ISSN 2782-3598 (Online), ISSN 2782-358X (Print)

International Division

Original article
УДК 781.2+801.6
DOI: 10.56620/2782-3598.2022.3.087-108

Rhyme and Rappability: Synthetic Isochrony in Russian and English on the Example of Lermontov

Thomas Beavitt

Ural Branch of the Russian Academy of Sciences, Institute of Philosophy and Law, Ekaterinburg, Russia,
tommy@globalvillagebard.org, https://orcid.org/0000-0002-3391-2167

Abstract. Structured auditory forms such as verse, oratory speech and song may be seen as forming a continuum with natural spoken utterances and written language. Spoken, recited and sung text performances can be distinguished in terms of memorability and spontaneity. Previously conducted research into "singability" as a criterion for verse translation adequacy has been extended to include the concept of "rappability". A theoretical overview and a review of developments in English and Russian poetry over the last two centuries culminates in a concise assessment of the works of three contemporary rap artists. The isochrony hypothesis predicting that utterances will be temporally organised into segments perceived as of equal or equivalent duration is evaluated for English and Russian on the example of a project to translate a poem by Lermontov into English and perform both versions against the same composed background track. A synthetic approach to investigating isochrony in language evaluates the flow of a text performed against a constant tempo background track. A discussion is presented of the issues involved in translations which attempt to preserve the original rhythm and phrasing. The process of performing "rapped" recitals of the Russian and English texts is described. The comparison of rhythmic features of Russian and English can inform future research and the preparation of texts for various functions, helping to predict their memorisability and effectiveness in eliciting the attention of audiences or interlocutors.

Keywords: synthetic isochrony, verse translation, naturalness of flow, phraseology, singability, rappability, exigency

For citation: Beavitt T. Rhyme and Rappability: Synthetic Isochrony in Russian and English on the Example of Lermontov. *Problemy muzykal'noj nauki / Music Scholarship*. 2022. No. 3, pp. 87–108. DOI: 10.56620/2782-3598.2022.3.087-108

Международный отдел

Научная статья

Рифма и рэпабельность: синтетическая изохрония в русском и английском языках на примере поэзии Лермонтова

Томас Бивитт

Институт философии и права Уральского отделения Российской академии наук, tommy@globalvillagebard.org, https://orcid.org/0000-0002-3391-2167

Аннотация. Структурированные акустические формы, такие как стих, ораторская речь и песня, могут рассматриваться как формирующие континуум с естественными устными высказываниями и письменной речью. Исполняемые тексты, которые произносятся, декламируются и поются, могут различаться по степени запоминаемости и спонтанности. Проводимое ранее исследование «песенности», которая является критерием компетентности стихотворного перевода, расширяется, включая в себя понятие «рэпабельности». Теоретический обзор и сравнение изменений, происходивших в английской и русской поэзии в течение последних двух столетий, завершаются кратким обзором творчества трёх современных рэп-исполнителей, пишущих на английском, испанском и русском языках. Гипотеза изохронии, предполагающая, что высказывания тяготеют к временной организации в сегменты, воспринимаемые как равные или эквивалентные по длительности, оценивается применительно к английскому и русскому языкам на примере проекта, посвящённого переводу стихотворения русского поэта Михаила Лермонтова на английский язык; в рамках данного проекта оригинальный и переведённый тексты исполняются на один и тот же сочинённый фоновый музыкальный трек, звучащий в одном и том же темпе. В последних исследованиях изохронии человеческого языка в основном используется аналитический/эмпирический подход, основанный на естественных лингвистических корпусах. В то же время существует альтернативный синтетический подход, который заключается в оценивании потока исполнения структурированного текста, декламируемого на фоне ритмичного трека с постоянным темпом. В статье обсуждаются вопросы, касающиеся процесса перевода, в котором делается попытка сохранить ритмический и фразеологический характер оригинала. Описывается процесс исполнения «рэповых» деклamаций русского оригинала и английского переведённого текста на один и тот же сочинённый фоновый трек. Сравнение ритмических особенностей русского и английского языков даёт основание для дальнейшего исследования, а также служит источником информации при подготовке текстов, выполняющих различные коммуникативные функции, помогая предсказать их запоминаемость и эффективность в привлечении внимания аудитории или собеседников.

Ключевые слова: синтетическая изохрония, стихотворный перевод, естественность речевого потока, фразеология, песенность, рэпабельность, острота высказывания

Для цитирования: Бивитт Т. Рифма и рэпабельность: синтетическая изохрония в русском и английском языках на примере поэзии Лермонтова // Проблемы музыкальной науки / Music Scholarship. 2022. № 3. С. 87–108. (На англ. яз.) DOI: 10.56620/2782-3598.2022.3.087-108

Introduction

As part of the ongoing Global Village Bard programme of practical collaborative work investigating relationships between languages and cultures, I report on an encounter with *1831-go IYUNYA 11 DNYA [1831, on the 11th Day of June]*, an early poem written by Mikhail Lermontov. This project involved a translation of the text into English, musical collaboration, and two performances of the text in the original and translated languages, respectively, involving other performers, visual artists, etc.

In addition to practical creative collaborations, the *Global Village Bard* programme structures investigations into theoretical questions about translation, textual performance and intercultural communication. For example, in my previous published research I investigated the concept of *singability* as a criterion for competent verse translation by the example of a project of translation of Schubert's song cycle *Winterreise* from German into English, the resultant translation of which was performed and recorded along with Schubert's original accompaniment as performed by classically trained pianist Alexander Polyakov. In evaluating the choices made during this attempt of translation and performance, readers were invited to consider the extent to which it had been successful, or whether different choices would have produced a more singable result [1].

In the present work, the concept of singability is extended to include the *rappability* of texts recited against a musical and rhythmic background having a constant number of beats-per-minute[1], as exemplified in the popular music genre of rap. While singability and rappability used as criteria for verse translation are related concepts, some key differences will be discussed. The research involved a collaboration between the present author, producer Andrey Bokovikov and composer Nikita Nikitin, along with other performers, technicians and visual artists, resulting in my performances of the English translation[2] and original Russian text[3] of Lermontov's poem *1831-go IYUNYA 11 DNYA* to the same composed musical background track.

Research questions

1. To what extent are the rhythms of
   a. the Russian language and
   b. the English language

   describable:
      i. according to stress timing
      ii. according to syllable timing
      iii. according to mora timing?

2. Does strong isochrony help explain the singability of a song or the rappability of a poem?

3. Is Derek Attridge's concept of beat prosody ("rhythm in English poetry is realised by the alternation of beats and offbeats"[4]) as applicable to Russian as to English?

4. Are all texts equally rappable? If not, what are the factors that make a text rappable?

5. Is a rappable text necessarily singable? Is a singable text necessarily rappable?

6. If poetry is memorable speech, what are the features of poetic speech that make it more memorable than other forms?

Hypotheses

1. Sung, rapped and spoken Russian, just like English, is strongly isochronic, i.e., accurately describable in terms of the regular alternation of stressed and unstressed syllables against an underlying (felt) beat.

2. In either Russian or English, a rapper's flow, a singer's musicality and the oratory skills of a successful public speaker are characterised by the skilled handling of the essential tension between the syllabic structure of a text and its phraseology as expressed by stress patterns and moraic constraints.

3. Although the accurate mapping of stressed syllables onto the perceived beats (or off-beats[5]) is essential to flow, musicality and oratory, an equally important role is played by the distribution and articulation of unstressed syllables (or their constituents) into the temporal spaces between these stressed syllables and the larger grouping of the so-formed rhythmic units (feet) into phrases, as well as various compensatory techniques (e.g., reduction) to account for the breaths and phrase structure.

4. The amount of attention paid by the audience or interlocutor to a rapper, singer or speaker is affected by the perceived presence of the underlying beat, whether this is made explicit in the form of the background track, the musical arrangement or any other audible cue (hand clapping, foot tapping, lectern thumping etc.), or is implicit in the shared communicative space.

