Representation Of Mnemic Process Of "Memorization" In German: Constant Features

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Abstract—**The article is devoted to the study of the lexical-semantic representation of the mnemic memorization process in the continuum of the German language. Memory is considered as a dynamic structure, the essential properties of which are reflected in the semantics of verbal constituents. The theoretical basis of the study is represented by the provisions on the language taking part in the experience schematization, on the systemic nature and continuum organization of the language, continuity as an important factor in the language development. The material of the study includes verbal units that form the corresponding nominative and genetic paradigms. Applying complex of analysis methods within the framework of the synchronic semasiological and onomasiological approaches makes it possible to reveal the patterns of representing and the mechanisms of nominating memorization operations in modern German. Cognitive-oriented historical and semasiological analysis within the diachronic approach facilitates determining the original structures of knowledge and ways of semantic schematization of memorization situations. By comparing the obtained results, the constant features of this memory process representation in German are highlighted: the reflection of the units of the denotative situation model in semantics which includes the subject, the object and the process as the core elements; identification of memorization with movement or particular physical action, and memory with space; actualization of the value nature of memory; a high explication degree of this memory operation in the lexical system of the German language.**

Keywords — representation; paradigmatic grouping; semantic structure; etymon; schematization of experience, knowledge structures; memorization

I. INTRODUCTION

Memory is an open, self-regulating system of processes aimed at organizing and accumulating information, functioning as a cognitive, information structure based on the interaction of the subject, object and the environment [1-3]. Being a social construct, memory manifests itself in the language; it is associated with it through semiotic mechanisms and intentionality [4-10] and has a communicative nature which justifies the logic of appealing to the linguistic description of memory. Memorization is a core operation of memory, without which other memory processes are just impossible, and an obligatory component of relationship between the subject and the outside world.

Existing linguistic studies of memory were conducted in different directions: the study of the semantics and morphology of separate units of the memory nomination, the description of the memory phenomenon as a fragment of the language picture of the world, the realization of the "memory" concept, the semiotic foundations and communicative nature of memory, the literary and genre analysis of discursive practices (A.D. Apresyan, L.G. Babenko, N.G. Bragina, T.V. Bulygina, M.A. Dmitrovskaya, A.A. Zaliznyak, B.L. Iomdin, Ye.S. Kubryakova, O.G. Revzina, M.G. Sabadashova, N.V. Skoromyslova, V.V. Turovskiy, Ye.V. Uryson, Ye.G. Khomyakova, O.V. Shatalova, O.V. Shchilenko, U.L. Figge, A. Keppler, A. Linke, H. Welzer).

The aim of the study is to describe the linguistic representation of the memorization phenomenon in the continuum of the German language by revealing its constant features in chronologically determined varieties of the German language.

At the same time, memory is understood as a dynamic structure, therefore, the essential properties of the memory phenomenon are most fully reflected by the verbal constituents of the lexical-semantic language system which nominate the corresponding mnemonic situation. The study of the cognitive function of the language, the relevant original knowledge structures, motivating the nomination, is an actual task of linguistics. For all the undoubted significance, this problem still remains insufficiently studied.

The theoretical significance of the research lies in the further development of the provisions on the language taking part in the experience schematization, on the systemic nature and continuum organization of the language, continuity as the most important factor in the language development; in supplementing of the results in such sections of linguistics as lexical semantics, phraseology, nomination theory, etymology.

The study provides a complex analysis of the lexical-semantic representation of the memorization operations, which

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involves a combination of synchronic and diachronic, semasiological and onomasiological approaches, integrating the theoretical and methodological apparatus of lexical semantics, nomination theory, cognitively oriented etymology, phraseology; builds the genetic and nominative paradigms of the memorization operations; analyses semantic, formal and functional characteristics of the constituents; reveals the constant patterns of representing memorization in German.

II. METHODOLOGY

In the course of study, the following was used:

1) semasiological approach, realized through the methods of component and contextual analysis, analysis of dictionary definitions and structural characteristics of units, and allowing one to reveal the representation patterns of the memorization operations in the German language;

2) onomasiological approach, integrating methods of structural and semantic modeling, analysis of thematic codes for determining the mechanisms of denotative situations nomination in German;

3) elements of cognitively oriented historical and semasiological analysis of the ideographically determined genetic paradigm of memorization nomination units in order to isolate the constant features of representing and nominating this memory operations in German.

