Studying Semantic Transformations of Deterministic Vocabulary in Artistic Discourse Using Corpus Technologies

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Abstract
The research is based on the General Regionally Annotated Corpus of the Ukrainian Language (GRAC) analyzed the semantic transformations of deterministic vocabulary in Oksana Zabuzhko's works “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex”, “Album for Gustav”. The possibilities of achieving stylistic effects through the use of technical determinations are analyzed. It was found that technical terminology in artistic discourse, thanks to semantic transformations, contributes to the achievement of accuracy and clarity of speech, helps to structure abstract thoughts and materialize them, and the involvement of deterministic vocabulary, in particular in the composition of tropes or stylistic figures, contributes to the ornamentation of speech, reveals the author's attitude to the named objects and saturates the text with expression. Three types of semantic transformations based on semantic and stylistic processes of determining scientific vocabulary are identified: comparison, epithet, and artistic metaphor. The technical determinologisms selected by identification from the annotated corpus proved that the term vocabulary functions organically in the artistic text and becomes an important component of the writer's idiostyle.

Keywords
Corpus linguistics, text corpus, concordance, text analysis, metaphor, epithet, comparison, determination, deterministic vocabulary.

1. Introduction

Perhaps the main feature of modern society is its technocratization, which involves the acceleration of migration processes of vocabulary between the general literary language and industry terminology systems. Such mobility of lexemes reflects changes in the national linguistic picture of the world at the speech level and causes qualitative and quantitative semantic changes in the language as a system. A term is a unit of the lexical system, the use of which is one of the characteristic features of the scientific style of the literary language. However, the high intellectual level of modern society and the wide erudition of speakers in the most diverse spheres of human knowledge contributed to the fact that term vocabulary becomes an integral component of other styles, including artistic ones. When used in different discourses, terms serve different needs of speakers, while changing their own functional, lexical-semantic and semantic-stylistic characteristics. In works of art, terms lose their clear conceptuality and undergo determinism, that is, the term is assimilated to a commonly used word, and various semantic transformations of the deterministic lexeme arise on the basis of metaphorical reinterpretation.

Despite the large number of linguistic studies related to determinism, there are still a number of linguistic issues that have not been studied yet. Among them is the involvement of technical terminology in the artistic discourse, in particular the use of deterministic vocabulary from the technical sphere in works of modern fiction. We emphasize that the application of the latest methods for technical
detection and quantitative research of deterministic lexemes based on an electronic corpus of texts makes it possible to intensify language research and multiply the effectiveness, reliability, and verifiability of the studied linguistic phenomena. In our previous research, we analyzed the stylistic role of medical terms-substantives in Oksana Zabuzhko's work and found that term vocabulary organically enters the artistic and journalistic context and becomes an important component of the writer's individual creative handwriting [1].

Note that the use of technical terminology in the artistic style is also of considerable scientific interest. Our scientific hypothesis is as follows: the involvement of technical terminology in artistic discourse aims to achieve at least two results:

1. Clarity of content, accuracy – technical terminology, thanks to semantic transformations, makes it possible to structure abstract thoughts and materialize them;
2. Expressiveness, artistic perfection – the use of deterministic vocabulary, in particular as part of tropes or stylistic figures, contributes to the ornamentation of speech, reveals the author's attitude to the named objects, and ultimately saturates the text with expression.

The relevance of our research lies in the fact that thanks to the use of corpus technologies, we are able to examine the technical terms found in the text in the context of their use and trace the various semantic modifications they undergo. The research material was the technical terms extracted from Oksana Zabuzhko's novels “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex” and the short story “Album for Gustav”. In the analyzed material, we observe the presence of a complex hierarchy of stylistic devices based on the determination of scientific vocabulary, because, as stated in the literary criticism of the language of this work, “forgotten and invented constructions, unexpected lexical combinations and other things make the language imaginative and colorful” [2].

The purpose of the work is to identify and analyze the stylistic role of technical determinations in the work of the Ukrainian writer Oksana Zabuzhko using corpus technologies. Achieving the specified goal involves the following tasks:

1. to select, with the help of the General Regionally Annotated Corpus of the Ukrainian Language (GRAC), quotes from Oksana Zabuzhko's works “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex”, “Album for Gustav”, in which technical terms are involved in the analysis are used;
2. to classify the selected term units according to the method of semantic modification;
3. to find out the semantic and stylistic changes caused by the use of term vocabulary in the artistic style;
4. to analyze the possibilities of achieving a stylistic effect thanks to the use of technical determinations.

The object of the research is technical terms in the context of their use, extracted from the works “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex”, “Album for Gustav” based on the General Regionally Annotated Corpus of the Ukrainian Language GRAC [3].

In order to avoid urgent misunderstandings, in this research we distinguish between the concepts of metaphor (metaphorization) and artistic metaphor. The term metaphor (metaphorization) corresponds to the definition formulated by George Lakoff and Mark Johnson: “The essence of metaphor is understanding and experiencing one kind of thing in terms of another” [4]; we use the term artistic metaphor in the meaning of a stylistic device, a trope, which consists in transferring the name of one concept to another based on similarity (by color, shape, purpose or other feature).

