

THE INFLUENCE OF MEMORY CACHE ON TEXT COHESION AND ITS TRANSLATION (BASED ON SERHIY ZHADAN'S NOVEL VOROSHILOVGRAD)

ВПЛИВ КЕШУ ПАМ'ЯТІ НА КОГЕЗІЮ ТЕКСТУ ТА ЙОГО ПЕРЕКЛАД (НА ПРИКЛАДІ РОМАНУ СЕРГІЯ ЖАДАНА «ВОРОШИЛОВГРАД»)

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Each sentence of a text is built on the previous one and is the basis for the next. However, the comprehension of a text is influenced not only by the actual information in the text before, but also by the reader's knowledge base and experience. The set of knowledge required to decode a particular text (or its excerpt) forms a memory cache. Memory cache is a term used in the computer science and machine translation, but in the linguistic research it is important not only for computer translation, but also for the text writing, reader perception, and human translation. The purpose of the article is to analyze the impact of memory cache on these three levels on text coherence. The research was conducted in three stages: a literature review on the use of the term "memory cache"; division of the study of the impact of memory cache into three levels: writing, reception, and translation; analysis of the sample depending on the proposed classification. Text coherence is ensured by lexical and grammatical means. However, a passage taken out of context will not be connected to the text, will contain inaccuracies and may contradict the author's overall intention, since it is not supported by the previous memory cache. The study is conducted only on the basis of the artistic style and only works with two languages – Ukrainian and English. Using the example of Serhiy Zhadan's novel Voroshilovgrad, the article shows how the memory cache affects the coherence of the text when it is written, perceived, and translated. Semantic cohesion forms the thematic memory cache, the reader's understanding of the general theme of the text. Logical cohesion provides a logical presentation of information; If the reader takes a passage out of context, the cause-and-effect relationships will not be stored in the memory cache, and thus the cohesion of the text will be compromised. Reference cohesion is the correlation of the textual world with reality; it is the use of the reader's background and encyclopaedic knowledge. Pragmatic cohesion is focused on the reader and appeals to the reader's memory cache. Based on the previous information in the text, the reader can logically continue unfinished sentences, answer questions, or complete the overall picture. The results of the study may be useful for philologists and translators working with text coherence.

Key words: cohesion; memory cache; writing of the text; reception of the text; translation of the text.

Кожне речення тексту будється на попередньому і є основою для наступного. Однак на розуміння тексту впливає не тільки фактична інформація, що міститься в попередньому тексті, а й знання та досвід читача. Набір знань, необхідний для розшифрування конкретного тексту (або його уривка), утворює кеш пам'яті. Кеш пам'яті – це термін, що використовується в інформатиці та машинному перекладі, але в лінгвістичних дослідженнях він важливий не тільки для комп'ютерного перекладу, а й для написання тексту, сприйняття читачем та людського перекладу. Мета статті – проаналізувати вплив кешу пам'яті на цих трьох рівнях на когезію тексту. Дослідження проводилося в три етапи: огляд літератури щодо використання терміна «кеш пам'яті»; поділ дослідження впливу кешу пам'яті на три рівні: написання, сприйняття та переклад; аналіз вибірки за запропонованою класифікацією. Когезія тексту забезпечується лексичними та граматичними засобами. Однак вирваний з контексту уривок не буде пов'язаний з текстом, міститиме неточності та може суперечити загальному задуму автора, оскільки не підкріплений попереднім кешем пам'яті. Дослідження проводиться виключно на основі художнього стилю і працює з двома мовами – українською та англійською. На прикладі роману Сергія Жадана «Ворошиловград» у статті показано, як кеш пам'яті впливає на зв'язність тексту під час його написання, сприйняття та перекладу. Семантична когезія формує тематичний кеш пам'яті, розуміння читачем загальної теми тексту. Логічна когезія забезпечує логічне представлення інформації; якщо читач вирве уривок з контексту, причинно-наслідкові зв'язки не будуть збережені в кеші пам'яті, і, таким чином, когезія тексту буде порушенна. Референтна когезія – це кореляція текстового світу з реальністю, це використання досвіду та енциклопедичних знань читача. Прагматична когезія зосереджена на читачі та апелює до його пам'яті. На основі попередньої інформації в тексті читач може логічно продовжити незакінчені речення, відповісти на питання або доповнити загальну картину. Результати дослідження можуть бути корисними для філологів і перекладачів, які працюють зі зв'язністю тексту.

