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Author(s): Emily Klenin

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Degrees of Stress in Russian Versification
Emily Klenin

1. Introduction. Descriptions of Russian phonetics sometimes include discussion of secondary or light stress phenomena, which are, however, still poorly understood. I will discuss here light or secondary stress only with respect to words lacking any stress other than the one considered light. Several lists of such words exist in the Russian phonetics literature (see Avanesov 1956:81-84, Bulanin 1970:164-166, RG 1980:90-91), but the lists do not entirely agree, and criteria for inclusion are unclear. In general, classification seems to make use of a combination of phonological and morphosyntactic criteria: nonlexical (form) words, including pronouns, quantifiers, modals, numerals, and conjunctions, are all treated as lacking full stress, but, insofar as they do not undergo vowel reduction according to the patterns usual for clitics,¹ they are also not generally treated as stressless.² The acoustic correlates of stress in such words are not well studied, according to Bulanin 1970, and we will not deal with them here.

The category of lightly stressed words is examined in more detail outside the strictly phonetic literature, in work on Russian versification; the reason for this is that the rhythm of Russian verse depends in part on the distribution of such words. In 19th-century ternary-meter verse, all ictuses were obligatorily stressed, and arsis syllables tolerated some stresses, although only rarely the stress of an autosemantic polysyllable (see below). In binary meters, ictuses could be stressed or unstressed, and arsis position was normally filled by an unstressed syllable. However, the stressed syllable of some form words could occupy either arsis or ictus position; in ictus position, such syllables provide a stress, but in arsis position, it was traditionally felt that they did not create a hypermetrical stress, at least not necessarily. The term "light stress" in metrical usage refers to the class of stresses in such words. Thus, in ternary meters, ictuses could vary between light and full stress, whereas arsis syllables varied from stressless to lightly stressed.

The metrical notion of light stress is of particular importance in studying ternary meters, and arsis position in general; since binary-meter ictus stress ranges from full stress to stresslessness, the rhythm of binary-meter ictuses can more easily be studied without differentiating light stress from full stress, particularly if it is assumed, as it until recently generally was, that light-stress words do not provide hypermetrical stresses in arsis position. This assumption led to the treatment of light-stress words as variable in degree of stress, where variation was between 'stressed' and 'unstressed', conditioned by metrical position.

The idea of differentiating several degrees of stress in Russian verse was first developed in Žirmunskij 1925/1975, who distinguishes invariably-stressed, invariably-unstressed, and variably-stressed word classes, the last of which includes all form words that

are not stressless; stressless form words are distinguished from variably-stressed words by vowel reduction. In ternary ictus position, the variably stressed word is fully stressed. Elsewhere, variably stressed words will generally have any of several intermediate degrees of stress, depending on the morphosyntactic characteristics of the word and on its syntactic position; such words can, however, according to Žirmunskij, become completely unstressed, generally when the variable stress immediately precedes (or follows) a fully stressed syllable. Thus, Žirmunskij's description is based on grammatical categories, with adjustment for syntactic and metrical conditioning; this classification has become the basis of most later work.

In more recent studies of Russian verse, most notably Kolmogorov and Proxorov 1968 and Gasparov 1974, light-stress words are taken to provide a relatively light stress in ictus position, and to provide a hypermetrical stress in arsis position; however, this hypermetrical stress is less than that of a fully-stressed word in the same position, and is also weaker than the stress of the same lightly-stressed word in thesis position. Thus, Gasparov 1974 distinguishes at least four degrees of stress in Russian verse, and other scales, for example Baevskij 1966, distinguish even more—up to at least nine. I am unaware of any acoustic correlates of these different degrees of stress, and it is evident from the literature that native speakers do not have uniform judgments about at least the intermediate levels.

The more recent studies for the most part differ from Žirmunskij in not recognizing either the prosodically conditioned atonicization of variably stressed words, or the privileged status of ternary ictus position as reinforcing variable stress to the level of a fully stressed word. The absence of vowel reduction in a word does not, in Gasparov's system, necessarily preclude its being stressless.