The Theoretical Background and Review of the Literature

The question of rhythm in language has long fascinated linguists and translators of poetic texts from one language to another. The memorability of classical and civilisation-foundational texts such as the epic poetry of Homer, which in an oral culture would have originally been performed from memory, can be assumed to have depended on the aspects of their rhythmic and melodic structures, including the crucial factor of rhyme. Significantly, these criteria also apply to verse translations deemed competent[6], whether from Ancient Greek to Latin or from (modern) Russian to English.

The explosion of the scholarly interest in English prosody during the 19th century derived much of its terminology from Latin scholars, for whom the same considerations had arisen more than two millennia earlier. However, although comparable issues arise when trying to describe the prosodic characteristics of texts translated within the realm of modern languages, the terminology and concepts appropriated from classical Latin are not always best suited for the task.

Empirical approaches towards describing the prosodic features of languages have benefited from a number of recent technological innovations, including the widespread availability of large databases (corpora) of linguistic material, having both written and audio forms, as well as the development of conceptual and analytical tools, such as the pairwise variability index (PVI)[7], beats-and-binding phonology[8] and computational music analysis (CMA)[9]. Due to the assumption of the linear passage of time built into such empirical descriptions, the regularity (or otherwise) of linguistic events occurring against such a temporal background – i.e., isochrony – becomes of particular salience.

Evolutionary and biological approaches to signal processing in the animal and human kingdoms have also formed a basis for recent research into isochrony [2][10]. Referring to the "conspicuous oscillation around the classical homeostatic steady state", Glass and Mackey apply the concept of isochrony in the context of everyday health and clinical practice to refer to fluctuations around an equilibrium[11]. Fitch

suggests that isochrony is "not a fundamental component of musical rhythm. Rather, it is a probable (but not inevitable) interaction of the pattern extraction and entrainment components of the 'rhythm faculty', driven by a desire for group coherence and predictability"[12]. In researching the phenomenon of consciousness and related parameters such as attention, Crick and Koch propose the influential theory that an important mechanism underlying biological consciousness may comprise oscillations of "neurons firing in semi-synchrony" at a frequency varying between around 40–70 Hz[13] [3].

Here we may pause to consider the relationships between different linguistic forms. While Abercrombie and others have argued for a close connection between the rhythms of speech and verse[14], this position has been the subject of much debate and criticism. In contemporary linguistics it is often assumed that spontaneous spoken language takes priority over the written and other more structured forms derived therefrom. However, this assumption may be challenged. For example, the "spontaneous" spoken language of children appears to be informed by learnt patterns inherent in nursery rhymes, songs and other rhythmic forms disseminated meme-wise from material provided by parents, teachers and peers[15]. Moreover, the process according to which a speech community's "natural" language is constantly enriched by phraseological resources having an explicitly isochronic or metrical component continues throughout adult life. Nobody who has attended school or worked in an office can doubt that his or her peers' everyday language has been significantly influenced by advertising jingles, catch-phrases, popular songs or rap. Although under-researched, comic timing is widely understood to be one of the main factors in the successful delivery of linguistic content experienced as humorous[16]. Just as Pushkin's verse is widely credited with having profoundly influenced the development of the modern Russian language, so it is impossible to imagine English without the influence of Shakespeare's iambic pentameter. In his famous essay, George Orwell identified the various "abuses" that may result from the erroneous belief that "language is a natural growth and not an instrument which we shape for our own purposes"[17]. Thus, a continuum can be identified on which a nursery rhyme or rap song has at least some important rhythmic elements in common with a Schubert *lied* or one of Shakespeare's sonnets, as well as with "natural" or spontaneous speech.

During the period from the Italian Renaissance[18] to contemporaneity, a great deal of scholarly research into the rhythm of language (prosody) and poetry translation has been conducted in different languages, resulting in a number of useful theoretical concepts that complement the empirical approaches used to analyse spoken, recited and sung language.

We may consider the Golden Age of Russian poetry, whose outstanding figures included Alexander Pushkin and Mikhail Lermontov, as having been significantly inspired by European poets – especially Byron – and therefore centrally involving the act of verse translation. How could otherwise Byron have been so profoundly influential on these two great Russian poets, for whom English was at best a fourth language (after Russian, French and German)? Whether read in Russian translation, via a third language (e.g., French) or in the original English, the legend of Byron and his poetry was

transmitted with considerable rapidity into the Russian cultural sphere. This was not only because of the wild rumours about his exploits that were swirling around Europe, but also in the sense that poets like Pushkin and Lermontov were able to "hear" his ironic poetic voice transmitted across a linguistic boundary.

One of the possible vectors of such a transmission consisted in the translations of Byron made by Vasily Zhukovsky, referred to by Pushkin as "a genius of translation" and by Korney Chukovsky as "the greatest Russian translator"[19], as well as those undertaken by Ivan Kozlov, Vasily Verderevsky and others. As shown by Nina Diakonova, there is also a sense in which much of Lermontov's work can itself be seen as a kind of free translation of works written by other poets, especially Byron[20]. In any case, the extent to which it is possible to "hear" a poet's "voice" in another language has implications for the possibility of poetic translation *per se*: if the original poetic voice is not transmitted, the translation cannot be considered to be successful[21].

While continuing to be cross-fertilised from the verse forms developed in other languages, as well as in reference to the Golden Age that preceded it, the early 20th century Silver Age of Russian poetry may be contrasted with the contemporaneous trends in English poetry, which were by then becoming increasingly dominated by non-metrical or "free" verse. The poets of the Silver Age, such as Alexander Blok, Nikolay Gumilyov, Sergey Yesenin, Osip Mandelshtam, Anna Akhmatova, Marina Tsvetaeva and Vladimir Mayakovsky, though formally innovative, tended to express their ideas in explicitly metrical forms, including end-line rhymes[22].

Although the Silver Age continued into the 1920s, the execution, suicide or exile of many of its major exponents saw its replacement by officially sanctioned socialist realism, as well as the diversification of such successful poets as Chukovsky and Samuil Marshak into less politically dangerous activities, such as children's poetry and literary translation, which was accompanied by a significant development of the theory of poetry translation. While a free-verse movement did emerge in 20th-century Russian poetry [4], its exponents do not generally arouse the same interest as their Silver- and Golden Age forebears.

A significant development in later 20th century Russian poetry occurred as part of the Soviet bard phenomenon, of which Vladimir Vysotsky was to become the most prominent figure. Here, an ostensibly amateur cultural movement, having at one-and-a-half million enthusiastic members [5], largely dispensed with the notion of publication (and concomitant censorship), fulfilling a cultural role that had earlier been the function of published poetry in form of lyrical and socially critical songs, typically performed at unofficial gatherings around campfires or in private apartments – and in some cases recorded for distribution and posterity on reel-to-reel tape recorders (*magnitizdat*). This cultural phenomenon can be seen to have emerged from the song repertoire associated with the Great Patriotic War[23], which continues to perform an important memorialising function with respect to the vast number of Soviet soldiers and civilians who perished between 1941 and 1945.

Meanwhile, in English-language poetry the modernist moment would divide poetry into two quite distinct directions, which may be broadly characterised as free verse and song. Although the "sprung rhythm" of Gerard Manley Hopkins, whose

precedents may lie in the "strong-stress Anglo-Saxon alliterative measure", has been referred to as "rigidly isochronous", at the same time it has been seen as part of the tendency towards free verse[24], of which Walt Whitman is perhaps the best-known exponent. While continuing to refer to the metrical forms, the major 20th century English-language poets and theorists, such as W. B. Yeats, Ezra Pound, T. S. Eliot and W. H. Auden, also developed and problematised the tendency towards free (generally non-metrical and non-rhymed) verse. Auden's famous definition of poetry as "memorable speech" saliently raises the question of what makes poetry more memorable than non-poetic speech[25]. For example, certain public speeches appearing in political contexts, such as Winston Churchill's war speeches (*We shall fight on the beaches*), Martin Luther King's *I have a dream* and Barack Obama's (*clearly derivative*) *Yes, we can!*, use the rhythmic resources of the English language to create a powerful – and memorable – rhetorical effect.

