

A PALINDROME: A UNIT OF TWO SYMMETRICAL TAILS

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Abstract: The topic of the article arose from the date 02/02/2020 a few days ago. The date was considered to be the first number palindrome in 909 years and the only one this century. Since ancient times people have been attracted by ‘magic’, which was difficult to explain such as the reflection of the objects in the mirror and the symmetry in nature (the change between day and night, seasons’ change, the solar eclipse, etc.). Just these phenomena from the non-linguistic world made me think about a similar phenomenon in linguistics and it occurred that palindromes have existed in prose and poetry for centuries and even more, nowadays they are also used in speech.

The word ‘palindrome’ is derived from the Greek ‘palin’, which means ‘back’ and ‘dromos’ meaning ‘direction’. The present article focuses on palindromes in a comparative study as strings of letters, words, or even an utterance, which do not change their meanings no matter if they are read forwards or backwards. It could be assumed that each palindrome has got a core and all the letters or words on its one side have their mirror reflection on the other side. Punctuation and spaces between the letters or words are allowed. The article aims at exploring and analyzing the structure of palindromes in English and Bulgarian. It raises the question if the sequence similarity of the two “sides” of the palindrome implies structural similarity, too. The research question leads to the objectives of study, which are to decipher the parts of the palindrome and to investigate if there is symmetry between the two “sides” of the unit.

According to their type, letter-unit and word-unit palindromes are discussed at three levels – phonetic, semantic and syntactic. At the phonetic level, the letter-unit palindromes are related to spelling and each character of the word/utterance matches and the word/utterance can be spelled the same way forwards or backwards. The letter-unit palindromes are studied in relation to their characters and the symmetry of vowels and consonants.

In the word-unit palindromes, on the other hand, the whole utterance can be read forwards and backwards. Even though the individual letters do not match, the whole words do. The word-unit palindromes concern polysemy and grammatical structures at the semantic and syntactic level. They are studied in relation to the symmetry of the parts of speech in the phrase or the utterance as well as their word order.

The mirror reflection and the arrangement of the letters or the words in a circle, which were borrowed from the non-linguistic world, are used for comprehending and explaining the structure of the palindrome in this study. Finally, the ‘*semordnilap*’ is discussed as a variety of palindromes. In order to examine the similarities and differences between the two terms, its characteristic features are also discussed briefly.

Keywords: palindrome, symmetry, structure.

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1. INTRODUCTION. SYMMETRY IN NATURE

For ages people have been attracted by ‘magic’, which was difficult to explain such as the reflection of the objects in the mirror and the symmetry in nature.

Figure 1. Sunflower.



Figure 2. A peacock.



Figure 3. A butterfly.



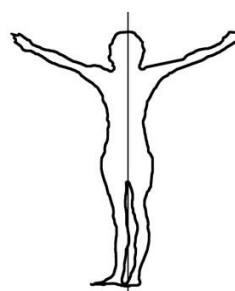
Figure 4. A leaf.



Figure 5. A snowflake.



Figure 6. The human body.



A great many plants have got petals, leaves and seeds in a sequence. Symmetry can also be found in most animals and insects, which means they can be split into two matching halves. Even the human body represents symmetry and the snowflakes exhibit identical patterns on each of their six arms.

Astronomy also made me think about the way the Moon completely blocks the Sun in a solar eclipse despite its smaller size. The phenomenon could be explained with the ‘symmetry in the ratio’. Even though the Sun is about 400 times larger than the Moon, the sun is about 400 times further away (<http://www.spacepedia.com/astronomy/solar-eclipse/>).

2. SYMMETRY IN LINGUISTICS

Just the phenomena from the non-linguistic world made me think about a similar phenomenon in linguistics and it occurred that palindromes have existed in prose and poetry for centuries as [James Joyce](#) used the [onomatopoeic](#) ‘tattarrattat’ in *Ulysses* for a knock on the door. It is believed that palindromes originated in England, most probably during Victorian times, in butcher shops as a kind of code in order to trick customers into buying poorer quality meat. Nowadays they are also used in speech although we do not usually notice them, for instance in single words such as nouns (e.g., *dad*, *eye*), verb forms (e.g., *did*, *sees*), or in constructions such as question tags (e.g., *I did*, *did I?*). The palindrome, as a figure of speech, “develops and enriches students’ vocabulary and fosters an interest in language” (Primary grammar and word study, 2008, 74), thus the use of palindromes can help teachers design a vocabulary lesson with interesting content (Yu, 2019).

