This article discusses Fermat's last theorem, its history and generalizations. The article distinguishes and substantiates the three cases of the generalized Leonard Euler of Fermat's last theorem, provides five built us specific examples to support or refute the hypotheses for the relevant indicators n. In addition, we built an algorithm that allows to obtain any number of summands in n-s degrees, the sum of which is also the n-th degree of a certain number.

**Keywords:** Fermat's last theorem, coprime numbers, natural numbers, equation, Pythagorean triplets.

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**Danilova, V.V.**,  
PhD, c.p.sc., senior lecturer,  
Foreign Languages Department,  
KSPI, Kostanay,  
**Bolgerdt, V.V.**,  
Student of the 4th course, PhF,  
KSPI, Kostanay

**THE ROLE OF INVERSION IN MODERN ENGLISH PROSE**

**Abstract**  
The given article is devoted to the problem of identifying inversion in modern English prose (on the basis of “Crome Yellow” by Aldous Huxley). The authors scrutinize various types of inversion and its functions based on traditional and alternative approaches. The authors present the set of examples illustrating inversion of both types: stylistic and grammatical. The conclusions demonstrate qualitative and quantitative results of the work done. The full text of the work has been reflected in the diploma project of the student.

**Keywords:** inversion, prose, stylistics, grammar, function.

1. **Introduction.**  
Word order in Russian is distinguished by its flexibility. Unlike Russian, the word order in the English language is relatively fixed. Thus, the changing of the word order, or adding the inversion into the text, means the changing of the whole meaning and is used to add expressive or communicative nuances into the sentence.

The results of our research can be used in the 12-years profile school as the extra aid for teaching inversion. It would be especially practical since the school has been changing from 11 years to 12 years studying. The aid is directed on the students of 11-12 classes who decided to continue their education in the field of the English language.

2. **Materials and Methods.**  
The **object** is the group of syntactical stylistic devices.  
The **subject** is functional, stylistic and grammatical peculiarities of inversion.  
The **hypothesis** – Using inversion enables the author to make the literary work remarkable and colorful via breaking the monotony, introducing a new rhythm.
The goal of the work –is to identify the functional, stylistic and grammatical peculiarities of inversion in the English language based on its analysis in the belles-letters.

The objectives:
1) To study literature on the topic of research;
2) To define the notion and functions of inversion;
3) To identify the linguistic features of inversion;
4) To classify the types of inversion;
5) To analyze different types of inversion in fiction.

In the investigation of inversion in the English language there were used the following methods:
- The theoretical methods:
  - descriptive method (the analysis and classification of inversion);
  - component analysis (investigation of each type of inversion);
- The practical methods:
  - exploring method (analysis of the texts);
  - elaborating the system of exercises.

Practical value of the work is the description of the main functions and types of inversion in English and also its grammatical and stylistic peculiarities. Also, methodological aid created while researching can be used in 12 years profile school.

Methodological base mainly consists of the works of such authors as I.R. Galperin, I.I. Kovtunova, I.V. Arnold, M.Y. Blokh and others.

There are six theoretically possible basic word orders for the transitive sentence: subject verb object (SVO), subject object verb (SOV), verb subject object (VSO), verb object subject (VOS), object subject verb (OSV) and object verb subject (OVS). The overwhelming majority of the world's languages are either SVO or SOV, with a much smaller but still significant portion using VSO word order. The remaining three arrangements are exceptionally rare, with VOS being slightly more common than OVS, and OSV being significantly more rare than two preceding ones [6].

3. Results.

Inversion is unusual order of words within a sentence. It’s vital to differentiate between inversion in the grammar system and that used for stylistic purposes. Inversion is used to give emphasis or to be rhetorical in more formal situations, in political speeches, on the news, and also in literature. Some native speakers may also use them occasionally in day-to-day conversation. Inversion as a group of stylistic devices can be more relevant for one language and less relevant for another. Unlike English, Russian is much freer and more variable word order; makes inversion less noticeable and less significant. There are many definitions for inversion.