2. Related Works

Termination, determinism, as well as the use of deterministic vocabulary to create artistic means (tropes, stylistic figures) – these linguistic phenomena are interesting for their expression in certain types of discourse and pragmatic-communicative orientation. It has been studied that modern fiction actively includes deterministic lexemes, thus testifying to the intellectualization of the literary language. Saturation of the text with determinations, which are not just components of stylistic means, but also become elements of the meaning-making process itself, enables artists to make the language of their works more expressive and vivid. A review of linguistic research gives reason to assert that the study of deterministic lexemes in view of their use in different styles is of deep scientific interest not only to linguists. In the modern stage of linguistic development, it can be asserted that the study of this issue
takes on an interdisciplinary nature, as deterministic vocabulary is investigated from a multifaceted perspective. Numerous scholarly investigations by both Ukrainian and international researchers, specialized monographs, textbooks, dissertation works, and professional and general lexicographic publications [4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14] testify to this fact. In the works of the last decades of the 20th century and the beginning of the 21st century, scientists have developed a number of theoretical and practical approaches to understanding determinism in the text. They include stylistic, cognitive, semantic, cultural, neurolinguistic, and pragmatic aspects in the works of famous linguists [11; 12; 13; 14; 15; 16; 17; 18; 19; 20; 21; 22; 23]. A direct contribution to the theory of metaphor as a process was made by Kövecses, Z., Szélid V. [17; 19; 24]. In the scientific work “Metaphor in Culture: Universality and Variation”, Zoltán Kövecses proposes a new theory of metaphor variation: defines the main dimension of metaphor variation, i.e. those social and cultural boundaries that signal ruptures in human experience; describes which components or aspects of the conceptual metaphor are involved in the variation of the metaphor and how they are involved; singles out the main reasons for the variation of metaphors, and also examines the question of the degree of cultural consistency in the interaction between conceptual metaphors, embodiment and reasons for the variation of metaphors [24].

Related to the topic of our research is a scientific work based on the corpus of texts by Levenchenko O., Karasov V., Dilai M. In the article entitled “Qualitative and Quantitative Markers of Individual Authorial Conceptualization”, the scientists proposed a methodology for the study of idiolect/idiostyle, which is based on the identification of quantitative and qualitative markers of individual and author's conceptualization. They presented statistical and metaphorical profiles of the concept of “sadness” in the Ukrainian language in general in the corpus of artistic texts, as well as in the idioclects of individual writers. The functioning of concept verbalizers in literary texts is analyzed using a statistical grouping of data, dividing the population into homogeneous groups based on a certain feature. In addition, the authors turned to the specifics of the metaphorization of the studied concept and focused attention on the metaphorical attributes of the verbalizers of the concept [25]. The study “Statistical characteristics of O. Zabuzhko's idiolect” highlights the statistical characteristics of O. Zabuzhko's idiolect. The authors investigated such characteristics of the writer's idiolect as the length of sentences and words, the frequency of punctuation, parts of speech, and the index of lexical diversity. The researchers compared the obtained results with those of other authors and determined the peculiarities of her idiolect [26].

Despite the intensification of scientific research on deterministic lexemes and artistic tropes in various functional styles, the study of semantic transformations of deterministic vocabulary in artistic discourse has almost not been implemented yet, in Ukrainian studies these phenomena have not been systematically analyzed at a sufficient level from structural and functional-grammatical perspectives.

3. Methods and Materials

The basis of the proposed research was general scientific and linguistic methods:
- **methods of abstraction and generalization** were used among the general scientific ones – to highlight the most essential theoretical data related to the problem under study;
- **the corpus method** of text research, is widely used in modern linguistics, particularly applied linguistics, because it is a set of techniques and principles according to which linguistic units are collected, systematized, processed, and interpreted to obtain scientific and practical conclusions. Therefore, these methods, as targeted, are considered to be one of the most effective research methods in applied linguistics;
- **the structural-semantic method**, which made it possible to reveal the associative sema of the original concept, which is reinterpreted and trooped in the derivative;
- **the method of cognitive interpretation**, which reveals the interdependence of the features of the formation of mental structures based on comparison and regularities of their verbalization at the semantic level;
- **the analysis of dictionary definitions** was used to establish the denotative values of the lexical-semantic variants of keywords selected from the corpus of the text;
- **syntagmatic analysis** is used to identify the contextual environment that brings the deterministic word to the fore;
- **discursive analysis** made it possible to integrate the interpretation of a certain passage of the text, its semantic connections, and the purpose of the statement;
- **pragmatic analysis**, which made it possible to reveal the functions and intentions of the writer in each specific speech situation, which involves the use of deterministic vocabulary in the function of tropes.

The research methodology is schematically reflected in Figure 1.

4. Results and Discussions

The research was made on the material of text fragments selected using the 15th version of the General Regional Annotated Corpus of the Ukrainian Language (GRAC-15) [2]. In the corpus, there is a subcorpus Oksana_Zabuzhko, which contains 910,775 tokens. Creating a frequency list based on metadata and analyzing this subcorpus for genres and titles of works that are included, we found that it consists of 10 works by Oksana Zabuzhko, including 3 major novels: “Museum of Abandoned Secrets”, “Notre Dame d’Ukraine: Ukrainian Woman in the Conflict of Mythologies” and “Field Research of Ukrainian Sex”, as seen in Figure 2.
The text you’ve provided mentions that the thematic content of these works by Oksana Zabuzhko suggests that the technical terms she uses may undergo semantic modifications. To investigate this further, you selected the most frequent technical determinations such as “дріт” (wire), “клєма” (terminal), “струм” (electric current), “система” (system), “конвеєр” (conveyor), “апарат” (apparatus), “мотор” (motor), “кнопка” (button), “пружина” (spring), “комп’ютер” (computer), and so on. Each of the determinations included in the research was used as a lexeme for searching, and a collection of quotes using the determined vocabulary was compiled. This collection served as the primary database for our research. For example, the term “струм” (electric current) was found in 15 citations in the corpus, as shown in Figure 3.

The materials of our research allow us to identify three types of semantic transformations based on semantic-stylistic processes of determining scientific vocabulary:

1. 1st type is a comparison. This stylistic device uses the simplest model of semantic transformation: based on the identification of a common (integral) seme between two compared concepts, a semantic connection is established, which syntactically takes the form of a comparative construction. The differentials of the seme objects of comparison recede into the background and are not taken into consideration.

Figure 3: Collection of Quotes for the Lemma/ Lexeme “струм” (electric current)

Figure 4: Types of Semantic Transformations
2. The 2nd type is an epithet. The use of this artistic tool manifests itself in two models: the basis of the first model is the use of a determinate lexeme in the function of an epithet, which usually has a distant semantic connection with the signified word; the second model is based on the fact that the lexeme is used in the attributive function, which, thanks to the combination with the denoted word-term, acquires certain semantic and emotional shades.