The aim of the appeal to the historical and semasiological analysis within the framework of the current study is to identify the motivation for the linguistic designation of memory operations, the semantic schemes, the original knowledge structures, the original language models of memory and the laws of their development, and to reconstruct the prior ways of memory investigation through a language.

The semantic relationship between the etymon and the derived lexical units will be investigated using the example of different ideographically connected and intersecting etymological nests.

The evidence of conclusions regarding the thinking mechanisms of the representatives of this ethnos and the genetic aspects of nomination is facilitated by attracting a homogeneous material in the cultural, historical and linguistic aspects.

Under these circumstances, the authors proceed from the following provisions. Initially, nomination implies the correlation of its object with the already mentioned subject of the surrounding reality, the use of its name, and consequently, it has the initial motivation, the traceable internal form. The etymons of the memory semantic field constituents, selected from the lexicographical sources, objectify the primeval sense, which is the original knowledge structures formed at the time of the emergence of lexical units and the ways of schematizing experience within the framework of this conceptual sphere; fix in their internal form the existing core concepts containing the original motivating attributes of nomination; bind the nominative system and the system of logical concepts.

The etymon implies the original meaning and the form of the lexical unit, from which the constituent of the lexical-semantic system of the modern language is originated. Certain metaphorical transfers can be universal, identified in cognitively oriented analysis of the etymons of the lexical unit which constitute a certain paradigmatic grouping, and reveal the regular thinking models being fixed in the semantics of units at different stages of their existence.

The historical and semasiological analysis of the ideographically determined genetic paradigm gives an indication of the evolution of cognition and linguistic representation of memory.

In addition to the methods mentioned in the present work, let us use a descriptive method, including techniques of observation, classification, systematization, interpretation and generalization of linguistic facts, as well as the method of quantitative calculations and elements of statistical analysis as general scientific methods.

The material under research consists of the units of primary (verbs) and secondary (verbal collocations) nomination of the memorization operations in the codified version of the modern German language, in the prior forms of the existence of the German language (Old High German, Middle High German, Early New High German) extracted through a method of continuous sampling from lexicographic sources (explanatory, phraseological, etymological dictionaries of the German language).

III. RESULTS

I. At the first stage of the study, the authors analyze the units of the primary nomination of memorization situations which are represented by the constituents of the subgroup "memorizing information" related to the lexical semantic group (LSG) of memorization verbs in the modern German language on the territory of Germany. As the minimum research unit, there is an adopted lexical semantic variant (LSV) represented by a verb constituent that is taken in one of its lexical meanings given in explanatory dictionaries and together forming the semantic structure of a multi-valued verb.

The meaning of the verb is considered as a multilevel hierarchical formation of integral semes and differential semes realizing the first ones:

1) denotative nonsubstantial,

2) denotative substantial,

3) nondenotative semes underlying its lexical meaning and cooccurrence [11].

Memorization verbs in the German language are polysituational, which means they call a complex situation, consisting of several elementary situations, semantically interrelated in time and motivation. Memorization verbs can be prospective, retrospective and retroprospective [12].

By taking into account the semantic, grammatical features and statistical variables (the LSV value index, the individual frequency of using a particular constituent, the corresponding

average coefficient for a given lexical subsystem, the functional load of the LSV), let us state the composition of the subgroup "memorization information" including 14 LSVs (*lernen* – to study; *merken* – to remember; *verewigen₂* - to immortalize; *verewigen₁* – to become immortalized; *behalten* - to assimilate, store in memory, memorize; *einlernen* - to memorize, to cram, to learn; *einüben* - to learn (for example, a role or a part), to practice, to master one's skills, *anlernen* – to learn, to master one's knowledge, skills; *einbrennen* - to be imprinted in memory; *einstudieren* - to learn; *sich aneignen* - to learn, to adopt, to acquire (knowledge); *einprägen₁* - to firmly imprint / to make imprinted in memory; *einprägen₂* - sink into the mind; *einschärfen* – to remember this once and for all / persistently force someone to remember something).

The results of component and contextual analysis indicate that memorization operations can be represented as the advance or movement of past experience fragments from the outside into the memory space.