For example I.V. Arnold interprets the notion “Inversion” with the following way: “Inversion is the abnormality of the usual order of sequence of the sentence’s members, and as the result some element is emphasized and receives extra emotional or expressive connotations” [1].

V.N. Komissarov states that “inversion is the deviation from the usual (“direct”) sequence of words in the sentence, used as the effective tool of expressing emotional characteristic of a saying.” [4].

I.R. Galperin claims that “in an inverted word order something new, either a predicate or an object, is emphasized: an object is emphasized because of being in the initial position and the predicate is emphasized is because of being stressed as the final element of the saying” [3].

As for the functions of inversion, there are a lot of classifications like V.N. Komissarov’s or I.V. Arnold’s. In this work we consider the classification given by Smirnitsky. He claims that “inversion serves different functions. Basically, we can emphasize 3 functions of word order:
- Grammar function. It serves to express definite syntactical relations: the subjective-objective relations, subjective-predicative relations, attributive relations.
- Lexical function
- Expressive-stylistic function


In a number of cases it happens that inversion can serve all 3 functions simultaneously, but only one of them is the main one. It’s worth noting, that inversion usually emphasizes the fact of relation between the words composing the sentence” [7].

To conclude about the functions of inversions we can say that in spite of being fixed of word order, some deviations take place. This may be due to that the authors, by means of usual word order abnormality, try to show the very information which they want the reader to receive, but not that information which the reader can receive due to his or her speculations.

Analyzing different functions of inversion in general and of inversion in particular, we should take into consideration that every dislocation in the sentence which changes, to a greater or lesser extent, usual word order, leads either to the change of the logical content of the sentence or to the addition of an extra emotional coloring to the whole statement.

Functional Style is a system of interrelated language means serving a definite aim in communication. It is the coordination of the language means and stylistic devices which shapes the distinctive features of each style and not the language means or stylistic devices themselves.

Each style, however, can be recognized by one or more leading features which are especially conspicuous. For instance the use of special terminology is a lexical characteristics of the style of scientific prose, and one by which it can easily be recognized.

A style of language can be fined as a system of coordinated, interrelated and inter-coordinated language means intended to full-fill a specific function of communication and aiming at a defined effect. Style of language is a historical category.

The English literary system has evolved a number of styles easily distinguishable one from another. They are not homogeneous and fall into several variants of having some central point of resemblance or better to say. All integrated by the invariant - i.e. the abstract ideal system.

They are:

1) Official (documents and papers); or the style of official documents, is the most conservative one. It preserves cast-iron forms of structuring and uses syntactical constructions and words long known as archaic and not observed anywhere else. Addressing documents and official letters, signing them, expressing the reasons and considerations leading to the subject of the document (letter-all this is strictly regulated both lexically and syntactically. All emotiveness and subjective modality are completely banned out of this style [2].

2) Scientific (brochures, articles, other scientific publications); is employed in professional communication. Its most conspicuous feature is the abundance of terms denoting objects, phenomena and processes characteristic of some particular field of science and technique. Scientific style is also known for its precision, clarity and logical cohesion which is responsible for the repeated use of such cliches as: “Proceeding from...”; “As it was said above...”; “In connection with...” and other lexicosyntactical forms emphasizing the logical connection and interdependence of consecutive parts of the discourse [5].

3) Publicistic (essay, public speech); is a perfect example of the historical changeability of stylistic differentiation of discourses. In ancient Greece, e.g., it was practiced mainly in its oral form and was best known as oratorio style, within which views and sentiments of the addresser (orator) found their expression. Nowadays political, ideological, ethical, social beliefs and statements of the addresser are prevalingly expressed in the written form, which was labeled publicist in accordance with the name of the corresponding genre and its practitioners. Publicist style is famous for its explicit pragmatic function of persuasion directed at influencing the reader and shaping his views, in accordance with the argumentation of the author. Correspondingly, we find in publicist style a blend of the rigourous logical reasoning, reflecting the objective state of things, and a strong subjectivity reflecting the author’s personal feelings and emotions towards the discussed subject [1].

