F PL	bra-ł-y-ś-cie [bra-w-i-sh'-ch'e]
		3 M PL	bra-l-i [bra-l-i-∅]
		3 F PL	bra-ł-y [bra-w-i-∅]

Table 3-20. Russian imperative forms

Infinitive	3 rd PL	Imperative (informal/formal)	Gloss
Брать [brat']	бер-ут [ber-ut]	бери(те)! [beri(t'e)]	'Take!'
Встать [vstat']	встан-ут [vstan-ut]	встань(те)! [vstan'(t'e)]	'Stand!'
Выйти [vijti]	выйд-ут [vijd-ut]	выйди(те)! [vijdi(t'e)]	'Leave!'
Говорить [govorit']	говор-ят [govor-jat]	говори(те)! [govori(t'e)]	'Speak!'
Делать [delat']	дела-ют [dela-jut]	делай(те)! [delaj(t'e)]	'Do!'
Есть [jest']	ед-ят [ed-jat]	ешь(те)! [jesh'(t'e)]	'Eat!'
Помнить [pomnit']	помн-ят [pomn-jat]	помни(те)! [pomni(t'e)]	'Remember!'
Спать [spat']	сп-ят [sp-jat]	спи(те)! [spi(t'e)]	'Sleep!'

Table 3-21. Polish imperative derivation

Infinitive	3 rd SG	Imperative (informal/formal)	Gloss
Pisać [pisach']	pisz-e [pish-e]	pisz(cie) [pish(ch'e)]	'Write!'
Pić [pich']	pij-e [pij-e]	pij(cie) [pij(ch'e)]	'Drink!'
Nieść [ni'esh'ch']	niesi-e [ni'esh'-e]	nieś(cie) [niesh'(ch'e)]	'Carry!'
Kupić [kupich']	kup-i [kup-i]	kup(cie) [kup(ch'e)]	'Buy!'
Myśleć [mish'lech']	myśl-i [mish'l-i]	myśl(cie) [mish'l(ch'e)]	'Think!'
Zacząć [zachōch']	zaczni-e [zachni'-e]	zaczni/j/zaczni(cie) [zachni(ch'e)]	'Begin!'
Czekać [chekach']	czek-a [chek-a]	czekaj(cie) [chekaj(ch'e)]	'Wait!'
Iść [ish'ch']	idzi-e [iʒ-e]	idź(cie) [idz(ch'e)]	'Go!'
Czytać [chitach']	czyt-a [chit-a]	czytaj(cie) [czitaj(ch'e)]	'Read!'

CHAPTER 4 COMPARATIVE RUSSIAN AND POLISH VERBAL MORPHOLOGY

In this chapter I will discuss the verbal morphology and feature agreement of Russian and Polish through the theory of DM. The agreement paradigms of these two languages are different, although some of the same processes operate at the level of MS. The essential differences between the East and West Slavic paradigms can be accounted for by underspecified lexical insertion rules.

Lexical Insertion Rules

In this section I list the lexical insertion rules for all tenses of Russian and Polish verbs. Recall that lexical insertion rules operate on terminal nodes in order to supply them with phonological content. The lexical insertion rules I use in this work for both languages are underspecified.

Russian Nonpast

The Russian nonpast is characterized by person and number features. Figure 4-1 shows the lexical insertion rules for the Russian nonpast.

Polish Nonpast

Similar to Russian, the Polish nonpast exhibits only person and number features, and not gender. Figure 4-2 shows the lexical insertion rules for the Polish nonpast. Note that the Polish system is more complex, with different insertion rules for 3 SG and PL as well as a verb class difference within 1 SG forms.

Preceding the person-number morpheme is a verbalizing suffix (VS), which attaches directly to the nonpast verb stem and appears at MS as a dissociated morpheme (similar to Agr). I will follow Czaykowska-Higgins' (1988) seven-class system here,

depicted in Figure 4-3, modifying it to make the seventh class the elsewhere case.² Czaykowska-Higgins' system roughly corresponds to the three conjugation classes outlined in Chapter 3; the verb class or conjugation type is a property of the verb root.

Russian Past

The Russian past tense inflects only for gender and number and not person, as reflected by the lexical insertion rules for the past tense, listed in Figure 4-4. The Slavic past tense L-morpheme is invariable in regular Russian verbs; it appears as a null morpheme in the masculine singular form of irregular печь-type verbs. Thus the L-morpheme in the Russian past tense demonstrates a case of contextual allomorphy triggered by both tense and agreement features. Allomorphy is both inwards and outwards sensitive, as it is triggered by both the irregular verb stem (e.g., *везти*, *лезть*, *жечь*) as well as the features of the Agr morpheme, [M SG]. This account offers support for Bobaljik's (2002) analysis of contextual allomorphy, in which he posits that inwards-sensitive allomorphy is triggered by morpho-phonological features (such as conjugation class) and outwards-sensitive allomorphy is triggered by morpho-syntactic features (such as agreement). The optional reflexive marker may take two forms, *-ся* [sja] after consonants and *-сь* [s'] after vowels.

Polish Past

The Polish past tense inflects for person, gender, and number features. Unlike Russian, the L-morpheme in Polish may take two different forms; one before front vowels and the other elsewhere. Figure 4-5 shows the lexical insertion rules for the person-number marker, gender-number marker, and L-morpheme. The gender-number

² Here I assume verb class to be a diacritic feature of the phonology of the verb stem. When roots are inserted into terminal node V, they contain diacritic features that rules may be sensitive to.

rules reflect the insertion of –e for 1 and 2 SG M, indicated by the [+Participant] feature, which includes both the speaker and the hearer. The 3 SG M form is the elsewhere case. The reflexive particle has one form in all tenses in Polish, się [sh'iě]. It should be noted that the person-number markers do not have a form for the third person singular or plural, only first and second person.

Nonpast Sample Derivations and Tree Structures

In this section I will illustrate the process of nonpast verb creation from the syntax to vocabulary insertion and the changes in tree structure that accompany this process. (26a-d) demonstrate derivations from MS to vocabulary insertion of nonpast Russian and Polish verbs, including imperfective and perfective verbs as well as verbs that require the reflexive particle.

- (26) a. verb: читать [chitat'] 'to read' (imperf.) (Rus)
 MS /((Asp) V_{-PST} + T + Agr (Refl)/
 Vocabulary Insertion ∅ читае + ∅ + τ ∅
 Output [читает] 'he/she/it reads'
- b. verb: попросить [poprosit'] 'to request' (perf.) (Rus)
 MS /((Perf) V_{-PST} + T + Agr (Refl)/
 Vocabulary Insertion по + проси + ∅ + те ∅
 Output [попросите] 'you (PL) request'
- c. verb: tańczyć [ta'nchich'] 'to dance' (imperf.) (Pol)
 MS /((Asp) V_{-PST} + VS + T + Agr (Refl)/
 Vocabulary Insertion ∅ tańcz + y + ∅ + sz ∅
 Output [tańczysz] 'you (SG) are dancing'
- d. verb: usłyszeć [uswishech'] 'to hear' (perf.) (Pol)
 MS /((Perf) V_{-PST} + VS + T + Agr (Refl)/
 Vocabulary Insertion u + słysz + y + ∅ + my ∅
 Output [usłyszemy] 'we will hear'

Figure 4-6 – 4-10 illustrate the tree structures of (26a), читает 'he/she/it reads, is reading'. In the syntax, phi-features are copied from the subject DP in spec-TP onto T. T is then split into T and Agr at MS, with Agr being a dissociated morpheme that

receives all phi-feature data. After merger of T and V occurs, the correct order of morphemes is established.³

Figure 4-11 – 4-15 illustrate the trees of (26b) *попросите* ‘you (PL) request’. (26b) includes a perfective prefix and requires AspP as part of the tree. Aside from the aspectual prefix, the processes of (26b) are identical to (26a), including the copying of phi-features to T in the syntax, the addition of Agr at MS, and the merger of T and V during MS.

Figure 4-16 – 4-20 illustrate the trees of sentence (26c), *tańczysz* ‘you (SG) dance’. The Polish nonpast includes an additional morpheme, the VS (verbalizing suffix), that appears at MS as a dissociated morpheme attached to V. Like Russian, merger of T and V produces the correct morpheme order.

Figure 4-21 – 4-25 illustrate sentence (26d), *usłyszymy* ‘we will hear’. Sentence (26d) demonstrates the same syntactic and morphological processes that occur in the Polish sentence of (26c), the only difference being the inclusion of a perfective aspectual prefix. Agr and VS are added as dissociated morphemes at MS as part of T and V, respectively.

Past Tense Sample Derivations and Tree Structures

In this section I will illustrate the morphological processes and changes in tree structure that occur in past tense Russian and Polish verbs. The processes of agreement and merger function in the same manner as the nonpast. The L-morpheme, which marks past tense, is realized in all Polish verbs and all regular Russian verb stems. Approximately 15-20 verb stems in Russian select a null L-morpheme for the

³ I assume that what is traditionally called ‘head movement’ is one possible outcome of Morphological Merger.

masculine singular form only; the other three forms function normally. (27a-f) demonstrate derivations from MS to vocabulary insertion of past tense Russian and Polish verbs, including imperfective and perfective verbs and irregular Russian masculine singular forms.

- (27) a. verb: выиграть [vigrat'] 'to win' (perf.) (Rus)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion вы + игра + л + и ∅
 Output [выиграли] 'they won'
- b. verb: смотреть [smotret'] 'to watch' (imperf.) (Rus)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion ∅ смотри + л + а ∅
 Output [смотрела] 'she watched'
- c. verb: мочь [moch'] 'to be able' (imperf.) (Rus)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion ∅ мог + л + а ∅
 Output [могла] 'she was able'
- d. verb: везти [vez't'i] 'to take by vehicle' (imperf.) (Rus)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion ∅ вѐз + ∅ + ∅ ∅
 Output [вѐз] 'he took (by vehicle)'
- e. verb: mieszkać [miesh'kach'] 'to live' (imperf.) (Pol)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion ∅ mieszka + ł + eś
 Output [mieszkałeś] 'you (M SG) lived'
- f. verb: skończyć [skonchich'] 'to finish' (perf.) (Pol)
 MS /((Asp) V_{PST} + T + Agr (Refl))/
 Vocabulary Insertion s + kończy + ł + a ∅
 Output [skończyła] 'she finished'

Figure 4-26 – 4-30 illustrate the tree structures of (27a), выиграли 'they won'.

Like the Russian nonpast, phi-features are copied from the DP to T during syntax. At MS, the dissociated morpheme Agr is created and phi-features are then realized as Agr. Vocabulary insertion inserts the L-morpheme into T, as it is selected by the PST feature.

Figure 4-31 – 4-35 illustrate the tree structures of (27b), смотрела 'she watched'.

Figure 4-36 – 4-40 illustrate the tree structures of (27c), могла ‘she was able’. Although мог- is one of the irregular verb stems that selects a null L-morpheme, (27c) surfaces with the L-morpheme because of the gender and number features in Agr.

Figure 4-41 – 4-45 illustrate the tree structures of the irregular form in (27d), вѣз ‘he took by vehicle’. A null morpheme is inserted into T instead of the regular L-morpheme as a result of the verb stem вѣз- as well as the features in Agr, [M SG]. Since Agr also receives a null morpheme at vocabulary insertion, the masculine singular past tense form surfaces as the stem.

Figure 4-46 – 4-50 illustrate the tree structures of (27e), mieszkałeś ‘you (M SG) lived’. Since there is not a verbalizing suffix in the past tense of Polish verbs, the only dissociated morpheme created at MS is Agr. The processes of agreement and merger are the same as in the Russian past tense.

Figure 4-51 – 4-55 illustrate the tree structures of (27f), skończyła ‘she finished’.

Summary

In Chapter 4 I have illustrated the change in structure that occurs between the SS level (syntax) and PF (post-vocabulary insertion). At MS, the dissociated morpheme Agr emerges in both languages and the verbalizing suffix in Polish is added in the nonpast; these dissociated morphemes do not overtly exist in the syntax. I have shown that merger of T and V occurs at MS in both languages in all tenses to produce the correct order of morphemes before any phonological content is added. The lexical insertion rules specified in the initial portion of this chapter insert the appropriate phonological exponent depending on context. Both Russian and Polish demonstrate overt marking of the past tense with the L-morpheme; the nonpast is unmarked.

