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PHONETIC FEATURES OF TONGUE TWISTERS RELATED TO THE FLORA AND FAUNA

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Abstract

This article examines the phonetic features of English tongue twisters associated with the conceptual domains of flora and fauna. Tongue twisters represent a distinctive form of verbal expression characterized by the intensive repetition and alternation of phonetically similar sounds. When the lexical components of such expressions refer to plants, flowers, trees, birds, insects, or animals, phonetic organization interacts with the semantic fields of flora and fauna. The study focuses on such phonetic phenomena as alliteration, assonance, consonance, consonant clusters, minimal phonemic contrasts, sound alternation, rhythm, stress, and articulatory complexity. Particular attention is paid to the role of repeated consonants and closely related places and manners of articulation in creating pronunciation difficulty. The analysis demonstrates that flora- and fauna-related vocabulary is frequently employed in tongue twisters not merely for semantic imagery but also because animal and plant names provide productive phonetic material for constructing rhythmically and articulatorily challenging sequences. Tongue twisters can therefore be considered an important source for investigating the interaction between phonetics, vocabulary, semantics, and speech production.

Keywords: Tongue twister, phonetics, flora, fauna, alliteration, assonance, consonance, phoneme, articulation, sound repetition, rhythm, speech production.

Introduction

Tongue twisters constitute a special group of linguistic expressions in which similar or identical speech sounds occur in close succession and consequently make rapid and accurate pronunciation difficult. Although they are generally associated with entertainment and language learning, tongue twisters are also valuable linguistic material for the study of phonetics, phonology, speech production, and articulatory processes.

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Experimental research demonstrates that tongue twisters can provoke systematic phoneme-ordering and speech-production errors. Consequently, they have been widely employed in psycholinguistic research to investigate phonological encoding and the mechanisms underlying the planning and production of speech (Corley, Brocklehurst & Moat, 2011). From a lexical-semantic perspective, a considerable number of tongue twisters contain names of animals, birds, insects, flowers, fruits, vegetables, trees, and other elements of nature. These lexical units constitute the conceptual domains of **flora** and **fauna**. Examples include such words as bee, beetle, bear, bird, butterfly, cat, cow, dog, fish, fox, frog, snake, sheep, snail, swan, woodpecker, rose, reed, tree, and wood.

Flora and fauna vocabulary performs two functions in tongue twisters. On the one hand, it creates concrete and memorable natural images. On the other hand, the phonetic structure of these words enables speakers to construct sequences containing repeated or contrasting phonemes. Thus, the semantic content and phonetic form of tongue twisters are closely interconnected. A tongue twister may be defined as a word sequence or sentence deliberately constructed through the repetition, alternation, or close positioning of similar sounds. Its principal characteristic is not grammatical or semantic complexity but **phonetic difficulty**. For instance: Six slippery snails slid slowly seaward. The sentence is semantically simple. However, its pronunciation becomes difficult because several words begin with /s/ or with the consonant cluster /sl/. The speaker has to repeat almost identical articulatory movements within a very short period.

The difficulty becomes more evident when tongue twisters are pronounced repeatedly and at increasing speed. Under these conditions speakers may substitute one sound for another, omit sounds, change their order, or unintentionally repeat a phoneme from a preceding word. Studies of tongue-twister production have demonstrated that many resulting errors involve phonemes rather than entire lexical items, showing the importance of phonological processes in speech planning.

Flora- and fauna-related tongue twisters are particularly productive in this respect because English contains numerous animal and plant names beginning with acoustically or articulatorily similar consonants. One of the most characteristic phonetic features of tongue twisters is **alliteration**, or the repetition of the same or similar initial consonant sounds. **Busy buzzing bees buzzed by the bluebells.** The dominant phoneme is /b/: **b**usy – **b**uzzing – **b**ees – **b**uzzed – **b**y – **b**luebells. The

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frequent repetition of /b/, a voiced bilabial plosive, requires rapid closure and release of the lips. At the same time, the presence of /z/ in busy, buzzing, bees, buzzed introduces a voiced alveolar fricative. Consequently, the speaker alternates rapidly between bilabial closure and alveolar frication. Another important characteristic is **consonance**, understood as the recurrence of consonantal sounds in different positions within neighboring words. For example: **A black cat caught a fat rat.** The sounds /k/ and /t/ repeatedly occur in words such as black, cat, caught, and rat. Unlike simple initial alliteration, these consonants are distributed at the beginnings and ends of syllables. The alternation of /k/ and /t/ is particularly interesting from an articulatory perspective. Both are voiceless plosives, but they differ in their places of articulation: /t/ – alveolar; /k/ – velar. The tongue must therefore move rapidly from the alveolar region to the velum. The faster the expression is pronounced, the greater the probability of articulatory interference. Similar mechanisms can be observed in combinations involving such animal names as cat, rat, duck, dog, goat, and pig. Although tongue twisters are predominantly based on consonantal repetition, vowels also contribute significantly to their phonetic organization. The repetition of similar vowel sounds is known as **assonance**. **Three green trees grew near the stream.** The long vowel /i:/ occurs prominently in: three – green – trees – stream. The repetition creates acoustic harmony and helps establish a recognizable rhythm. Another possible example from the fauna field is: **A small frog crossed a long log.** The vowel patterns in frog, crossed, long, and log [5] create a noticeable acoustic relationship, though their exact realization may vary according to English accent.