Thus, the notion of light stress has become well established in studies of Russian versification, where it has been defined as the stress of those words that can occur both in arsis and thesis position in the line, if they are felt to be stressed when they occur as thesis. The metrical notion of light stress has not, however, been reconciled with the same phenomenon as described by phoneticians, and the units involved and the fundamental criteria for inclusion are not entirely the same. The work reported on below is part of a study of one aspect of the behavior in anapestic trimeter of words treated as lightly stressed in the linguistic literature. I will suggest that the behavior of these words in verse, on the one hand, is controlled by general phonological and syntactic factors and, on the other hand, controls the regular modulation of verse rhythm.

1.1 Preliminary marking of stress. I used in my preliminary analysis a greatly simplified stress classification. All words were assigned either full stress, light stress, or no stress, and words lacking vowel reduction were all either fully or lightly stressed, depending on their grammatical properties. Autosemantic words were fully stressed, form words were lightly stressed or unstressed. All

occurrences of all forms of all words were stressed alike, and I avoided creating pairs of homonyms differentiated by stress. My analysis at this stage dealt strictly with word forms, and did not deal with 'metrical words', as defined in Gasparov 1974 (see also Tarlinskaja 1984). The system I used is obviously not intended to allow for subtle gradations in degrees of stress, or for subtle variations in the ways forms are used, with consequences for their degree of stress. It isolates a maximally large number of items whose stress is likely to be variable, and avoids making a priori distinctions among them.

The purpose of the initial marking of light stress was to identify potentially variable-stress items so that their distribution could then be analyzed. In general, my preliminary marking of light stress was based on criteria used by Soviet linguists, mainly Avanesov and Bulanin, without adjustments for syntactic or metrical deformation or regularities, the description of which is one goal of the study part of which is reported on here. In some instances, stress marking was modified in the subsequent metrical analysis, but for the most part this will not concern us in the present paper.

1.2 The corpus. The corpus consisted of 439 lines of anapestic trimeter; this is, precisely, all of the anapestic trimeter in isometric verse contained in the "Basic Collection" of poetry by Afanasij Fet. The poems were written from 1842 to 1892, and cover several subgenres of Fet's lyric poetry.

2. General properties of anapestic trimeter lines. The anapestic trimeter line consists of 9 to 11 syllables, with an ictus on the 3rd, 6th, and 9th syllables. The ictus is obligatorily stressed. Non-ictus syllables are predominantly unstressed, but hypermetrical stresses occur very frequently on the first syllable of the line--in 46.9% of all lines in the corpus used here, slightly less for some other poets.³ It has also been shown that hypermetrical stresses occur with decreasing frequency from left to right across the line (Gasparov 1974:183, Kiparsky 1975:594) and from beginning to end of the stanza (Gasparov 1974:186). Not commented on by Gasparov, but evident from his statistics, is the different behavior of the two arsis syllables: the first arsis syllable is heavier than the second. In general, the binary differentiation of arsis syllables in Russian ternary meters was first described by Bogorodickij (1930), who, however, studied only dactyls and amphibrachs.⁴ The differentiation of the Russian anapestic foot is predicted by generalizations made from English and other languages in Kiparsky (1977), where the falling arsis type was found to be the only form of the anapestic foot in any language that had been studied from this point of view at that time.

3. Distributional properties of form words in the corpus. Table I lists occurrence of autosemantic-word stress (AWd), form-word stress (FWd), and stresslessness (OS) for the first and second arsis positions (A-1 and A-2 respectively) and thesis position (Th) for each foot (I, II, III); the total of the first three lines is 439 occurrences of each line position (A+F+0), and the proportion of FWd

stresses in relation to the total number of positions is listed in the last line of the table (F/AFO):

TABLE I

	I			II			III		
	A-1	A-2	Th	A-1	A-2	Th	A-1	A-2	Th
Awd	58	0	380	6	0	391	2	0	399
FWd	148	23	59	50	29	48	19	12	40
OS	233	416	0	383	410	0	418	427	0
A+F+O	439	439	439	439	439	439	439	439	439
F/AFO	34%	5%	13%	11%	7%	11%	4%	3%	9%

About a quarter of all the stresses in the corpus are in form words--428 out of 1664. About a third of the form-word stresses occur in line-initial position, which is generally known to tolerate full stress as well, more frequently than any other arsis syllable. Thus, the favorite single position for form words is the line position the fulfillment of which is most variable with respect to stress; as indicated in Table I, roughly one-third of such positions are filled by form words.

