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Stress Variation and Frequency in Russian Nouns of the *гу́ба (f)* Pattern

In the study of inflectional Russian stress, feminine first-declension nouns of (typically) two, (sometimes) three and (rarely) four or more syllables with mobile stress represent the classical area as a result of their strong connection with the more complex Proto-Slavonic stress/intonation patterns (i.e. those with desinential and mobile stress), a complex history of subsequent variance in terms of their development from Old Russian into the modern era, as well as their current tendency to display high levels of variation in the standard language. As early as 1952, Hingley (1952, 187) made some important observations on both the history and future directions of (complex) Russian stress, writing that the 'flexional stress of nouns in *-а/-я* has undergone a certain evolution, that it is in a state of flux at the present moment, and that it may be expected to move in a certain predictable direction in the future.' He continues, '[i]t therefore seems likely that words have tended to defect from the fixed final paradigm to a mobile paradigm in proportion to the frequency with which they are used' (195). And further 'The condition of apparent chaos in the flexional stress of disyllabic mobile nouns in *-а/-я* becomes intelligible when it is realised that Russian is in a process of establishing a new paradigm which has already achieved such ascendancy that it has assimilated more than half of the material. In the new paradigm columnar stress on the case-endings of the singular is opposed to columnar stress on the stem throughout the plural (196)'. Hingley is here making two key points concerning Russian mobile stress in feminine first-declension nouns: a) he links the adherence of various words to their respective stress patterns with their respective frequency (without, however, verifying this in any empirical way), and, b) he recognises the ascendancy of the *d* paradigm, that is, a paradigm with fixed stem stress in the singular and fixed stem stress in the plural, i.e. a columnar type of stress pattern with the singular and plural clearly demarcated.[1]

[1] In this article we use the generally adopted alphabetical system of Russian stress patterns found, for example, in Zaliznjak (1977). There follows a list of the stress patterns relevant to the present discussion (mobile stress types are marked in bold):

ASEES, Vol. 24, Nos. 1–2 (2010): 117–129.

Exactly fifty years later, Nick Ukiah (Ukiah 2002) published an article on the current situation in Russian vis-à-vis the *губа́*-type pattern of Russian feminine nouns (generally known as the *f* pattern). This article, in a sense, continues where Hingley left off: it attempts to establish the current situation, at least in spoken, spontaneous Russian, with regard to the tendencies in the stress patterns of nouns which, at one stage, have been held to belong to the *f*-type of stress pattern.[2] Ukiah is interested only in *f*-pattern nouns with variance, i.e. those nouns which occur in any of his sources with alternative stress in any of their forms. He presents the results of a linguistic survey of 21 native speakers which he carried out in 1994, including, where relevant, data from lexicographical sources. According to Ukiah, there is a total of 24 such nouns. The list is comprised of the following nouns: *блоха́* 'flea', *волна́* 'wave' (also 'wool' as dialect *singulare tantum*), *гряда́* 'bed (horticultural); bank, range (of hills, clouds)', *дежа́* 'trough', *железа́* 'gland', *кила́* 'swelling from hernia', *копна́* 'shock, stook (of corn)', *кошма́* 'large piece of felt', *межа́* 'boundary-strip', *обжа́* 'shaft or handle of plough', *просвира́* 'communion bread', *простыня́* 'sheet', *серьга́* 'earring', *скамья́* 'bench', *скирда́* 'stack, rick', *скоба́* 'clamp, staple', *сковорода́* 'frying-pan', *слега́* 'beam', *слобода́* 'settlement with non-serf population', *строфа́* 'stanza, strophe', *судьба́* 'fate', *судья́* 'judge', *тропа́* 'path' and *щепа́* 'splinter, chip of wood'. To this list are added two nouns generally only found in the plural, *бу́бны* 'diamonds (in cards)' and *де́ньги* 'money', on the basis of substandard singular forms (*бубна* and *деньга* respectively) (2002, 2). Ukiah does not include the following nouns which Fedjanina (1982, 98–99) identifies as belonging to pattern *f* (possibly with variance, as noted in brackets): *щека́*

a: fixed stem stress (e.g. *кни́га*)
b: fixed desinential stress (e.g. *праща́*)
d: desinential stress in the singular, stem stress in the plural (e.g. *роса́*)
f: desinential stress throughout, except for the nominative plural which has stem stress on the initial stem syllable (e.g. *губа́*)
d′: as pattern *d* above, but with stress retracted on to the initial stem syllable in the accusative singular (e.g. *спина́*) also
f′: as pattern *f* above, but with stress retracted on to the initial stem syllable in the accusative singular (e.g. *рука́*, *голова́*) also