Assonance generally causes less articulatory confusion than consonantal opposition, but it strengthens the musical and rhythmic character of tongue twisters. Some of the most difficult tongue twisters are based not on identical sounds but on **closely related contrasting phonemes**. For example: **Fresh fried fish, fish fresh fried.** The speaker repeatedly produces /f/, /fr/, /ʃ/ and other neighboring articulatory sequences. Because the expressions fresh and fish are phonologically similar, their repeated alternation can cause substitutions and reversals. Another illustrative construction is: **Red lizard, green lizard.** The alternation between /r/ and /l/ is particularly important for learners whose first language does not distinguish these sounds in the same way as English. Phonetically similar sound sequences place greater demands on the speech-production mechanism because competing segments may become activated during utterance planning. Research using tongue twisters has shown that segmental speech

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errors can reveal how phonological units are organized and encoded before articulation. English tongue twisters also frequently contain **consonant clusters**, particularly combinations such as: /sl/, /sn/, /sw/, /st/, /str/, /fl/, /fr/, /gr/, /br/, /bl/. **Five frightened frogs fled from the forest.** Here the clusters /fr/, /fl/, and the isolated /f/ occur in rapid succession. The phonetic resemblance among these sequences makes accurate pronunciation increasingly difficult as speech speed increases. The articulatory difficulty therefore results not simply from the repetition of individual sounds but from the rapid reorganization of consonantal gestures. The difficulty of flora- and fauna-related tongue twisters can be explained through the movement of the speech organs. English consonants require different configurations of the lips, tongue, teeth, alveolar ridge, palate, and velum. For example: **The thirty-three thieves thought that they thrilled the throne throughout Thursday** is difficult because of repeated dental fricatives. In flora- and fauna-oriented material, similar articulatory pressure can be produced through sequences such as: **Three thin thrushes flew through thick thorn bushes.** The speaker must repeatedly coordinate /θ/, /ð/, /θr/, /fl/, /θr/ and /b/[6] while maintaining the rhythmic organization of the sentence.

Flora- and fauna-related tongue twisters also have considerable value in language education. They can be employed to develop:

1. correct articulation of English consonants and vowels;
2. awareness of voiced and voiceless phonemes;
3. pronunciation of consonant clusters;
4. control of word stress;
5. rhythmic fluency;
6. speech speed;
7. phonemic discrimination;
8. vocabulary connected with plants and animals.

Experimental studies of tongue twisters have confirmed their sensitivity to phonological similarity, prosodic prominence, and speech-production difficulty, making them useful not only for teaching but also for linguistic and psycholinguistic investigation.

The analysis of English tongue twisters related to the flora and fauna concept demonstrates that their distinctive character is based on the close interaction of phonetic form and lexical-semantic content. Names of animals, birds, insects, trees,

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flowers, fruits, and other natural phenomena provide rich linguistic material for the creation of phonologically complex expressions. The most characteristic phonetic features of such tongue twisters are alliteration, consonance, assonance, repetition of phonemes, minimal phonemic contrasts, consonant clusters, voicing oppositions, stress, and rhythmic organization. Their pronunciation difficulty is especially intensified when neighboring sounds share similar articulatory features or require rapid changes in the position of the speech organs.

Alliteration is particularly dominant, as the recurrence of initial consonants organizes the entire phonetic structure of many tongue twisters. Consonance and assonance provide additional internal cohesion, while consonant clusters and closely related phonemes create articulatory challenges. Rhythm and stress organize these repeated elements into predictable patterns but can simultaneously increase the probability of phonemic substitutions and sequencing errors.

The flora and fauna components also possess an important semantic function. Expressions involving bees, snakes, birds, frogs, flowers, trees, and other elements of nature create vivid imagery and, in certain cases, demonstrate sound-symbolic relationships between phonetic structure and meaning. Sounds such as /z/ in expressions about bees or /s/ in expressions about snakes may reinforce the auditory associations connected with the corresponding animals. Therefore, flora- and fauna-related tongue twisters should be regarded not simply as humorous verbal exercises but as valuable linguistic material reflecting the interaction of **phonetics, phonology, semantics, cognition, rhythm, and speech production**. Their systematic study can contribute to research in theoretical phonetics, psycholinguistics, stylistics, language acquisition, and foreign-language pronunciation teaching.

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