Ключові слова: когезія; кеш пам'яті; написання тексту; сприйняття тексту; переклад тексту.

Introduction

Cohesion as a textual category

A text is a process and a result of human speech activity; it is a holistic sign form of a speech organization [4; 6]. Kondratenko distinguishes three groups of textual categories: basic (informative-

ness, communicativeness), intra-textual (cohesion, coherence, divisibility) and textual-discursive (reference, intersubjectivity, intertextuality). However, all categories of the text complement each other and do not exist separately from the others.

Cohesion is a textual category that mediates the development of the text's theme, the formation of its information array, ensures the integration of all textual levels in order to create a single whole, as well as the perception and understanding of the text by the addressee [6]. Cohesion connects not only lexical forms of words but also their meanings and intentions. Cohesion is what unites two (or more) independent parts into one semantic whole.

There are several views on the classification of cohesion means. One of the most popular is the classification by Halliday and Hasan, who distinguish between lexical and grammatical means [13]. The most extensive classification of cohesion types was proposed by Borodachenko, who distinguishes more than 100 types. There is no single classification that would be universally accepted, concise, and cover all possible types of cohesion. However, it is indisputable that cohesion is an important integral category that has been identified by representatives of different approaches: logical-grammatical, psycholinguistic, and communicative [4].

Cohesion ensures a double operation of interactivity between the author and the reader: the author forms the communicative structure by appealing to the reader's memory, the mental process of memorizing textual information and the transfer of integrated semantic systems to a higher code level. Cohesion can be defined as the property of a text that makes it perceived by the addressee. Therefore, the loss of cohesion destroys the text.

Short-term memory, working memory and memory cache in a context of text analysis

Memory includes three stages: encoding, storage, and retrieval. Integrating new information with previously processed information means that readers must have access to the results of previous processes. Information can be stored for the different periods of time. This is why there is a difference between short-term and long-term memory, depending on how information can be stored. There is also a working memory as a "system that both stores information briefly and allows manipulation and use of the stored information" [24].

Daneman and Merikle [12] analyze the difference between working memory and short-term memory. They state that short-term memory is not sufficient for comprehension of the text in general. Short-term memory should be related to the ability to understand previously said information. Working memory is a short-term memory buffer that allows for manipulation and storage, while short-term memory is only for storing information [2].

However, working memory includes the information that has just been spoken or written, which is temporarily stored. And the memory cache includes not only the information said in the previous sentence, but also appeals to the reader's background. For example, by using a reference to a certain city in a text, the author appeals not only to the fact that a description of the city will follow, but also to the reader's experience, that he or she is familiar with this concept, what a city is, knows where it is located, and how it differs from a village etc. The reader's memory cache uses not only the author's own words at the moment of reading, but also the reader's experience, which is necessary for interpreting the text.

The working memory includes the memory cache, along with cultural memory, and genetic memory. National-cultural memory (or simply cultural memory) is a set of any socio-cultural phenomena that have been endowed with ethno-cultural identity for the everyday consciousness of the masses and symbolically manifested themselves in numerous "places" (geographical locations, things, real or fictional events, artistic images, rituals, names, etc.) [3]. Genetic memory is innate and manifests itself in humans as a constant unconditioned reflex. According to the teachings of Carl Gustav Jung, genetic memory is the collective unconscious, the experience of ancestors stored in the far corners of the human brain [1]. A memory cache is all the information that is used locally to interpret a particular term, image, event, or just a word (e.g., dialectism, etc.).

For example, the first sentence of the text "Voroshilovgrad" refers to the fact that everyone received bad news by phone. The specific example of receiving news by phone appeals to the memory cache. However, the reader's working memory contains everything they know about phones, how they work, etc. This knowledge is not used for local comprehension of the text, but it does constitute the reader's working memory. Working memory includes memory cache. Both appeal to the reader's knowledge, but the memory cache is local, i.e., something that is important in this particular context for understanding only a certain text.