[2] Gorbačevič (1978, 53) characterises the important difference between oral and written stress variance in the following way: 'Ударение – факт устной, звучащей речи. Варьирование же на этом уровне не только свободнее и шире, но и менее доступно для регламентирующего воздействия, чем, скажем, вариантность графически выраженных морфологических форм.'

(f/f') 'cheek', *строка́* 'line' *(f/d)*, *голова́* 'person in charge' (*f* only), *борозда́* 'furrow' *(f/f')*, *полоса́* 'stripe, strip' *(f/f')*.

The specific aim of Ukiah's survey is to ascertain the accentual tendencies of these 26 nouns, and, in particular, whether they are undergoing either of two important tendencies currently at work in the Russian stress system: firstly, a general tendency in Russian mobile stress towards a singular/plural opposition; in the case of the *губа́*-pattern nouns we are dealing with ending stress in the singular and a shift to a contrasting fixed stem stress in the plural (i.e. a move to stress pattern *d*), or, secondly, a general tendency in Russian mobile stress towards a differentiation of stress in the plural forms only; in the case of the *f*-pattern the direct cases (i.e. nominative, accusative) would have stem stress and the oblique (genitive, dative, instrumental and prepositional) cases would have ending stress, i.e. in this scenario the *f*-pattern is simply retained, itself representative of the general tendency. The genitive plural, as Ukiah makes clear (2002, 5–6), representing essentially a reduction of syllables in the case of most of these words, often to one syllable (e.g. *губ*), would, of course, play a central role in such a development, since it forces the otherwise (at least, assumed, on the basis of the *f*-pattern oblique cases) desinential stress on to the stem, thereby blurring the boundary between the direct and oblique cases and creating the potential for analogous or alternative stem stress in the remaining oblique plural forms.[3]

A wider historical perspective on the development of the Russian *f* stress paradigm is instructive, as it appears that this is an area that is currently in a state of flux moving from one system to another. In terms of 'classical' Slavonic accentology, as exemplified by, for example, Vaillant (1950), the *f* paradigm ultimately goes back to the (hypothetical) Common Slavonic *b* paradigm (characterized by fixed stress on the ending), which itself came about in the following way: 'une tranche d'intonation douce a attiré l'accent de la tranche brève ou d'intonation douce qui la précédait' (Vaillant 1950, 246). It is this process which is known generally as the law of de Saussure, but its validity has not been accepted by all scholars: some revisionists, beginning with Stang (1957) and continuing with, amongst others, Dybo (1981), reject it partially, and at least one, Darden (1984), rejects it entirely, albeit in an 'experimental' way. Nevertheless, while disputing

[3] A third possibility concerns a complete shift of stress in all forms to either the stem (*a* pattern) or the ending (*b* pattern); this possibility, however, plays a minor role in the discussion and does not appear, according to Ukiah's findings, to be a factor.

its origin, all scholars admit the existence of an early class of desinentially stressed nouns. It is important to distinguish this pattern *b* class (e.g. *черта́*) from the already existing class of 'true' mobile (pattern *c*) nouns (e.g. *голова́*, *рука́*, *вода́*). The latter mobile first-declension feminine nouns, unlike the newer *b* class, were characterized by a recessive (i.e. shifting back to the initial syllable) stress in certain forms, such as the accusative singular and nominative plural, which also shifted to a preposition when directly preceding the noun (a feature which still exists, though decreasingly so, it seems, in modern Russian), e.g. *за́ руку* 'by the hand', *на́ голову* 'on to the head' (Comrie et al., 1996, 83). This mobile stress pattern is regarded as the 'classical' mobile pattern of Russian, now generally classified as the *f′* pattern (e.g. the stress paradigm of *голова́*). The *f*-pattern nouns (those exemplified by *губа*), on the other hand, which represent the focus of this paper, emerged subsequent to and as an off-shoot of both this existing 'pure' mobile class as well as the newer class of nouns with fixed ending stress, in other words, they appear to be a later (*circa* 1600) development, maintaining a fixed ending-stress for the majority of their forms (i.e. the *b*-pattern), but shifting it on to the stem in the nominative/accusative plural by analogy with the *f′*-pattern.

