TERMS AND THEIR FUNCTIIONS IN THE WORKS BY ISAAC ASIMOV
(BY THE EXAMPLE OF THE NOVEL COLLECTION "I, ROBOT")

Ralina Salavatovna Zaripova, Natalya Nikolayevna Bobyreva

Kazan Federal University, Kremlyovskaya Str., 18, 420008, Kazan **(RUSSIAN FEDERATION)**

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ABSTRACT

In the situation of the continuously developing and changeable world the science fiction that gained widespread appreciation in the 20th century gains new meanings and the authors attract more and more attention. Isaac Asimov is one of the most prominent representatives of this genre. His novels are distinguished by the stories representing the concepts of robototronics and social-philosophical future and the language of his works features specific terminology. The paper represents the specifics of terminology and its structural-linguistic, semantic and functional features within the determining context. The units being considered feature topical variety: Isaac Asimov uses the terms of robototronics, cosmology, physics, chemistry. The authors of the paper describe terms as specific literary elements of fantastic works. Appearing in the unusual context of a literary work the terminological units fulfill stylistic functions creating the unique images, atmosphere of events, being seamlessly intertwined with the narrative text. The study of the specifics of the term use in the literary texts is of interest from the perspective of the set of philological areas: terminology studies, stylistics, and literary studies. Interpretation of such kind makes contribution to identification of the author's word and phrase usage, supplements the academic idea of the individual style of a writer.

Key words: term, terminology, science fiction, Isaac Asimov.

1. INTRODUCTION

The study of terminology of different spheres has been always topical within the linguistic paradigm. Terminological units of the language were subjected to multi-aspect investigation and analysis. The interest in various issues of terminology constantly increases in course of time. The progress proceeds steadily, along with appearance of the new artefacts, concepts, processes in science and engineering their new notations and nominations, i. e., terms appear. However, against intensification of the automation processes, appearance of new inventions and research area wide scope of research, business and engineering information ceased being available to a narrow circle of people only and some terms even became commonly used. The important ground of this process is impressive growth of significance of terminological units not only in the general literary language but in the fiction as well.

2. MATERIALS AND METHODS

Each text is created under certain historical, social and cultural conditions. These conditions are in some way always represented in a fictional work, its vocabulary and for complete understanding of it one shall take into account its own author's 'vertical context'. Vertical context represents 'information of historical-philological nature that is objectively included in the specific work of fiction' [1]. The cases when the vertical context is introduced without any comments and graphical markers which complicate not only recognition but determining the amount of the background knowledge necessary for understanding of the text provide special difficulties [2]. In his turn, a translator as the main intermediary between the author of the original and reader of the translation shall possess knowledge of not the original language only but the language of translation as well in order to correctly understand, adequately deliver the original text in terms of stylistics and maintain the atmosphere described by the author in the source text.

Taking the above-said into account we consider terminological units as special units within the material of a fictional work, in particular science fiction, by the example of the works by Isaac Asimov. In his texts the peculiarities of the term functioning are investigated and analysis of them as a stylistic vehicle in a text is performed. The works by I. Asimov have been chosen not accidentally as his texts are rich in special linguistic units denoting robototronics and new technological items, for example: **The Atomic Age, non-robot elements, positronic brain -paths, Space Station** [3]. The author describes the pictures of the future, narrates of the freedom of an individual and at the same dependence on the supreme forces. The Asimov's world is open and constantly changing which makes his texts original and unique. The detailed analysis of the scientific-fantastic novels of the writer allows us investigating the stylistic aspects of application of terms in his texts by means of which the writer tries to describe the wonderful and unexplored world of fantasy from the perspective of science.

3. RESULTS

3.1. Literature Review

The works by A. Britikov have become significant contribution to the study of historical roots of the science fiction. In his paper 'Science fiction, folklore and mythology' the dual nature of the science fantasy is stated that is 'being simultaneously both creation of technological progress and the ancient oral literature that dates back to even more archaic forms of mythological consciousness" [4]. As time passed, popularity of the science fiction genre increased and gained new forms and topics. In the national literature the features of this phenomenon were reflected in the works by A. Tolstoy, A. Orlovsky, I. Vinnichenko, A. Belyayev. In the British literature this trend was determined primarily by works of J. Wells. The pioneers in the American literature are R. Bradbury, I. Asimov, R.E. Хайнлайн, C.D. Simak and many others. However, it would be most objective to consider Isaac Asimov as the founder of the modern American social-philosophical literature that laid down the basis for writing and stylistics of the specific literature.

According to the results of analysis of research works performed by us the science fiction terms in the works by I. Asimov are studied mostly by masters and post-graduates of different universities [5; 6]. Thus, this subject is much less explored than the issue of science fiction works of other authors. Our study suggests integrated approach consisting in investigation of the material at the joint of three sections of philology – terminology, stylistics and literary studies.