4) Belles-lettres style (genre of creative writing); or the style of creative literature may be called the richest register of communication: besides its own language means which are not used in any other sphere of communication, belles-lettres style makes ample use of other styles too, for in
numerous works of literary art we find elements of scientific, official and other functional types of speech.

For the analysis the following stated below work has been chosen ("Crome Yellow" by Aldous Huxley).

4. Discussion.
Analysis of “Crome Yellow” by Aldous Huxley

Example 1.

*Here was Camlet at last.* – Вот наконец и Камлот.

Analyzing this example we can say that the construction *here was* is close in its meaning to the construction *there was*. As Smirnitsky claims, such constructions as *there is/was, there are/were* are pretty difficult to analyze. On the one hand, “there” and “here” as well in such sentences receives their main meaning (there - там, here - здесь), however, in the constructions, in which the predicate precedes the nominative, these words (there, here) are just particles. Nevertheless in this case we deal with grammatical inversion.

Example 2.

*Here am I at Crome.* – Вот я и в Кrome.

The construction “here am I” is closely connected with the constructions “there is/are”, consequently this is the example of grammatical inversion.

Example 3.

*Here was themorning-room, withits pale lemonwalls, itspainted Venetian chairs and rococo tables.* – Вот столовая в бледно-жёлтых тонах, где стояли расписные венецианские стулья и столы в стиле рококо.

As it was mentioned in the example 2, the characteristic feature of the sentences with construction “there is/are” is the grammatical inversion which provides no meaning load.

Besides, we can find this type of inversion repeatedly in the text.

Example 4.

*“Here are the steps,” Denis cried.* – “Я слышу шаги”, – крикнул Дэнис.

Example 5.

*Here is your sleeping-draught.* – Вот твоё снотворное.

Example 6.

*“Well,” - said Denis, and he hesitated, almost voluptuously.* – «Что ж», – сказал Дэнис, томно смутившись.

In this case the inversion is used after the direct speech and provides no meaningful load, consequently this is the example of the grammatical inversion. After the translation the word order remains.

Example 7.

*From the balusters to the sloping lawn beneath was a drop of thirty feet.* – Между балюсинами перил лестницы и холмистой поляной внизу было тридцать футов.

In this example we can see that adverbial modifiers are on the front position (from the balusters to the sloping lawn beneath). As it’s known, in the English language all words, phrases and expressions, having the biggest meaningful load, have their position in the beginning of the sentence. In this very case the most significant and meaningful information is at the end of the sentence. (a drop of thirty feet). This sentence belongs to fronting. The structure of the sentence is not changed after the translation.

Example 8.

*Next him, but separated from him and from the rest of the world by the almost impenetrable barriers of her deafness, sat Jenny Mullion.* – Рядом с ним сидела Дженнит Маллион, отделяемая как от него, так и от всех остальных непреодолимыми барьерами своей глухоты.

As well as in the preceding example, in the beginning of the sentence we see that adverbial modifier (Next him, but separated from him and from the rest of the world by the almost impenetrable barriers of her deafness). However, unlike the example 26, where the meaningful load
grows in the end of the sentence, in the example 27 the main sense of whole sentence is in its beginning. By means of this, the author shows the inability of the woman to join the rest cause of her being.

Example 9.

*Between his short horns was a triangle of red curls, short and dense.* – *Между рогами у него был хохолок из густых мелких кудряшек.*

In the beginning of the sentence we can see the adverbial modifier (between his short horns), the meaningful load in this example finds itself in the end of the sentence (a triangle of red curls). The author uses the inversion to express the lexical nominative.

Example 10.

*So were the chairs, so was the door.*

*Вот такими были стулья и дверь.*

We can say that such type of inversion is used rarely. As Smirnitsky states the inversion in this example is determined not by expressive-stylistic consideration, but with the endeavor to express the lexical nominative «so».

5. Conclusions.

In general, 40 cases of inversion taken from Aldous Huxley's work "Chrome Yellow" were analyzed. During the analysis we have found and studied all cases of inversion and clearly explained. It should be noted that in the work of most cases of inversion are widely used with the set phrase there are/is, inversions after the direct speech, as well as the inversion in interrogative sentences. Rarely used conventional type construction may it be ... etc. The popularity of the types of inversion mentioned above is caused by the saturation of the dialogues in the novel where questions are widely used. In order to name the speaker, the author uses the inversion after the direct speech. In order to reach the emotional peak the author uses the inversion in conditional sentences.