3. The 3rd type is an artistic metaphor. It demonstrates the most complex model of semantic transformations of deterministic vocabulary in an artistic style: a deterministic lexeme is directly involved in a context that is not characteristic of its term meaning, and thanks to this, the new context is expressed by the semantics of this deterministic lexeme, acquires a certain artistic aestheticism, and is saturated with expression according to the creative intention of the author.

4.1. Comparison

The simplest manifestation of the metaphorization of thought using the deterministic vocabulary of the technical sphere is comparative phrases. This linguistic device is characterized by the fact that thanks to its use, attention is focused on one feature common to both compared objects, and all other features of the comparator become insignificant. At the same time, it is extremely important to understand the author's thoughts to understand the term meaning of the comparator. Let's consider examples:

- "...під’єднала до мене своє життя, мов об’єднаний дрім" ("She connected her life to mine, like a broken wire rejoined") ("Museum of Abandoned Secrets"). The achievement of the meaningful transparency in this phrase occurs through the understanding of the technical process: when two elements of a broken wire are connected, the healing of the two systems that this wire unites takes place, and they begin to function in their usual mode. Through the use of the comparative phrase, the reader is metaphorically transported to the semantic field of the life activities of two individuals, and it becomes clearer that both objects connected by this wire gain the possibility to coexist harmoniously. Thus, the integral theme of this phrase is the connection to the restoration of normal life activity. In this process, the reader can emotionally perceive with precision both the fact that such a connection existed before but was disrupted, and the understanding that without the connection, life activity could not have been restored in any way. These additional semantic layers provide the basis for the expressiveness of the phrase.

- "Це її дар – добувати з людей заховану інформацію, як натискати на кнопку" ("It's her gift – extracting hidden information from people, just like pressing a button") ("Museum of Abandoned Secrets"). The integral theme in this comparison is the simplicity of the action: pressing a button is an activity that doesn't require significant effort, skills, or expertise, so extracting hidden information is also a straightforward action. At the same time, from the semantic context, the reader understands that this simplicity of action is a unique gift possessed by the heroine. Extracting this information requires effort, implying that significant exertion is necessary to accomplish this complex task. Consequently, the reader emotionally sympathizes with the heroine due to this understanding.

- "Навіть почув приховане стукотіння його думки, як заведеного бомбового механізму" ("Even heard the concealed ticking of his thoughts, like a wound-up bomb mechanism") ("Museum of Abandoned Secrets"). The mechanical process, with which the author compares thinking activity, is characterized by the seme of active monotonous activity that carries a threat, so the lexeme “думка” (thought), reinforced with the help of an artistic metaphor with the lexeme “стукоміння” (ticking), actualizes this integral seme and, as it were, materializes its meaning. At the same time, the comparison of the thinking process with a bomb mechanism suggests the expression of the threat that this device carries, and therefore the thoughts of the hero; since the thought is ticking, this threat is felt as materialized, so an additional emotional load appears.

Schematically, the mechanism of semantic transformations using comparative inflections can be depicted as follows:
Having analyzed the entire array of comparative phrases extracted from the novels “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex” and the short story “Album for Gustav”, we notice an important, in our opinion, detail: in different contexts, the author, using the same comparator, can emphasize its different semes, integrating each time others to the compared object. For example, the deterministic lexeme “струм” (electric current), used in three comparative phrases, each time actualizes a different semantic field to enhance the meaning of the compared object:

- In the quote “Закляк, як струмом ударений, посеред кухні з недонесеною до плити туркою в руках” (“Stuck like someone struck by an electric current in the middle of the kitchen with an unfinished teapot in hand”) (“Fieldwork in Ukrainian Sex”), the integral seme is immobility arising after a strong impact of an electric current.

- In the phrase “Тьма задрижала й збіглась круг них двох у блискавичний вогненний контур – мов навіч явлєне замкнене коло струму” (“Darkness quivered and converged around the two of them in a lightning-bright fiery circuit – as if an eternal closed loop of electric current had appeared”) (“Museum of Abandoned Secrets”), there is an emphasis on two integral semes: trembling and fiery brightness. These attributes are demonstrated by the electric current during its active passage through a closed circuit.

- In the sentence “Вперше те побачив, – наче струмом його вдарило, і впала в голові заслінка” (“For the first time he saw it – as if he was struck by an electric current, and a veil fell in his mind”) (“Museum of Abandoned Secrets”), the author actualizes the seme of unexceptedness present in the interpretation of the term “струм” (electric current), when it refers to an unforeseen electric shock.

The structure of semantic transformations of the term “струм” (electric current) in comparisons with different contextual surroundings is depicted in Figure 6.
The use of corpus technologies helps to find different examples of the use of the comparator term with different semantic modifications. For example, Oksana Zabuzhko also uses the technical term “пружина” (spring) in comparative phrases with an emphasis on those semantic fields that, according to her author's vision, stand out in the relevant context in a particularly expressive way. In the quote “a тимчасом ного мама піддрабляє дешевими репортажами на українській “Свободі”, яку Клінтон усе не збереже закрито, – витвоює колись рідкою мовою з тими, наче пружини з матраца, витираючи чужинські інтонації, які мають засвідчити, що вона вже – бери вище! – не з нашого села: вирвалася!” (“Meanwhile, his mother fakes cheap reports on Ukrainian “Svoboda”, which Clinton can't seem to shut down – she exclaims in her native language, with those springs protruding from a mattress, bearing foreign intonations that are meant to signify that she's no longer from our village – she's escaped!”) (“Fieldwork in Ukrainian Sex”), the deterministic lexeme “пружина” (spring) is used to emphasize that it deteriorates the quality and aesthetics of the mattress by protruding on its surface, similar to how foreign intonations deteriorate the quality and aesthetics of the native language. Notably, in this context, the comparative phrase takes on an ironic-satirical tone, as the protrusion of a spring from a mattress is a negative phenomenon disliked by the users of that mattress. In the sentence “і, бачаю, як воно перемінилася на виду, підхоплюється, мов піджинутий пружиной, Адріян, ніби вона й справді сновида, що ступає по карнизу й леда-лишь може ввести й розбитись.” (“And seeing how she changed visibly, Adrian catches on, as if sprung up by a spring, as if she truly is a somnambulist, treading on the cornice, and in a second, she could fall and shatter like ice”) (“Museum of Abandoned Secrets”), the deterministic lexeme “пружина” (spring) is used to emphasize the integral theme of sudden rapid vertical movement. The usage of this comparative phrase with the determination of “пружина” (spring) elicits an entirely different emotional response than the previously mentioned quote. It doesn't carry negative associations; instead, it confirms the author's favorable attitude towards the character who reacts so quickly to a threat.