Demirkova (2015) studies various forms of the word play and characterizes them as a creative activity with original and non-standard use of language units and/or categories as stylistic devices. Iglíkova (2013, 2017), furthermore, discusses the importance of paying attention to the proper translation of word play in humorous literature and the difficulties arising from the immanent lack of symmetry between the cognitive and linguistic structures of different languages.

The word ‘palindrome’ is derived from the Greek ‘palin’, which means ‘back’ and ‘dromos’ meaning ‘direction’. The present article focuses on palindromes in a comparative study as strings of letters, words, or even utterances, which do not change their meanings no matter if they are spelt forwards or backwards. It could be assumed that each palindrome has got a core and all the letters/words on its one side have their mirror reflections on the other side. Punctuation and spaces between the letters/words are allowed. The article aims at giving a brief introduction to palindromes as a linguistic phenomenon as well as exploring and analyzing their structure in English and Bulgarian. It raises the question if the sequence similarity of the two “sides/tails” of the palindrome implies structural similarity, too, which leads to the objectives of study, namely to decipher the parts of the palindrome and to investigate a possible relationship between the two tails of the unit. The empirical data of the study are collected mainly from the Internet (see References).

Two types of palindromes, letter-unit and word-unit, are discussed at three levels – phonetic, semantic and syntactic. The mirror image and the arrangement of the letters/words in a circle, which were borrowed from the non-linguistic world, are used for comprehending and explaining the structure of the palindrome in this study.

2.1. LETTER-UNIT PALINDROMES

At the phonetic level, the letter-unit palindromes are related to spelling and each character of the word/utterance matches and the word/utterance can be spelt the same way forwards or backwards.

level, refer, eve

ABBA, noon, deed, peep

Michaelsen (1998, 79) also studies phonetic palindromes. The backward pronunciation of palindromes, however, may differ due to the shift in articulation of the sound at the beginning and the end of the word/phrase (ibid. 80;

Bergerson, 1973, 35) (e.g. eye [aI] – [ja]; sees [si:z] – [zi:s]) in contrast to selfless [selfləs], where the vowel ‘e’ has two representations: [e] at the beginning and [ə] at the end of the word. The findings of the study made me disagree with the research in the field and that is why I came to the conclusion that there are no complete phonetic palindromes.

The complete coincidence between the characters is easily seen in the mirror representation of the palindrome
A NUT FOR A JAR OF TUNA:

A NUT FOR A JAR OF TUNA	A NUT FO JAR A JOF TUN A
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When the characters of the palindrome are arranged in a circle, no matter if you read it clockwise or counterclockwise, all the letters have their counterparts in the opposite side. The slot you start reading, which is the core, is the same you finish at.

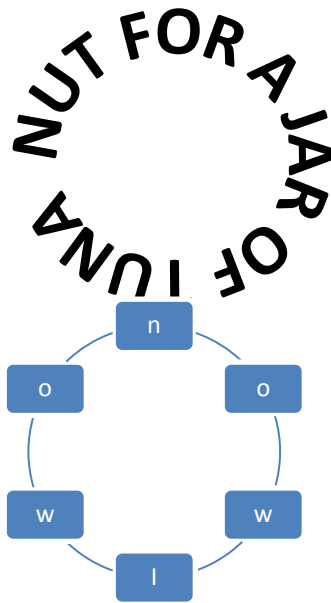


Figure 7.Circle representation of palindromes (*A nut for a jar of tuna/Now I won*).

In relation to their characters, the mirror and circle representations above clearly show that all letter-unit palindromes possess a complete symmetry of the vowels and consonants in the two halves even if the palindromes consist of more than a single word. The number of the pairs of the characters varies according to the length of the palindrome but it does not change the structure.

2 pairs:

My gym

Go dog

3 pairs:

race car

Top spot

Don't nod

4 pairs:

Nurses run

5 pairs:

Borrow or rob?

Drawn inward

No 'X' in Nixon

6 pairs:

Rise to vote, sir.