-м [m]	↔ 1 PL	} in the environment [V _{-PST}]
-те [t'e]	↔ 2 PL	
-y/-ю [u/ju]	↔ 1	
-шь [sh']	↔ 2	
-т [t]	↔ elsewhere	

Figure 4-1. Russian Nonpast Lexical Insertion Rules

-my [mɨ]	↔ 1 PL	} in the environment [V _{-PST}]
-cie [ch'e]	↔ 2 PL	
-ą [ɔ̃]	↔ PL	
-m [m]	↔ 1 (conj. 1)	
-ę [ɛ̃]	↔ 1 (conj. 2, 3)	
-sz [sh]	↔ 2	
-∅	↔ elsewhere	

Figure 4-2. Polish Nonpast Person-Number Lexical Insertion Rules

-a [a]	↔ Class 1	} in the environment [V _{-PST}]
-aj [aɪ]	↔ Class 2	
-e [e]	↔ Class 3	
-i/-y [i/i]	↔ Class 4	
-ną [nɔ̃]	↔ Class 5	
-ej [ej]	↔ Class 6	
-∅	↔ elsewhere	

Figure 4-3. Polish Nonpast Verbalizing Suffix Lexical Insertion Rules

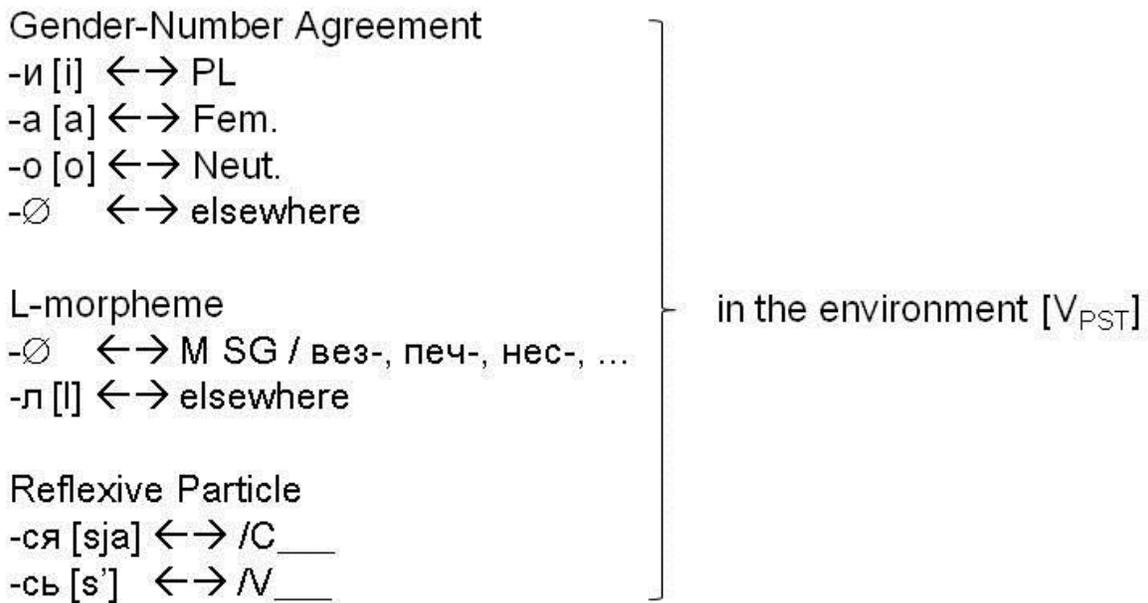


Figure 4-4. Russian Past Lexical Insertion Rules

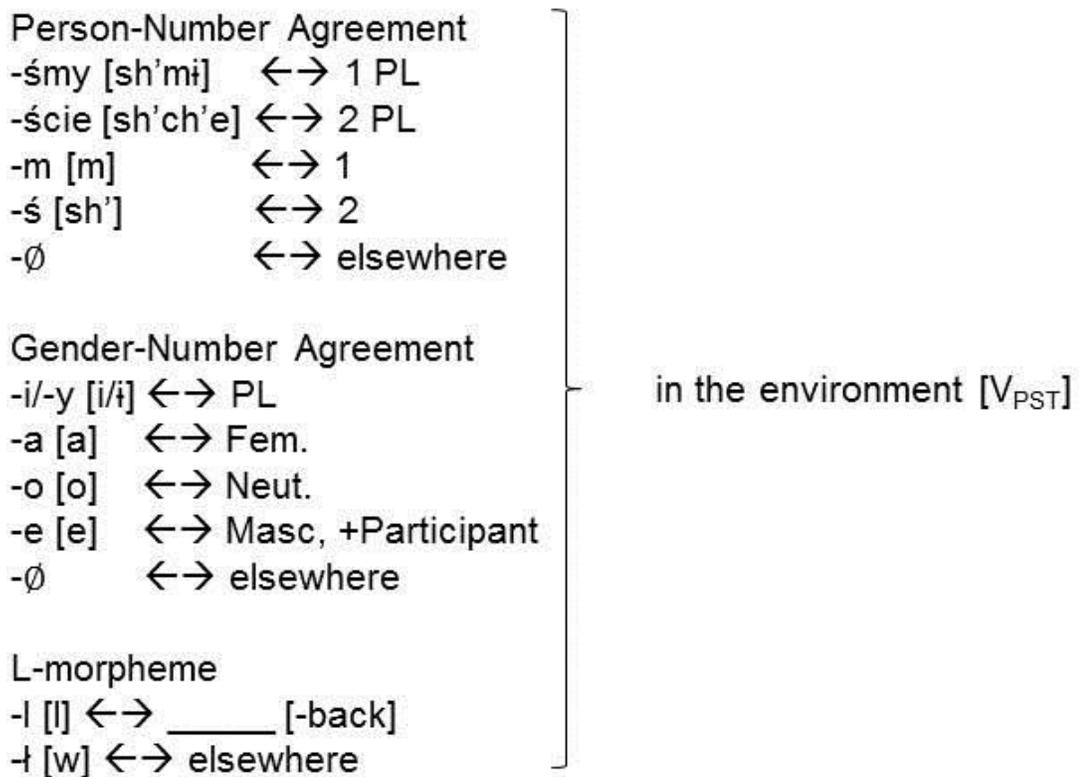


Figure 4-5. Polish Past Lexical Insertion Rules

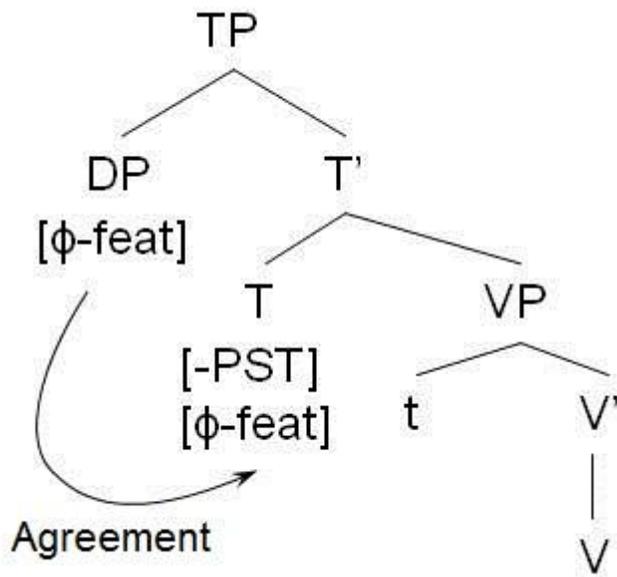


Figure 4-6. Structure at Syntax

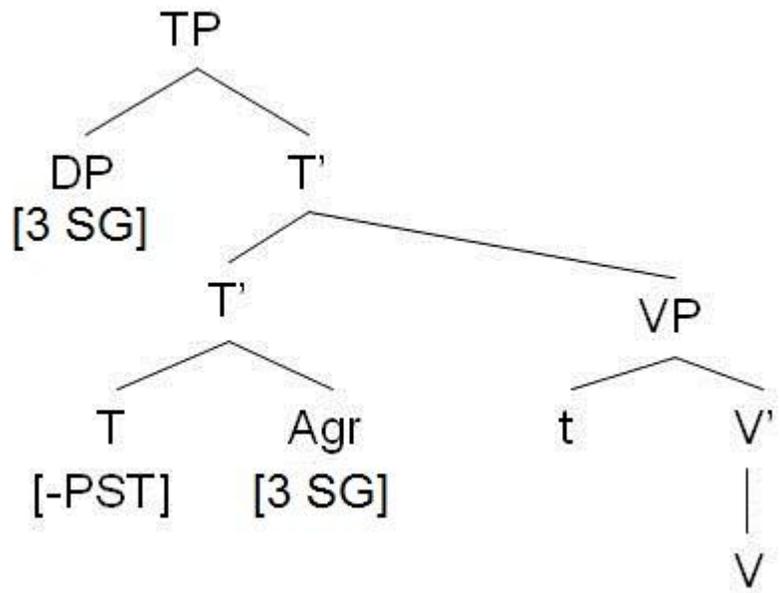


Figure 4-7. Structure at MS before Merger

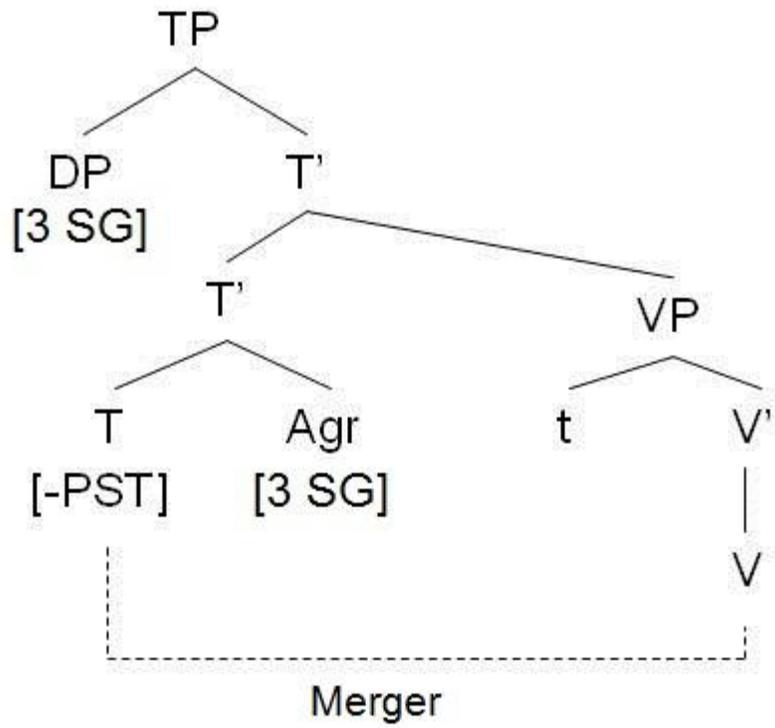


Figure 4-8. Merger of T and V