Thanks to the application of corpus technologies, we have the opportunity to discover that the effectiveness of comparative phrases in achieving the intelligibility and persuasiveness of a phrase is due, firstly, to their simplicity in building a logical chain, and secondly, to the transparency of the internal form of the technical term used in the comparator function: the reader forms his an opinion about something abstract based on a comparison with known mechanical objects based on certain integral features. At the same time, choosing an object for its use as a comparator, the author is able to express her own attitude to the compared object, to evoke certain emotional reactions in the reader's imagination. Therefore, the comparative phrases create a certain artistic effect.

We observe that the deterministic lexemes Oksana Zabuzhko employs in her literary works, particularly in comparative phrases, are usually names of well-known objects. However, these words often originate from foreign languages: “те, що було твоєю і нічим більше, відчувалось кущем на задній плос і баша, як програма на моніторі в чеканні перезавантаження системы, бо перед лицем зазріс, що насувається, у своєму житті не могло більше бути скішково, ні в домі, ні в роботі” (“What was yours and no one else's has receded into the background, hung like a program on a monitor waiting for the system to reboot, because in the face of the impending threat, there could no longer be any refuge in your life, neither at home nor at work”) (“An Album for Gustav”); “бачив морду вінчув, що заходився гавкотом, паткуючи повідок, і Гелін профіль за два кроки перед собою, й трактрово підбув я куран, як на балістичному графіку” (“he saw the snarling muzzle of a wolf, who started balking, pulling on the leash, and Helin's profile two steps ahead of him, and the
trajecory of her gaze, as on a ballistic graph”) (“Museum of Abandoned Secrets”); “Адриян загадом не надто схвалював, коли колеги заручалися або женилися; вважав, що тепер на те не час. Проте годі було заперечити, що жоден бородився ніби з подвоєного силу. Ніби їхні жінки підживляли їх додатково енергією. Як акумулятори” (“Adrian, in general, didn't approve much when colleagues got engaged or married; he believed that now was not the time for that. However, it was hard to deny that the married ones fought as if with double the strength. As if their wives fueled them with additional energy. Like batteries”) (“Museum of Abandoned Secrets”); “I я просто посередник, Лялюсь. Щось як провідник спрому, розумієш? Ну, ще часом каталізатор процесу... Я так воно весь час, із самого початку це триває: я працюю додатком до вашого проекту. Проекту, пов’язаного з моєю родиною, для якого тобі просто потрібен був провідник” (“I’m just a mediator, Lyalus’. Something like a conductor of electricity, you understand? Well, sometimes a catalyst for the process... And that's how it's been all along, from the very beginning: I work as an add-on to your project. A project related to my family, for which you simply needed a conductor”) (“Museum of Abandoned Secrets”). The use of determinations of foreign origin in the function of comparisons confirms the idea present in the scientific literature regarding the unwavering intellectualization of the modern Ukrainian language [27].

Summarizing the analysis of comparisons in the investigated material, we note that this literary device, through the juxtaposition of two objects and the emphasis on a particular attribute of these objects, not only serves for more precise clarification – it effectively enriches the text with expressiveness. As rightly noted in [6], “the peculiarity of comparison as an expressive-illustrative means lies in the fact that it accentuates the specificity of the image of one object or phenomenon through another, which is better known, brighter, evoking certain aesthetically oriented associations and emotional evaluative reactions, as well as capturing attention and activating the imaginative thinking of a person”. Based on the conducted analysis, we conclude that comparisons express the author's attitude towards a certain object, as there is no real connection between the compared (comparand) and the comparative object (comparator). This connection arises solely in the mind of the speaker. It's the writer's creative imagination that selects the object of comparison and determines the comparative attribute, i.e., the choice of the comparator and the integral theme for creating a comparative phrase is always linked to the nature of the author's depiction.

4.2. Epithet

The research materials, collected on the basis of corpus technologies, confirm the presence in the analyzed works of Oksana Zabuzhko of two models of using the artistic means of the epithet using deterministic vocabulary with the quantitative prevalence of the first model. The first model involves the use of a deterministic lexeme in the function of an epithet, which typically doesn't have a pronounced semantic connection with the modified word. Let's consider this model using the example of using the deterministic lexeme “віртуальний” (virtual) as an epithet. The lexicographic publication “Slovnyk.ua” interprets this lexeme in two meanings: “1. Possible; capable of occurring or manifesting. 2. Conditional” [28].