If the *f′* paradigm represents the oldest mobile type in Russian feminine nouns in *-а/-я*, then the *f* (*губа́*) stress type is its direct heir, but resulting more as a blend of a primarily *b*-pattern stress with the characteristic *f′* nominative plural stress shift to the stem. The subsequent history of all these nouns (roughly from the medieval period up to the end of the nineteenth century) is one of volatile and erratic shifts of stress (see, for example, Kolesov (1972, 42), on the retracted 'mobile' accusative singular stress for *блоха́*). However, the following clear tendencies through this maze can be traced: the oldest type, pattern *f′*, has been maintained in Russian, though many words which had previously belonged to it are no longer of this type. The *b*-pattern remains in Russian, and is, indeed, statistically the second most frequent type for first-declension nouns, but has become very much a stress paradigm for low/lower frequency nouns. The *f* paradigm, the focus of the present paper, is less old and has been maintained in such forms as *губа́* and *блоха́*. Still later patterns were the *d′* pattern and then the *d* pattern. The former has resulted from a reassignment of the *f′* pattern into a stress pattern exemplified by *земля́*, which has the same stress as *f′* nouns in the singular, but in the plural has stem stress (a relic of the former pattern, however, being evident in the genitive plural *земе́ль*). The more important development in Russian,

however, is represented by the later emerging *d* paradigm, the most recent of all the Russian mobile types (*circa* 1800), which is characterised by ending stress in the singular and stem stress in the plural, i.e. this is a paradigm with columnar stress differentiated in the singular and plural, and it is precisely this paradigm which is highlighted by both Hingley and Ukiah as the apparent 'goal' of lower frequency *f* paradigm nouns.

In terms of the modern language, both Hingley and Ukiah identify a link between a word's relative frequency and its stress pattern, but neither provides any substantiated evidence for it. For each, however, the link is somewhat different. Hingley claims that there is a move away from fixed ending stress (thus type *b*) in connection with the word's frequency, i.e. the more frequent the noun, the more likely it is to have moved from pattern *b* to pattern *d* (that is to say, to have shifted its stress on to the initial stem syllable in all plural forms). Indeed, feminine words with fixed ending stress (pattern *b*) are confirmed as a low frequency group by Cubberley (1987, 34–35). Cubberley discovers that only 5 of the 357 most common feminine nouns in Russian (as per Zasorina 1977) have pattern *b*, even though they represent overall in Russian the second most common group (after the pattern *a* fixed stress pattern) according to Fedjanina (1982).[4]

Ukiah's conclusion is somewhat different and forms the focus of the present paper, which aims to ascertain to what degree frequency plays a role in nouns with variant *f*-pattern stress. According to Ukiah (2002, 3) nine *f*-pattern nouns do not have stress variance, and, therefore, are not investigated by him further (other than with a few miscellaneous observations [2002, 19]). These nouns are *вожжа́* 'rein', *губа́* 'lip', *ноздря́* 'nostril', *просфора́* (alternative form of *просвира́* mentioned above), *пята́* 'heel', *свеча́* 'candle', *слеза́* 'tear', *сопля́* 'nose drip', and *сорвиголова́* 'daredevil'. On the basis of his 1994 survey and other sources of stress Ukiah concludes that the following nine *f*-pattern nouns (which, according to him, now display some degree of variance) appear to have retained pattern *f* for a majority of speakers: *волна́*, *дежа́*, *кила́*, *простыня́*, *серьга́*, *сковорода́*, *слобода́*, *строфа́*, *де́ньги* (*pluralia tantum*) (2002, 23). It is precisely this group of nouns which Ukiah assumes to have a relatively high frequency, since it is by virtue of their relatively high familiarity to speakers that

[4] Cubberley does not list all five nouns, but the one used as the label for the pattern (*борьба* 'struggle') does not occur in the plural, thus making the pattern *b* label in at least one case entirely theoretical, and, therefore, rarer still.