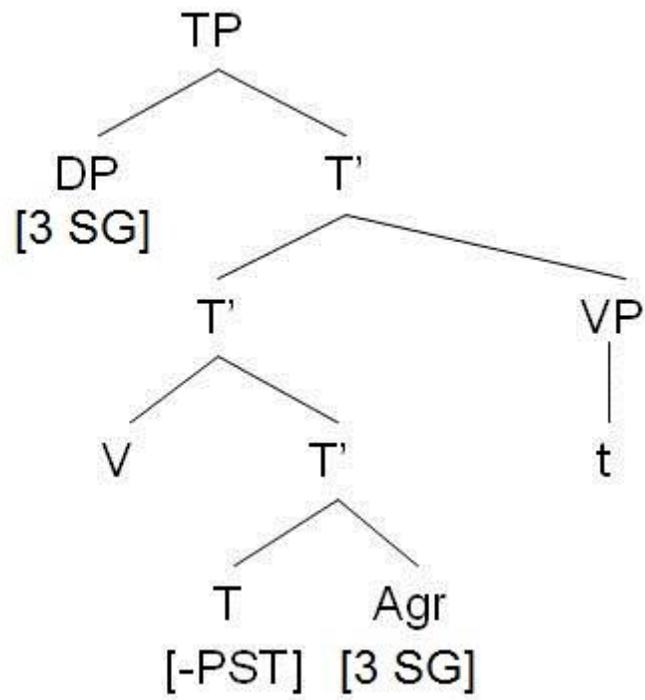


Figure 4-9. Structure after Merger

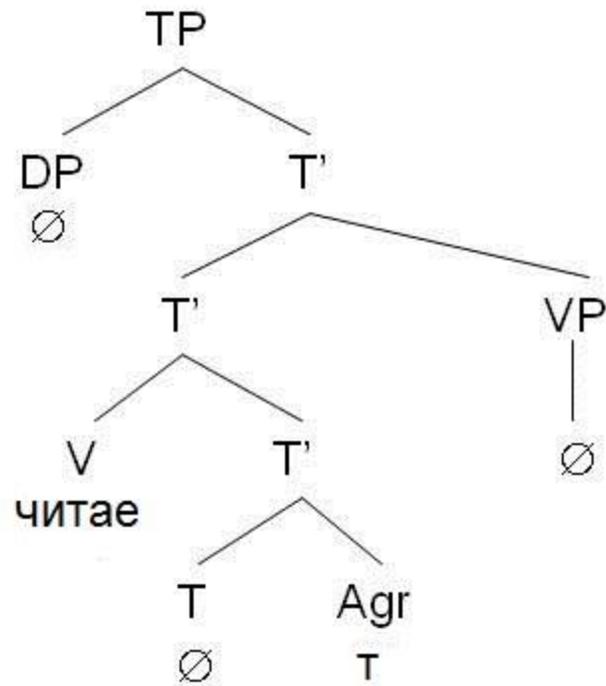


Figure 4-10. Structure after Vocabulary Insertion

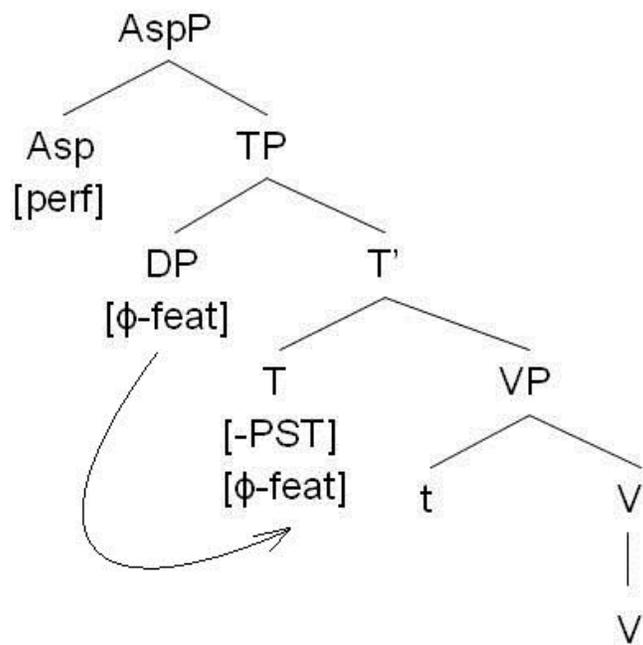


Figure 4-11. Structure at Syntax

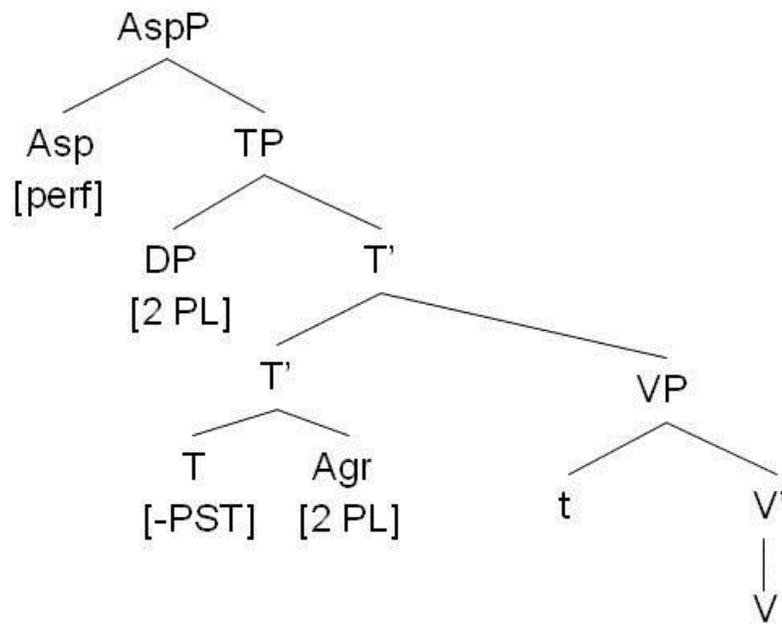


Figure 4-12. Structure at MS before Merger

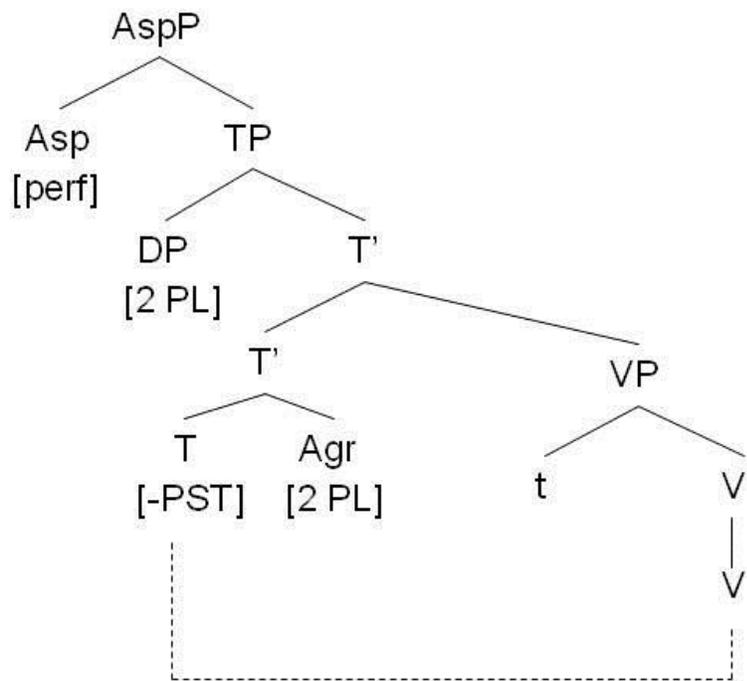


Figure 4-13. Merger of T and V

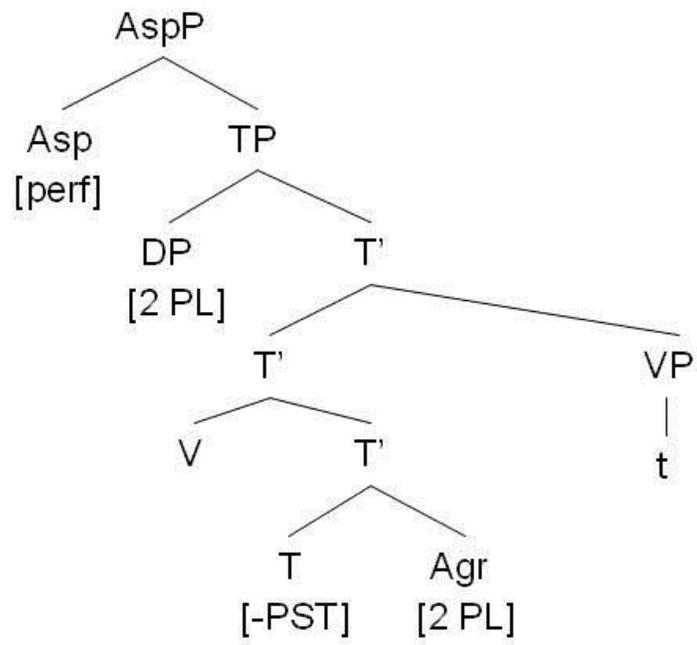


Figure 4-14. Structure after Merger

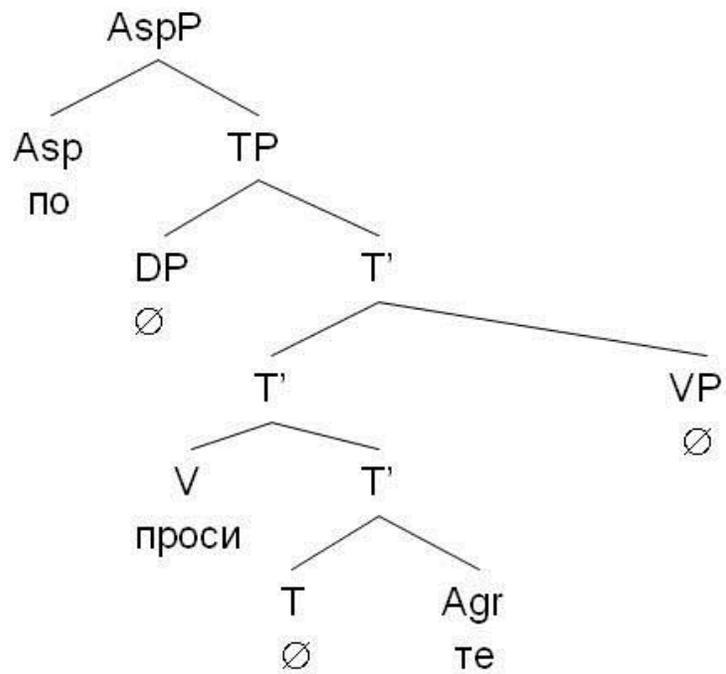


Figure 4-15. Structure after Vocabulary Insertion

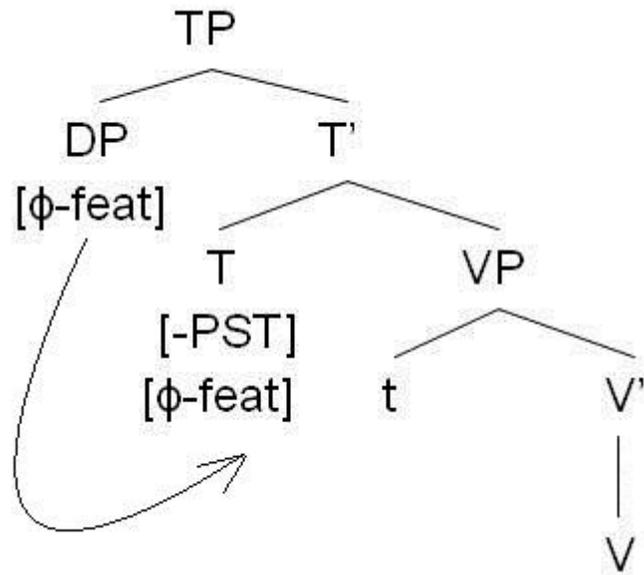


Figure 4-16. Structure at Syntax

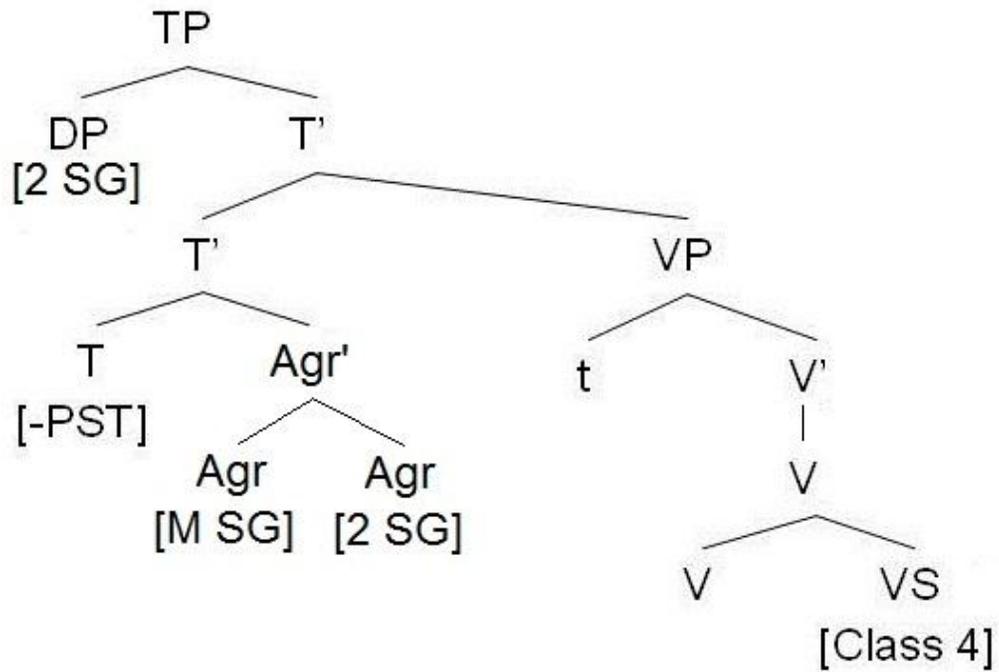


Figure 4-17. Structure at MS before Merger

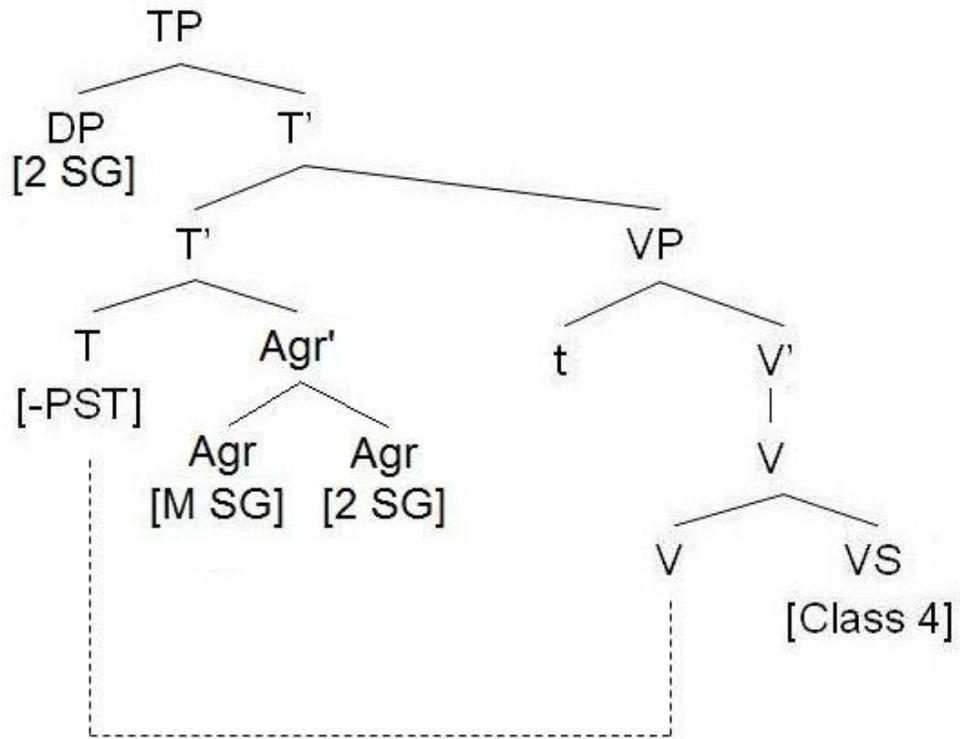


Figure 4-18. Merger of T and V

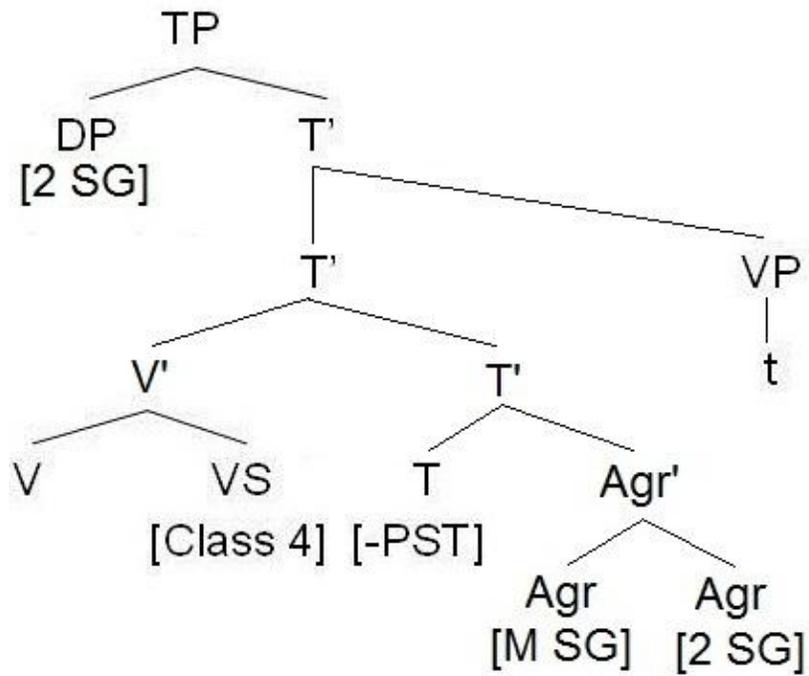


Figure 4-19. Structure after Merger

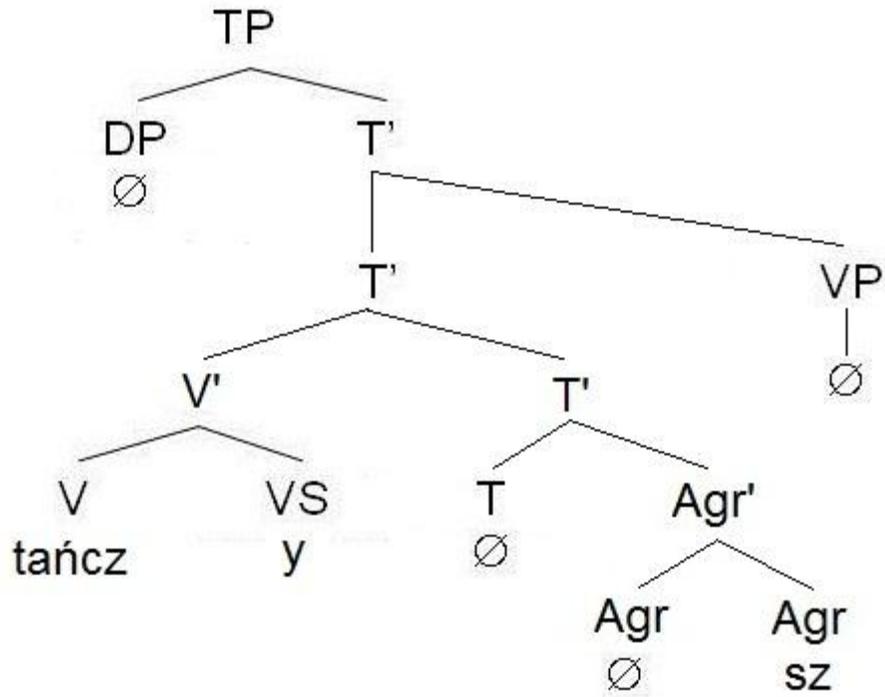


Figure 4-20. Structure after Vocabulary Insertion

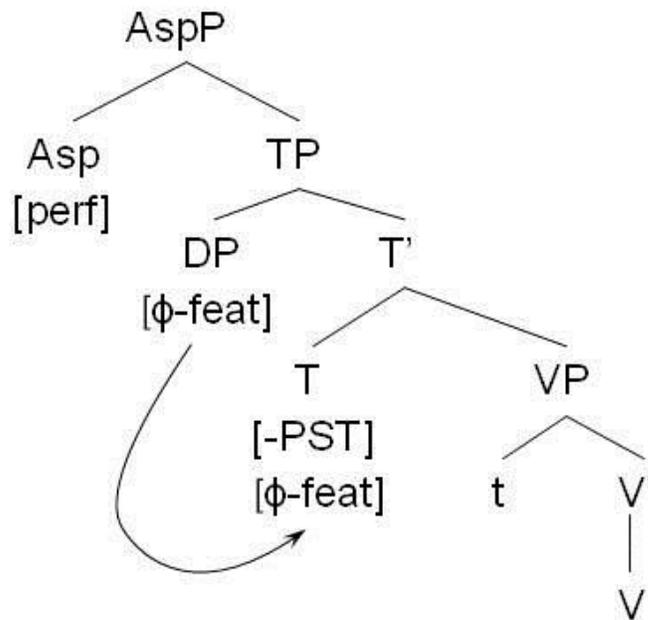