- “...іх заганяють у камеру віртуальної реальності” (“They are placed in the chamber of virtual reality”) (“Album for Gustav”). The lexeme “віртуальний” (virtual), combined with the concept of “реальність” (reality), is used here, evidently, in the second meaning – conditional reality. However, the context hints at additional semantic nuances of this epithet: invented, fantastical, illusory. Moreover, we observe that this short phrase is enriched with profound artistic thought: the use of the epithet віртуальний (“virtual”) aligns with the artistic metaphor “камера реальнosti” (the chamber of reality). The lexical meaning of the word “камера” (chamber) in this context is “An internal hollow part of a building, machine, or device” [28], so if reality is confined within the bounds of a specific chamber, the epithet віртуальний (“virtual”) also takes on a certain negative connotation, evoking a corresponding emotional response from the reader.
- “В тут мить я зрозуміла, що, властиво, не знаю свого батька: він помер, коли мене ледье сповнилося сімнадцять, і я запам’ятала його тільки таким, яким він був у моєму дощу до мене, дитини й підлітка, – і з цієї ото пам’яті, лиши подвоєної посмерчі, скрізь і з роками кам’янічами, бо ж нових не прибувати!” свідченнями – маминими, друзів, колег, його
студентів (які, здається, за ним шаліли – коли не брешуть), поступово змовтувала собі в свідоності неповного віртуального персонажа – із зовнішністю моєї матері в портретому, відліківному, від якої довіряла моєму життєвій «сторі». якого її покоління було загалом не так-то й мало” (“In that moment, I realized that, essentially, I didn’t know my father: he died when I was barely seventeen, and I remembered him only as he was in relation to me, a child and a teenager – and from this memory, slightly refined by posthumous, sparse (and with the years, hardening, as no new ones come!) testimonies – my mother’s, his friends’, colleagues’, his students’ (who, it seems, idolize him – when they’re not lying), I gradually constructed in my consciousness a certain virtual character – with the appearance of my father at the age of forty-five, already a doctor, and with a rather somber life “story” that has aged with time, because there aren’t many of those in his generation”) (“Museum of Abandoned Secrets”). The broad context of using the epithet “віртуальний” (virtual) to describe the character indicates its positive semantic richness. This lexeme can be illustrated with synonyms like “омріяній” (dreamt of), “дожданий” (desired). Thus, through the author’s assessment of this object, the reader perceives the lexeme “віртуальний” (virtual) with a positive emotional connotation..

• “Творитиме собі свій приватну віртуальну реальність, до якої нічні брудні запи не матимуть доступу” (“He will create his own private virtual reality, to which no dirty hands will have access”) (“Museum of Abandoned Secrets”). The use of the epithet “віртуальний” (virtual) is intensified in this context by the additional modifier “приватний” (private), thereby reinforcing the semantic aspect of closure and inaccessibility to the general public of the imagined reality being discussed. As a result of this semantic transformation, the determined lexeme-epithet “віртуальний” (virtual) becomes associated with synonyms like “надумана дня себе” (imagined for oneself), “яківна” (imaginary), “особисто сконструйована” (personally constructed).

• “я тоді ще не знав, що це необхідна умова творення всякої віртуальної реальнісї, і екранної насамперед: щоб існувати, вона потребує від своїх творців постійної енергетичної підживки, підживання в огонь щоразу нових дровець, нових кілокалоріїв життєвого запалу, – це так, як із брехнею, яку теж треба ввести час підживляти, бодай тільки держачи її в пам’яті постійним розумовим зусиллям, бо, полищена на себе, вона впинє здувається, як кожна паразитична форма життя, як омела, коли надає висвітленою із телевізією те саме” (“At that time, I still didn’t know that it was a necessary condition for creating any virtual reality, especially a screen-based one: in order to exist, it requires constant energetic nourishment from its creators, the continual feeding of new kindling, new kilocalories of living fervor into the fire — much like lies, which also need to be constantly fed, even if just by holding them in memory through constant mental effort, because if left to itself, it deflates immediately, like any parasitic life form, like mistletoe when the tree it has drained falls, and the same goes for television”) (“Museum of Abandoned Secrets”). In this context, the epithet “віртуальний” (virtual) conveys the dominant sense of something imagined, but emotionally the reader senses that this is a delicate, tender reality. These peripheral senses gain significant meaning thanks to the context, enriched with artistic metaphors like “енергетична підживка” (energetic nourishment), “кілокалорії запалу” (kilocalories of fervor), and comparisons such as “паразитична форма життя” (parasitic life form), and idioms like “підживання в огонь дровець” (feeding kindling into the fire), and so on. The symbiosis of all these stylistic devices creates a pronounced artistic effect in this sentence.

• “Не існує в просторі віртуальної аудіотеки відлучених голосів у відкритому доступі” (“In the realm of the virtual audiobook library, there are no echoes of voices in open access”) (“Museum of Abandoned Secrets”). The use of the epithet “віртуальний” (virtual) in conjunction with the term “аудіотека” (audiobook library) emphasizes the semа “визадана” (imagined), and “яківна” unreal. However, through the addition of the phrase “in open access”, the semа closure and privacy, which we have observed in previous contexts, is further intensified. Thus, the epithet “віртуальний” (virtual) accentuates the semа being created for oneself, for personal needs.

• “Дорослі, часами підтоваруваті діти, яким доручено всерйоз бавитися в віртуальній себі” (“Adult, sometimes old children, who are entrusted with seriously playing in the virtual world”) (“Museum of Abandoned Secrets”). This context testifies to the dominance of the semа “визаданий” (fictional), “неправдивий” (unreal) world, and thanks to the predicative lexeme
“бавитися” (to play), we can observe the approach to the semes “казковий” (fabulous), “фантастичний” (fantastic), and also feel a certain aesthetic satisfaction from the stylistic devices that complement the general canvas of this artistic phrase: oxymorons “дорослі (підстаркуваті) діти” (adults (aged) children), “серійно бавитися” (seriously play), an artistic metaphor for “бавитися в світ” (playing with the world), etc.

So, summing up the analysis of quotes with the deterministic lexeme “віртуальний” (virtual) as an epithet, we notice that in none of the given examples is this epithet used in the first, term meaning of “possible: the one that can or should appear”, usually the semantics of this lexeme is close to the meaning – imaginary, present in thoughts, moreover, in each specific context, the emphasis is on various peripheral semes of the word “віртуальний” (virtual), which are designed to reproduce the author's perception of the indicated object and cause an emotional impact on readers. Schematically, the structure of semantic transformations of the epithet “віртуальний” (virtual), in different contextual environments is shown in Figure 7.