they are able to maintain what is largely an anomalous, or at least complex, stress pattern (pattern *f*) and resist the 'normalising' tendency towards pattern *d*. As Ukiah writes '… many of the nouns remaining in pattern *f* appear to be rather common (i.e. high frequency) items of vocabulary, whereas many of those which have moved to pattern *d* appear to be rather rare' (2002, 23). Finally, according to Ukiah, the following thirteen original pattern *f* nouns appear, at least for the majority of speakers, to have moved to pattern *d*, so for these Ukiah would expect a relatively lower frequency, i.e. they 'appear to be rather rare' (2002, 21): *блоха́*, *гряда́*, *железа́*, *копна́*, *кошма́*, *просвира́*, *скоба́*, *слега́*, *судьба́*, *судья́*, *тропа́*, *щепа́*, *бу́бны* (on the basis of a non-standard singular *бубна́*).

It remains now to be seen how frequency and stress relate to each other within this category of nouns. In particular we are concerned with the level of correspondence between the relative levels of frequency and stress patterns established by Ukiah (2002) for the nouns in question. Frequency sources are scarce in Russian. Although hitherto Zasorina (1977) has generally been regarded as the fundamental reference book on frequency in Russian (see, for example, Cubberley (1987) which makes extensive use of this work), Sharoff's more recent online Russian frequency list (further referred to by the abbreviation RFL) now comprises the largest corpus to date (50,000 words), as well as being more contemporary in terms of the usage which it is based on.[5] However, although Zasorina (1977) offers inferior data in terms of the quantity (it contains 39,268 words) and the age of the data being examined, we shall include it here for the sake of comparison. It is important and indeed interesting to note that, in any event, the correlation coefficient between Zasorina (1977) and RFL for the data being analysed here comes out at 0.86, representing an extremely high level of correlation between these two sources.

We begin by listing the frequency data found in Zasorina (1977) and RFL for the *f*-pattern nouns investigated by Ukiah (2002) in alphabetical order (Table 1).[6]

[5] *Общий частотный словарь лемм для современных (> 1950) текстов текущей версии НКРЯ* at: http://corpus.leeds.ac.uk/serge/frqlist/. See also Sharoff (2005) for more background on this data.

[6] Four nouns are not included here. According to Ukiah (2002, 24) *межа́*, *скамья́* and *скирда́* have moved to pattern *b*, and *обжа́* has moved to pattern *a*. We have also included the nine nouns which do not display variance, thus bringing the total here to 31 nouns.

Word	Zasorina	RFL
блоха	7	324
бубны	2	66
вожжа	15	366
волна	295	8073
гряда	8	468
губа	137	11568
дежа	0	57
деньги	323	14778
железа	1	1484
кила	0	0
копна	3	239
кошма	1	73
ноздря	18	1039
просвира	0	0
простыня	10	1492
просфора	0	0
пята	8	551
свеча	57	2677
серьга	4	487
скоба	4	311
сковорода	5	441
слега	1	72
слеза	148	8081
слобода	6	331
сопля	1	462
сорвиголова	0	0
строфа	4	659
судьба	181	17488
судья	33	7262
тропа	15	1203
щепа	13	149

Table 1: Pattern f nouns investigated in Ukiah 2002 (column 1) (including the nine nouns without variance) with corresponding frequency levels recorded in Zasorina (1977) (column 2) and RFL (column 3). Nouns which do not appear in the latter two sources are marked with a zero. The overall correlation coefficient between column 2 and column 3 is 0.86.

Group 1. Of these nouns listed in Table 1, the following extracted group (Table 2) represents those nouns not surveyed by Ukiah because they do not appear to display any level of variance, i.e. these are nouns which can be labelled unambiguously *f* pattern nouns. This is important, since in this case we would expect the relative frequency of such nouns to be high: according to Ukiah's argument, the 'anomalous' *f* pattern of stress can only be maintained for these words given that they have a relatively high level of familiarity to speakers. The average frequencies for this set of nouns is 42.67 / 2749.33 in Zasorina and RFL respectively, a high number which seems to support the validity of Ukiah's hypothesis: 3525 of a total of 50,000 words in RFL have a frequency of 2749 or higher, therefore we are dealing with approximately the top 7% of all words in Russian. However, what becomes immediately clear is the problematic nature of the data: we are dealing with a small group of nouns (only nine words), and the standard deviation is very high at approximately 56 / 3943 respectively in the frequency sources. Evidently this represents a largely heterogeneous group of words in terms of frequency which ranges from zero (i.e. two words are absent from both frequency sources, viz *просфора́* and *сорвиголова́*) to mid-frequency (e.g. *вожжа́*, *пята́*) to high frequency nouns in the case of *губа́* (number 895 out of 50,000 words in RFL) and *слеза́* (number 1334).