Figure 4-21. Structure at Syntax

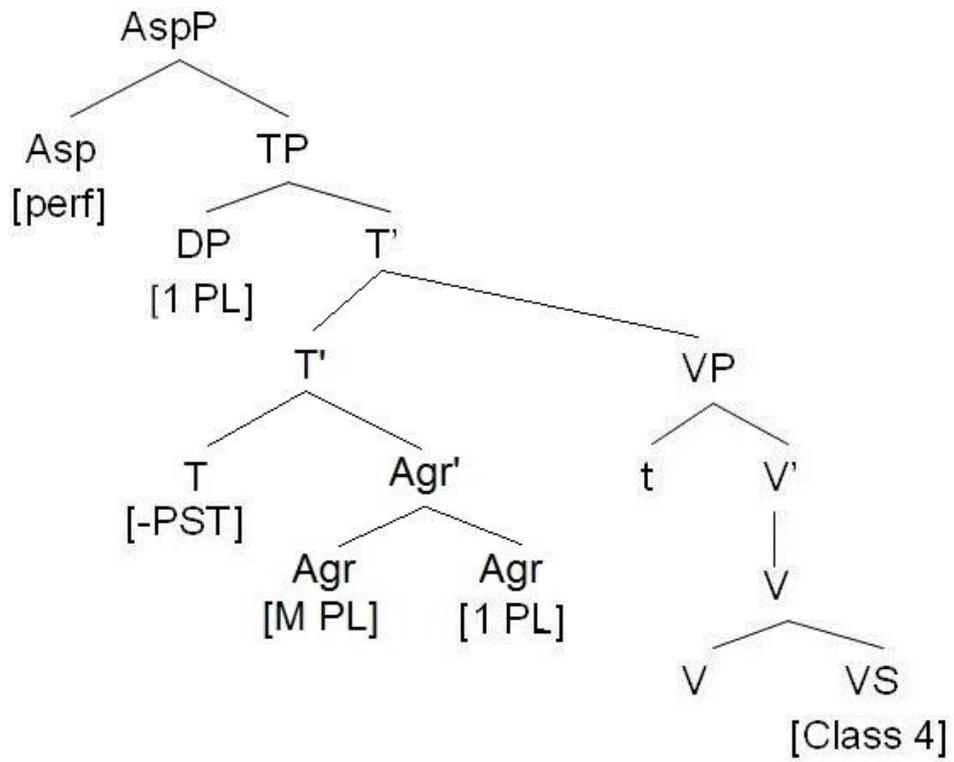


Figure 4-22. Structure at MS before Merger

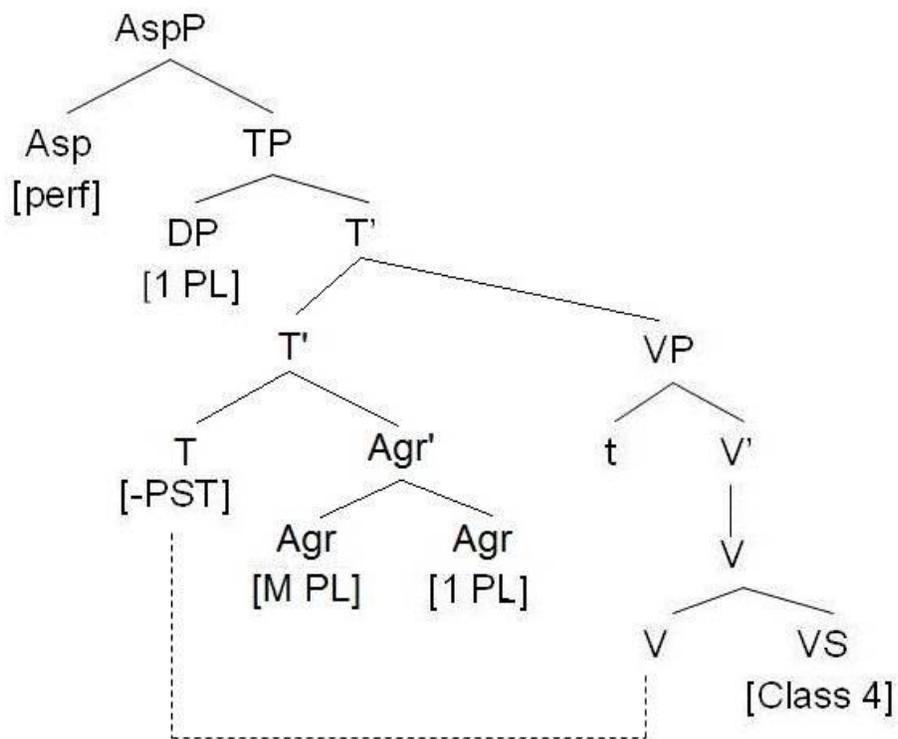


Figure 4-23. Merger of T and V

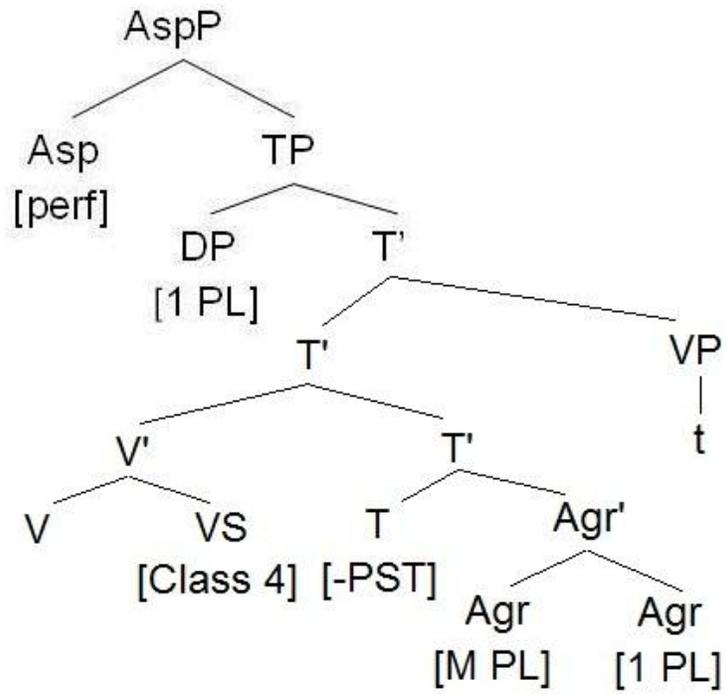


Figure 4-24. Structure after Merger

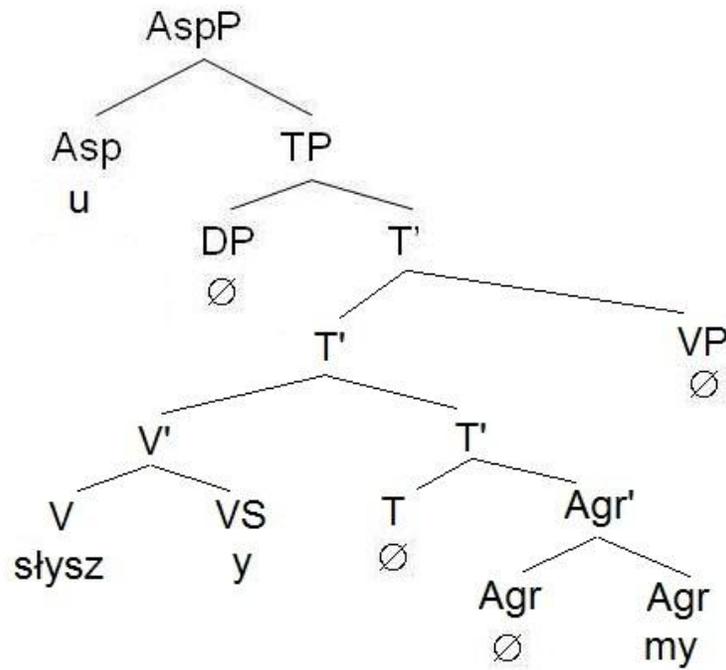


Figure 4-25. Structure after Vocabulary Insertion

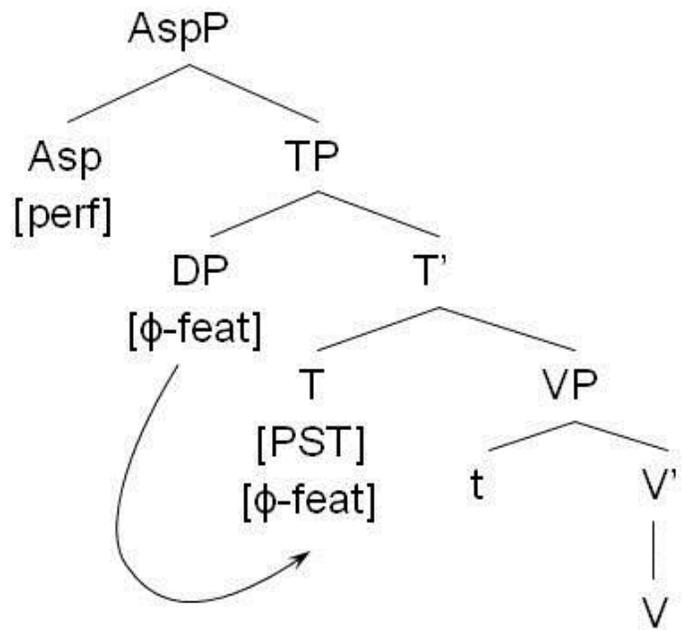


Figure 4-26. Structure at Syntax

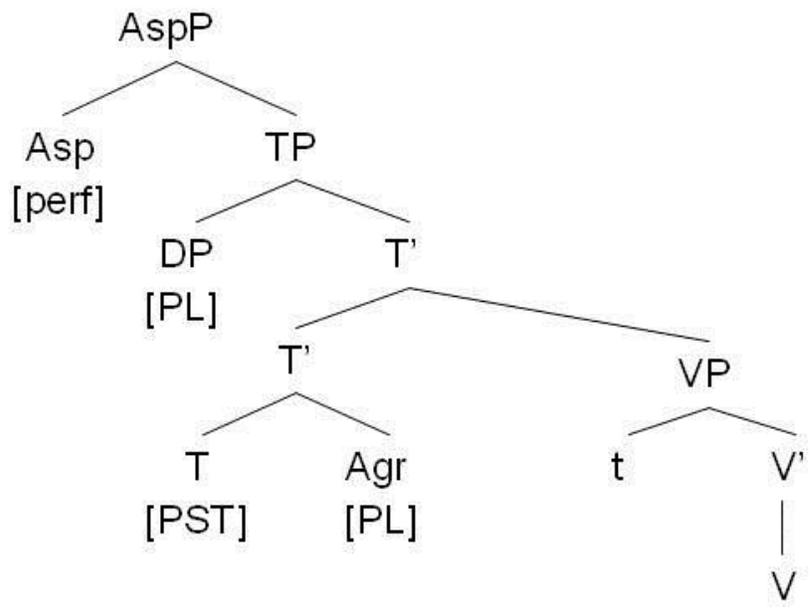


Figure 4-27. Structure at MS before Merger

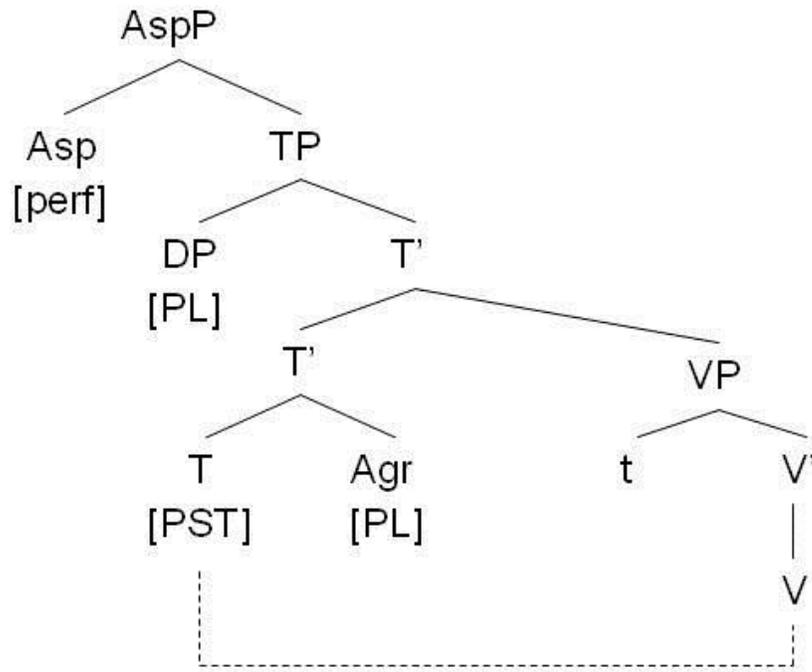


Figure 4-28. Merger of T and V

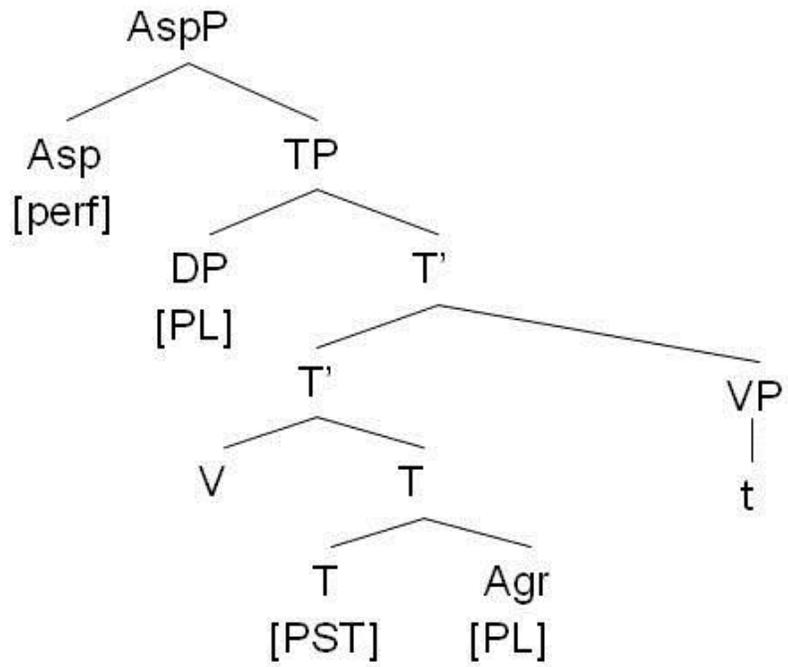


Figure 4-29. Structure after Merger

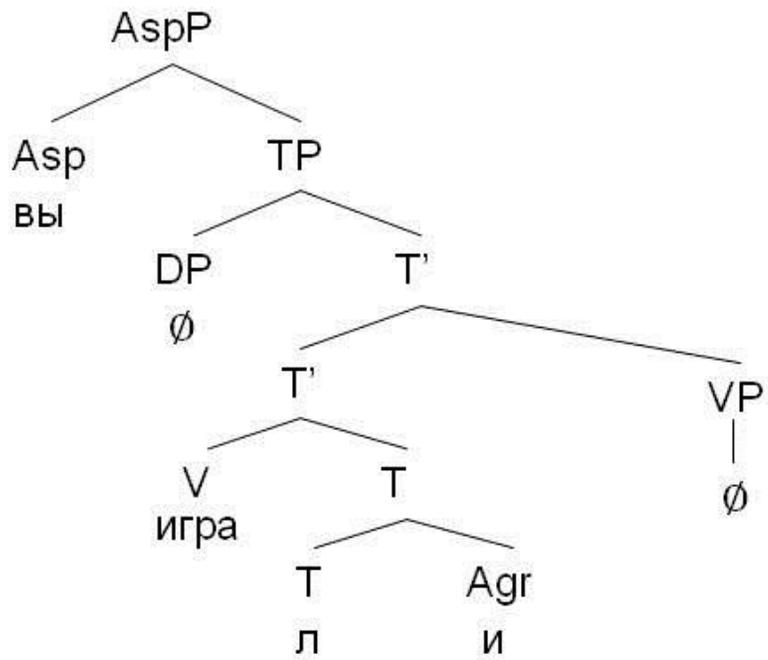


Figure 4-30. Structure after Vocabulary Insertion

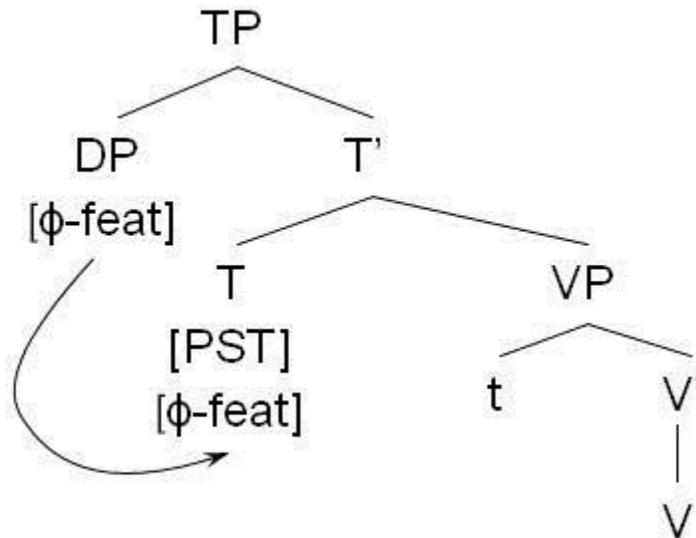


Figure 4-31. Structure at Syntax

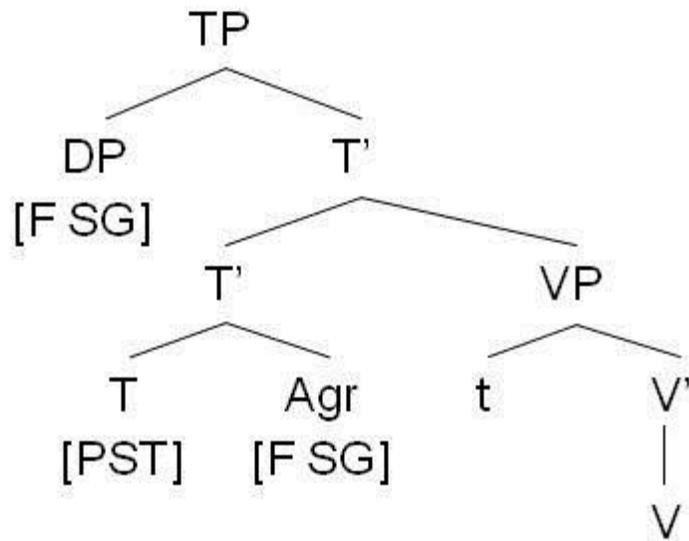


Figure 4-32. Structure at MS before Merger

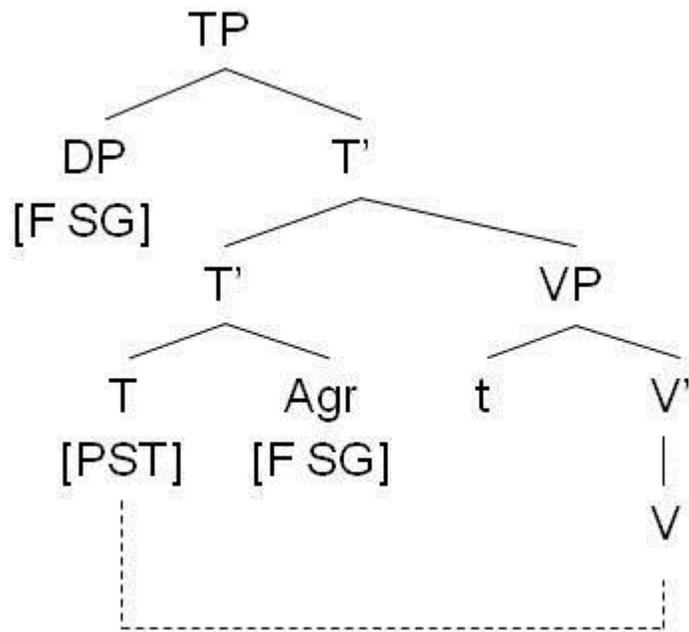


Figure 4-33. Merger of T and V

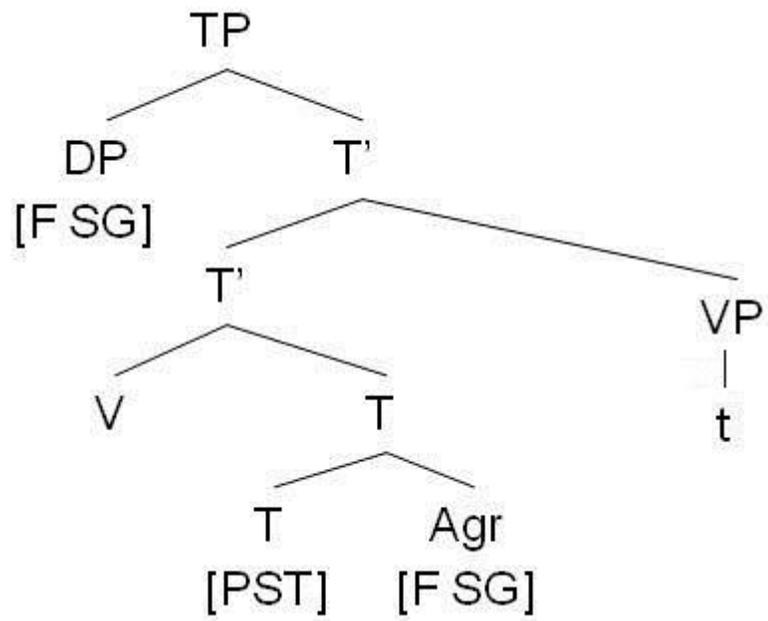