3.2. Structural-linguistic peculiarities and semantic-topical belonging of terms in the works by I. Asimov

Isaac Asimov expresses the social-philosophical views (which is typical to his works) trying to represent confusion and conflict between high technologies and the reality. Peculiar synthesis of the fantastic and real makes the author's works valuable. This unity became fundamental and was represented in the science fiction of the beginning of the 20th century not only by I. Asimov but other authors, his followers, as well.

The entire terminological vocabulary selected for investigation may be conventionally divided into two main topic groups: the first one will include the words relating to robototronics and its design; the second group – lexical units relating to cosmology, chemistry and partially to physics of natural phenomena.

In the first group of terms the most frequently used unit was the word **positrons**, to be more precise – **positronic brains** that were used in respect of the structure of the robot main operating unit. The word **positronic** also participates in formation of composite terminological units: **positronic brain paths** – literary, *brain connections in a robot's head*, **positronic field** – *the field through which robots exchange information between each other*. Speaking of the robot's design, I. Asimov uses such words and phrases as: **photocells** or **photoelectric cells that were the robot's eyes**.

An interesting fact is the author's attempt to 'enliven' robots by means of selecting specific vocabulary. Thus, for example, speaking of the external body of one of robots serving as a nurse he uses the phrase **Robbie's torso**, instead of the simple nomination **body**; or **the robot's neck**, **mechanical man** or **Frankenstein Complex** by describing humanlike nature of the robot designed. By mentioning the 'Asimov's attempt of animation' one shall specify a number of terms introduced by him: **creature of metal, non-robot elements** in order to emphasize the uniqueness of creation featuring human consciousness; **subrobotic machines** – *semi-automatic machines that are able to think and deliver conclusions and express emotions*. The word combinations **telepathic powers**, **robotic telepathy** are used to make a reader be delighted with the robot's ability to exchange information as well as declare the assumption stated by one of the robotic engineers in respect of the ability to provide the same information after staying of all robots within one room. And if we have touched on the topic of the robot's skills and capabilities, here I. Asimov used another even more complex term **brain-path map** meaning *coordination map of connection between robots* integrated in each of them and facilitating information exchange within positronic field. The basis of all this is formed by "**The 3 fundamental Rules of Robotics"**, according to which all robots act and the key word **robot** that is repeated more than 35 times originates from here as well. Everything that is related to it is hidden by the dedicated science called **robotics**, **roboticity**. And a person performing **robotic engineering** – *the production and control process* is called **roboticist** meaning *a person that studies robots in general*; **robot manufacturers** – *those who assemble and produce robots*, including corporations, and the most interesting word **robopsychologist** (in the novel – doctor Susanne Calvin studying the nuances of the robot's thinking and consciousness that came out of thin air that is distinguished by intellectual capacities against each other). The last term was introduced exclusively by I. Asimov in his novels; robopsychology appears as mixture of the detailed mathematical analysis with traditional psychology represented in robots. Psychology of a human is also the part covering human interaction with robots. It also implies the above-mentioned **Frankenstein Complex** - fear that robots (or other creations of a human) will turn against their creator.

We deem it advisable to pay special attention to such term as **The Brain** – this is how the scientists in the book call the 'brain' part of robots, this lexical unit is used more than 16 times per a chapter. And the robots are called simply **The Machines**; hence, the following terms arise: **X-ray analyses**, **matrix mechanics**, **tensor analysis**, **gamma (ray) field**.

The second unit of the vocabulary selected features natural science reference mostly. This lexis constitutes most of the works written by I. Asimov. The largest group is constituted by the cosmologic lexis, namely – such terms as **Solar system, The Galaxy**, **Mercury Sunside**, **Mercury's Sun**, **Sunside**, or **Albedo of Mercury** – the term describing the planet reflectivity, **Mercurian Gravity** – for narration about gravity. In one of the novels from the Asimov's collection "I, Robot" it is described as the scientists search for the element called **selenium**. Having sent robots searching, they found **the selenium pool** *of resources of this element*. The scientists stayed at the so-called **The Sunside Mining Station**, another name of the station is also met – **Space Station**. By continuing cosmology topic, another terminology shall also be presented: **asteroid** / **asteroid mining**, and one minor but in fact determining term **parsecs** meaning that *arbitrary unit of measuring distance* that is common in astronomy. Being surrounded by the specific cosmologic lexis while reading, we imagine at once how we prowl the outer space which determines the key role of this terminology.