Correlation between the cohesion of the text and memory cache

Text cohesion and reader memory are closely related. These connections have been studied by John B. Black, Hyman Bern, Gordon H. Bower [9; 10]. In their studies, they pointed out that information in a text is better remembered when there is cohesive, has its cause-and-effect relationship, and

the memorization of certain episodes depends on the duration of this episode. For example, cross-cutting images are better remembered because the authors refer to them more often, each time detailing them. Depending on the repetition and duration, the reader retains information better. Text cohesion affects the reader's memory by indicating which information is more important for understanding the text through repetition, descriptions, metaphors, comparisons, and appeals to the reader's experience.

A cache temporarily stores frequently used instructions and data for faster processing by the central processing unit [11]. As a translation term, "memory cache" helps to improve translation based on previous data. However, a memory cache can also serve to ensure cohesion during the text reception. The memory cache acts as a database not only for translating the text, but also for writing it.

There are three types of textual means (in particular, cohesion): extra-segmental, supra-segmental, and segmental [7]. Extra-segmental means include situations or associations; supra-segmental means include intonation, pauses and emphasis; and segmental (or textual) means of cohesion include grammatical, semantic (denotative and connotative), onomasiological, semantic (logical, figurative and associative-metaphorical), structural-compositional, referential, pragmatic cohesion [6].

The integrity of the text is ensured by the cohesion of its elements, i.e., cohesion. It supports the development of the topic, the informational content of the text, and the unity of all textual levels so that the reader can understand the author's worldview [6]. Depending on the factors that influence the formation of the text's memory cache and its cohesion, two levels of cache can be distinguished: external and internal. Cohesion often depends on the reader's background knowledge, factuality, connection to reality, and the situation of text generation/interpretation. This forms an external memory cache that influences the text beyond the text itself, but ensures its cohesion. These are the extra-segmental and supra-segmental means of text cohesion. The textual (segmental) means of cohesion also influence the formation of the text's memory cache, as they ensure the logical presentation of information, form imagery, and contribute to the formation of the key ideas of the text.

Thus, the memory cache affects three levels of work with the text: writing, reception, and translation of the text. First of all, it is the actual writing of the text. When describing certain events, the author must appeal to both reality and the potential background knowledge of the audience. The

author's memory cache will be formed not only by the facts that connect the text to reality, but also by the information that has already been written. To ensure the logical and coherent presentation of information, the author must remember what has been already said before. The second level is the reader's reception of the text. Everything that has already been read by the readers is forming their memory cache and link the known information with the new one. The third level of influence of the memory cache on the text is its translation. A translator stores previous translations as a basis for a new one. The memory cache is an important component for improving translation practice. Based on the content that has already been translated, it is easier for the translator to choose the right words to convey the author's intention. Additionally, the translator preserves the cultural characteristics of both the source and the environment in which the events take place. The translator retains knowledge of location and time as a basis for translation. Therefore, when solving cultural translation problems, translators can use strategies based on their knowledge of the source and target cultures, which the translator has retained by researching background information about the text [17]. The goal is to make it as easy for a foreign reader to read the translated text as it is for a reader of the original. The translator's task with regard to the memory cache is not only to base it on the text that has already been translated, but also on the cultural characteristics and potential differences between their audience and the audience of the original text.

The aim of the article is to introduce the concept of memory cache into linguistic categories, to show the difference between the short-term memory, working memory and memory cache. Working memory is not enough for the text's understanding; the perception also includes background information of the reader. That is why the term memory cache was used as a complex of working memory, background data, and potential readers' experiences. The second task was to show the link between the cohesion of the text, its perception and memory cache. Based on Ukrainian postmodern text and its translation into English, the article analyses the correlation between the cohesion and memory cache.

Methods. The material for this study is the text by a Ukrainian postmodernist Serhiy Zhadan "Voroshilovgrad" and its translation into English (made by Reilly Costigan-Humes and Isaac Wheeler). The sample was motivated by the availability of a published English translation of the text.