Figure 4-34. Structure after Merger

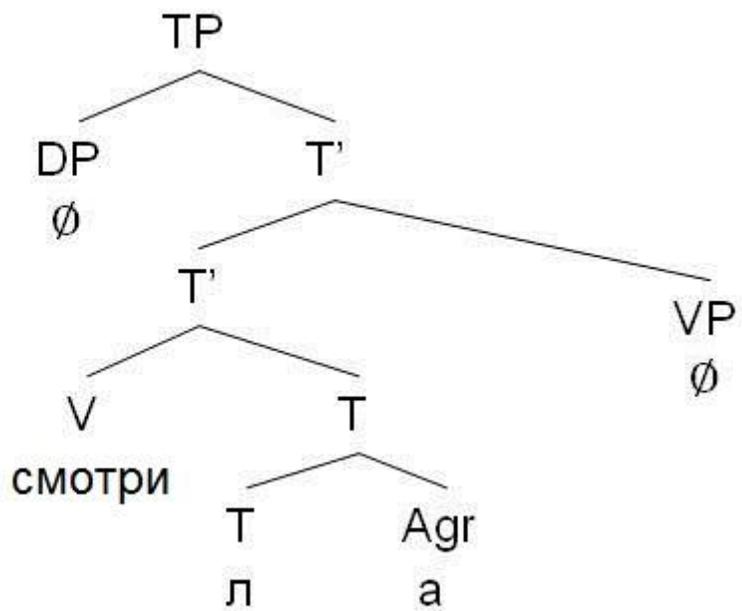


Figure 4-35. Structure after Vocabulary Insertion

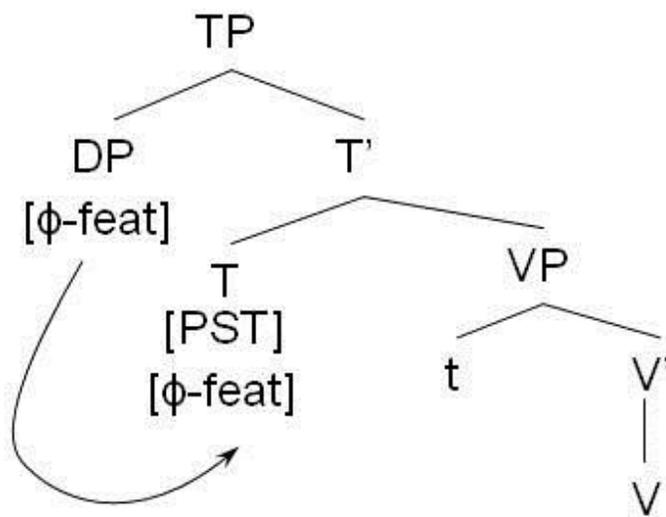


Figure 4-36. Structure at Syntax

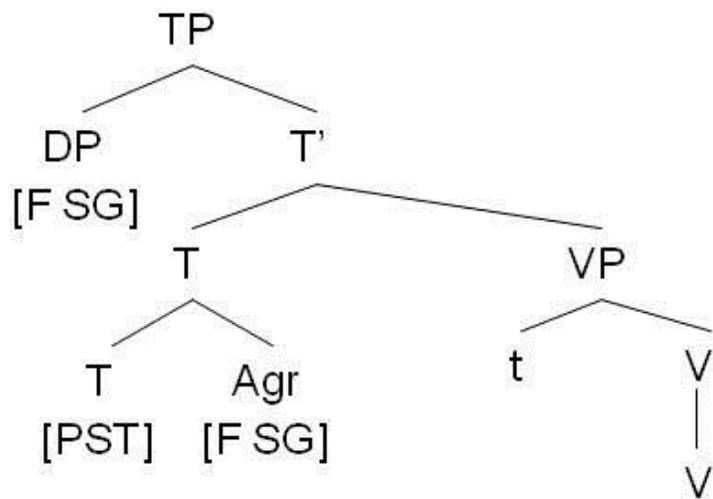


Figure 4-37. Structure at MS before Merger

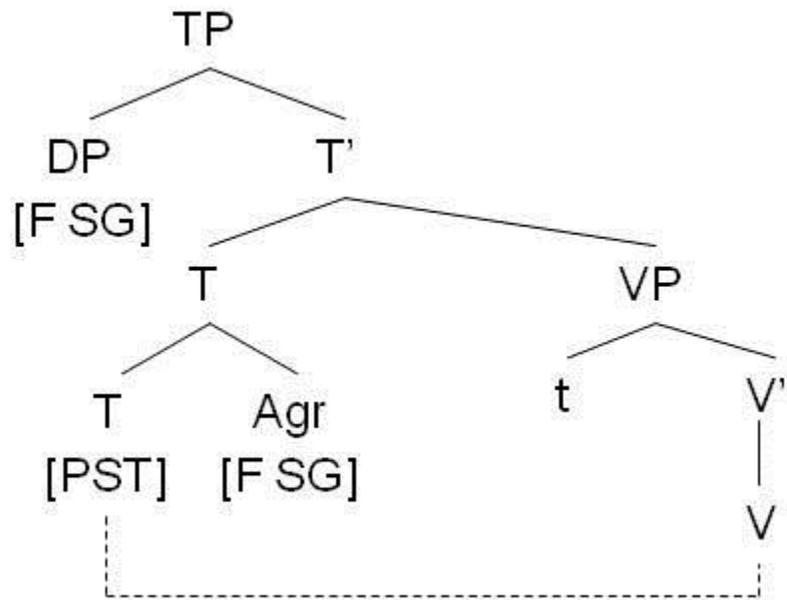


Figure 4-38. Merger of T and V

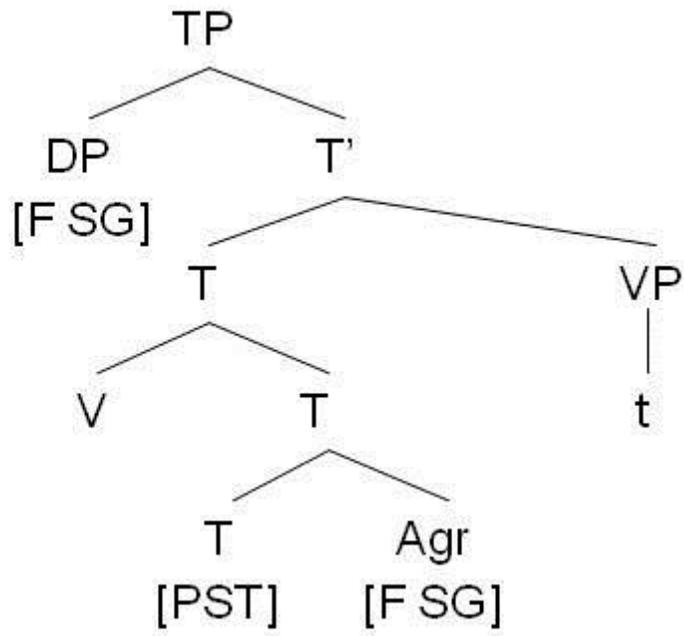


Figure 4-39. Structure after Merger

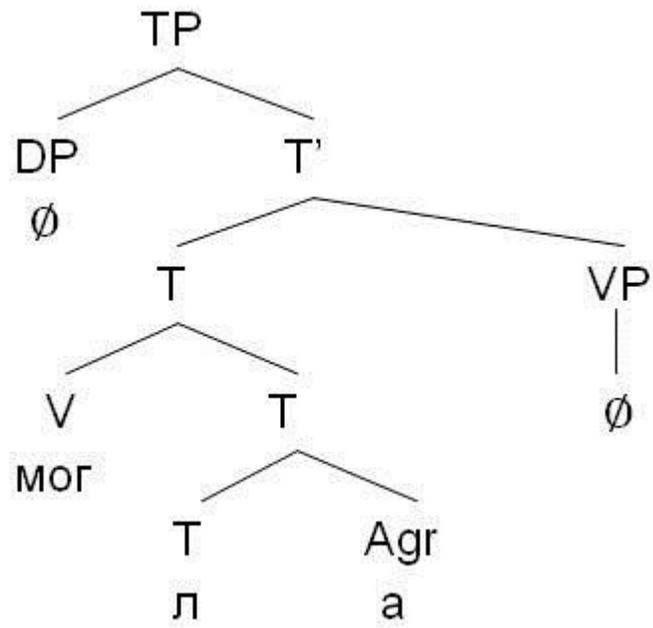


Figure 4-40. Structure after Vocabulary Insertion

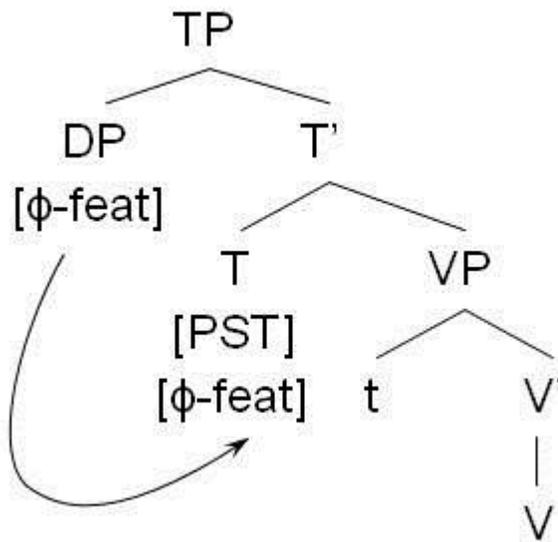


Figure 4-41. Structure at Syntax

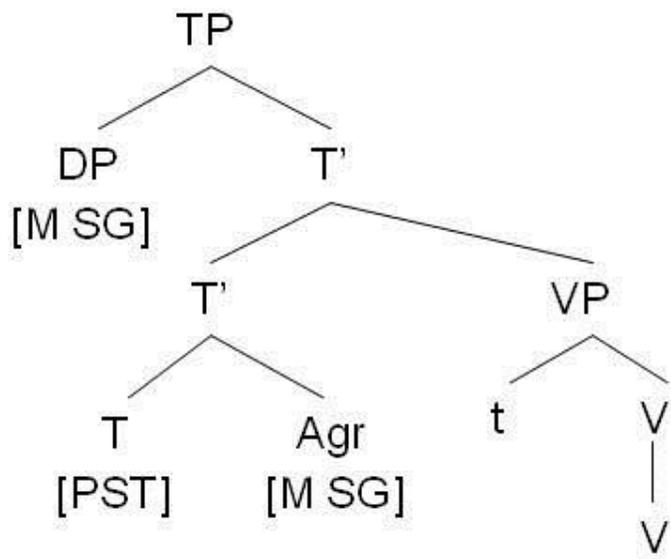


Figure 4-42. Structure at MS before Merger

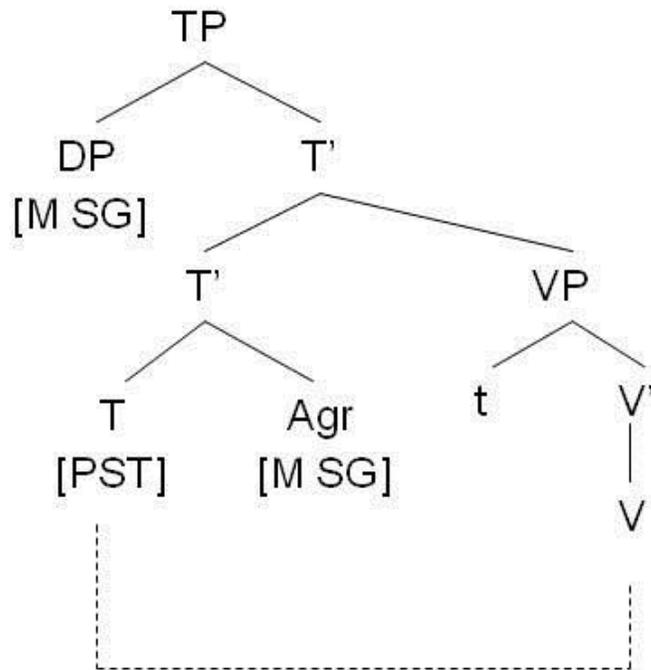


Figure 4-43. Merger of T and V

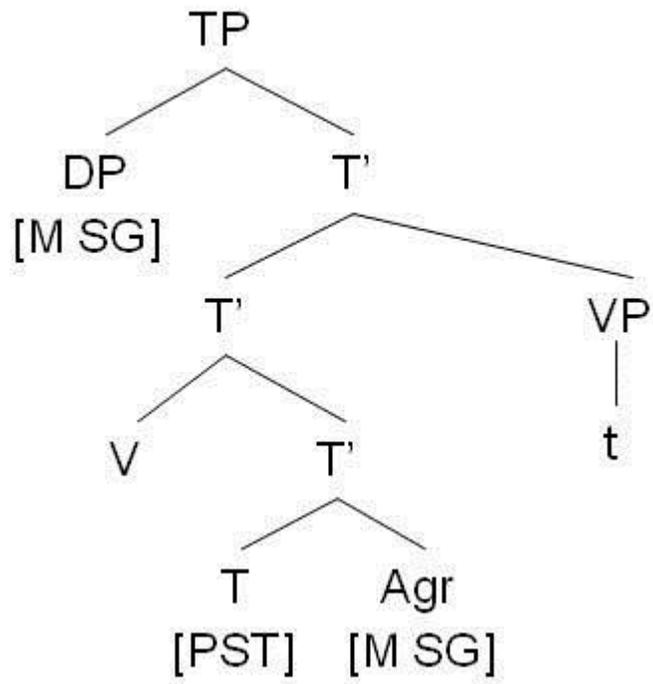


Figure 4-44. Structure after Merger

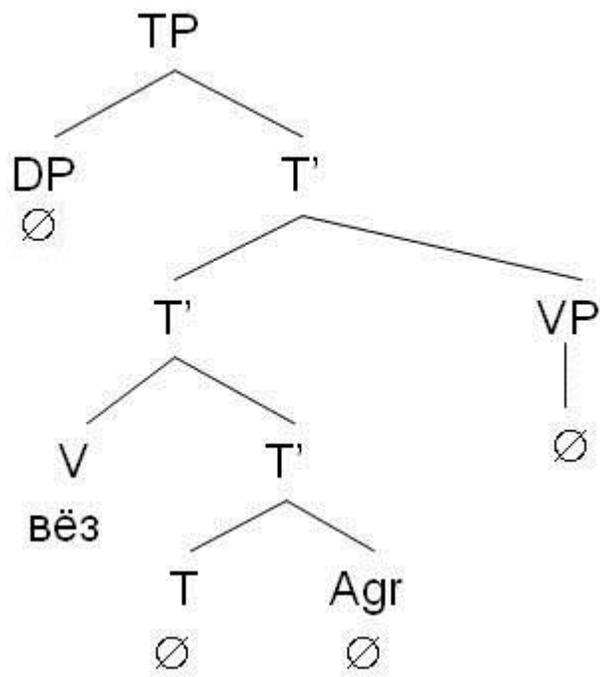


Figure 4-45. Structure after Vocabulary Insertion

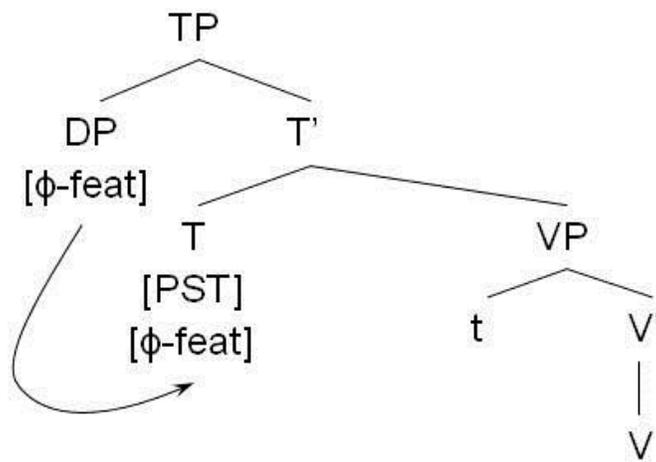


Figure 4-46. Structure at Syntax