Do geese see God?

Live not on evil

Step on no pets

Was it a cat I saw?

7 pairs:

No lemon, | no melon

Never odd or even

Race fast, safe car

A Toyota's a Toyota

8 pairs:

Red rum, sir, is murder

Madam, in Eden I'm Adam

9 pairs:

Was it a car or a cat I saw?

Won't lovers revolt now?

10 pairs:

Eva, can I see bees in a cave?

(<<https://www.toptenz.net/top-10-famous-palindromes.php>>; Abootty, 2008)

Several palindromes are built on the base of the title of the psychological thriller by Sue Perry, *Was it a rat I saw?* (see examples above, *Was it a car or a cat I saw?* *Was it a cat I saw?*) (Treanor, 2012), which suggests a relationship and upgrading of the constructions. The idea of the hierarchy finds its place in the palindrome *Madam, I'm Adam* (Steinmetz, 2015) as well, in which two more words are added, *Madam, in Eden I'm Adam*.

An interesting palindrome is *A Toyota's a Toyota*. Although the repetition of the words in it at first glance hints at a word-unit palindrome, actually it is not. Its structure corresponds to that of a letter-unit palindrome and the reason lies in the different roles of the character 'a' in it. 'A', in this particular case, stands for the indefinite article at the beginning of the palindrome, while at the end, it is the vowel 'a' as part of the brand Toyota.

Sometimes smaller palindromes as part of the palindromic construction appear in places other than the center, and are made as a matched pair and treated as items in the progression of the palindrome.

Eve, mad Adam, Eve

Proper names are also part of the palindromic phenomenon. Some palindromic names are: *Ada, Anna, Bob, Eve, Hannah, Lil, Otto, Pip, Pop, and Sis* (Goodies, 2015, 101). As the abovementioned examples suggest, the palindromic phenomenon is especially evident in the diminutive forms of proper names (*Bob, Pip, Sis*), which, as stated by Aleksandrova (2017), are used to make their referent "less distant" and "more approachable" (Aleksandrova, 2017, 1313).

The characteristic features of the letter-unit palindrome discussed above can be found in Bulgarian, too:

bob (боб)

ротоп (ротоп)

byal hlyab (бялхляб)

oshte neshto (още нещо)

debel lebed (дебел лебед)

Angel legna (Ангел легна)

Antilorata politna (Антилопата политна)

Ami relikvii v kilera ima (Ами реликви и в килер има)

Ne tu gadzhe vseki void zanosa! A s onazi do vik e svezh, da, gumen (Не му гадже всеки води за носа! А с онази до вик е свеж, да, гумен)

Az obicham mach i boza (Аз обичам мач и боза)

Kiril e lirik (Кирил е лирик)

A davit hubava lilava buhta v ada (А дават хубава лилава бухта в ада)

Nina ritatiranin (Нина рита тиранин)

(<<https://mayaiv.com/palindromes/>>)

All parts of speech are included in the palindromic examples in Bulgarian, which suggests a tendency in all human languages. A name palindrome, both in English and Bulgarian, can be used in the first phrase as part of a larger palindrome (e.g., 'Naomi', *I тоан. – Kiril e lirik.*).

2.2. WORD-UNIT PALINDROMES

In the word-unit palindromes, on the other hand, the whole utterance can be read forwards and backwards. Even though the individual letters do not match, the whole words do. The word-unit palindromes concern polysemy and grammatical structures on the semantic and syntactic level.

All for one, one for all!

The Musketeers' slogan is an example from the past. Although the separate characters do not follow the same order forwards and backwards, the words preserve their order. That is why we can assume that all parts of speech can take part in the word-unit palindromes on the syntactic level, thus the palindrome does not change its meaning.

First ladies rule the State and state the rule: ladies first

Everybody knows nobody knows everybody

Investigating word-unit palindromes in Bulgarian, an interesting fact was established. Letter-unit palindromes can function as word-unit palindromes at the same time. In spite of the fact that sometimes the words can follow a different order, the palindrome preserves its meaning. The change in the word order in Bulgarian is allowed depending on the words we would like to emphasize on.

Kiril e lirik (Кирил е лирик/Лирик е Кирил)

Az obичам mach i boza (Аз обичам мач и боза/Боза и мач обичам аз)

Other word-unit palindromes in English, however, are polysemous.