The research was conducted in three stages. The first was a terminological reference and a literature review on the use of the term “memory cache.” The second was the division of the study of the impact of memory cache into three levels: writing, reception, and translation. The third stage was the selection of material to illustrate the theoretical part and the analysis of the sample depending on the proposed classification.

The methodological basis is formed by descriptive (since the use of a well-known term is described in the context of not only machine translation but also in terms of ensuring text cohesion) and comparative research methods (since one of the stages is to analyse the impact of memory cache on translation, two languages are compared – Ukrainian and English). The research methods involved analyzing the term “memory cache” in a new context, as well as analysing the peculiarities of writing a text by an author, reading a text by a reader, and translating it by the human (not machine) translator.

Results. The impact of memory cache on text processing can be seen at three levels: writing, reception, and translation.

In the process of creating a text, the author draws on their encyclopedic knowledge, understanding of the world, experience, and history. They can also deepen their knowledge through commonly known information. All the information that the author uses when writing a text constitutes the author's memory cache. This applies not only to the description of temporal characteristics, location markers, or character prototypes, because often the place where events are described may be a location invented by the author. In order to preserve the overall picture, the author draws not only on his background knowledge, but also on the information he has written. A city cannot suddenly change its name, a character cannot suddenly change its appearance, and so on. This would disrupt the coherence of the text. Therefore, everything written by the author also influences the subsequent information. It forms the author's memory cache and ensures the coherence of the text.

When forming a text, the author already appeals to reality and the reader's imagination. Even if the author takes a non-existent place as a location, he adds a description so that the reader can visualize it. Therefore, the reader uses his imagination, based on the author's data and his background. All of the information that is necessary for interpretation of the text forms the memory cache of the reader. The same applies to the time during which the events take place. By mentioning certain objects, technologies,

and events, the author already connects the text with reality. For example, let's take only the first sentence of the first chapter of the novel “Voroshilovgrad” “Телефони існують, щоб повідомляти ними різні неприємності. Телефонні голоси звучать холодно й офіційно, офіційним голосом простіше переказувати погані новини.” (P. 9). [“Telephones exist for breaking all kinds of bad news. They make people sound cold and detached. I guess it's easier to pass along bad news in an official-sounding voice.”] (P. 8). From the first sentence only, it is clear that the author is going to describe the times when telephones already existed (and this already narrows the time period after 1876 – the year the first telephone was invented). This also shows how the author appeals to the reader's personal experience – every recipient of this text immediately recalls his experience of using telephones and seems to confirm “yes, I have also received bad news by phone.” All the information that enables such a reading of the text is a kind of database, a memory cache, something that is already known to both the author of the text and the reader. With each new line, the author will add information to the reader's memory cache. Every known line will be the basis for the formation of a new one. This ensures not only the logical transition of events, but also their cohesion. The memory cache provides the basis for a coherent and logical transition of the events and the portrayal of characters in the text.

The reception of a text is how the reader will interpret it. The memory cache and cohesion of the text are keys to the “correct” reading of the text and the perception of the author's vision.

“Вони, – сказав. – Ви бачили? Вони з'їли. Вони її з'їли.” (P. 482). [“They ...,” he said. “Did you see that? They ate it. They ate it!”] (P. 161). Taking one line out of context, it is impossible to understand what is happening in the text. Without the information that preceded that line, the words do not carry the necessary idea that the author had previously laid down in the text. Thus, each line refers to information already known.

Without the context, the reader may have questions, such as: who “they” are; who “said”; who “you” are; to whom the speaker is addressing; who/what they ate; if they ate an animate or inanimate object (it can be both in the Ukrainian original).