![Figure 7: Semantic Structure of the Deterministic Lexeme “віртуальний” (virtual)](image-url)

The second model of using the artistic means of the epithet with the involvement of deterministic vocabulary is the use in the attributive function of a lexeme, which thematically does not combine with the signified word, but thanks to semantic transformation acquires such ability while conveying a significant charge of expression as intended by the author. This type of semantic transformation can be exemplified by definitions that accompany the deterministic lexeme “фаза” (phase) in various contexts. Lexicographic sources interpret “фаза” (phase) in several meanings: “Phase” (Latin: phasis from Greek φάειν – appearance): 1. Quantitative characteristic of oscillation, which defines the difference between two similar oscillations starting at different moments in time. 2. Period, degree of development of something: phase of a binary star's brightness, phase of the Moon. 3. In electrical engineering, one of the conductors of a polyphase current. 4. In physical chemistry, a separate, homogeneous component of a physico-chemical system is separated from other parts of the system by a boundary surface (e.g., a mixture of ice and water at 0°C constitutes a physico-chemical system, and separately, ice and water represent its solid and liquid phase respectively). 5. In materials science, a homogeneous composition and structure part of an alloy is separated from other parts by interfaces. 6. The thermodynamic phase is a thermodynamic equilibrium state of matter distinguished by its physical properties from other states of the same matter [29]. The illustrations provided below allow us to trace the use of the function of the epithet in extensive attributive constructions, including subordinate attributive clauses, which influence the emotional perception of the term “фаза” (phase). It is worth noting that the use of such common epithets is accompanied by the incorporation of other stylistic
devices into their composition, reinforcing the artistic effect and contributing additional expressive layers.

- “Глупо, вона ж іще маленька – її життя ще відцентроване на себе, вона ще навіть із тілом своїм не цілком зжилася, не вийшла з фази ліплення себе за готовими кіно-телезразками”, “я ж пам’ятала її в фазі закоханості – здавалось, це так недавно було, але ні” (“It's silly, she's still little – her life is still self-centered, she hasn't even fully integrated with her own body, hasn't moved past the phase of molding herself after ready-made movie and TV prototypes”, “I remembered her in the phase of being in love – it seemed like it was just recently, but no”) (“Museum of Abandoned Secrets”). In both of the provided quotes, an uncoordinated definition is used as an epithet. Moreover, in the first example, it is extended and incorporates the artistic metaphor “ліплення себе” (molding oneself) (due to the use of this artistic metaphor, the abstract process of character formation, nurturing one's own intellectual and volitional qualities, is transformed into the creative process of sculptural molding, acquiring certain material characteristics, while also allowing one to feel the influence of the artist's talent on the outcome of this process). Clearly, the term “фаза” (phase) is used here in its most neutral meaning “period, degree of development of something”. However, an associative connection with the term's meaning in physical chemistry “a separate, homogeneous component of a physico-chemical system separated from other parts of the system by a boundary surface” can be sensed, as the phase of being in love or of the phase molding oneself are singled out among other phases of the heroine's life activity. Thus, the author emphasizes the peculiarities, uniqueness, and self-sufficiency of these phases, enhancing their respective semes and evoking a favorable emotional response from the reader. The structure of semantic transformations of the term “фаза” (phase) in comparisons with different contextual surroundings is depicted in Figure 8.

Figure 8: Semantic Structure of the Determined Lexeme “фаза” (phase)

- “я вже на тій фазі, коли втоми не чуєш, бо взагалі не чуєш тіла” (“I'm already at that phase where you don't feel tiredness because you don't feel your body at all”) (“Museum of Abandoned Secrets”). In this example, the function of the epithet is performed by subordinate constructions, which are intensified by lexical repetition (“don't feel”) and an artistic metaphor (“don't feel the body, don't feel tiredness”). By employing this common syntactic construction to define the lexeme “фаза” (phase), a vivid emotional picture emerges, one that the reader can relate to from their own experience.
- “…она й застрягла з Вадимом так небезпечно довго – на тій фазі, коли вже перевертає свої дні важко, як мокру землю лопатою, бо на місце погаслої любові, чи того, що нею було здавалося, приходить порожнеча” (“...she got stuck with Vadym dangerously long – at that phase where you already flip your days as heavily as wet soil with a shovel, because emptiness comes in place of extinguished love, or what it seemed to be”) (“Museum of Abandoned Secrets”). In this example, the function of the epithet is attributed to a series of subordinate clauses, which employ various stylistic devices. We observe the presence of
artistic metaphors ("flip your days", "emptiness comes"), comparisons ("flip, like wet soil with a shovel"), and epithets ("extinguished love"). Thus, a wide artistic canvas is depicted, enriched with emotions of oppression, sadness, and intense experiences. Therefore, we can conclude that the author aimed to express her own emotional evaluation of the lexeme “фаза” (phase) and actualized this specific semantics to evoke a similar response from the reader. The schematic structure of semantic transformations of the lexeme “фаза” (phase) in different contextual environments is depicted in Figure 9.

- “Десь невдовзі по Владиному похороні було – в ресторані, на якісь урочистості, на тій фазі, коли столи оголюються брудним начинням, мокрі від поту офіціанти спотикаються, розляпуючи по паркету десерт, і розмови траплять зв’язність, розсипаючись на хаос самотніх монологів” (“Somewhere shortly after Vlad’s funeral, it was – in a restaurant, at some event, at that phase when tables are stripped bare with dirty fillings, waiters wet with sweat stumble, spilling dessert on the floor, and conversations lose coherence, dispersing into the chaos of solitary monologues” (“Museum of Abandoned Secrets”). In this quoted passage, the function of the epithet is carried by three coordinate constructions that descriptively characterize people's behavior during a meal; these constructions are skillfully enriched with artistic metaphors (“tables are stripped bare”, “stripped bare with fillings”, “conversations lose coherence, dispersing into the chaos”), and epithets (“dirty fillings”, “solitary monologue”, “chaos of monologues”), enhancing the expressiveness of the thought both in content and emotion. As a result, the determination of the term “фаза” (phase) gains an ironic and sarcastic tone through this process.