Although popular song maintained its popularity throughout the 20th century (and art song remained artistic), from the early 1960s singers-songwriters, such as Leonard Cohen and Bob Dylan, staked out a preeminent position in the English-language metrical verse, not only in terms of their widespread popularity, but even to the extent of Dylan receiving the 2016 Nobel Literature Prize "for having created new poetic expressions within the great American song tradition"[26].

In the present day, despite having been well-established for several decades since its emergence in the African-American subculture during the 1970s, rap music[27] shows no signs of losing its popularity or immediacy, even challenging the pop song (presenting lyrics sung to an explicit melody) as the dominant contemporary poetic and vocal musical form. It is interesting to consider whether the exigency, popularity and increasing cultural centrality of rap music are the result of the rhythms of its lyrics being closer to spoken and heard natural language forms than, for example, song or written/read poetry.

Rappers (or "emcees") are commonly assessed by rap fans in terms of their "flow", i.e., the unique approach to phrasing according to which any individual rapper may be instantly recognised. In *Flow: The Rhythmic Voice in Rap Music*, Mitchell Ohriner observes that rappers often provide autological reference to flow in their flows, sometimes even calling the attention of their listeners "*in the lyrics themselves*" that they are about to "flip the flow," for example, "by drastically changing the number of syllables in each line". Ohriner identifies the main parameters describing such flows and changes within them in terms of "syllable duration, position of rhyme, the durations that separate rhymes, and the durations that separate accented syllables"[28].

In terms of the textual status of a rap song within discourse analysis [6], while some rappers assert that their rapped utterances are produced spontaneously ("free flow"), even extemporaneous rap performances clearly rely on a stock of previously memorised rhymes and phrases[29], while some of them are apparently constructed around fully memorised (and thus essentially unchangeable) texts. Although it is not easy to verify the private truth behind the claimed spontaneity of rap performance, there is general agreement that rap cannot be considered as equivalent to a "poetry reading": if a performance were to involve direct reading from a text, then

it would no longer be uncontroversially describable as "rap"[30]. Moreover, since the only "authorised" source of rap texts stems directly from the mouth of the rapper him- or herself, any written forms become conventionally limited to the amateur transcriptions posted by fans in online forums, which, while varying in their presentational approaches, tend to lack formal elements, such as punctuation or even sentence structure. Such an emphatic focus on the ostensible spontaneity and close relationship of rapped flows with natural language is congruent with the central artistic value of "keeping it real," often asserted (by the rappers themselves). On the basis of such circumstantial evidence, it can be inferred that rap is generally perceived by rappers and their fans to be closer to natural, "authentic" or spontaneous speech than other forms such as song or written/read poetry.

An Overview of Three Contemporary "Rap" Artists

In order to clarify the meaning of "rappability," a concise overview of three contemporary artists ("rappers" or "emcees") working within the recognised popular music genre of "rap" is presented. While this overview is necessarily brief, it is hoped that more detailed examination of the English, Spanish and Russian flows of these rap artists will form the basis of a future research project.

Nas

Released in 1994 to coincide arguably with the peak of creativity in the rap / hip-hop genre, Nas' debut album *Illmatic* is widely referenced as being profoundly influential on subsequent developments. The son of jazz and blues musician Olu Dara, Nas has released a total of 14 innovative studio albums, which span a wide range of musical and lyrical themes. While reliant on the conventions within the Black hip-hop genre in which references to themes such as gang violence, drug dealing, sexual exploitation of women and conspicuous displays of material wealth are practically obligatory, Nas' coherently philosophical lyrics are also informed by a sensitivity to wider literate and musical sources. For example, in his *Book of Rhymes* (2002)[31] he muses on the hit-and-miss creative process ("No, this rhyme is weak") that synthesises experiential material collected during real-life struggles (at the time of writing, he was taking care of his dying mother), while in *Bridging the Gap* (2015), a duet performed with his father, which superimposes a hip-hop polyrhythm onto a classic blues riff, he presents an impressive synthesis of the musical influences underlying the rap / hip-hop genre ("Bridging the gap from the blues, to jazz, to rap / The history of music on this track").

Immortal Technique

Born in 1978 in a military hospital in Lima, Felipe Andres Coronel would later become known as the Peruvian-American hip-hop artist Immortal Technique. After serving a jail sentence for assault, he developed his flow in the underground "rap battle" (freestyle rap competitions) scene in Harlem, New York. Identifying as Black (and thus "licensed" to use the "n-word"), his ancestry includes Amerindian and European, as well as African elements. Strongly influenced by revolutionary literature and values, Immortal Technique's complex lyrical compositions reveal a coherent, philosophically informed worldview. Although his best-known rap songs, such as *Dance with the Devil and Industrial Revolution*, are performed in

English, his flows also feature Spanish, whether in a track's entirety (*Golpe De Estado*) or interspersed with English (*No me importa*).

Krovostok

Krovostok is a contemporary Russian rap group comprising Anton Chernyak (Shilo), Dmitry Fain (Feldman) and Sergey Krylov (DJ Polutrup). Formed in Moscow in 2003, the group is known for its violent and overtly sexual thematic content, its creative use of the proscribed Russian slang, *mat* [obscene language], and references to the criminal gang culture that sprang up especially during the 1990s following the collapse of the Soviet Union. Despite the ostensibly low forms of the Russian language featured in Krovostok's lyrics, of which *mat* is a central feature, their oeuvre as a whole has an unmistakably literary quality, which is traceable through the *blatnaya pesnya* [criminal underworld song] of Vysotsky and his contemporaries, as well as the general character of chernukha [black humour] that pervades much of post-Soviet cinema and literature, while also referring to literary precedents e.g., in Dostoevsky, Lermontov and Gogol.

Theoretical Discussion

Formulations of the Isochrony Hypothesis

Although there are many – in some cases, conflicting – formulations of both weak and strong isochrony hypotheses[32] [7], we shall define isochrony here as the tendency of human beings to impose a perceptual rhythmic grid onto spoken and heard utterances, divisible and multipliable in principle by 2, 4, 8 etc., as well as permitting other regular sub-groupings such as triplets, providing a means by which such utterances may be audibly decoded into meaningful language. Although in natural speech, any isochronic grid generally remains unstated (various bodily gesticulations may, however, refer to such a grid), it is still, according to some stronger isochrony hypotheses, present in principle. Conversely, speech content presented in more synthetic linguistic forms like vocal music, metrical poetry and rap is fundamentally reliant for its intelligibility, memorability and exigency on the explicit formalisation of an isochronic grid.

The rap genre is particularly interesting for examining the various forms of the isochrony hypothesis since, although a rap song is generally felt to resemble natural language more closely than a sung vocal[33] or written/read metrical poetry, the beat – and, therefore, the isochronic grid – is made explicit. Therefore, a relevant – albeit subjective – question comes up concerning the extent to which an individual rapper's flow resembles natural speech.

Methods

As part of an investigation into the ways in which isochrony structures the Russian and English languages, the poem *1831-go IYUNYA 11 DNYA* written by the Russian poet Mikhail Lermontov was translated into English by the present author.[34]

In terms of accentual-syllabic metre, Lermontov's poem is characterised by the quantity and alternations of its stressed and unstressed syllables, which are organised into metrical feet, the overwhelming majority of these consisting of iambs. The stanzaic structure of the Russian poem combines the two quatrains of a heroic rispetto, in which the first four pentameter lines have alternate masculine ending rhymes (abab), while the succeeding four lines consist of pairs of (also masculine) rhyming couplets (ccdd). As consistent

with its formal roots in Italian poetry, the total number of syllables comprising each line in the original poem is strictly fixed to ten. Since its 32 stanzas are comprised of 8 lines each, the poem has 256 lines (2560 syllables) in total.