Some of such nominations are word combinations like **interstellar travel**; **interstellar jump** of which the scientists – novel characters – dream that much and **interstellar engine***, being part of a space ship including the* **airlock** and **photocell banks**. The scientists that set out in search of the new things to the space and completing the studies of previous researchers are dressed in special space suits at the station that are called **insosuits**, or **spacesuits**, i.e. suits for space flights. Special **binocular attachments** *designed for better visibility in the space* are attached to each suit and this is supplemented by the supervision system - **supervision**, **visiplates** – *special vision screens*. We also face some physical terms: **degrees Fahrenheit**, **air-pressure**, **the atomic weight**, **an equilibrium**, **energy converter**, **the light gravity**, in addition I. Asimov introduces eponymic terms containing the proper names **Stillhead Dielectrode Plate** and **Franciacci's space-warp theory** – at first sight, phenomena that are known in one or another way but their creators are fictional. In the works of the famous fantasy author there is a term revealing the content of a complete theory upon understanding of which the novel changes its meaning fundamentally – **spectroreflector**. In 1960 during preparation for starting the first automatic station to Mars it was suggested to place spectroflector as part of the scientific equipment that should have identified whether there was water on the red planet and, therefore, if there was life on Mars. The research supervisor of the program Mstislav Keldysh proposed to initially test the device in the Earth conditions. The spectroreflector showed that there was no life on the Earth and was withdrawn from use. In general, the device is designed for identification of organic covers.

Turning back to the terms used by Asimov one shall note the great variety of units denoting chemical elements, for example, **volatile elements**: **selenium, iodine, mercury, gallium, potassium, bismuth, volatile oxides, sodium, sulphur dioxide, carbon dioxide, carbon monoxide, volatile iron carbony**. These units bring us to the real things happening and sometimes even to possibility of **etheric physics** dealing with extra-terrestrial civilizations (this term represented in works on another fantasy author – Stanislav Lem). The terminology having 'lethal effect' on robots constitutes a small group. For

example, name of a special room - **Radiation room** and nomination of kinds of radiation: **gamma rays**, **infrared rays**, **heat rays**.

3.3. Stylistic functions of terms

By means of scientific terms I. Asimov manages to create an intriguing text with a trick ending. And this method of expressing fantastic events using linguistic elements of scientific style arouses in us interest in the lexis used and sometimes even invented by the author: ***Robot psychology*** *is far from perfect – as a specialist, I can assure you of that but it can be discussed in qualitative terms, because with all the complications introduced into a* ***robot's positronic brain****, it is built according to human values* [3]. Whether this be the cosmologic, physical or any other terminology, I. Asimov easily delivers the scientific realias through the lens of something fantastic and real at the same time: *Powell had adjusted* ***the binocular attachments****, so that he seemed as eye – stalked as a snail* [3]. A reader definitely focuses his attention on the specific terminology, due to this the story gains more interesting meaning and terminology reveals its meaning immediately: *She learned to calculate the parameters necessary to fix the possible variables within the* ***"positronic brain"****; to construct "brains" on paper such that the responses to given stimuli could be accurately predicted* [3]. It is correctly selected terminology used at the reasonable amount that creates images and involvement in the subject of the story and atmosphere of the space described by Asimov: *The great team of Powell and Donovan is sent out to* ***Mercury*** *to report on the advisability of reopening the* ***Sunside Mining Station*** *with modern techniques and robots* [3].

Being a typical unit of a scientific text, a term features pronounced nominative and informative functions. Within the science fiction discourse combining the features of the literary and scientific styles a term is attached stylistic overtone while being means of describing the environment, atmosphere, surrounding, and kinds of activity and interests of characters. The use if terminological units in the science fiction for creation of a stylistic effect shall be interpreted as impact of the technological progress on the imaginative thinking of a person. The study of peculiarities of usage of term of different subjects in the literary works is of interest as it helps to identify the specific features of the individual-author's word and phrase usage, unique literary style of writers.

4. CONCLUSIONS

Thus, having performed the comparative analysis of the vocabulary, one may conclude that the natural science vocabulary лексика prevails over the fantastic one. The percentage makes 38% of the fantastic against 62% of the natural science vocabulary. Nevertheless, the element of fantasy is communicated rather brightly. In terms of the structure, a term represents word combinations from the semantically related words and also has the form of ordinary lexical units. Proceeding from the fact that I. Asimov is not only a writer but a scientist as well, he manages to intertwine scientific terms with the outline of a fantastic story where the terms denoting them lose stylistic neutrality. The peculiar or invented lexis of I. Asimov creates particular atmosphere around the subject involving a reader in the world of cosmology, robototronics and fantastic future, at the same time it makes seeing into the world of terms interpretation of which often completely determines the plot. Terms as methods of achievement of художественных задач автора fulfill the nominative-descriptive and artistic-figurative functions. Due to this element some stories seem not fantastic but quite real and possible in the nearest future. This approach to writing may be called the 'Asimov's effect' that is peculiar to him only and became fundamental for the science fiction genre.

5. SUMMARY

The study showed that works by I. Asimov represent the content material that is interesting both to scientific and literary-stylistic analysis. Symbiosis of the artistic speech characterized by tropes and edges of the scientific speech created by terms permanently attracts attention of both readers and linguists. The themes of stories and novels of the author imply use of the common and author's terms in the text as unique units of the language of this genre. The multi-aspect study of terminological units reveals peculiarities of their functioning, study of specifics of the term translation in a literary text deems promising.

CONFLICT OF INTERESTS

The author confirms that the data provided does not contain the conflict of interests.

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