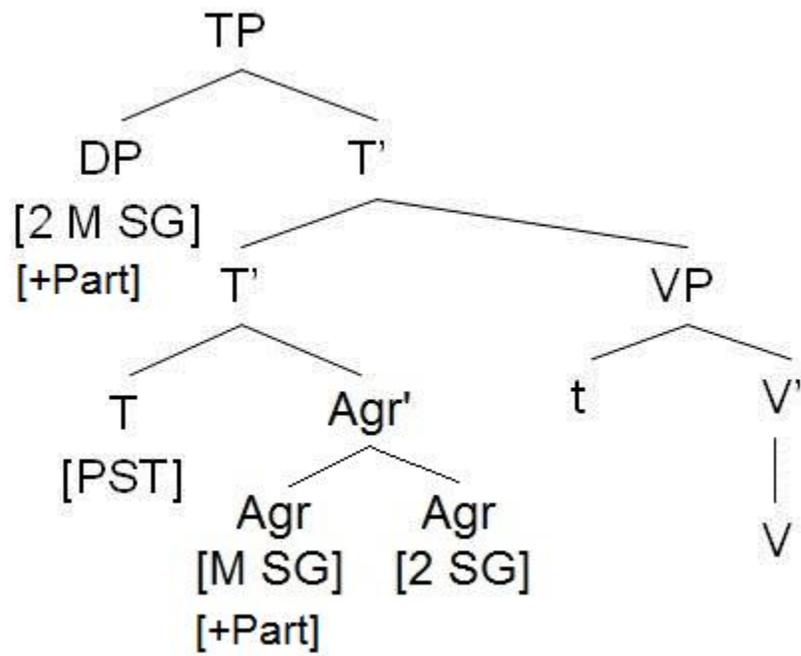


Figure 4-47. Structure at MS before Merger

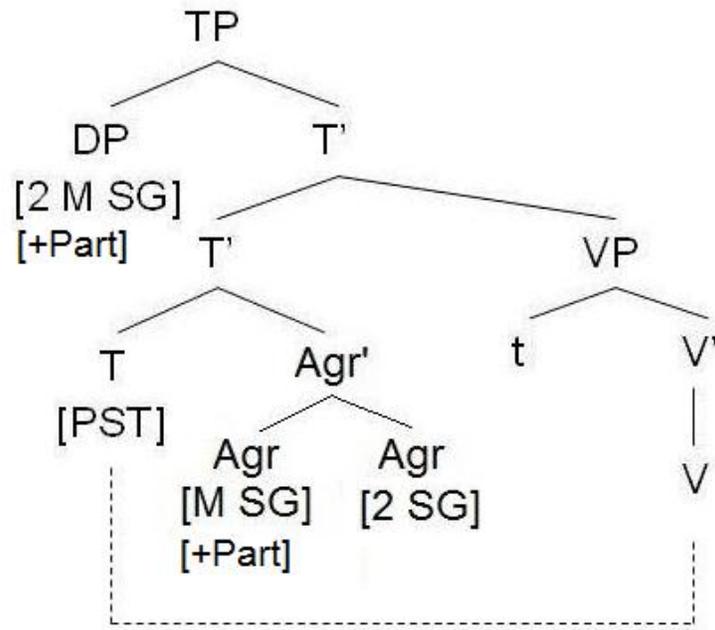


Figure 4-48. Merger of T and V

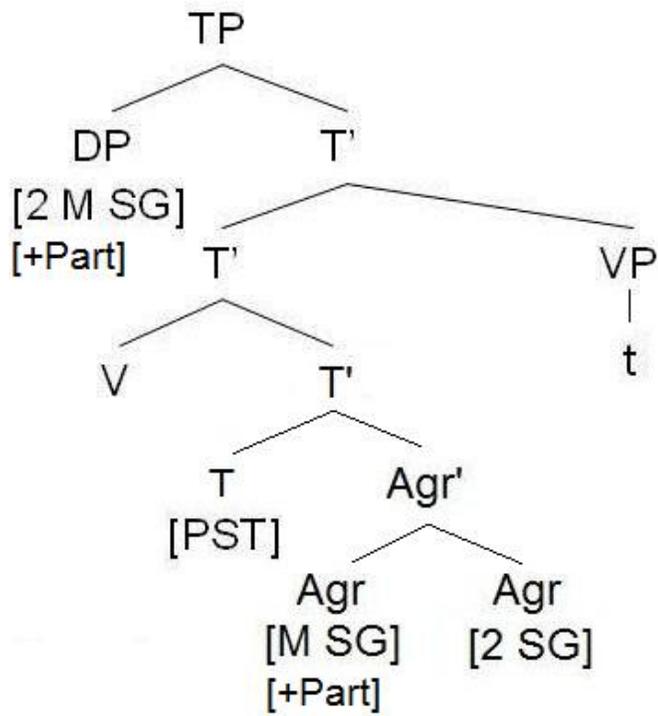


Figure 4-49. Structure after Merger

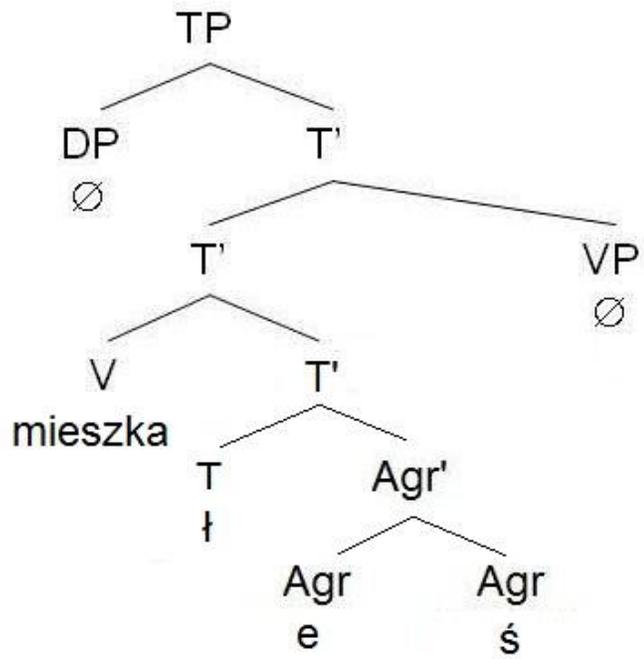


Figure 4-50. Structure after Vocabulary Insertion

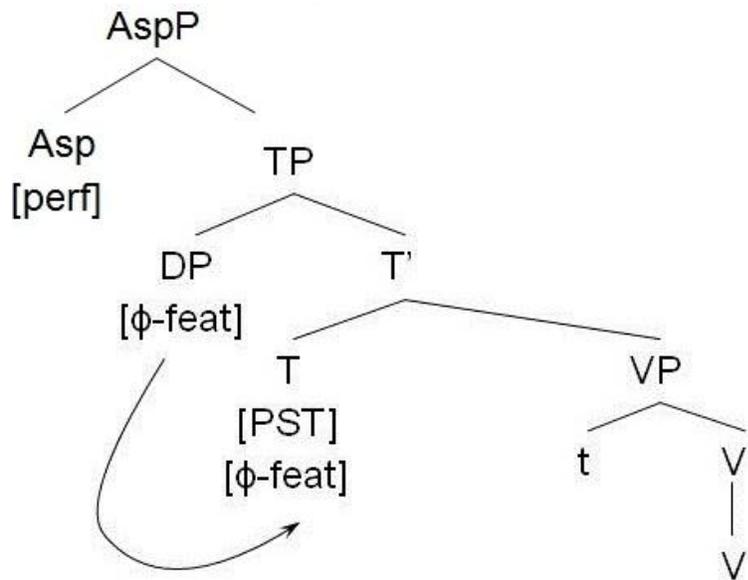


Figure 4-51. Structure at Syntax

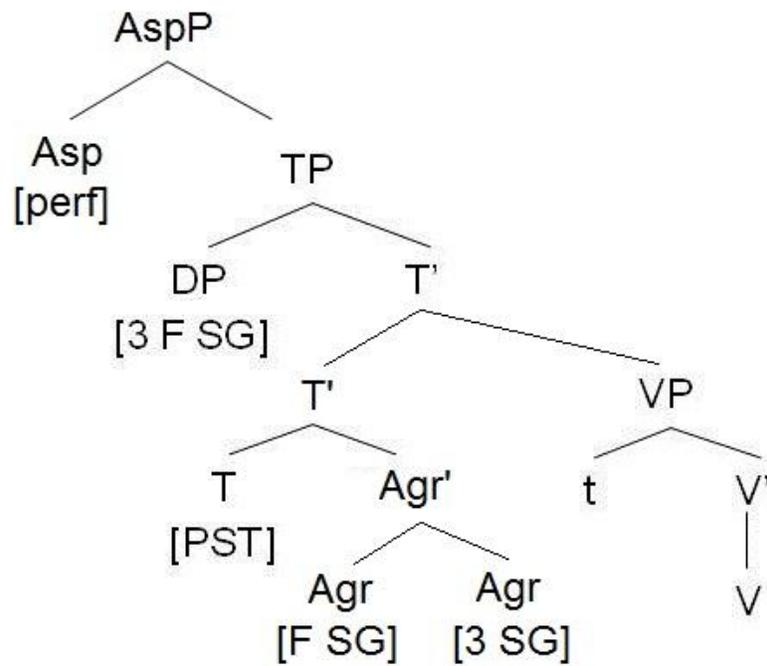


Figure 4-52. Structure at MS before Merger

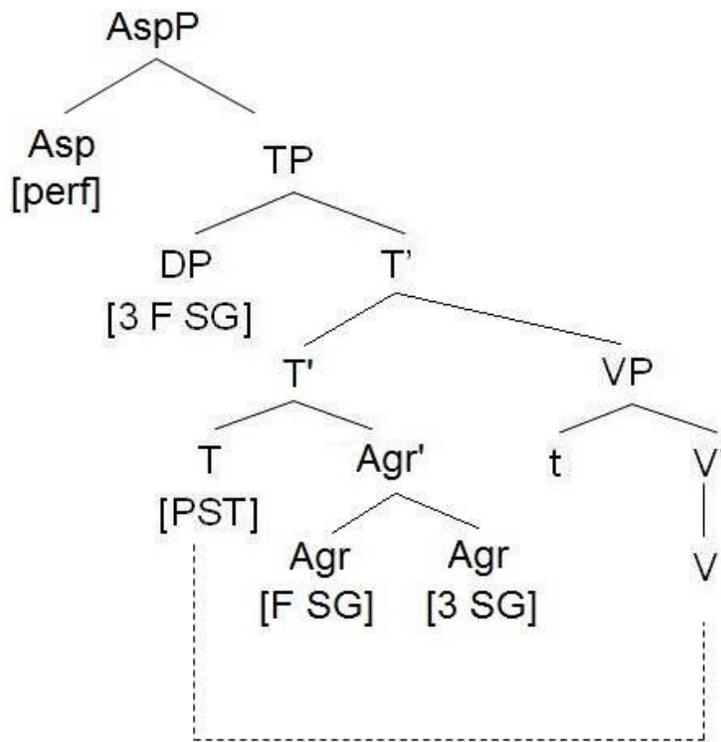


Figure 4-53. Merger of T and V

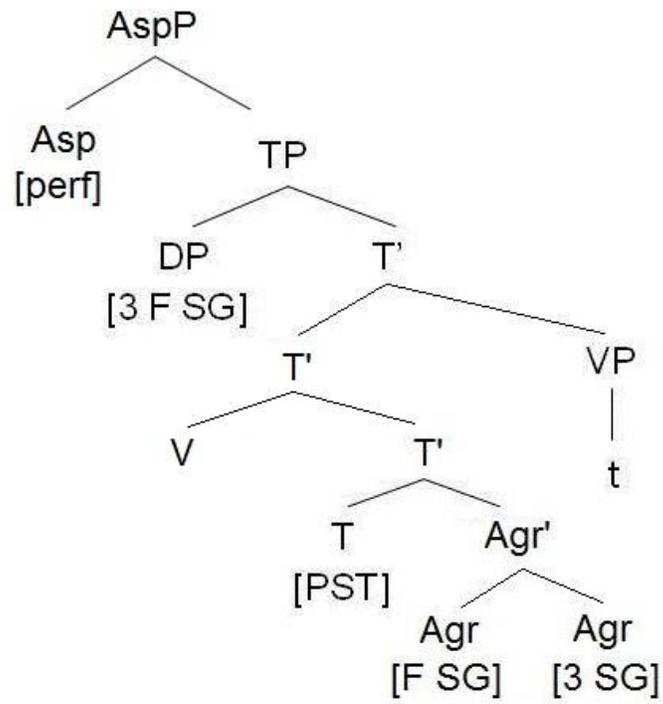


Figure 4-54. Structure after Merger

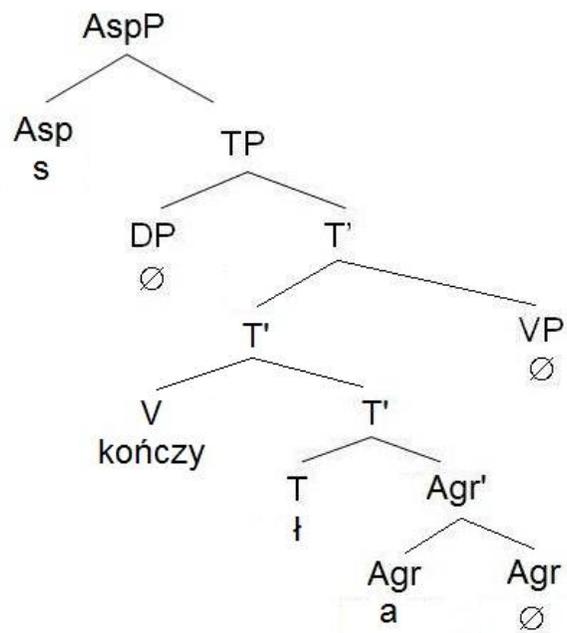


Figure 4-55. Structure after Vocabulary Insertion

CHAPTER 5 CONCLUSIONS

In this work I have presented the verbal morphology paradigms of Russian and Polish through the theory of Distributed Morphology. Through the use of merger and underspecified lexical insertion rules, DM is able to capture the Slavic data. The lexical insertion rules of both languages reveal the