As described in an earlier conference report [8], an attempt was made to preserve the formal character of the original text in terms of its phraseology, iambic pentameter and rhyme scheme. However, after some consideration, the decision was taken to privilege natural sounding phrases by varying the number of syllables per line, including the use of hypercatalexis[35], anacrusis[36] and acephaly[37]. This can be justified in terms of a response to Lermontov's characteristic and extensive use of enjambment and caesura, which already constitute a significant development of the heroic rispetto beyond its classic (Italianate) form.

Once the English translation was completed, it was memorised by the translator (and author of the present article). Through the process of memorisation, key aspects of its rhythmic structure emerged to form the basis of a specification[38] for a commissioned musical background track, which was composed by Nikita Nikitin (Ekaterinburg, Russia). In addition to this quantitative specification, various leitmotifs were identified in the text and colour-coded to demonstrate the thematic composition[39]. In particular, an identified motif associated with "boy", which both begins (the poet's own boyhood) and ends (the stranger from a foreign land who sits by the poet's graveside) the poem, would become the main musical theme (subject) of the composition. The composed background track additionally features an authentic field recording of Russian Orthodox church bell ringing (*kolokol'nyy zvon*) conducted at the Church of St. Seraphim of Sarov in Ekaterinburg, which forms the second part of the instrumental section in the music, as well as highlighting various textual references to "the heavenly".

Figure 1 depicts a schema of the poem's basic rhythmic structure using standard Western musical notation. Here, the iambic pentameter (*de-dum, de-dum, de-dum, de-dum, de-dum*) is made explicit by the use of measures with a 3/2 time signature in which most non-rhymed syllables are represented by quavers, and rhymed syllables – by crotchets, while the stressed (beat-aligned) positions are defined by the beginning of each group of four quavers or the crotchet representing an end-line rhyme. Although some attempt has been made to depict phrasing nuances, e.g. by representing reduced (short-duration) syllables with semiquavers and dotting (increasing duration by one and a half times) the quaver with which this semiquaver is paired (i.e., either the one preceding or succeeding it), as well as positioning breaths either in the rest following the rhymed crotchet syllable or in the mid-line caesura representing the extrametrical phrase end, it is obvious that this form of notation does not comprehensively describe either the rhythm of the original Russian text or that of its English translation. Nevertheless, the schema was useful in informing the process of musical composition, as well as serving as a means of defining departure points for subsequent refinements.

Here it should be acknowledged that the 3/2-time signature already represents a significant departure from the rap genre: nearly all contemporary rappers work in 4/4 measures corresponding to line structures that refer to what could be described in traditional prosody as iambic (or trochaic) tetrameter.

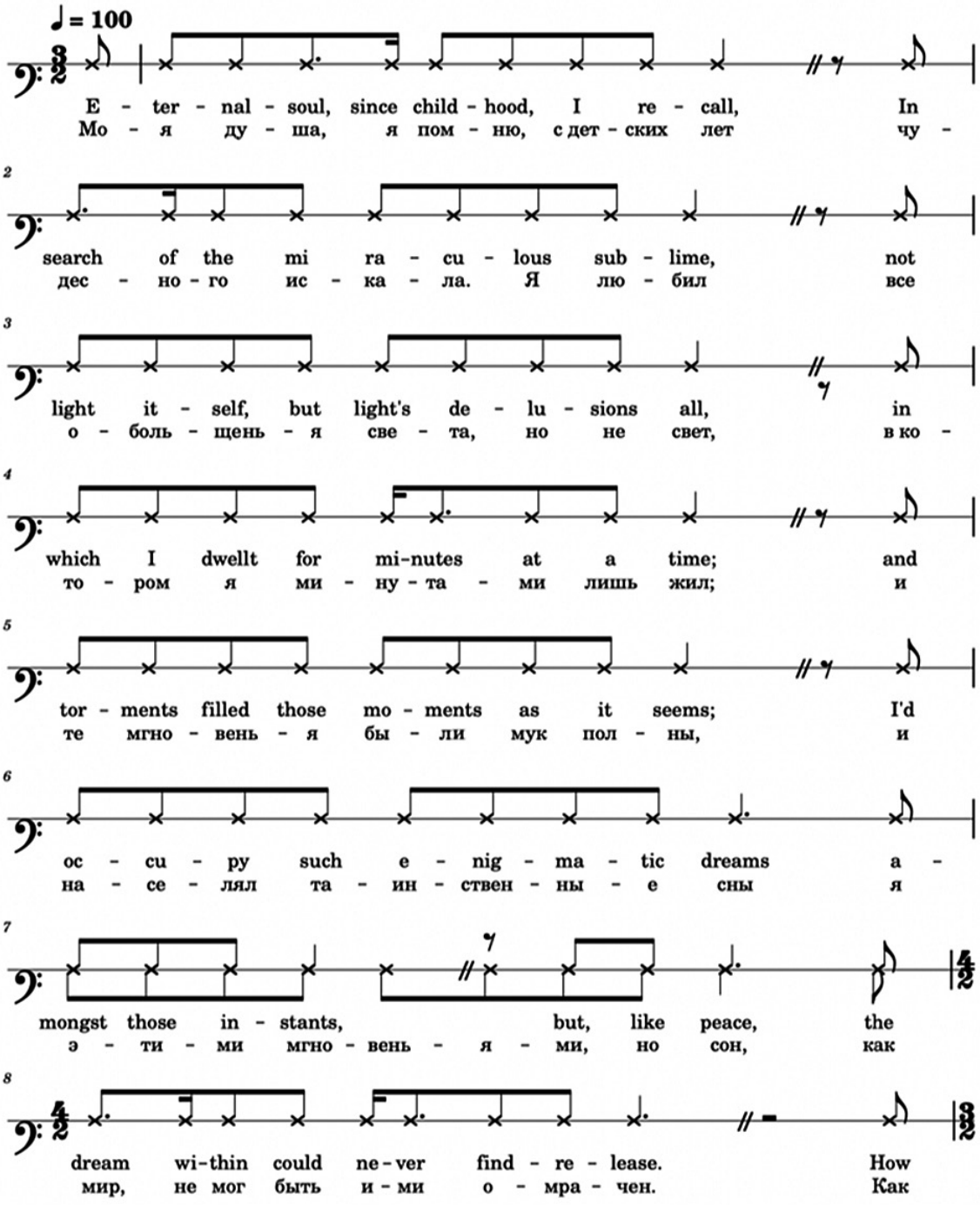

Fig. 1. Basic rhythmic structure of the poem's first stanza
in original Russian and English translation using the adapted standard Western musical notation

Nevertheless, in the absence of a rule prohibiting the use of iambic pentameter in recitations described as "rap," it was necessary to determine a time signature that would allow this poetic measure to be represented for musical purposes.

In order to compare the rappabilities of the translated and original texts, the same composed background track was then used to structure recitations from memory ("rap songs") of the original Russian and translated English texts, respectively. Here, by the analogy of singability (as in the previously mentioned example of the translation of Winterreise performed to Schubert's music), rappability can serve as a criterion for evaluating a poetic translation when the translated and original texts are performed against the same composed background track. For the Russian recitation, the original intention had been to involve a native Russian speaker. However, while the outcome of such a collaboration would probably have been more aesthetically pleasing to a Russian audience, this would have resulted in a loss of syntheticity, since a Russian performer is more likely to be unconsciously influenced by the conventions of the practice of Russian poetry recital. Thus, the decision by the non-native author of the present article to recite the Russian text himself better served the purpose of the investigation into synthetic isochrony as evaluated according to criteria of perceived "naturalness."