The two-thirds of the form words outside line-initial position are divided equally between, on the one hand, ictus (34%), and, on the other, the remaining arsis positions (31%).⁵ Thus, form words divide evenly among stressed, non-stressed, and neutral positions; even aside from the first line position, there is some tendency for form words to occur in the first half of the line.

Although form words as a whole are thus statistically ambivalent with respect to metrical position, this ambivalence is greatly reduced within smaller subclasses of form words.

First, the distribution of form words in ictus and non-ictus position depends heavily on whether they are monosyllabic or disyllabic, as is shown in Table II, where the first line lists occurrences of monosyllabic form words and the third line lists the proportion of monosyllabic form-word stresses as compared with all form word stresses for each line position:

TABLE II

	I			II			III		
	A-1	A-2	Th	A-1	A-2	Th	A-1	A-2	Th
Mon	100	23	8	38	21	2	19	11	7
FWd	148	23	59	50	29	48	19	12	40
	68%	100%	14%	76%	72%	4%	100%	92%	18%

About half of all the form-words are monosyllabic (229 out of 428, or 53.5%), and yet only 11.6% of the ictus-position form words are monosyllabic.

Second, there are syntactic restrictions on the occurrence of disyllables in arsis position, whereas monosyllables are syntactically unrestricted in arsis position, but seem to show some restrictions in ictus position.⁶ In the first place, disyllabic words in arsis position occur only in feet immediately preceded by a phrase- or higher-level boundary. This is illustrated in the following examples:

[1] Vidit tol'ko, što večno i čisto
 "Sees only what is eternal and pure"

[2] Podari ètu rozu poètu
 "Give this rose to the poet"

[3] Prixodi, moja milaja kroška
 "Come, my dear morsel"

[4] Počemu svetloj reči značen'ja
 "Why bright speech's meaning"

Disyllabic nouns and noun phrases almost never appear in arsis position, whether they are autosemantic or pronoun forms; disyllabic attributive forms do occur in arsis position, as is evident from examples [2] — [4] above. Thus, disyllabic words with arsis-position stress are normally modifiers of elements to their right, whereas monosyllables are not so restricted, as can be seen from examples such as [5] and [6]:

[5] Ja tebe ničego ne skažu
 "I will tell you nothing"

[6] Na zare ty ee ne budi
 "Don't you wake her at dawn"

We can therefore conclude that monosyllabic form words occur mainly in arsis position, and hypermetrical stresses are created nearly entirely by monosyllabic form words; nearly all other hypermetrical stresses outside of line-initial position are on form words that are syntactically subordinate to elements to their right, which, by virtue of their position, can carry phrasal stress. The occurrence of monosyllabic form words in arsis position is not syntactically restricted in this way.

Monosyllabic form words in ictus position, however, are generally syntactically or otherwise prominent: nearly all are emphatic, or are heads of syntactic constructions. This is not true, however, of the few monosyllabic form words in final ictus position. This is unexpected, because there is a well-known general tendency in binary verse toward heavy final ictuses. In the present corpus, however, monosyllabic form words in final ictus position are not emphatic or heads of constructions, although a clause boundary does

immediately follow all such ictuses, creating the possibility of syntagmatic stress. To the extent that the syntax of these form words suggests that they are heavily stressed, this is only because of scrambled word order, generally not semantically motivated. This is illustrated in the following examples:

[7] I emu ulybajusja ja
 "And at it smile I"

[8] Pust' ty otblesk, plenjajuščij nas
 "Even if you are a reflection captivating us"

[9] Vse bojus', ne prosnulsja by on
 "I keep fearing lest he wake"

Since, however, final feet with weak ictuses do not have hypermetrical stresses, examples such as [7] through [9] do not contradict the general rule that ictuses are stronger than their arses. This rule is occasionally violated, when a form word ictus occurs in a foot with a hypermetrical stress. In such feet, as we would expect, the hypermetrical stress is generally on a monosyllabic form word, whereas the word in ictus position is generally polysyllabic. A disyllabic word occurs in the arsis of a foot with a monosyllabic form word in ictus position only if a line- or sentence-boundary immediately precedes the foot and a phrase- or sentence-boundary follows. An example, unusual in that the hypermetrical stress is heavier than the ictus, is the following:

[10] Mnogo l' ix na trevožnyx krylax.
 "Whether there are many of them on anxious wing."