similarities, differences, and complexities of Russian and Polish verbs. For instance, the process of phi-feature agreement operates the same way in both languages, but it requires two Agr nodes in the Polish past tense (gender-number and person-number) and only one in the Russian past tense (gender-number). DM also captures the inwards- and outwards-sensitive allomorphy of irregular Russian M SG past tense forms well.

Two notable problematic elements for DM in Slavic are the reflexive particle and aspect. The Slavic reflexive particle can carry a wide variety of semantic content depending on the verb with which it occurs and other contextual cues. A thorough analysis of grammatical aspect through the DM lens would answer many questions that remain regarding the motivations for and functionality of aspect in Slavic verbs.

In addition, a broader comparative view within the Slavic family would be helpful to examine in greater depth the similarities and differences in agreement of East, West, and South Slavic verbs. Clitics and clitic clusters, a topic of much debate in Slavic linguistics, would be worth exploring through DM in order to approach these phenomena from a different angle. Including data from a South Slavic language would capture a much more complete view of the behavior of Slavic verbal systems within the theory of Distributed Morphology.

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BIOGRAPHICAL SKETCH

Rose Beth Prince was born in Franklin Square, New York. In the fall of 2005, Rose began her studies at the University of Florida, where she graduated in spring 2009 with a bachelor's degree in geography and minor in linguistics. She began graduate school at the University of Florida in fall 2009. During the summers of 2010 and 2011, Rose studied Russian at Indiana University on a FLAS fellowship and a Title VIII fellowship, respectively. She will graduate in December 2011 with a master's degree in linguistics and continue her education at Indiana University as a Ph.D. student in the Department of Slavic Languages and Literatures, focusing on Slavic linguistics.