You can cage a swallow, can't you? But you can't swallow a cage, can you? (Lederer, 1998, 66)

The two tails around the core 'but', in this particular case, carry different meanings though both of them exemplify question tags and follow the same grammatical structure. The reason lies in the *process of changing* the syntactic category of the words. The words 'cage' and 'swallow' are used as a different part of speech in their second appearance in the utterance. The changes are both on the semantic and syntactic level and are not possible, of course, for every word. Articles, conjunctions, pronouns and prepositions usually appear in the same role twice. The homonymy in Bulgarian (e.g., *kosa, vila, para, sin, vie*, etc.) also gives this possibility with different parts of speech but no word-unit palindromes have been found for the purposes of the study.

3. SEMORDNILAP

Peng Yu (2019) argues that words and phrases, which read backwards are palindromes despite their different meaning but the present study opposes to his contemporary research in the field and examines 'semordnilap' as a separate linguistic phenomenon. The 'semordnilap', compared to palindromes, is used in order to introduce a completely new word. It derives from the word 'palindromes', which is spelt backwards. The main difference between them comes from the semantic meaning, which changes when reading the word backwards.

drawer – reward

nap – pan

keep – peek

mood – doom

wolf – flow

dog – god

part – trap

pool – loop

(Lederer, 1998, 68)

At the phonetic level, although the number of vowels and consonants in the first word equals their number in the second one, the vowel – consonant positions do not coincide in forward and backward reading. The word can change its role as a part of speech and if it preserves the same part of speech, it can change in number.

Star (sg) – rats (pl)

evil (adj/n) – live (v)

eat (v) – tea (n)

wets (v) – stew (n/v)

stressed (adj) – desserts (n)

top (n/adj/v) – pot (n)

raw (adj) – war (n)

ten (number/n) – net (n/v)

time (n/v) – emit (v)

Contrary to the palindromes, prepositions (e.g., *on*), conjunctions (e.g., *but*) and particles (e.g., *not*) can sometimes change their role:

on – no (determiner, exclamation, adj, adv, n)

not – ton (n, adv)

but – tub (n, v)

Examining the semordnilap at the phonetic level, ‘meet’ [mi:t] and ‘team’ [ti:m] are considered phonetic semordnilap while ‘on’ [ɒn] and ‘no’ [nəʊ] similarly to ‘yes’ [jes] and ‘say’ [seɪ] seem not to be phonetic semordnilap due to their different pronunciation with a vowel and a diphthong in the pairs.

The word-unit semordnilap, as the letter-unit ones, adds a new meaning to the utterance but polysemy plays the key role.

Watch this – This watch

Sometimes the two tails of the semordnilap, beside changing their syntactic categories in the phrase/utterance, consist of a different number of words as well.

Red rum – murder

The change of the meaning and the syntactic category of the words are typical in Bulgarian, too, although mainly folk songs can be characterized with word-unit semordnilap.

Kiril (proper noun) – *lirik* (n) (Кирил – лирик)

pot – top (*nom – mon*)

ora – aro (*opa – apo*)

sol – los (*sol – los*)

bor – rob (*bor – rob*)

kos – sok (*koc – soc*)

buk – kub (*buk – kub*)

sap – pas (*cap – nac*)

rates zlatni – zlatni rates (*ръце златни – златни ръце*)

byalo litse – litse byalo (*бяло лице – лице бяло*)

“*Nasila zakaraha svinete ni v Sahara*”, *kaza Lisan* („*Насила закараха свинете ни в Сахара*”, *каза Лисан*)

4. CONCLUSIONS

Palindromes are commonly used in literary works like prose, poetry and criticism. The study made an attempt to examine the concept as far as its definition, functions, phonetic, semantic and syntactic perspectives were concerned and reached to the main finding that symmetry functions at various levels of language, which provides a rich source of research. At the language level the palindromes, as a type of a word play, function through the different linguistic mechanisms such as homonymy and polysemy, which lead to similar or identical forms with different meanings. The comparative analysis of equivalent formulaic expressions in English and Bulgarian identified more similarities than differences between languages. The main difference was found at the syntactic level and could be explained with the word order rules in English and Bulgarian.

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