The semantic structure of the meaning of the nuclear constituents belonging to the subgroup is constituted by the following *differential denotative nonsubstantive semes*: "the advancement of past experience fragments from the outside into the memory space", "the absence of causation", "retrospectivity", "the participation of the person's will", "the existence of a limit in the memory operating", "phase flow"; *denotative substantive semes:* "animateness of the subject of the memory operation", "single or multiple subject of the memory operation", "inanimateness of the object of the memory operation", "specificity of the object of the memory operation".

Unlike the nuclear constituents, peripheral lexical units have a more specific meaning, simulate specific situations involving some constraints for the object, the subject, the parameters of the memory operation, as well as subjective assessing the elements of the named situations by the speaker.

The LSV data have a more developed semantic structure, including additional semes that are not found in the semantic structure of nuclear constituents: "subjective evaluation of the memory operation object"; "accompanying action"; "evaluation of memory operation by the speaker"; "long-term leak", "specificity of the object of the memory operation".

According to the results of analysing the memorization verbs, the language pattern of the memorization situation reveals the following basic components distinguished by the consciousness of the native German speakers: "subject", "object", "process" itself, which are actualized and specified within the framework of the above-mentioned differential semes.

The memorization operation is characterized by a high degree of explication (25% of the total number of LSG units represented by memorization verbs). The semantics of the verbs analyzed reflects an ambivalent subjective assessment of the elements of the referred situation, the emotional congruence of memory and the value loading of its objects.

II. The analysis of the secondary nomination units based on the material of verbal memory collocations is justified and necessary, taking into account the specific nature of this type of nomination, which is based on the mental integration of two conceptual spheres (physical and mental). It makes it possible to simulate the phenomena being inaccessible to direct observation, generates complicated meaning and new knowledge about denotative situations [13].

Verbal collocations are statistically stable combinations of lexical units with a tendency to joint occurrence, realizing another type of nomination that is different from single-word lexemes, functioning as a whole constituted by components that retain semantic shares in the total collocation value, being characterized by reproducibility and limited compatibility due to the transformation of their meaning.

The description of verbal collocations includes the following steps:

1) study of structural characteristics: the structure of the word combination, the number and significance of components, the significance of case forms of nominal components; syntagmatic signs - subjectivity, objectivity, internal (inclusion of the accusative case) and external (compatibility with direct complement) transitivity [9];

2) correlation of structural and semantic characteristics: study of functional-semantic and functional-grammatical nominal and verbal collocation series (a set of collocations that reveal repetitive nominal or verbal components combined by representing and scheming knowledge about the object of nomination) [14]; structural and semantic modeling;

3) research of semantic characteristics of units: definition of subject-thematic codes (spheres of identification mediating the representation of the object and constituting the base of specific images and semantic transfers) [15], a description of pragmatically loaded components of the constituents meaning.

As the analysis showed, the selected verbal collocations describing memorization (20 constituents - *etw. / Jmdn. (Gut) in der / in freundlicher Erringung / im Gedächtnis / im Kopf / in gutem Gedenken behalten* - keep good or light memories, have memory about something or someone, keep something in one's head, remember someone good; *sich (unauslöschlich) ins Gedächtnis / in die Erinnerung einbrennen / einprägen / eingraben* - sink into the mind, be etched in memory, stick in memory, be printed on somebody's mind; *sich ins Gedächtnis einätzen* – eat / burn into the memory, be etched in memory; *etw. Jmdm. / Sich in den Kopf hämmern / setzen / hineinbohren* - hammer into someone's head, drill into the mind, hit over the head, get into one's head, etc.) are verbal-nominal word combinations with a simple structure and, as a rule, of analytical type, where the verb is grammatically pivotal and the noun is a semantically basic element.

The function of the nominal components in the collocations is to indicate the localization of the memorization operation or its object. About 50% of the units examined are characterized by objectivity and external transitivity and assume only one type of the subject – the subject-person.

The functional-grammatical series of collocations prevail, which indicates the importance for German linguoculture of the exact characteristics of the action itself and the variability of its features suggesting the use of verbs being different but closely related in their semantics.