Certainly, through the analysis of a substantial volume of research materials, we observe that the author skillfully combines various stylistic devices in specific contexts, thus introducing different types of epithets using determined lexicon. For instance, the application of both models within a single sentence can be illustrated with the following example: “Боже мій, як же я за сьогодні втомилася, – неже оце тільки нині вранці я збиралася на зустріч до Вадима, повторювала подумки свій заготовлений прокурорський спіч про дівоче шоу, вмисно добирала піджак і ґольф – ті самі, в яких була в нього на Тарасівській у день Владиної смерті, з розрахунком, що у Вадима спрацює на них павловський рефлекс, увімкнуться підсвідомі механізми вини й пам'яті” (“My God, how tired I am for today – could it be that just this morning I was getting ready for a meeting with Vadim, mentally rehearsing my prepared prosecutor's speech about the girls' show, intentionally choosing a jacket and turtleneck – the same ones I wore to his place on Tarasivska Street on the day of Vlada's death, with the calculation that Pavlovian reflexes would work on Vadim, triggering subconscious...
mechanisms of guilt and memory” (“Museum of Abandoned Secrets”). The technical term “механізм” (mechanism) according to its terminological meaning is combined with the predicate “вмикатися” (to activate), meaning to start working. However, this term does not have a semantic connection either with the epithet “підсвідомий” (subconscious), as “механізм” (mechanism) refers to a material, not an imaginary object, nor with the uncoordinated definitions of guilt and memory, which based on their syntactic roles and stylistic content can also be considered epithets.

Indeed, summarizing the analysis of using epithets with the determined lexicon, we note that the application of this stylistic device leads to the imposition of new semantic layers influenced by the respective context. Consequently, the author is able to replicate and convey their own attitude towards specific objects to the reader. Through artistic imagery, the author creates a corresponding mood and influences the reader's emotions.

4.3. Artistic Metaphor

The application of an artistic metaphor in the artistic style, using a deterministic lexicon, involves intricate models of semantic transformations accompanied by expressive stylistic and emotional layering. The deterministic lexeme is transposed into a context thematically distant from its literal meaning. Consequently, the new context undergoes semantic intensification through the overlay of the deterministic lexeme's semantics, as well as according to the creative intent of the author who selects appropriate analogies. This imparts a specific expressive hue to the text, creating an artistic effect on the readers. “Metaphor is a tool that enables people to use what they know about their direct physical and social experiences to understand more abstract things like work, time, mental activity, and feelings” [4]. Let's delve into specific examples from the analyzed works.

- “A тут у мені мов відбулося перезавантаження системи: я знову чуюсь собою” (“And here it was as if a system reboot occurred within me: I feel myself again”) (“Museum of Abandoned Secrets”). “Перезавантаження системи” (a system reboot) in the realm of modern technology is a process where the operating system is shut down and restarted; this operation is useful to ensure system stability, often recommended after installing new software or in cases of prolonged device operation. The understanding of the technical meaning of this phrase intersects with an entirely different semantic field – the psychological or mental stability of a person. As a result, the reader envisions the mechanisms of changes that could take place in a person's consciousness more vividly. Simultaneously, there's an emotional response to the realization that one can reboot their system and discard all the emotions, thoughts, and experiences that overwhelmed the character's consciousness, all without significant effort and in a short span of time.

The schematic structure of the semantic transformations of the phrase “перезавантаження системи” (system reboot) is depicted in Figure 10.

![Figure 10: Semantic Structure of the Phrase “перезавантаження системи” (system reboot)](image-url)
• “А на зворотному рейсі – вже знаючи, після того ранку з вікном на мокрі дахи, що з Р. треба невідкладно рвати, і до якраз для здорова’ї, принаймні душевного, – я, як на грех, заважалась була якраз таку тугенку ляль, недавно з конвеєра, хоч ужас і не зовсім свіжу, ледь підступу ньому уживаності, з недозначним, як уніформа, прикладом” (“And on the return trip – already knowing, after that morning with a view of wet roofs, that R. urgently needs to be broken away from, and precisely for the sake of well-being, at least mental – I, as if by sin, had just noticed such a snug doll, recently off the conveyor, although not entirely fresh, slightly tainted with the patina of usage, with an unambiguous, uniform-like appearance”) (“Museum of Abandoned Secrets”). We observe the presence of a complex amalgamation of stylistic devices in this quote: an artistic metaphor is used in the syntactic role of an attributive-epithet, intensified by antithesis (“недавно з конвеєра” (recently off the conveyor) – not entirely fresh, tainted), and expressed through other stylistic means (patina of usage, as if by sin, snug doll, uniform-like appearance, etc.). The use of the term “конвеєр” (conveyor) (device for continuous movement of product parts from one worker to another, for transporting goods, etc. during mass production [29]) as an artistic metaphor involves activating at least three semantic fields on a new thematic level: newly made, fresh, as new products move on the conveyor; available in large quantities, as conveyors are used in mass production; not too original, typical, since conveyor production entails mass manufacturing of uniform products. Therefore, the lexeme “ляль” (doll) is enriched with the corresponding semantics, as well as the expressiveness accompanying the use of these and other artistic devices, resulting in an exceptional satirical effect.

• “Довго ж ми [thinking – author’s note] апарат чахав – упорожні, як мотор без палива” (“My apparatus wheezed for a long time – empty, like an engine without fuel”) (“Museum of Abandoned Secrets”). The use of the comparative phrase “як мотор без палива” (like an engine without fuel) contributes to the expression of semantic transformations through the artistic metaphor. The reader can envision the activity of an engine that cannot start without fuel, hence making corresponding sounds – wheezing. Thanks to understanding the technical process of how an engine operates, the imagery of the functioning of “механічного апарату” (thinking apparatus) becomes clearer and more vivid. Additionally, a wonderfully ironic undertone arises from the application of these stylistic techniques.