In the attempt to produce natural sounding flows in Russian and English that reconcile what Coventry Patmore calls "the conflict between the law of the verse and the freedom of the language," with each aspect being "incessantly, though insignificantly, violated for the purpose of giving effect to the other"[40], syllables appearing in stressed positions in the texts (primarily at the phrase level, secondarily at the word level) were aligned with the beats (or, in the case of syncopations, off-beats) defined by the imposed isochronic grid. To achieve this alignment, it was necessary to define the important stressed positions in the words and phrases of the text, as well as to determine the positioning of the breaths. By definition, all breath positions coincided with the end of one phrase and the beginning of the next one.

However, having aligned the stressed syllables with beats or off-beats, the problem of interpreting accurately (whether descriptively or performatively) the isochronic distribution of other syllables and their constituents into the available remaining time intervals became nontrivial. Due to the complex interaction of phrases and their internal stress patterns (which are also inherent to language perceived as natural) with the imposed metrical logic, including end-line rhyme, caesurae, enjambment and end-stopping (and, in the English version, also hypercatalexis, anacrusis and acephaly), as well as physical constraints such as the necessity to take breaths between phrases, the rhythmic structure of both versions becomes considerably more complex than suggested in the description "iambic pentameter." Therefore, in attempting to account for such complexities arising in the context of performance, it will be necessary to refer to a number of compensatory techniques in musical, prosodic and phonological terms, as well as invoking emerging concepts pertaining to a rapper's flow.

Compensatory techniques derived from music theory include *syncopation*, i.e., the displacement of regular accents normally associated with beats to off-beat alignment[41], and *tuplet substitution*,

by which means a group of one or more syllables (notes) that might be expected to coincide with beat and/or off-beat positions are substituted with a different number of syllables. Here, while the most commonly used among such substitutions is the triplet, resulting in groups of three syllables (notes) that span the same number of beats or off-beats as single-syllables, duplets (2) or quadruplets (4), more "exotic" polyrhythmic groupings such as quintuplets, sextuplets and septuplets are also possible[42]. While some standard vocal techniques associated with singing, such as melisma and vibrato, cannot be used in natural-sounding rapped recitations, other techniques such as holding a note (extending a syllable) for a longer duration can be used as part of a natural sounding flow. Indeed, syllables appearing in end-line rhyming positions practically demand such lengthening[43]. Again, although sung melody is not a feature of rapped vocal performances, expressive changes in pitch concomitant with the emotional contours of a phrase (which are arguably more widely featured in natural Russian speech than in English) can be used to good effect. Like singing, rap uses techniques, such as legato (smooth articulation of passages) and staccato, where the attack and decay times of consecutive note (syllable) envelopes are shortened while increasing the sustain level to emphasise vocalic peaks. Finally, variations in dynamics from *ppp* (pianississimo) to *fff* (fortississimo) can be used to create an intimate and tender mood or emphasise prominent syllables and emotions (such as anger) associated therewith.

Techniques derived from prosodic theory include substitution of a metrical foot other than the prevailing foot of the series, e.g., of an iamb by a trochee, which may be used to articulate a stress anomaly in the text (e.g., wrenched accent). The need to align the main phrase-level stresses with beats (or, in the case of syncopation, off-beats), as well as creating spaces for necessary breaths at phrase ends, and incorporating such phrasal alignments into line and metrical structure, may also be described in prosodic terms.

Techniques describable in phonological terms include those associated with the distribution of non-stressed syllables between beat-aligned syllables, which, due to synthetic isochrony constraints, generally involves the temporal compression of such non-stressed syllables according to the phonological principle of reduction.

Rigorous analytic methods for accurately describing a rapper's flow are in the process of being developed[44] [9; 10]. Such descriptive techniques, which informed the analysis presented here, will form the basis of future research.

Performance in English

The performance of the translated version of Lermontov's poem took place at the Belinsky Library, Ekaterinburg, on 9 December, 2019. It was accompanied not only by the composed soundtrack, but also by a sand animation video specially created by the Moscow-based artist Ekaterina Sheffer[45]. A small audience (≈40 people) consisted of native Russian speakers, most of whom also had a high level of second language competency in English. The text was recited entirely from memory. In general, despite the performance not being in their mother tongue, the attention of the audience was held over the ≈17 minutes duration of the performance. This can be attributed to the visual sand animation element, the accompanying presence of original subtitles (Lermontov's Russian)

and the quality of the musical composition, as well as the exigency of the vocal performance itself.

Performance in Russian

The poem was performed in the original Russian version (written by Lermontov) to the same composed musical background track and using the same sand animation visual element at an event held at the Kamerniy Teatr (Chamber Theatre) in Ekaterinburg on 26 January, 2022 attended by an invited audience of around 70 people[46]. This second performance featured additional theatrical visual, movement and lighting elements under the direction of Evgeniy Zayev, including a dance performance by Valeria Kudrina. As with the earlier English performance, the entire Russian text (256 lines) was recited from memory.

For the non-native Russian-speaking performer, the process of committing the text to memory to facilitate its performance was a nontrivial exercise. Not only was it necessary to accurately recall all 2560 syllables from memory and articulate them against a strict tempo, but at the same time, a number of arising articulation problems had to be resolved in terms of producing a reasonably "natural" sounding performance. While a non-native speaker cannot, of course, hope to approach a native speaker in terms of naturalness of articulation, with coaching from the latter, it was possible to iron out the most glaring violations of Russian euphony.

Figure 2 depicts a schema used to define syllable-stress and phrase-breath patterns. Each word is broken into syllables using hyphens. Naturally-stressed syllables at the level of words are indicated by an acute accent. These word stresses were allocated using the RussianGram online resource[47] and any anomalies checked with a native speaker. Each phrase is additionally defined as having a single main stress (bold italic) and up to two secondary stresses (bold black). Breaths coinciding with phrase endings are indicated using the pilcrow symbol ¶. While some of the phrase and phrasal-stress determinations are subjective, they were checked and agreed with a native Russian speaker as being congruent with Lermontov's probable intention.

Мо-я́ ду-**ша́**, я по́м-ню, с де́т-ских **лет**
Чу-***де́с***-но-го ис-ка́-ла. ¶ Я лю-би́л
Все о-боль-ще́нь-я ***све́***-та, ¶ но не **свет**,
В ко-то́-ром я ми-***ну́***-та-ми лишь жил; ¶
И те мгно-**ве́нь**-я бы́-ли ***мук*** пол-**ны́**, ¶
И на-се-ля́л та-**и́н**-ствен-ны-е ***сны***
Я э́-ти-ми мгно-**ве́нь**-я-ми. ¶ Но **сон**,
Как ***мир***, не мог быть и́-ми о-мра-**чён**. ¶

Fig. 2. Syllable-stress and phrase-breath schema

Distinctive features of reduction in Russian (lenition, consonant clusters)

One challenging aspect of Russian pronunciation for foreigners is the need to distinguish adequately between lenited consonants (or the final sound of a consonant cluster) and those consonants that should end with a hard sound. Lenition (softening) of consonants is achieved in Russian through palatalisation (raising the middle of the tongue towards the roof of the mouth) and represented orthographically by the lenited consonant either being followed by a soft vowel (*е, ё, и, ю, я*) or by the soft sign (*ь*). In addition to palatisation, the vowel sounds that perform this leniting function may also be somewhat fronted relative to their non-leniting counterparts (*э, о, ы, у, а*).[48]

For a non-Russian attempting to distinguish between minimal word pairs such as пыл ("passion") and пыль ("dust"), it is tempting to consider the lenition of the /l/ consonant to /lj/ as involving the "addition" of the semivowel /j/ and a consequent increase in the amount of time required for its articulation. Moreover, although the Russian letter *й* is generally treated as representing a semi-vowel equivalent to the English letter *y* in "yet", unlike English *y*, Russian *й* generally appears in syllable coda position following a vowel. Thus, e.g., the difference in pronunciation between *русски* and *русский* may also be conceived in terms of the "addition" of the /j/ sound to the end of the final syllable, implying longer duration and/or compensatory reduction. Similarly, since native Russians distinguish between consonant-vowel (CV) syllables where the consonant is lenited solely by a soft vowel and those where it is lenited by both a soft sign and a soft vowel, it can be hard to distinguish between e.g. *-ня/-нья, -рю/рью, -ме/-мье* (all of which occur as syllabic minimal pairs in the recited text) without the latter "double-lenited" syllables being auditorily lengthened as compared with their "single-lenited" equivalents. While some of these examples involve elision (i.e., the replacement of и with soft sign ь, which is analogous to the elision apostrophe used in English versification conventions[49]), in other cases, such "elisions" appear to have become a permanent feature of the language.