Word	**Zasorina**	**RFL**
вожжа	15	366
губа	137	11568
ноздря	18	1039
просфора	0	0
пята	8	551
свеча	57	2677
слеза	148	8081
сопля	1	462
сорвиголова	0	0
Mean	42.67	2749.33
Median	13	795
Std. dev.	55.93	3943.89

Table 2: Nouns without variance belonging to pattern f (Group 1).

Group 2. Next, there follows a list of words which, according to Ukiah (2002, 23), although displaying varying degrees of variance, have, for the majority of Russian speakers, retained stress pattern *f*. It is to be expected, therefore, that this group of nouns would have a relatively high frequency, though probably not as high as the previous group, since this group of nouns displays a tendency towards variation (possibly as a result of a slightly lower frequency than the first group). In fact, this group has a slightly higher average than Group 1 (71.89 / 2924.22 respectively in our frequency sources), though the medians are lower than for Group 1 (e.g. 795 in group 1 vs. 487 in Group 2 in RFL). However, the same problems as those encountered in Table 1 are immediately clear: we are again dealing with a small group of nouns (9) with a high standard deviation (approx. 127 / 4828 respectively), and so, once more, we cannot label this in any way as a homogenous group from the point of view of frequency. There are outliers at both ends of the range: *дежа́* and *кила́* at the low end, and *волна́* and *де́ньги* at the high end, though five words certainly indicate a fairly consistent level of medium frequency (*простыня*, *серьга*, *сковорода*, *слобода*, *строфа*).

Word	**Zasorina**	**RFL**
волна	295	8073
дежа	0	57
деньги	323	14778
кила	0	0
простыня	10	1492
серьга	4	487
сковорода	5	441
слобода	6	331
строфа	4	659
Mean	71.89	2924.22
Median	5	487
Std. dev.	126.94	4828.25

Table 3: Nouns which have retained pattern f, but with variance (Group 2).

Group 3. Finally, we turn to the nouns which, according to Ukiah (2002, 24) have shifted from stress pattern *f* to pattern *d* for the majority of speakers. These words would be expected to represent a lower frequency group, and, indeed, they

seem to confirm the hypothesis. It is certainly the lowest of the three averages compared here (20.69 in Zasorina 1977, 2241.46 in RFL), and the median (4 / 311) is also lower than those of Group 1 (13 / 795) and Group 2 (5 / 487). However, again we are concerned with a small group of nouns (13), with a high standard deviation in both frequency sources (approx. 47 / 4783 respectively). The outlier *судьба́* also, of course, requires additional explanation as a word with a very high frequency.

Word	**Zasorina**	**RFL**
блоха	7	324
бубны	2	66
гряда	8	468
железа	1	1484
копна	3	239
кошма	1	73
просвира	0	0
скоба	4	311
слега	1	72
судьба	181	17488
судья	33	7262
тропа	15	1203
щепа	13	149
Mean	20.69	2241.46
Median	4	311
Std. dev.	47.09	4783.12

Table 4: Nouns which have shifted from pattern f to pattern d (Group 3).

What conclusions can we make from the data of Ukiah taken together with frequency data in Zasorina and RFL? Ukiah states, albeit rather tentatively that 'many of the nouns remaining in pattern *f* appear to be rather common' (2002, 21). Certainly, if we take the first two groups we find that their individual averages are higher than the third group, though, curiously, we find that the second group has a higher average than the first, which is contrary to what we would expect. Nevertheless, if we take a combined average for all nouns which have retained (to varying extents) pattern *f* (the first and second groups) and compare it with the nouns which, according to Ukiah, have switched to pattern *d* (the third group),

then there is, beyond doubt, a higher frequency for the former, viz 57.28 / 2836.78 versus 20.89 / 2241 respectively.[7]

