The Consonantal Verb Stems of Russian

1. Introduction

In this paper I will discuss the consonantal verbs stems of Russian. Here I will continue with the theory of linking proposed in DeArmond and introduce the set theory of morphology. I will assume that a derivational system of synchronic grammar is unrealistic.

Continuing from previous work, a wordform contains one or morpheme each of which are linked to various entries in the lexicon and grammaticon, which may or not be part of the lexicon. During the period of acquisition word stems and grammatical information are developed and wordforms are linked to them. Information about the word is determined and each wordform is committed to memory. A derivation implies that one form changes into another form. This is being denied here.

1. Stressed Consonant Stems

A wordform is an inflected word. A stem contains the lexical information of a wordform. In Russian, inflection is marked by suffixes. The so-called derivational suffixes are not included in this work. The consonantal stems are monomorphemic to which prefixes may be added. As is well known, prefixes affect lexical meaning and aspect of the basic stem. Consonantal stems do not occur with stem-extender morpheme. The first class of consonants is the verb лезть ‘climb’, which is stem stressed:

1. Present Tense Conjugation of Stressed Consonantal Stems

|  |  |
| --- | --- |
| лезть | ˈlest’ |
| лезу | ˈlezu |
| лезешь | ˈleziš |
| лезет | ˈlezit |
| лезем | ˈlezim |
| лезете | ˈleziti |
| лезут | ˈlezut |

The string /ˈlez/ is common to all the forms in the nonpast tense. I will claim that this is the root and the stem for the verb, a hypothesis that may be challenged. I also claim that the stem is inherently stressed; stress is part of the stem. I will put the infinitive form aside for the moment.

Following the works or other Slavists, the endings š, t, m and ti are the markers for the 2nd person singular, 3rd person singular, 1st person plural and the 2nd person plural, respectively. There seems to be no doubt about postulating these forms are the inflectional ending of agreement of person and number in the present tense. The issue is how to analyze the 1st person singular and the 3rd person plural. I will return to this later when I cover the second conjugation.

1. Unstressed consonant stems

The stress of the verb *nestí* ‘to carry by hand’ occurs on the ending (the last syllable) if it is vocalic. The second syllable in the second person plural ending *ete* cannot be stressed in standard Russian. The following table includes the orthographic form of the verb and its phonological interpretation:[[1]](#footnote-0) placing the symbol “ˈ” at the left edge of the syllable represents each stressed syllable. Unstressed syllables are normally unmarked, but in certain cases the symbol “ ° ” is placed at the left edge of the syllable. It is normally used to represent an unstressable syllable such as the 2nd person plural marker /°ti/. It is useful for filters but not in conjugation tables:

1. Present Tense Conjugation of Unstressed Consonantal Stem нес:

|  |  |
| --- | --- |
| нести | niˈsti |
| несу | niˈsu |
| несёшь | niˈsëš |
| несёт | niˈsët |
| несём | niˈsëm |
| несёте | niˈsëti |
| несут | niˈsut |

The stem of *nestí* is analyzed here as /nis/, inherently unstressed.

In derivational theories of phonology, one can posit that the stress is assigned to the final stressable syllable of the wordform. One hypothesis in this theory is that there is a stem, an ending is added to it, and then stressed is assigned to it:

1. /nis/ + /ë/ + /t/ -> /nis+ë+t/ -> /niˈs+ë+t/

This hypothesis I consider unrealistic as representation of how language is organized in the mind. Нес = /nës/.

1. Linking

I proposed ten years ago the hypothesis that word forms occur in lexicon as memorized forms. Processing of this type is known to take too much time to be accounted for in normal speech. However, listing the forms with the stem /nis/ six times, more when we include the infinitive, past tense and participle forms, misses the generalization that /nis/ is associate with a semantic range that is consistent is all inflected forms.

I suggest a model of linking forms such that the stem /nis/ is listed with its meaning and it is linked to each inflected form. Similarly the basic meaning and properties of each inflectional ending is listed somewhere in the lexicon or in a related component, which I call the grammaticon. Thus, the inflectional morpheme /ë/ is listed once in the grammaticon and linked to every occurrence of /ë/ in every inflected form. This may seem unwieldy, but it is now known there are millions of neural connections in the brain, which could easily handle this. I will adopt this hypothesis here.

No new problems arise in the case of stem stressed consonantal verbs; each such stem is inherently stressed and stress cannot move.

More interesting is the case of the inherently unstressed consonantal stems. How is stress accounted for since the stress does occur on the stem unless there is no vocalic inflectional morpheme as in the masculine past tense, which I will cover below.

Syllable structure is required for stress assignment. In the present tense forms of both classes of consonantal stems, there are two syllables except for the 2nd person plural which has three syllables.