Reduction in Russian Consonant Clusters

Like other Slavic languages, Russian phonotactics are well-known for permitting a wide variety of consonant clusters in which more than one consonantal sound is combined e.g., in the onset of a CV syllable or the coda of a VC syllable. While not generally considered in moraic theory as contributing to syllable weight, it seems clear that syllables containing consonant clusters (CCV, CCCV, CVCC, etc.) will either require more time for their articulation than equivalent syllables containing an unclustered consonant, or some other part of the syllable will have to be reduced in compensation. Assuming strong stress isochrony, if such reduction is not carried out within a particular syllable, it will require to be compensated in neighbouring syllables appearing in the same rhythmic unit. For example, the CCCV syllable *мгно-* appearing in the word *мгновение* will either require more time for its articulation than the CCV syllable *мно-* in the word *много* (and more again than the CV syllable *мо-* in the word *может*) or reduction will apply to the vowel *о* and/or any or all of the *м*, *г* and *н* constituents of the *мгн* cluster.

From a non-native perspective, some Russian consonant clusters seem more resistant to reduction than others. For example, in the pronunciation of ostensibly single-syllable words like *вихрь* or *жизнь* (CVCC), where the final cluster constituent is a palatalised sonant, it can be challenging to avoid articulations that imply more than one syllable. Other clusters such as *-мств* in *безумств*, despite forming the CCCC coda of a VCCCC syllable, are easier to articulate as a single syllable due to the sonant *м* effectively merging with the syllable nucleus, while nonsonants *с*, *т* and *в* are easily combined into a single sound in the coda. Likewise, the appropriate reduction of palatalised nonsonant clusters such as *-сть* forming the coda of the single-syllable word *страсть* (CCCVCC) does not appear to be particularly challenging.

Some phonotactic issues are also manifested in collocations such as

существ земных, where, in order to smoothly articulate all four syllables, it is necessary to pronounce the two words "as one". Here, the two middle syllables connected by liaison *-ществ‿зем-* can be felt to form a single cluster *ствз*, whose appearance in a single word would however be forbidden by Russian phonotactic rules. Finally, since Russian distinguishes phonetically between single and double consonants as represented in orthography, it is necessary, for example, to articulate the double /n/ sound in *возвышенных* as having a longer perceived duration than the single /n/ sound in *серебряный*, thus requiring compensatory reduction elsewhere in the syllable, word or phrase.

Comparison of Stress Articulation in Russian and English

Although the question of how stress accents (prominences) are articulated (marked) by speakers of different languages has been quite extensively researched[50], the tremendous complexities involved in such studies means that no comprehensive system for describing this fundamental linguistic parameter has yet been developed. In many languages, including Russian and English, stressed syllables can be acoustically distinguished from non-stressed syllables by means of differences in pitch, phonation (mainly volume, but other modifications such as glottalisation are also possible in some languages [3]), duration or any combination of these three factors. One hypothesis worthy of examination is that languages (like English) in which iambic rhythms predominate are more likely to use increased syllable duration to indicate stress, whereas languages more influenced by trochaic rhythms (as some researchers claim Russian to be[51]) are just as likely to have short stressed syllables. However, direct comparisons of prominence marking between languages are not easily drawn. For example, one significant difference between English and Russian prosody is the characteristic use of vowel length (in moraic terms, syllable weight) by the former to distinguish between minimum pairs (cf. *life's a bitch / life's a beach*), whereas no such distinction exists in Russian.

Differences in Russian and English intonation (including stress marking) have also been the subject of a number of comparative studies[52]. One of the most obvious of these differences consists in the use in Russian of significantly elevated pitch on the stressed syllable of the queried word to indicate a question, whereas English tends to use interrogative particles for this purpose. Since the complex question of how other emotions and moods are acoustically marked in both languages is beyond the scope of the present article, we will limit ourselves here to a consideration of how word- and phrase-level stress affects the rhythm of the recited text.

Reduction of Vowels and Consonants in Russian and English

Both Russian and English are commonly cited as examples of stress-timed languages[53], meaning that isochrony is more likely to be perceived in the recurrence of stressed syllables occurring in words and phrases rather than syllables per se. Since in such languages the number of non-stressed syllables appearing between their stressed counterparts is in principle arbitrary, a logical consequence and observable feature of stress timing consists in the characteristic reduction of such non-stressed syllables. From a beat-prosodic (synthetic isochrony) perspective,

Attridge shows that in English an increase in the number of unstressed syllables uttered within the same time frame preserves the "natural rhythms of the language [...] at least until the number of nonstresses demands the introduction of a secondary accent"[54].

Results and Discussion

In the course of translating Lermontov's poem *1831-go IYUNYA 11 DNYA* into English, as well as commissioning a background track, recording and performing the translated version and then evaluating the rappability of the translation and original text by recording and performing the original Russian version to the same background track, a number of hypotheses concerning the rhythmic structures of English and Russian were investigated.

In the Russian recitation, where phrases and poetic lines coincided with each other (out of 256 lines, 95 coincide with full phrases, while 161 are affected by caesura and enjambment), the effect was generally smoother and the emotional temperature somewhat lower (calmer). Where extensive use of enjambment and caesura created antagonisms between phrase and poetic line, a more jagged diction and higher emotional temperature (more agitated) resulted. This tendency was further developed in the English version as a consequence of the decision to employ additional rhythmic features such as hypercatalexis, anacrusis and acephaly.

From the translation, performance and audio/video recording processes described in this study, it was found that the rhythms of Russian and English may be described in terms of stress-, syllable- and mora timing. However, in both languages, stress timing seems to capture more salient features than syllable- or mora-timing approaches.

Since both forms are describable in terms of the imposition of a perceptual rhythmic grid onto spoken and heard utterances, the concept of strong isochrony appears to be equally applicable to the singability of a song and the rappability of a poem. Although fascinating, the question of the naturalness of such forms as compared with spontaneous spoken language remains largely subjective. However, this question may be more thoroughly examined in future research involving a statistically significant number of survey participants.

Derek Attridge's concept of beat prosody ("rhythm in English poetry is realised by the alternation of beats and offbeats"), although applicable to Russian, does not appear to be realised as strongly as in English. On the basis of coaching and feedback, the classic "sing-song" sound of English, in which stressed syllables regularly alternate with their unstressed counterparts, apparently sounds rather unnatural to a Russian native speaker's ear. In Russian, prominences at the level of the phrase seem to override the tendency to alternate stressed and unstressed syllables. In other words, a recitation that excessively "smooths out" such phrasal prominences into a "sing-song" alternation characteristic of English will not sound authentically Russian.

The rappability of a text, whether in English or Russian, seems to depend on the presence of metre and repeated patterns of sound at the levels of phrase and line, which is generally perceived as "rhyme." While poems, song lyrics and rap texts (and, to a lesser extent, political speeches) all appear to have this feature in common, it would seem to be an even more central feature of rap texts than of the other forms. The fact that rap performances must in all cases be produced from memory further

supports the idea that such formal features are integral to texts considered to be rappable.