It would seem that form words vary with respect to their normal metric potential as arsis or thesis elements, depending on their length and syntactic status. The form words that occur in arsis position are monosyllabic and syntactically dependent. Those that occur in ictus position are usually longer and syntactically more independent, although this is not true in all cases. It has often been noted that form word stresses are lighter in arsis position than in ictus position; for the most part, however, this is not, as is sometimes suggested, because of their metric position, but because arsis form-words are generally shorter than ictus form-words and occur in syntactically weaker environments. Thus, to the extent that the stress of form words is variable--and the metrical literature, as we have seen, generally refers to the class of form words as variably stressed--their variability is for the most part conditioned syntactically, not prosodically: with only rare exceptions, light stress does not replace syntactically motivated full stress or the reverse as a result of a word's location in thesis or arsis position.

4. The stress profile of the line. We can now turn to the question of how the distribution of form words affects the modulation

of rhythm in the anapestic line. On the basis of the information in section 3 above, we will treat form-word stress as relatively lighter than the stress of autosemantic words, although not necessarily light in all occurrences in ictus position. Equating form-word stress with light stress, with the provisos indicated, we see that Table I accords with the general stress properties of metrical lines introduced in section 2.

Line-initial position is substantially heavier than any other non-ictus position; this is a characteristic of line-initial positions not only in anapests but also in iambic lines, whereas falling meters show a propensity toward relatively weak line-initial positions. Thus, the behavior of the first-foot first-arsis position is to some extent apparently controlled by a general tendency to weaken expected stress distinctions line-initially, rather than by stress patterns specific to the anapestic line. The sharp drop in A-1 from I to II is therefore not by itself particularly informative with respect to the anapestic line as such.

There is also, however, a sharp decline in the frequency of stressed syllables between foot II A-1 and foot III A-1; moreover, the relatively greater steepness of the drop between I A-1 and II A-1 is primarily in the frequency of full stress. Form-word (light) stresses, in contrast, decline much more steadily although nonetheless sharply: there is a 66% drop from I to II and a 62% drop from II to III. Thus, it is the distribution of arsis-position form words that provides the overall modulation of line rhythm. Since form words are, by definition, syntactic markers, we can see that syntax is integrated into line rhythm, and that the tension between syntax and meter is itself a highly regular and regulated phenomenon.

4.1 First vs. second arsis syllable. The relative heaviness of the first arsis position as compared with the second is shown in two ways: it has a much greater propensity for the occurrence of light-stress instead of stressless syllables, and the first arsis position can be filled by the stressed syllable of an autosemantic word, including disyllabic words, whereas the second arsis position can only be filled by unstressed syllables or by form words with light stress. In both respects, the first-foot position is the strongest and the third-foot position is the weakest of the three first arsis positions. In each successive foot, the difference between A-1 and A-2 diminishes, the sharpest change being between I and II; thus, the opposition of the two arsis syllables weakens from left to right.

4.2 Thesis vs. arsis. As indicated in Table I, ternary-meter ictuses are generally filled with autosemantic word stresses, but form word ictuses are found in all feet of the line. The form word ictuses decrease in frequency from left to right, but, as noted above, it is unclear that this actually constitutes a decrease in the number of actual light stresses. Because the frequency of hypermetrical stresses declines left-to-right across the line, we can conclude that the contrast of thesis vs. arsis increases; the weight of the thesis, however, plays no clear role in this rhythmic modulation,

which is therefore nearly entirely dependent on arsis rhythm and hence on the distribution of form words in the line.