The results of the analysis can be shown in the following diagrams (Pic.1-2):

![Diagram](image)

*Picture 1. The quantity of grammatical and stylistic inversion*

In the diagram above we can see that grammatical inversion is totally predominating over stylistic inversion. This is mainly caused by the large number of questions which immediately refer to the grammatical inversion. For instance example 1 which is the vivid representative of question. «Denis groaned in the spirit, condemned himself utterly with all his works. *What right had he to sit in the sunshine, to occupy corner seats in third-class carriages, to be alive?None, none, none*.» In the diagram below we make sure that question is a frequently used case of inversion in the novel of Aldous Huxley. Inversion after “here/there” is used most of all. In the following example we may see the use of a such case. «There was a breaking of glass, a stamping of feet, with an outburst of shouts and laughter». 
Picture 2. Frequently used cases of inversion

In the English language different types of word order can be used in different styles. Direct word order predominates in speech and in writing, but also we can face indirect word order too. Talking about indirect word order we mean questions, requests, commands and, the most interesting, inversion. In the English language, as well as in Russian, inversion is wide spread. But its frequent usage can make difficulties in understanding and translating.

The usage of different types and subtypes of inversion provides us communicative variability and vividness. It the evidence of that inversion, first of all, serves the express grammatical, lexical and expressive stylistic functions. Also it’s used for structural expressiveness of communicative significance of some members in the sentence.

In the first part of the work we considered inversion as a significant and interesting component of the writing speech. This part shows that inversion has different functions in the sentence. Mostly, this tool is used to emphasize the definite word in the sentence. Sometimes it’s necessary to make the reader remember one or another thing or place, which is significant in the text. Sometimes inversion is used to increase the expressiveness of the sentence and affect the reader. Also, inversion increases the self-descriptiveness of the narration, which also draws the attention of the reader.

In aggregate with all functions of word order, the important place is taken by emphasizing the nominative, direct object and adverbial modifier in the sentence. Inversion deals with this. It serves to increase the emphatic stress of the definite word. Moreover it helps to create the figure of one or another thing or phenomena in belles-letters of the English language.

The theory of the research of inversion conjectures the presence of the process of actualization in it, which is very important to express emotional-meaningful accent of the content in belles-letters. At the same time the optimal design of the word order has the special role in English.

In conclusion, we would like to refer to the program of 12 years profile school which is devoted to expanding and developing students’ skills and abilities in the way they chose for the education. And exactly by means of our project we can teach student inversion, because of the following reasons:

1 – In our work we have the complete explanation of inversion. Inversion is the deviation from the usual (“direct”) sequence of words in the sentence, used as the effective tool of expressing emotional characteristic of a saying.”

2 – We created the complex of exercises which allows to teach inversion in an appropriate way, from simple to complex.

3 – Learning inversion provides students to develop their skills in English, exclude monotony of thinking.
4 – Learning inversion can make students to create valuable literary masterpieces with the usage of inversion.

All in all we think that inversion is an important part of whole process of teaching and learning English.

References

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ДАНИЛОВА, В.В., БОЛГЕРТ, В.В.
РОЛЬ ИНВЕРСИЙ В СОВРЕМЕННОЙ АНГЛИЙСКОЙ ПРОЗЕ
Данная статья посвящена проблеме идентификации инверсии в современной английской прозе (на основе «Crome Yellow» Олдоса Хаксли). Авторы анализируют различные типы инверсии и ее функции, основанные на традиционных и альтернативных подходах. Авторы представляют набор примеров, иллюстрирующих инверсию обоих типов: стилистический и грамматический. Выводы показывают качественные и количественные результаты проделанной работы. Полный текст работы был отражен в дипломном проекте студента.

Ключевые слова: инверсия, проза, стилистика, грамматика, функция.