In terms of the genitive plural, there does not appear to be any conclusive connection between the occurrence of a zero ending and concomitant stem stress in this form on the one hand, and pattern *d* stress on the other hand. Thus, amongst the nouns of Group 3 above, although it is true that *судья* is the only one with a syllabic genitive plural ending (*суде́й*), amongst the Group 2 nouns, i.e. those still predominantly belonging to pattern *f*, only two nouns fall into that category (*дежа́* (gen. pl. *деже́й*) and *простыня́*, though the latter has alternative gen. pl. forms *простынь/простыней*), hardly a significant difference. However, it should be mentioned that of the non-variant nouns with the *f* pattern (Group 1), the following four have non-zero stressed genitive plural endings: *вожжа́* (gen. pl. *вожже́й*), *ноздря́* (gen. pl. *ноздре́й*), *свеча́* (gen. pl. *свече́й*), *сопля́* (gen. pl. *сопле́й*), thus, at least to some extent, suggesting a link between the maintenance of pattern *f* and a non-zero, stressed genitive plural ending.

In conclusion, it appears that there is some basis for the claim of both Hingley and Ukiah that the stress of feminine nouns in *-а/-я* and their relative frequency are linked. However, as we have shown, the correspondence is not exactly as would be expected from Ukiah's suppositions (in particular, Group 2 has a higher average than Group 1, though, admittedly the median is lower), and there remain inconsistencies in the data (e.g. outliers like *де́ньги* which go against the hypothesis and require alternative explanation), and, therefore, there exists a certain amount of incertitude about this entire problem. To a degree this can be explained in terms of an insufficient sample size taken by Ukiah (2002), a more complete resolution of the problem depending on a future survey of several thousand native speakers in an attempt to ascertain more accurately which patterns are more dominant amongst these nouns. Certainly, Lehfeldt (2006, 120–128) demonstrates that Ukiah's sample size of 21 informants is inadequate and differs from a confidence interval of 95% by anything from 24% to even 41% and higher, which, he justly claims, is unacceptably high. To achieve a 95% confidence interval with

[7] Four nouns are not included here: *межа́* (2 / 427 respective frequency in Zasorina 1977 and RFL), *скамья́* (32 / 1175) and *скирда́* (6 / 53) have moved to pattern *b*, according to Ukiah, and *обжа́* has, it seems, moved to pattern *a* (*о́бжа*) (0 / 0). Though the relative frequencies of these words might appear to contradict these shifts of stress, particularly the rather high frequency of *межа* and *скамья*, Ukiah offers sound historical reasons for their current preferred stress patterns (2002, 24).

a maximum difference of 5%, Lehfeldt estimates that 1537 informants would be required (2006, 128). While Lehfeldt's criticism may be valid, it should also be said that there are simply very few surveys of this kind available at present, and essentially none devoted to specific areas of Russian stress, such as that provided by Ukiah (2002) for the stress of *f*-pattern nouns. It can also be said that, although from a purely statistical point of view, 21 informants is insufficient, common sense would suggest that any significant levels of stress variance among educated speakers (as Ukiah's informants indeed are) are certainly indicative of a more general lack of consistency and/or uncertainty regarding the correct stress among the majority of speakers: these are not, after all, say, more subtle phonetic variations whose nature is concealed from the informants, but clear conscious choices that speakers are asked to make regarding one of (generally) only two possible stress positions.

What appears clear, however, is that for feminine first-declension nouns, pattern *d* is establishing itself as the main mobile paradigm. While pattern *a* is undoubtedly the largest and most common pattern of stress for these nouns, accounting for about 98% of all *-а/-я* nouns according to Fedjanina and 76.7% of the 357 most common feminine nouns in Russian according to Cubberley (1987, 35), pattern *d* is now the most common mobile pattern, accounting for 7.3% of the 357 most common feminine nouns according to Cubberley, and 0.8% of all feminine nouns according to Fedjanina (see Cubberley 1987, 38 for these figures) – second only to pattern *b* nouns, though, as Cubberley (1987, 35) shows, pattern *b* feminine nouns have an extremely low prevalence among the most frequently used lexemes of Russian (only 1.4% of the most frequent feminine nouns). In a sense, then, pattern *d* nouns can be presented (both in theoretical, as well as pedagogical terms) as the default and ascendant mobile pattern for first-declension feminine nouns, gradually taking over from, as we have ascertained with some degree of certainty, *f* pattern nouns with a relatively low frequency.

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