Conclusions

The described research project, which involved the translation of an early text by the Russian poet Lermontov, as well as the commissioning of a background track to support the recital of translated and original texts, confirmed the hypothesis that sung and rapped Russian, like English, is strongly isochronic[55]. In Russian and English, a rapper's flow and a singer's musicality can be characterised by the skilled handling of an essential tension between the syllabic structure of a text and its phraseology as expressed by stress patterns and moraic constraints. Although the accurate mapping of stressed syllables onto felt beats is essential to flow and musicality, an equally significant role is played by the distribution and articulation of unstressed syllables into the temporal spaces between these stressed syllables and the larger grouping of the so-formed rhythmic units into phrases, as well as various compensatory techniques (e.g., reduction) to account for breaths and phrase structure. The attention paid by an audience to a rapper or singer appears to be affected by the perceived presence of an underlying beat made explicit in the form of a background track or musical arrangement.

An empirical examination of the question of the perceived "naturalness" of such performances, whether in Russian or English, turned out to be beyond the scope of the present study. In future research, this problem may be considered by means of a statistically significant representative sample of native speakers in the respective languages. Addressing this question may in turn influence the design of empirical studies based on audio (natural) spoken language corpora to consider the related question concerning the extent to which strong isochrony also applies to spontaneous spoken language and oratory, i.e., whether the exigency of a speech is affected by the perceived presence of an underlying beat, whether this is made explicit in the form of an audible cue or is implicit in the shared communicative space.

On the basis of the research, it may also be speculated that languages such as Russian and English tend to become more tolerant of polyrhythmic phraseological constructions over time.

Notes

[1] Or whose deviations from such a constant tempo can be mathematically described.

[2] Belinsky Library, Ekaterinburg, 09.12.2019.

[3] Kamernyy Teatr, Ekaterinburg, 26.01.2022.

[4] Carper T., Attridge D. *Meter and Meaning: An Introduction to Rhythm in Poetry*. 1st edition. New York: Routledge, 2003. 174 p.

[5] The shifting of textual accents from beats onto offbeats is describable in terms of syncopation.

[6] For a highly erudite, yet conceptually flawed critique of this position, see: Pushkin A. S., & Nabokov V. *Eugene Onegin: A Novel in Verse: Text* (Vol. 1). Princeton University Press, 1990. 372 p.

[7] Grabe E., Low E. L. Durational Variability in Speech and the Rhythm Class Hypothesis. In: Gussenhoven C., Warner N., editors. *Laboratory Phonology 7*. Berlin, Boston: DE GRUYTER, 2008, pp. 515–546. DOI: 10.1515/9783110197105.515

[8] Dziubalska-Kołaczyk K. *Beats-and-binding Phonology*. Frankfurt Am Main, Berlin, Bern, Bruxelles, New York, Oxford, Wien: Lang, 2002. 331 p.

[9] Meredith D., editor. *Computational Music Analysis*. Cham: Springer International Publishing, 2016. 480 p. DOI: 10.1007/978-3-319-25931-4

[10] Patel A. D. Musical Rhythm, Linguistic Rhythm, and Human Evolution. *Music Perception*. 2006. No. 24, pp. 99–104. DOI: 10.1525/mp.2006.24.1.99

[11] Glass L., Mackey M. C. *From Clocks to Chaos: the Rhythms of Life.* Princeton, N.J: Princeton University Press, 1988. 248 p.

[12] Fitch W. T. The Biology and Evolution of Rhythm: Unravelling a Paradox. In: Rebuschat P., Rohmeier M., Hawkins J. A., Cross I., editors. *Language and Music as Cognitive Systems*. Oxford University Press, 2011, p. 73–95. DOI: 10.1093/acprof:oso/9780199553426.003.0009

[13] Crick F., Koch C. Toward a Neurobiological Theory of Consciousness. *Seminars in the Neurosciences*. 1990. No. 2, pp. 263–275.

[14] Abercrombie D. *Elements of General Phonetics*. Edinburgh: Edinburgh University Press, 1982. 203 p.

[15] Attridge D. Rhythm in English Poetry. *New Literary History*. 1990. No. 21, pp. 1015–1037. DOI: 10.2307/469197

[16] Attardo S., Pickering L. Timing in the Performance of Jokes. *Humor – International Journal of Humor Research*. 2011. No. 24, pp. 233– 250. DOI: 10.1515/HUMR.2011.015

[17] Orwell G. *Politics and the English Language*. London: Penguin Classic, 2013. 32 p.

[18] Wilkins E. H. The Invention of the Sonnet. *Modern Philology*. 1915. No. 13, pp. 463–494.

[19] Chukovskiĭ K., Leighton L. G. *The Art of Translation: Korneĭ Chukovsky's A High Art*. Knoxville: University of Tennessee Press, 1984. 294 p.

[20] Diakonova N., Vacuro V. Byron and Russia. In: Trueblood P. G., editor. *Byron's Political and Cultural Influence in Nineteenth Century Europe: A Symposium*. London: Palgrave Macmillan UK. 1981, pp. 143–159. DOI: 10.1007/978-1-349-05588-3_9

[21] Underhill J. W. *Voice and Versification in Translating Poems*. University of Ottawa Press, 2016. 350 p.

[22] Rather than assuming any condition of inherent conservatism in Russian poetry, the reasons for this difference may be traced to the significantly greater rhyming resources of the Russian language as compared to English.

[23] See more on the Global Village Bard site.
URL: https://globalvillagebard.ru/songs-of-the-great-patriotic-war-2/ (accessed: 25.06.2022).

[24] Schneider E. W. Sprung Rhythm: A Chapter in the Evolution of Nineteenth-Century Verse. *Publ Mod Lang Assoc Am*. 1965. No. 80, pp. 237–253. DOI: 10.2307/461271

[25] Auden W. H. *The Poet's Tongue*. London: G. Bell & Sons, 1949. 222 p.

[26] See Nobel Prize in Literature 2016;
URL: https://www.nobelprize.org/prizes/literature/2016/dylan/lecture/ (accessed: 25.06.2022).

[27] Defined here as the expressive quasi-melodic recitation of lyrics from memory against a rhythmic and melodic background track (isochronic grid), often also featuring a sung "hook" or chorus.

[28] Ohriner M. *Flow: The Rhythmic Voice in Rap Music*. Oxford University Press, 2019. 292 p.

[29] The rapper Nas makes several references to his "rhyme book" or "book of rhymes" as a metaphor for this kind of memory facility.

[30] Here we may provide an analogy to the theatre performance convention. If an actor is reading a script on stage, then this either is a rehearsal rather than a performance or the actor is portraying a character who is reading a script on stage.

[31] See URL: https://genius.com/Nas-book-of-rhymes-lyrics (accessed: 25.06.2022).

[32] See more about it: Patmore C. K. D. *Essay on English Metrical Law*. Washington: Catholic University of American Press, 1961. 144 p.; Pike K. L. *The Intonation of American English*. University of Michigan Press, 1963. 203 p.; Bouzon C., Hirst D. *Isochrony and Prosodic Structure in British English*. Proceedings of the Second International Conference on Speech Prosody, Nara, Japan, 2004, pp. 223–226; Mołczanow J., Wiese R. Rhythm is in the mind of the beholder. Remarks on the Nature of Linguistic Rhythm. *Linguistica Copernicana*. 2014. No. 11, p. 169; Nolan F., Asu E. L. The Pairwise Variability Index and Coexisting Rhythms in Language. *Phonetica*. 2009. No. 66, pp. 64–77. DOI: 10.1159/000208931

[33] Ohriner M. *Flow: The Rhythmic Voice in Rap Music*. Oxford University Press, 2019. 292 p.