Going back just one paragraph, we get the context that connects the text to the previous information. “І тоді Паша підніс постанову до рота, впхав собі межи зуби й почав ретельно пережовувати, слідкуючи за реакцією Ніколаїча. Реакція була дивна – Ніколаїч увесь якось пополотнів, осі-

даючи в камуфляж, очима його знову пробігли втома й невпевненість, до яких відразу додались відчай та образа на цілий світ. Старанно дожувавши якісний ксероксний *paníp*, Паша постанову проковтнув і задоволено посміхнувся. Ніколаїч обернувся до сивого, розпечатливо розводячи руками й не знаходячи слів.” (Р. 481). [“Then Pasha lifted the decree up to his mouth, stuffed it between his teeth, and stared chewing it, watching for Nikolaich’s reaction. When it came, it wasn’t quite what I expected – his face lost what was left of its colour, yes, and he seemed to sink back into his camouflage outfit, his eyes losing their malice and looking only weary and timid now; but the overall effect was one of petulance – as though the whole world were ganging up in him. Meticulously chewing the last bit of top-quality copy paper, Pasha swallowed the decree and grinned. Nikolaich threw his arms up in desperation, looking back at the grey-haired man.”] (Р. 161). Only one paragraph before that line provides the context, which is already “stored” in the reader’s memory cache. Thus, the reader knows the answers to the questions we have in the absence of the context. “They” are a group of people, namely Pasha, who performed the action; the speaker is Nikolaich; the speaker is addressing the ‘grey-haired man’; they ate the resolution; the object is inanimate. The excerpt also gives us an understanding of why the line is so emotional and why the sentences are short. Who is Nikolaich/Pasha/grey-haired, what is the decree, why was it eaten? – this is also the information that is already present in the reader’s memory cache from the previous paragraphs.

However, the reader does not read the book in a reverse order; the sequential presentation of information not only links the parts of the text together, thus forming a single element, but also appeals to the reader’s memory. By repeating the word “resolution” several times during the previous paragraphs, giving its description, the characters’ attitude to this resolution, the story of where this resolution came from and why the characters thought it was a bluff, the author has laid down into the reader’s mind the necessary information that is sufficient to understand the logic of the presentation and the author’s vision of the text. All this information is stored in the reader’s memory cache as a basis for the next passage. Without this cache, a character’s remark does not provide enough information for the reader to understand the course of events in the text.

The farther the explanation is from the cue, the more likely the reader will miss or misunderstand the information. A memory cache is a temporary

storage of frequently repeated information that binds the text together. If you describe an object that affects only a certain situation (such as a resolution), its explanation will be local, only on a few pages. Otherwise, if you explain the resolution on the first page and then refer to it on the hundredth page (without mentioning it in between), the reader’s memory will be occupied by new information. Therefore, the more important the image, the more often it is mentioned, new details are added so that the reader keeps it in the memory cache and the presentation of the text is logical for him or her. It is not just a working memory of the reader in general that is important for the decoding of the text, but the memory cache – the data, that is frequently used for the interpretation. The repetition of the object, details and descriptions (with synonyms and additional information) form the local memory cache of the reader that would be necessary for understanding the continuation of the text. However, based on the formed memory cache, there is no need in repetition of the same information on every page. When the author names an object and describes it throughout the text, expanding on its characteristics, there is no need to repeat what the object is each time – all the information is already in the reader’s memory.

In the previous passage, we have seen how the memory cache affects the cohesion of a single image (resolution, document) within only several pages. However, the cohesion of an image can also be traced throughout the text.

If one image can be traced throughout the text, it becomes a running image. All the information that is said about a single image throughout the text is like puzzle pieces that form a general picture; if you take away one puzzle piece, the picture will not be complete, and each piece of the information that is said affects the image of a new one. The known information about the image forms the memory cache, and the combination of this information is the cohesion of the text. For example, one of the running images in the novel Voroshilovgrad is a gas station. At first, it is mentioned just as a simple object “a gas station,” then it becomes the reason for the protagonist’s return to his hometown, and then the events related to the documents for the gas station and its arson are described, as well as how the “authorities” are trying to appropriate the gas station and how a group of people stand up for it. The image is revealed gradually, but every element of the description forms a cache in the reader’s memory which provides the information necessary to understand the text. This image connects the components of the text and forms a logical course of

the events. That is why the concepts of the memory cache and text cohesion are interrelated.

For instance, one image may be mentioned at the beginning of the text and elaborated upon throughout the rest of the text. Losing one passage of the text, the next one may be misread (misreading means misrepresenting the author's image). Therefore, when describing a running image in the middle of the text, the previously written information, which is stored in the reader's memory cache, is subconsciously used.