When a word form is acquired, the morphemes are connected in a strict sequence: stem + tm + ag (agreement morpheme). The abbreviation ‘tm’ is a set that includes [+Tense,] and [-Tense]. [-Tense] is the feature set for the infinitive morpheme. The verb form sequence cannot be violated. A stem is linked to the stem position in the wordform; let it be /ˈlez/. Wordforms are surrounded by the symbol ‘#’. The word form is not complete as it lacks two inflectional endings. Let’s say that /i/ is linked to tm : #/ˈlezi/#. However, ag is also required if tm is [+Tense]. Let’s select the third person singular ending /t/ for ag:

1. #/ˈlezit]#

The morpheme boundaries are not included here. The words forms for the second person singular, the first person plural and the second person plural are formed in the same way. This information is included in the wordforms based on the stem /ˈlez/. However, a new challenge arises. The present tense form is /ë/ in the 2nd and 3rd person singular and the 1st and 2nd plural. In a derivational theory one could posit /e/ or / ë/ as the underlying form and apply the appropriate rules deriving /i/ and / ë/.

In the non-derivational theory that I am proposing here, I am proposing to account for these two phonological forms as members of a set. The two present tense allomorphs (alternating forms) are members of a set: {/ë/ and /i/}. This set is linked to every present tense form in each consonantal stem. Thus *lezet* would have the following form:

1. /ˈlez{ë, i}t/

One member of the set is to be activated. Either /ë/ or /i/ is activated. I propose a filter to account for this. First filter is that /ë/ can occur only in a stressed syllable:

1. \*/ë, [-stress]/

The set {ë, i} can be written as {Ë}. Where as single phonemes are written with non-caps, the symbol for phonological sets is capitalized. Thus the present tense morpheme for consonantal stems is {Ë}.

Related to this filter is the constraint that only one syllable in a non-compound standard Russian word may be stressed:

1. \*#.... ˈσ …. ˈσ …#

Thus, the string \*/ˈleˈzët/ is phonologically unacceptable.

1. Unstressed consonant stems

Now lets form the wordforms for the unstressed stem /nis/. Let’s link the present tense 3rd person plural similar to the above:

1. #nisët/#

The stem /nis/ has no inherent stress and it resists being stressed. However, as we will see later in the past tense, the masculine singular form is stressed. Stress is assigned to the stem by means of the principle Last Resort informally stated as, ‘Don’t do it unless you have to do it’. Since the stem can stressed as a last resort, then it would be unacceptable to mark the stem as /°nis/, which means the morpheme can never be stressed.

Stress assignment occurs when the wordform is determined and is committed to memory. Although it is obvious that #/nisët#/ has two syllables, the syllables are also determined when the word form is determined. The rules for syllabification in Russian are similar to those in English. If possible a syllable has an initial consonant:

1. #...VCV…# -> …VσCV…#.
2. The rule might better be represented in terms of metrical phonology, but this will do for now. Thus #nisët/#

Contains two syllables:

1. #σniσsët/#

Since the stem cannot be stressed except as a last resort, the stress must be assigned to the second syllable:

1. #niˈσsët/#

Stress is assigned similarly in the 1st person singular, the 2nd person singular, the 1st person plural, and the 3rd person plural. The 2nd person plural is more interesting: #nisëte/#. The 2nd person plural morpheme / °ti/ cannot be assigned stress. Assigning syllables we get: #σniσsëσ°ti/#. Stress cannot be assigned to the stem syllable nor can it be to the 2nd PP syllable; therefore the only remaining syllable is the one containing the tense morpheme:

1. #σniˈσsëσti/#.

The symbol marking the unstressable property of the agreement ending is erased as it is a morphological property, not a phonological property (it could be left in).

1. The 1st person singular and the 3rd person plural

The form for the 1st person singular is /u/ and for the 3rd person plural is /ut/:

1. ˈlezu, ˈlezut; ˈnisu, ˈnisut.

I am assuming here that /u/ and /ut/ are each a single morpheme marking tense and agreement. This is contrary to Lighter who assumes two underlying morphemes for /u/, and two for /ut/, one marking the present these and the other marking agreement. Two derivation rules derive the phonemic forms /u/ and /ut/, respectively. This I reject given the theoretical framework that I am proposing.

It is clear that the agreement endings /š/, /t/, /m/ and /ti/ are linked to two features – [+Tense] and the other agreement features. There is no a priori reason that /u/ and /ut/ cannot each be linked to three features. The only problem that arises that I know of is how to state the morpheme structure of the verb. First, verbs take only one inflectional suffix if the latter is the infinitive marker or the gerund marker (see below). The minimal morphological structure of the verb is a stem plus on inflectional suffix that marks [±Tense]. The second morpheme is not uniformly required but it is subject to contextual rules. It is required if [+Tense] does not occur in the firs inflectional morpheme.

1. The First Person Singular and Third Person Plural Morphemes

The first enigma occurs in the forms of the first person singular and the third person plural in the present tense: /u/ and /ut/. I am taking the view here that /u/ is a form that contains four relevant features: [-Past], [+Personal], [-Second Person] and [-Plural]. There is a morpheme that marks the first person singular: /m/, which is found in the first person singular of дать ‘to give’ and есть ‘to eat’: дам /dam/ and /ем/. There is no present tense marker for these two irregular verbs. There is no point in considering the present tense unmarked or phonologically null before the ending /m/. I will assume that a morpheme is not restricted to a specific number of features. In other words, I do not subscribe to slot and position type of grammar.