4.3 Interaction of thesis vs. arsis and arsis-1 vs. arsis-2. As noted above, the distinction of first- vs. second-arsis position weakens across the line, whereas thesis vs. arsis becomes stronger. Thus, although all three syllables of the foot are differentiated from one another, there is maximized at any one point in the line no more than one of the two possible distinctions. In the terms of a description such as Kiparsky 1977, the lower-level contrast of W(eak) vs. S(trong) syllables is more evident first, later supplanted by the higher-level metrical grouping of thesis vs. arsis.

4.4 Thesis vs. thesis. As noted above, our data do not show the thesis increasing in strength from left to right across the line, and since monosyllabic nonemphatic pronouns occur more in third-ictus position than in other ictus positions, it can be argued that the final ictus can even be relatively weaker than other ictuses, perhaps because of its privileged position at line-end. Although it is more usual for final ictuses in general to be stronger than other ictuses, the relatively weak final ictus seems to be a stylistic peculiarity of some classes of Fet's poetry. The relative equality in strength of autosemantic ictuses in some of his poetry has been noted (see Žirmunskij 1925/1975:146), and the present corpus also displays a tendency not to associate line-end position with particularly strong syntactic elements (see Klenin, in preparation).

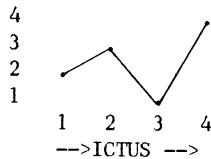
The tendency noted here runs counter to a suggestion by Gasparov (1974:183), that the decline in hypermetrical stresses at line end is the result of a tendency to make the line-final ictus maximally well differentiated perceptually from non-ictus positions. Since, however, the absence of hypermetrical stresses in the present corpus is not associated with any other tendency to enhance the prominence of the final ictus, Gasparov's hypothesis lacks expected support. Consequently, his perceptual explanation of the decline in hypermetrical stress at line end cannot be accepted. A likelier explanation is probably the tendency to avoid tension at closure, as observed by Kiparsky (1975:594).

4.5 The falling arsis and anacrusis. As noted in section 2 above, the falling arsis seems to be universally preferred to the rising arsis, but, as demonstrated in sections 4.1-4.3, the distinction is far better delineated at the beginning of the line than at the end. It may be added here that the falling profile of the arsis in the first foot--and in particular its tolerance for heavy stress in first arsis position--serves to help establish the status of the first foot as a basic part of the line, and not an extrametrical anacrusis. The status of anacrusis in Russian verse is generally marginal, and is restricted to stressless or light-stress syllables; there have, however, been ill-fated attempts to eliminate entire meters by assigning systematic anacrusis status to variously their first feet (in dactyls and trochees) or their arsis syllables preceding the first ictus (in iambs, anapests, and amphibrachs); for a discussion of such analyses, see Žirmunskij 1925/1975:122-127, Gasparov

1974:192-193. In the case of the anapestic line, the metrical status of the first foot is established in part by the fact that its internal structure is clearly the same as that of non-initial feet; the fact that the first arsis position can have a strong hypermetrical stress, albeit rarely actually felt to be strong enough to compete with the first ictus, further protects the integrity of the line. Thus, the two-layered internal articulation of the first foot in the anapestic line helps establish the uniform metrical structure of the line as a whole; this function of the hypermetrical stress on A-1 is peculiar to the first foot, which is also the favored location for such stresses, and for the clear differentiation of A-1 vs. A-2.⁹

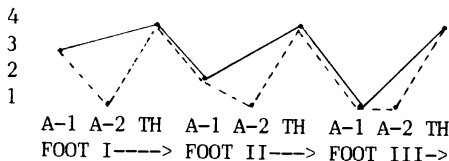
5. Comparison with the binary line. Statistical variation with respect to stress among ternary ictuses is not well known, and, indeed, such variation, as we have seen, is highly restricted. In contrast, ictus stress variation is well studied in binary meters, where there is a strong historical tendency in 19th-century Russian poetry toward the development of a regressive stress wave. The statistical pattern of the iambic tetrameter is shown in Figure 1, where the four ictuses are ranked with respect to their statistical propensity toward stress.

