



The issue of knowledge representation

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Introduction

In cognition true should be not only its final result (the system of knowledge) but the method, the way that helps to achieve the result. One of the urgent problems of modern anthropocentric linguistics is the issue of a knowledge representation, in other words to construct such a unit in which:

1. It is possible to manage complete and unbiased representation of knowledge;

When we talk about complete and unbiased representation we mean the capacity of the unit to represent the idea about the universe and human, about the links between them (how human is connected with nature, society and other humans) and how human is linked to his own self.

2. The specific character of perception and interpretation of events is revealed;

3. The synthesis of linguistics and extra-linguistics is confirmed;

4. The construct formed on basis of cognitive and textual activity of socius takes a definite shape;

5. Such components as: linguistic knowledge, extra-linguistic knowledge and general background knowledge are integrated;

6. Nation's world view, world perception and world experience – human positions, ideals, principle of perception, occupation, value orientations and spiritual landmarks are depicted;

While representing reality, humans confirm the result of cognition in a word. Total sum of knowledge confirmed in a language form represents the phenomenon that we call “linguistic representation of the universe”.

While integrating all aspects of human perception the unity of the above mentioned varieties of knowledge in total create a unit which at the same time is personal-individual as well as hyper -individual.

The result of interpreting the universe at every instance of cognition is recorded in language matrixes that work for the given variety of consciousness.

What should the language matrix be like, as a result of functioning of collective consciousness, as a quantum of global, universal knowledge? This question should be answered and this issue makes this research urgent.

There is one issue in anthropocentric linguistics which is linked to the peculiarity of the components (reason – language – representation – conceptualization – categorization – perception) that are united in the cognitive circle. The aim of this thesis is to study the relation of these components with the conceptual space of word “risk” in Modern English Language.

In order to achieve the outlined goal following stages of research should be carried out:

1. To find and analyze special literature;
2. To identify language objectivators of the dominant concept;
3. To build up lexical and semantic fields for “risk” in Modern English Language;
4. To formulate strategies for “building” conceptual spheres of the language;
5. To construct conceptual sphere for “risk” in Modern English Language;
6. To identify the varieties of language the interaction and integration of which is an essential condition for human to perceive and comprehend the reality;
7. To draw specific theoretical conclusions based on analyzes.

Here is the hypothesis of the thesis: we presume that language matrix as the result of functioning of collective

consciousness, as a quantum of global, universal knowledge is unbiased and complete if it comprises all relevant varieties of existing knowledge about the phenomena and if it has:

- a. The function of synthesis, that means integration of fragments of knowledge into one system.
- b. Explanatory function, with the help of which significant markers of the phenomenon are revealed, causative and other links of the phenomenon with the other phenomenon are stated.

Originality of the methodology used in the thesis is defined by the following: access to relations, understanding general regularities of events; identifying general and essential features of classes of objects belong to intellectual tasks. Intellectual operations help to solve these tasks. Intellectual operation is the result of interiorization – human's relationship with the environment.

The following operations of thinking have been used in the thesis:

- a. Analysis – with the help of which it has been possible to identify different aspects in the entire phenomenon or event.

- b. Abstraction – that means identification of common, general signs that characterize the whole complex of objects and interpreting and comprehending these general signs without specific objects. It is generalizing abstraction. In order to identify general characteristics for a group of things and events it's necessary to compare them. Generalizing abstraction is based on comparing the objects and on access to the relation between them. In relations between objects very often such features are revealed that can't be found in individual objects or events. Thus, operation of abstraction assumes comparative analysis of objects based on their interrelationship, revealing similar signs typical to the object and uniting them in the category of objects. Any kind of classification is based on the access to general signs and their abstraction.
- c. Synthesis – that assumes uniting individual elements, features of objects into one whole in the process of thinking. Individual signs identified in the objects with the help of synthesis are united into one whole in the process of “building” conceptual space. The content of concept is not the summery of features, but one idea in which abstract signs are united with the help of synthesis.

The methods used in the thesis have been worked out within the frame of systemic – structural linguistics and cognitive linguistics.

Scientific novelty of the thesis is to structure conceptual sphere of “risk” in Modern English Language from systemic – structural, linguistic-cognitive and axiological perspectives.

Practical significance of the thesis is defined by the following fact: the material found and the result of the research is valid not only for cognitive linguistics and structural linguistics but for study courses of lexicology of the English Language.

The synthesis of anthropocentric (cognitive) and systemic and structural paradigms into one whole represents such control of the basis of each direction of truth in which systemic and organic links between different bases are shown.

The synthesis of relevant knowledge for different paradigms are of logical and semantic nature and is carried out with the help of intellectual activity that assumes:

1. The adequacy of the aim of research to achieve expected results;
2. Validity of the methodology to formulate unbiased conclusions.

Integration of different modus of knowledge provides that the results of the research are unbiased and this kind of integration outlines theoretical value of the thesis.

The material for the research has been obtained from bilingual and explanatory dictionaries and from Berkley's network of frames.

The structure of the thesis consists of introduction, chapters, sub-chapters, resume and bibliography.

The urgency and scientific innovations of the research has been proven in the introductory part of the thesis. The aim of the research, necessary issues to achieve the goals, the theoretical and practical value and methodology of the research is well defined.