[34] The initial impetus for the translation took the form of a commission for a documentary film "The Scottish Wind of Lermontov" directed by Maxim Priventsev. See URL: https://www.youtube.com/watch?v=O-nbuYPP_Q4 (accessed: 25.06.2022).

[35] Feminine and triple end-line rhymes.

[36] In prosodic terms, one or more extrametrical syllables at the beginning of a line.

[37] Omission of the first unstressed syllable at the beginning of a line.

[38] As described in the earlier conference report, in musical terms, this basic rhythmic pattern strongly suggests a 3/2 bar structure, with each bar coinciding with a poetic line and an anacrusis occurring beginning each verse and bar (line) where there is no enjambment. Each of the three main beats (minims) per line is divisible into two (crotchets), four (quavers) and eight (semiquavers). Since the majority of syllables can be made to coincide with quavers, we can observe a basic rhythmic structure having twelve subdivisions per measure (line). Multiplying by the number of measures (lines) per stanza (8), we thus obtain 24 main beats and 96 subdivisions per stanza.

[39] Lermontov's leitmotivs identified in the poem were thematically grouped and colour-coded as follows:

- The soul, foam (of waves, river, ocean), birth, white sail, cradle (womb), immortality [light blue]
- Sacrifice (victim), torment (suffering), blood, hell, fire (flame) [light orange]
- Earth, the steppe [light green]
- Heaven, mountains, beams of light, kite (raptor) [light yellow]
- Angel (woman, muse, you), love, birch tree [light cyan]
- Music (sounds, poetry, song), inspiration, harp [light cornflower blue]
- Death (tomb, grave, fate) [light magenta]
- Spirit (ghost, demon, possession, ego-identification, deception, illusion, vanity, interloper) [light red]
- Desire, "breath," heartbeat [light purple]
- Shadow (clouds, mist, difficulty of writing) [light grey].

[40] Patmore C. K. D. *Essay on English Metrical Law*. Washington: Catholic University of American Press, 1961. 144 p.

[41] About syncopation in music see URL: https://www.britannica.com/art/syncopation-music (accessed: 25.06.2022).

[42] Although traditional Western music notation traditionally prohibits the use of tuplets that span more than one measure, a modified notation system can be used to represent such usages.

[43] While stress marking in natural English can use pitch, volume or duration, there appears to be a universal convention that rhymed syllables are marked when reciting poetry using extended duration.

[44] See more about it: Adams K. On the Metrical Techniques of Flow in Rap Music. *Music Theory Online*. 2009, No. 15; Connor M. Rap Analysis – Rap's Rhythms Transcribed. *RAP ANALYSIS 2015*. URL: https://www.rapanalysis.com/2015/01/rap-analysis-raps-rhythms-transcribed/ (accessed: 04.12.2019); Davis I. R. Rhythmic analysis of rap: what can we learn from 'flow'? 2017. 70 p. DOI: 10.26021/4620

[45] See the film "When a Harp Rings out Boldly in Eternal Halls of Fame" on URL: https://www.youtube.com/watch?v=tYCPbgdhwrI (accessed: 25.06.2022).

[46] See URL: https://globalvillagebard.ru/when-a-harp-rings-out-boldly-2/ *When a harp rings out boldly… – Global Village Bard*. (n.d.). Retrieved 20 June 2022 (accessed: 25.06.2022).

[47] See URL: http://russiangram.com/ (accessed: 25.06.2022).

[48] See more about it URL: http://web.mit.edu/vasilvv/www/phonetics-project.pdf (accessed: 25.06.2022).

[49] For a definition and examples of elision see URL: https://literarydevices.net/elision/ (accessed: 25.06.2022).

[50] About it see: Leed R. L. A Contrastive Analysis of Russian and English Intonation Contours. *The Slavic and East European Journal*. 1965. No. 9, p. 62. DOI. 10.2307/304390; Proto T., Dell F. The Structure of Metrical Patterns in Tunes and in Literary Verse. Evidence from Discrepancies between Musical and Linguistic Rhythm in Italian Songs. Probus. 2013, No. 25, pp. 105–138.

[51] Lavitskaya Y. *Prosodic Structure of Russian: A Psycholinguistic Investigation of the Metrical Structure of Russian Nouns n.d.* 244 p.

[52] See about it: Lobanov B. M. Comparison of Melodic Portraits of English and Russian Dialogic Phrases n.d. *Computational Linguistics and Intellectual Technologies: Proceedings of the International Conference "Dialogue 2016"*. Moscow, June 1–4, 2016. 11 p.; Top E. J. *The Role of Intonation in L2 Russian Speakers' Intelligibility, Comprehensibility and Accentedness n.d.* 2013, p. 97; Crosby C. *L1 Influence on L2 Intonation in Russian Speakers of English*. 2000. DOI: 10.15760/etd.1070

[53] Abercrombie D. *Elements of General Phonetics*. Edinburgh: Edinburgh University Press, 1982. 203 p.

[54] Attridge D. *The Rhythms of English Poetry*. Longman, 1982. 395 p.

[55] Accurately describable in terms of the alternation of stressed and unstressed syllables against an underlying (felt) beat.

References

1. Beavitt T. A. Translating Schubert's *Winterreise*: Sense and Singability. *Problemy muzykal'noj nauki / Music Scholarship*. 2018. No. 3, pp. 84–93. DOI: 10.17674/1997-0854.2018.3.084-093

2. Ravignani A., Madison G. The Paradox of Isochrony in the Evolution of Human Rhythm. *Frontiers in Psychology*. 2017. No. 8. DOI: 10.3389/fpsyg.2017.01820

3. Morrison D. Metrical Structure in Scottish Gaelic: Tonal Accent, Glottalisation and Overlength. *Phonology*. 2019. No. 36, pp. 391–432. DOI: 10.1017/S0952675719000204

4. Belousova A., Pilshchikov I., Polilova V. Sergei Kormilov (06.06.1951–20.06.2020). *Studia Metrica et Poetica*. 2020. No. 7, pp. 138–145. DOI: 10.12697/smp.2020.7.1.06

5. Martianov V. S., Fishman L. G. The Rise and Decline of Soviet Morality: Culture, Ideology, Collective Practices. *Changing Societies & Personalities*. 2020. No. 4, pp. 372–395. DOI: 10.15826/csp.2020.4.3.106

6. Werner V. Assessing Hip-Hop Discourse: Linguistic Realness and Styling. *Text & Talk*. 2019. No. 39, pp. 671–698. DOI: 10.1515/text-2019-2044

7. Ravignani A. Isochrony, Vocal Learning, and the Acquisition of Rhythm and Melody. *Behav Brain Sci*. 2021. Vol. 44, e88. DOI: 10.1017/S0140525X20001478

8. Beavitt T. A. Translating Lermontov's 1831-go IYUNYA 11 DNYA: Prosodic Features and their Emotional-Prophetic Cargo. DOI: 10.13140/RG.2.2.19473.89447/1

9. Condit-Schultz N. MCFlow: A Digital Corpus of Rap Transcriptions. *Empirical Musicology Review*. 2016. No. 11, pp. 124–147. DOI: 10.18061/emr.v11i2.4961

10. Ohriner M. Metric Ambiguity and Flow in Rap Music: A Corpus-Assisted Study of Outkast's "Mainstream" (1996). *Empirical Musicology Review*. 2017. No. 11, pp. 153–179. DOI: 10.18061/emr.v11i2.4896

Information about the author:

Thomas Beavitt – Researcher at the Department of Theoretical Linguistics and Scientific Communication; Head of the Intercultural Collaboration Program *Global Village Bard*.

Информация об авторе:

Т. Бивитт – научный сотрудник отдела теоретической лингвистики и научной коммуникации кафедры иностранных языков; руководитель программы межкультурного сотрудничества Global Village Bard.

Received / Поступила в редакцию: 05.07.2022
Revised / Одобрена после рецензирования: 15.07.2022
Accepted / Принята к публикации: 19.07.2022