• “…ми суміліно балакали виснутою на громадсько-політичні теми – про Кучму і про Гонгадзе, про переміну в уряді і закрутку гайок у нас на телебаченні” (“…we conscientiously chatted exclusively about public-political topics – about Kuchma and Gongadze, about changes in the government and the tightening of screws on our television”) (“Museum of Abandoned Secrets”). The use of the artistic metaphor “закрутка гайок” (tightening of screws) in this context is a frequently employed example of utilizing a deterministic lexicon as an artistic metaphor in literary and journalistic works. In its technical sense, this phrase is used to denote the process of rotating screws to create or enhance the strength and reliability of connections between parts. The metaphorical meaning amplifies the sense of immobility, constraint, as when a screw is tightly tightened, the part cannot move freely. Hence, transferring this determination to the thematic field of television, and mass media, emphasizes the semantics of strict adherence to certain requirements and standards, the impossibility of freely expressing one’s opinions, thus acquiring a negative emotional connotation.
"куля" (bullet), it is a small lead or steel projectile for shooting from handguns and machine guns [28]. Bullets are deadly dangerous for humans and other living beings. In the given context, “кулі поцілюють у живу минувщину” (bullets are aimed at a living past). Through this artistic metaphor, the reader realizes the mortal threat to this past. Additionally, the inclusion of the oxymoron “жива минувшина” (living past) further intensifies the artistic effect and invokes a sense of concern, the desire to make efforts to prevent danger.

Figure 11: Semantic Structure of the Phrase “закрутка гайок” (tightening of screws)

The schematic structure of the semantic transformations of the phrase “кулі поцілюють у живу минувщину” (bullets are aimed at a living past) is depicted in Figure 12.

Figure 12: Semantic Structure of the Phrase “кулі поцілюють у живу минувщину” (bullets are aimed at a living past)
“...бо ж, кохаючись по-справжньому, зливатися не з партнером, ні – з розбуялою анонімною силою, що протинати своїм струмами все живе, підключаєшся до неї з тим, аби на кілька секунд – а-ах! – катапультуватися в вібруючу вогнистими контурами чорноту, якій нема ні імення, ні міри” (“...because truly falling in love, you connect with a raging anonymous force that cuts through all that lives with its currents. You connect with it in order to catapult for a few seconds – ah! – into the trembling darkness with fiery contours, to which there is neither name nor measure”) (“Fieldwork in Ukrainian Sex”). This remarkable quote demonstrates an extensive metaphor using the deterministic phrase “протинати струмом” (cuts through with its currents). Understanding the technical meaning of this phrase and recalling that the human body is an excellent conductor of electric current, the reader realizes how under the influence of electricity, heart rhythm can be disrupted or even stopped, and the person’s level of consciousness can change. By using this artistic metaphor, the reader feels certain analogies with the action of the raging anonymous force, thereby intensifying the artistic effect of the masterfully formulated idea.

The schematic structure of the semantic transformations of the phrase “протинати струмом” (cuts through with its currents) is depicted in Figure 13.

![Figure 13: Semantic Structure of the Phrase “протинати струмом” (cuts through with its currents)]](image)

Summarizing the analysis of the use of an artistic metaphor using the deterministic vocabulary of the technical terminology system, we emphasize that the use of this stylistic tool contributes to the visual expression of abstract thought through the understanding of the term meaning of the corresponding deterministic lexemes. There is an overlay of term semes on a completely different thematic field; immaterial, imaginary phenomena and processes are interpreted in the mind of the reader as completely material, therefore the author vividly and accurately reproduces a complex abstract thought and conveys a certain sensory and emotional load to the reader, actualizing individual mood nuances in accordance with his creative intention. Thus, this stylistic device not only enhances the expressiveness of the text but also adds depth and emotional richness to it.

5. Conclusion

The analysis of semantic transformations of deterministic vocabulary, extracted on the basis of the General Regionally Annotated Corpus of the Ukrainian Language (GRAC) from Oksana Zabuzhko’s novels “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex” and the short story “Album for Gustav” makes it possible to reveal the possibilities of achieving a stylistic effect thanks to the use of technical determinations. It has been established that semantic transformations of deterministic vocabulary in artistic discourse arise on the basis of the involvement of metaphorization, that is, the expression of the essence of one type in terms of the essence of another type. The materials of the
research made it possible to distinguish three types of semantic transformations based on semantic and stylistic processes of determining scientific vocabulary: comparison, epithet, and artistic metaphor.

The deterministic lexemes used by Oksana Zabuzhko in the comparisons attested in the selected material are usually the names of well-known objects, even if they are words of foreign origin. Determinations, which are the names of specific technical concepts and have a clear definition in the scientific field, contribute to the avoidance of an excessive number of abstract thoughts in the artistic style and make it possible to achieve clarity, expressiveness, and clarity of thought. It is thanks to the juxtaposition of the abstract and the concrete, which are combined in comparative phrases, that the author materializes and concretizes her opinion, and also due to the inclusion of integral semes necessary for her subjective assessment, she fills the phrase with expression, achieves artistic perfection. With her creative imagination, the writer chooses the object of comparison and determines the comparative feature, that is, the choice of comparator and integral semes to create a comparative phrase is always connected with the nature of the author's assessment of the image.

Research materials collected on the basis of corpus technologies confirm the presence in the novels “Museum of Abandoned Secrets”, “Fieldwork in Ukrainian Sex” and the short story “Album for abandoned secrets”, “Fieldwork in Ukrainian Sex” and the short story “Album for abandoned secrets” of two models of using the artistic device of the epithet using deterministic vocabulary: the use of a deterministic lexeme in the function of an epithet, which usually does not have a clear semantic connection with the indicated word, and the use of a lexeme in the attributive function, which is not thematically combined with the signified word-term, but thanks to semantic transformation acquires such an ability, and at the same time conveys a significant charge of expression according to the author's intention. At the same time, semantic transformations are aimed at providing a deterministic lexeme with an additional semantic load that reflects the author's attitude to the signified object and saturates the text with expression.

The application in the artistic style of an artistic metaphor using a deterministic lexeme consists in transposing it to a context that is thematically distant from the term meaning of this lexeme, so the new context undergoes meaningful expression due to the imposition of the semantics of this deterministic lexeme, as well as in accordance with the creative intention of the author, who selects the appropriate analogies, the text acquires a certain expressive color and creates an artistic effect on readers.

The technical determinologisms selected by identification from the annotated corpus proved that the term vocabulary functions organically in the artistic text, contributing to the achievement of lexical-semantic expressiveness and expressiveness of speech, and becomes an important component of Oksana Zabuzhko's idio-style.

6. References


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