[Figure 1]



At first glance, this rhythm may appear completely different from what is observed in the anapestic trimeter. However, if we compare, not binary ictus with ternary ictus, but binary ictus with ternary first-arsis position and ictus, we find that the first arsis position behaves like the first ictus in each hemistich of the iambic tetrameter: it is weaker than the following ictus, but the degree of difference is increasingly great from left to right across the line. This pattern is shown in Figure 2; the dotted line connects successive syllables, and the solid line connects successive A-1 and thesis positions. (Grades are reduced to 4, flattening somewhat the bottom of the curve.) The similarity to Figure 1 is obvious.

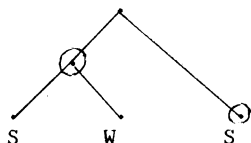
[Figure 2]



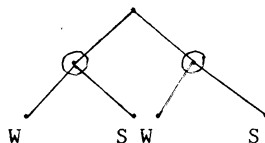
Thus, the first arsis position is a kind of weak ictus, in relation

to the strong ictus represented in ternary meters by the true ictus position; phenomena characteristic of the dipodic organization of binary meters have a direct parallel in foot-level organization of ternary meters. This can easily be expressed in a metrical description such as Kiparsky (1977), where, just as the two feet of a binary tetrameter hemistich command each other, arsis and ictus also command each other, in ternary as in binary meters, and A-1 and A-2 are also related as ictus to arsis. This is illustrated in Figures 3A and 3B, where the relevant nodes are circled:

[Figure 3A: anapestic foot]



[Figure 3B: the I4 hemistich]



6. Conclusions. We have seen that the words that are treated as lightly stressed by Avanesov, Bulanin, and others have a distinctive pattern of distribution in anapestic trimeter. They occur in ictus position for the most part only when their phonological or syntactic status assures their predominance over other stresses in the foot. The degree of stress that form words bear depends greatly on their syntactic situation; thus, the syntactic modeling of the line is an important element in the inherent rhythm of the anapestic trimeter. We have also noted certain regularities in the rhythm of the anapestic line, and drawn a parallel with binary-meter rhythm.

1. In addition to being longer and perhaps louder than unstressed syllables in the same word, the Russian word-stressed syllable is also differentiated qualitatively, in that unstressed non-diffuse vowels are subject to obligatory vowel reduction, the precise types of which depend largely on whether the unstressed vowel is pre- or post-tonic, and, if pre-tonic, then on whether it stands in first pre-tonic position (the first degree of reduction) or earlier (second-degree reduction). The quality of the reduced vowel is also affected by its local environment: the second degree of reduction is generally absent in syllables lacking consonantal onset, and can also be absent in absolute final position. The quality of reduced vowels (as of stressed vowels) also depends on the nature of surrounding consonants. Unlike length and loudness, vowel reduction is controlled specifically by word stress and is not associated with syntagmatic stress; for this reason, vowel reduction and its absence become in some analyses the main criterion for assigning word stress. In rapid or care-

less speech, both reduced and nonreduced vowels can be elided or qualitatively weakened, but such modifications are only very exceptionally obligatory even in rapid speech and are not subject to the same rules as vowel reduction in the usual sense of the term.

2. Russian also has stressless words not subject to normal vowel reduction; for example, the stressless conjunction *cto* is normally pronounced with the second degree of reduction (with vowel schwa), although it can in some styles of speech occur with a nonreduced [o]. It cannot occur with the first degree of reduction (with vowel [a]), even when a stressed syllable immediately follows.
3. Gasparov's Nekrasov corpus shows 44.6%, his Blok corpus 40.6% (Gasparov 1974:189). The apparent differences between the Fet corpus used here and the Nekrasov corpus are partly the result of different counting procedures.
4. Bogorodickij claims inter alia that the Russian dactyl normally has a rising arsis; this claim runs counter to the general tendency described by Kiparsky (1977:229).
5. One additional form word occurs in clausula position.
6. Syntactic restrictions on hypermetrical stress in the anapestic trimeter are discussed more fully in Klenin (in preparation).
7. Syntactically, of course, the first foot can nonetheless be argued genuinely to be in its entirety a kind of anacrusis to the line, in that the beginning of the second foot is a favored location for phrase- and sentence-level boundaries.

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