The memory cache affects not only the image of a certain object and the reader's perception of information, but also the translation of the text. If you don't take into account the context in which the sentence was spoken, there can be many translation options.

“They ...,” he said. “Did you see that? They ate it. They ate it!” Thanks to the already translated text, it is easy for the translator to determine who is being spoken about and what compounds to use to convey information.

“Не говоріть дурниць, Ніколай Ніколаїч, – сказав я. *– Це його бізнес, і він обов’язково повернеться. Я нічого продавати не збираюся.”* (Р. 97). [*“Don’t be silly, Nikolay Nikolaich,” I said. “It’s Yura’s business – he’ll definitely come back. I’m not planning on selling anything.”*] (Р. 36). This passage in the translation shows an appeal to the same database, but using a transformation of its means. The translator introduces the name “Yura” into the sentence, thus making it easier for the reader to understand who is being referred to. In both the original and the translation, several times during the dialog between these characters, “Yura” – the main character’s brother – is mentioned, but in order to prevent the reader from getting confused by the usual explanation of “his business” – the translator again reminds the character’s name, thus eliminating potential confusion.

In the original, a few lines before this one, we see the phrase *“З братом вашим, Юрою, ми не встигли домовитись...”* (Р. 97), and in translation *“Your brother and I couldn’t reach an understanding.”* (Р. 36). The original already appeals to the reader’s knowledge that Yura is a brother, and the translation divides this information. Although the means, by which the text is made coherent, may be preserved or transformed, they still call upon the same memory cache of the reader.

If a translator uses a single line taken out of context, without interpretation and memory cache, its informative value and cohesion with other sentences will be questionable, because what has already

been written and translated is the basis for a new interpretation. Each sentence has two functions in the context of cohesion: 1) it refers to the previous information and 2) it serves as a basis for the following information. There are only two exceptions: the first sentence of the text itself (which has no previous written information and is based only on the reader’s experience) and the last sentence of the text (which is the final sentence and will not generate new meaning, but will only serve as a basis for the reader’s imagination). Similarly, in translation, each sentence follows from the previous one and forms a new one. This transition is the cohesion of the text, and every “known” thing is moved to the memory cache to create something new.

Memory cache can also be characterized as the “missing text phenomenon” [18], where the author assumes that the reader has certain knowledge relevant to the text, so there is no need in providing all details or background information. The author may omit the repetition of some information that the reader already knows, or refer to information presented earlier in the text. The translator, on the other hand, takes into account the cultural differences of the foreign reader, so the translation may give additional interpretations that would be incomprehensible to foreigners without the notes. Since the foreign reader’s experience will be different, so will their memory cache, which is why translators should pay attention to these differences.

Discussion. Cohesion occurs when the interpretation of one element in a text depends on the interpretation of another [14]. It is a link between text elements, however, interpretation of the elements can be applied not only through the text itself, but also through the background knowledge of the reader.

In order to comprehend a text, the reader accesses the information that has been previously processed and stored in long-term memory to create a representation that is coherent, connected, and complete at both the local and global levels [15]. The memory stores not only the already known to the reader information, but also what was actually said in the text [15]. And the set of such data for understanding the text is the memory cache. According to Long et al. [15], the ability to know the meaning of a sentence and understand individual ideas in sentences does not necessarily create a coherent model of the text as a whole. This requires a cohesion of ideas, a cause-and-effect relationship, i.e. a link between all the information in the text – this link is cohesion.

Working memory is responsible for the capacity to store information for short periods of time during

some activities [19]. It is a “brain system responsible for the temporary storage and manipulation of the information necessary for language comprehension, learning, and reasoning, which are complex cognitive tasks” [8]. Another term for high-speed memory that stores the necessary data for quick response is “memory cache”. The difference between the working memory and memory cache is that memory cache can include not only the given information in the text before, but also the background knowledge of the readers, their experience, cultural peculiarities etc.