1. The Infinitive

The infinite morpheme is /t’/ if the stem is stressed and /ˈti/ if the stem is not stressed:

1. /ˈlest’/ and /niˈsti/.

The selection of the infinite allomorph is straight forwards. In the case of the stem /ˈlez/, /t’/ is selected rather than /ˈti/ because of the filter denying two stressed syllables in the same wordform. In the case of /nis/, /ˈti/ is selected because at least one syllable in a wordform must be stressed.

The infinitival form of velar consonantal stems is a challenge: печь /peč/ ‘bake’ and /лечь /. The stem of печь is not inherently stressed. The stem of лечь is inherently stressed in the present; it is not inherently stressed in the non-present tense forms. However, this stem contains an unpredictable vocalic alternation:

1. Present Tense Conjugation of Velar Consonantal Stems

|  |  |  |  |
| --- | --- | --- | --- |
| печь | /peč/ | лечь | /leč/ |
| пику | /piˈku/ | лягу | /ˈlägu/ |
| пичёшь | /piˈčëš/ | ляже | /ˈläžiš/ |
| пичёт | /piˈčët/ | ляже | /ˈläžiti/ |
| пичём | /piˈčëm/ | ляже | /ˈläžim/ |
| пичёте | /piˈčëti/ | ляже | /ˈläžiti/ |
| пикут | /piˈkut/ | лягут | /ˈlägut/ |

The verb /peč/ is regular. The alternation of /č/ and /k/ is predictable; /č/ occurs before the front vowels, and /k/ elsewhere. /k/ is the default consonant giving rise to the term velar consonantal stems. They are included in the set /K/. Although we could posit {PEK} is the form of this set, this is not the case. I will return to this in the past tense.

The infinitival form is of particular interest in velar consonantal stems. In the infinitive the final velar, whether voiced or not, is the palatal /č/. /č/ is a variant of /k/, which is default of the set {K}. It is also a variant of /g/ in the set {G}. The infinitive marker her is a null variant of {t’} when it follows a stem final velar.

The stress pattern of the verb мочь /moč/ ‘be able to’ is almost unknown in consonant stems.

1. The Declension of мочь

|  |  |  |  |
| --- | --- | --- | --- |
| мочь | /moč/ |  |  |
| могу | /maˈgu/ |  |  |
| можeшь | /ˈmožiš/ |  |  |
| можeт | /ˈmožit/ |  |  |
| можeм | /ˈmožim/ |  |  |
| можeте | /ˈmožiti/ |  |  |
| могут | /ˈmogut/ |  |  |

The first person singular ending is stressed; the stem is stressed elsewhere in the present paradigm. There are two variants of the stem (each an ‘allostem’); one is inherently unstressed, the default {MOG}. The other stem is inherently stressed in the positions mentioned above: {ˈMOG}. The information of where the stressed stem occurs is given in the lexical entry of the verb:

1. [MAY; [-N, +V]; {MOG, ˈMOG / \_\_\_\_ [non ‘FPS]}.

 The abbreviation FPS stands for the feature set [-Past, +Pers, -2, -Pl]. [[2]](#footnote-1)

This pattern is not known in other consonantal stems but it is common in the verb stems with the formative suffix /i/, discussed in xxxx).

1. The Past Tense

The default form of the past tense in Russian is /l/. Its alternate form is /∅/, a phonologically null form. Thus, the set {l} marking {+Past] has two allomorphic forms.

There are four inflectional endings marking gender and number agreement: /∅/ marks the masculine singular, /a/ marks the feminine singular, /o/ the neuter singular, and /i/ the plural with no gender agreement.

The past tense conjugation of лезть {lez} is the following:

|  |  |
| --- | --- |
| лез | lez |
| лезлa | lezlə |
| лезлo | Lezlə |
| лезлi | lezli |

1. The Dental Stems

The dental stems display an interesting alternation of the final dental consonant of the root. /d/ alternates with /∅/ before /l/ marking the past tense. For example consider the класть {klad} ‘to put down’:

|  |  |
| --- | --- |
| класть | klast’ |
| кладу | klaˈdu |
| кладëшь | klaˈdöš |
| кладëт | klaˈdöt |
| кладëм | klaˈdöm |
| кладëте | klaˈdöti |
| кладут | klaˈdut |
| клал | klal |
| клала | ˈklala |
| клалo | ˈklala |
| клали | ˈklali |

In the infinitive the root final dental (/d/ and /t/) alternates with /s/. The set of root final dental has three members: /∅/, /s/ and the default /d/ or /t/. I propose here the following filter :

1. \*/D/+/l/

The filter bars stem final dental plus the morpheme /l/. Thus \*/kladl/. The null allomorph /∅/ can occur only before /l/. The /s/ allomorph can occur only before /t’/: /klast’/. Historically, /t/ -> /s/ through dissimilation.

1. The representation is based on the ten vowel system proposed in DeArmond. [↑](#footnote-ref-0)
2. In a more formal representation, the inner square brackets remain: []. [↑](#footnote-ref-1)