The most active nominal components are "*Erinnerung(en)*" - "memories", "*Gedächtnis*" - "memory", "*Kopf*" - "head", "*Unsterblichkeit*" - "immortality", which indicates their importance for mental representations of memorization situations by the representatives of the corresponding linguistic community (metaphorical quasi-parts / quasi-symbols of memorization).

A number of collocations (*jmdm. etw. in den Kopf hineinbohren / hämmern* – get/drill into one's head (as if drilled with a drill), drum something into someone's skull, knock into someone's head (as if knocked with a hammer or stick); *sich in die Erinnerung / ins Gedächtnis einbrennen* – burn into (with a brand or fire) memory/mind; *sich ins Gedächtnis einätzen* – eat in or burn into (with an acid) memory/mind) is characterized by the presence of an imaginative base, realizes the speaker's subjective evaluation of the object and the nature of the memory operation.

The nomination of the memorization operation and its causation are carried out within the framework of the following structural and semantic models (typical, relatively stable correlations of formal and semantic characteristics of lexical units represented in a schematic form):

1) "a verb with the general meaning "to save" + a noun with a preposition naming the place". The model is "to save somewhere in and to";

2) "a verb with the general meaning "to save" + a noun naming the object". The model is "to save something";

3) "a verb with the general meaning "to penetrate, mix in" + a noun with a preposition naming the place or destination". The model is "to penetrate or be embedded somewhere";

4) "a verb with the general meaning "to penetrate" + a noun with a preposition naming the destination". The model is "to penetrate somewhere". Thus, spatial localization is a significant element of the memorization model which is actualized by the verbal collocations, and the situations themselves are semantically schematized in the language through their correlation with movement, transfer or action over the object.

The mental world, inaccessible to direct observation, is endowed with features of objective reality, described analogically and becomes more evident, correlated with the scale of human consciousness.

The spatial, subject and personifying thematic codes, indicating the identification of memory with a certain space or container, and objects of the memory operation with objects that allow specific physical actions or with active, independent entities endowed with subject features, are relevant for the nomination.

The semantic, structural and functional characteristics of the secondary nomination units objectify the form of schematizing memorization situations by means of their assimilation to the procedural components of the physical world and their correlating with specific sense impression, parameters.

The semantics of the secondary memory nomination units indicates the structural components of the mental and linguistic projection of the corresponding situations: 1) the nature of the memorization operation itself; 2) the nature of the subject of the memorization operation; 3) the nature of the object of the memorization operation; 4) subjective assessment of the situation and its elements; 5) localization of the process.

The images themselves and the associations, which are appealed to by the internal form of stable word combinations, explicate the ambivalent value attitude of the German language speakers to memory and the emotional memory index.

III. In the framework of the historical-semasiological analysis of the nomination units of memorization operations, the ideographically determined genetic paradigm of nominative memory units (7 units) is being studied as a chronologically formed subset of units, organized on the basis of common semantic features and including constituents of several etymological nests [16, 17], which allows us to identify the motivation of the linguistic memorization designation, semantic schemes, initial knowledge structures. The authors will briefly review the results of analysing individual lexical units.

A. The basic concepts objectified by the inner form of the verb "*lehren*" ("to memorize, to learn") [18, p. 234, 573, 568; 19] include "trace", "movement", "motivation". The initial structure of knowledge that dictates the semantic scheme of entering the language consists in identifying memorization itself or its causation with following the trail, which presupposes the situational characteristic "to hold tight" transferred to the mental sphere and reinterpreted as "attentive", "actively perceiving". The semantic scheme is as follows: physical situation ("to follow the trail") $\Rightarrow$ physical situation ("to follow the physical object") $\Rightarrow$ mental situation ("to be considerate, to perceive, to notice = remember").

B. The basic concepts objectified by the inner form of the verb "*merken*" ("to remember") [13, p. 522; 18, p. 616] include "sign", "border", some motivating signs like "recognizable / recognized", "noticeable". The basis of the nomination is the similarity of memorization and a specific physical action. The semantic scheme is as follows: physical situation ("to provide a sign") $\Rightarrow$ physical situation ("to make recognizable / noticeable, highlight") $\Rightarrow$ mental situation ("to notice, specify the highlighted") $\Rightarrow$ mental situation ("to save the highlighted = to remember").