Text cohesion affects its comprehensibility and memorization. According to Schurer et al. [20], a text can have a low degree of cohesion and a high degree of cohesion. This degree of cohesion of the text depends on the need for the reader to use background knowledge. A high degree of text cohesion implies that the text alone provides its cohesion. A low degree of cohesion involves the reader's prior knowledge. In the case of a low degree of cohesion, the more prior knowledge the reader has, the better the text will be understood. However, the degree of cohesion may depend not only on the text itself but also on the reader. For example, a translated text will be less cohesive for a foreigner than for a reader of the original, because the foreign reader's background knowledge (cultural or historical) is not as extensive as that of the original reader. Therefore, the degree of cohesion depends on both the text and the audience of the text. Therefore, readers who know little about the subject area of a text benefit from a highly cohesive text, while readers with a high level of knowledge benefit from texts with a low level of cohesion (the reverse cohesion effect) [16].

The article by Schurer et al. [20] emphasizes that the reader's prior knowledge improves comprehension of the text and does not affect the reader's attention. That is, background knowledge is an auxiliary link for the reader's comprehension of the text. And it is not the reader's background and encyclopedic knowledge that causes wandering thoughts, but the complexity of the text. A simple, cohesive text will not cause mind wandering as much as a complex text, as the reader has to reread for comprehension and look for additional information.

As a computer term, cache is “a special high-speed memory where copies of frequently used data are stored, providing quick access to them. The memory cache stores the content and address of data that is frequently accessed by the processor.” [5]. The term memory cache is used in the computer science or machine translation. It is the memory

cache that forms translation models based on previous data. The already translated information in the text serves as the basis for further translation of the text. In the field of translation studies, frequently used structures speed up the translation of a text. Based on the available data, machine translation or a human translator works with the next text to make it correlate with the previous one. The translator adapts to frequently used phrases, images, etc. to work with the text. By adapting language models and the language in general, the translator stores previous translations as history for new predictions.

Cohesion is defined as a feature of a text that makes it perceived by the reader. The mechanisms of the text cohesion are not only inherent in the verbal organization of the text, but are also mediated by the “conjunctive and holistic nature of the addressee's and addressee's consciousness,” their background knowledge, cultural component, and the correlation of the text to reality [6].

Potential limitations and translation errors can arise when basing a translation on only one sentence. No sentence exists in isolation from another, they are interconnected and form a single coherent text. The connection between these text elements (chapters, paragraphs, sentences, words, ideas, and images) is text cohesion. Everything that forms the understanding of an element through another element forms the memory cache – the information read and background knowledge of the reader.

Conclusions. According to the three-level model of text representation, the memory cache is used on the third one – situational model. It combines not only the surface representation and textual information, but also the background information. Through the means of cohesion (semantic, logical, reference, and pragmatic cohesion, that is shown in the lexical repetition, incomplete sentences, appeals to the reader's experience, etc.), the author appeals to the reader's existing memory cache, which is formed by both the information given and the reader's personal experience.

Working memory is not enough to understand the big picture. Both the text itself and the context are important for the correct reading of the text. All the information that the reader has and needs to decode the text (or a specific passage) forms the reader's memory cache. So, the memory cache affects the cohesion of the text, ensuring not only the logical presentation of information, but also the connection with both reality and the reader. Without frequently repeated data that form the memory cache, text passages will not be connected to each other, which mean that cohesion will be disrupted.

The memory cache affects the text at three levels: writing the text, receiving the text, and translating the text. Writing a text, without referring to previous data, without taking into account well-known facts, the connection with reality will be lost, and the text may contradict itself. Reading a text, the recipients refer to their own experience and to the previous one. Depending on how often a certain object is described, a memory cache (a database about it) is formed. Working with a text, a translator refers not only to the text itself, but also to the information that forms its cohesion – cultural peculiarities, writing style, and the potential experience of the reader. For example, when translating specific (region-specific) facts, a translator can add notes or explanations, thereby helping to

build a memory cache for a foreign reader – something that is known to the original reader and does not require explanation. In addition to ensuring the actual cohesion of the text, the translator's job is to convey the necessary information to convey the author's worldview, which may not be clear to a foreign reader

Starting to read the text from the middle, the reader will have more questions than answers. The text will not be logical, but will be taken out of context. The reading will be contrary to the author's idea, and the information may lose connection with both reality and the text before it. It is the memory cache that ensures the cohesion of the text at different levels, forming a database of depicted objects, events, characters, etc.

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