C. The basic concepts objectified by the inner form of the verb "*prägen*" ("to be kept in memory") [18, p. 719] with the specific physical meaning "to form a relief on the surface of

malleable or ductile material, pressing a certain picture or a pattern with a convex or concave surface", include "change", "trace", "inside", some motivating signs like "changed", "broken", "internal". *Prägen* is supposed to refer to a group of words that go back to *brechen*, which is its original causative [18, 20]. The initial structure of knowledge objectified by the meaning of the verb *prägen,* analyzed in diachrony, is to assimilate the operation of memorization causation and memorizing a particular physical action. The semantic scheme is as follows: physical situation ("to dent, press, cut, shape") $\Rightarrow$ physical situation ("to disrupt or modify an object, integrity, surface") $\Rightarrow$ physical situation ("to leave a trail, imprint") $\Rightarrow$ physical situation ("to make something recognizable / noticeable") $\Rightarrow$ mental situation ("to notice, imprint = remember").

The following efficient producing bases were identified:

1) Gothic *maka-* "Zeichen" – "sign", weiter Ableitung *markōn* "begrenzen, kennzeichnen, mit einem Zeichen versehen" – further derivative *markōn* "limit, mark, label, supply the sign" (verb *merken*);

2) Gothic *bræchen* "brechen machen, aufbrechen, aufreißen" – "to break down, break out, crack, open, burst, tear, open" (verbs *prägen, einprägen*);

3) Old High German *haltan* "festhalten, befolgen, (be)hüten; hüten, weiden, bewahren, verehren, gefangenhalten, an einem Punkt anhalten, stillhalten" – "to hold, adhere, follow, store, protect, guard, look after, graze cattle, preserve, be faithful, keep in captivity, keep in some place, at rest" (verb *behalten*);

4) Indo-Germanic *lei-* "haften" – "to stick, hold on tight, mesh", Latin *lira* "gehen" – "to go"; *leis* – "am Boden gezogene Spur, Furche" – "a trail or furrow left on the ground", *lenaid* "bleibt, haftet, folgt" – "to remain, cling, follow" (verbs *lehren, lernen*); Old High German *wenden + aus* "drehen machen" – "to make someone or something to turn back", "äußerlich, nach außen gewandt" – "external, turned facing outward" (adverb *auswendig* as a part of the expression *auswendig lernen* – "to learn by heart");

5) Indo-Germanic *gen(ə)-* "erkennen, geistig vermögen, verstehen" – "to learn, know, recognize, have an intellectual ability to do something, understand"; Old High German *biknāen* "vernehmen, wahrnehmen" – "to listen to, perceive", (verbs *kennen, können*).

The basic concepts underlying the nomination while representing memorization include "sign", "border", "immutable state", "change", "trace", "inside", "movement", and some motivating signs like "complex", "recognizable / recognized", "noticeable", "to hold fast", "remaining available", "altered", "internal".

Thus, the basic concepts "trace" and "inside" are the most frequent. The memorization operation in any modern language is characterized by a high degree of explication (25%).

In the previous stages of the German language existence, there are a relatively high number of constituents indicating memorization causation (40%) in contrast to the modern lexical-semantic system of the German language (15.4%).

The initial structure of knowledge underlying nomination of these operations is objectified by assimilating the memorization operation to a motion or a specific physical action over objects in space.

Transformations within the genetic nominative memory paradigm are not arbitrary, determined by basic concepts fixed by intensional etymons, motivating attributes and semantic schemes of acquiring experience.

IV. CONCLUSION

Analysis of nominative paradigms of primary and secondary nomenclature units, genetic paradigm of lexemes used / being used to refer to memorization processes allowed one to determine the constant characteristics of linguistic mastering this phenomenon, which are manifested in the continuity and relative stability of the methods of semantic schematizing the representations when nominating corresponding denotative situations.

The constant patterns of representing memorization, which are conditioned, inter alia, by the general principles of human thinking, include: a high degree of explication of situations of storing information in memory within the lexical system of the German language; lexicalization of memorization causation; regular realization of the original knowledge structures bearing a universal character and manifesting themselves in identifying memorization with movement or specific physical action, memory with space, and objects of memory with real objects or living beings; the linguistic assimilation of the inner world and the "mind or Internal Man" by analogy with the external world and the "External Man"; reflection of axiological memory measurement in the semantics of lexical units.

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