Ch.1-“Field of Knowledge”-Markers of knowledge and principles of structure are discussed; Originality of creating knowledge is analyzed; Creation of knowledge is considered to be the result of continuous cycle of four integrated processes.

Ch.2-“Phraseological Fields and Semantic Frames”-is dedicated to identification of principles for structuring the concept of “Risk”; to defining basis for organizing language representatives of the studied concept; to constructing semantic frame for “Risk” in modern English Language.

Ch.3-“Associational Configuration for Conceptual Web”- A repertory of conceptual web for “Risk” is represented. Associational areas of the studied concept have been revealed. Typical markers of relevant knowledge for conceptual web have been established.

In the Resume-the results of the research have been summarized and generalized.

Ch.1-Field of Knowledge

Knowledge is created in a spiral way by such contradictory phenomena as order and chaos, micro and macro, a part and a whole, mind and body, implicit and explicit, “I” and “others”, deduction and induction, creativity and control, etc.

The ability of thinking stimulates the process of creating knowledge and synthesizes the contradictory phenomena.

Knowledge is dynamic as it is created as a result of social interaction among individuals. Knowledge is contextual. It depends on specific time and space. Without context it is merely an information and not knowledge.

Ch.2 – Fphraseological Fields and semantic Frames.

The analysis of phraseological fields and frames made it evident, that knowledge kept in memory does not represent certain fragments. It represents interconnected structures.

The analysis of the concept of "Risk"- made it evident that duration and value of a concept is defined by a high potential of marking such a concept-a variety of language objectivators.

In the English Language the studied concept is characterized by a high rate of communicative relevance- concept is distinguished by the diversity of denomination of species.

Ch.3 – Associational configuration of a Conceptual Web.

The aim of constructing a conceptual web is to build up a pyramid of knowledge. That means a construct of hierarchy of concepts in which a deep understanding and a higher level of abstract content of notions is revealed. The relation between the notions is revealed inside each level as well as between the levels of the pyramid. Pyramid may connect all notions and all relations between these notions.

A conceptual web comprises conceptual frames of the existing knowledge about the universe. In other words, these are clusters of knowledge and units of knowledge. These frames, clusters and units are understood as general

notions in which the rule of constructing knowledge about the universe is revealed.

It's fundamental for the research to categorize action into normative and non-normative types.

Resume

Knowledge is created in a spiral way by such contradictory phenomena as order and chaos, micro and macro, a part and a whole, implicit and explicit, "I" and "others", deduction and induction, creativity and control.

In order to create knowledge it's necessary to have a joint context. Knowledge is shared, created and used in the above-noted types of context. Social, cultural and historical contexts are important for individuals, as far as such contexts create the basis for interpreting the information and giving it meaning. Context is complex and changeable.

It sets up boundaries to the individuals for interaction and at the same time these boundaries are open.

Conceptual web is the unit that represents knowledge about relations between events and objects.

The knowledge relevant for conceptual web implies the regularities for physical sphere acquired by man as a result of practical activity and experience. These regularities comprise principles, links and laws.

Conceptual web is the structure of representation of deep knowledge. This kind of knowledge implies abstractions and schemes describing current processes in the given physical sphere.

It's the deep knowledge that explains the notion of any event and provides the possibility of predicting the behavior of events and objects.

The characteristics of relevant knowledge for conceptual web are:

- a. Hierarchy - Any process or event could be described as a multitude of smaller subsets and at the same time any object could be described as an element of generalization of a higher class.
- b. Continuity - The problem of constructing a semantic frame means to draw distinct boundaries

of infinity. Determination of boundaries for physical sphere is interpreted as the process of introduction of sufficient limitations and hypotheses in order to define configuration of the semantic frame.

The model of conceptual web is universal. It makes it possible to show the diversity of the entire knowledge about the universe.

The integrated notions in the conceptual web create one hierarchic web. Structural originality of the web – to be gradual – is stipulated by the interconnection of notions accumulated in human memory.

The hierarchy of notions represents global scheme, which could be used as basis for conceptual analysis of any structure of knowledge of physical sphere.

The aim of constructing conceptual web is to build the pyramid of knowledge. It implies a hierarchic construct of notions in which deeper understanding and higher abstractness of notions are revealed.

The relationship among notions is manifested on each level of the pyramid and between the levels as well. Pyramid

connects all notions and all relations existing between these notions.

The following processes of creating a continuous cycle of knowledge are tightly linked to the issue of representation of knowledge.

1. Socialization – is the process of transforming new implicit knowledge with the help of general experience. As it's difficult to form implicit knowledge and the fact that it is determined by time and context it's possible to master it jointly only.
2. To concretize – means to give the implicit knowledge a specific tangible form. In this case knowledge is crystallized and gets the shape which is shared by others. It becomes the basis of new knowledge. In order to turn implicit knowledge into explicit one it's necessary to use metaphors, analogies and models consequently.
3. Combination – means to turn explicit knowledge into more complicated and systemic sets of explicit knowledge.

The above-given mechanisms of transforming knowledge are complementary and mutually dependant.

Eventually, to construct knowledge web means to create the map of knowledge. The aim of this process is synthesis and representation of data acquired as a result of getting information and knowledge on the one hand and losing information and knowledge on the other hand.

The repertory of objects of knowledge web is the following: explicit knowledge; object; phenomenon; aim/task; implicit knowledge; skills; experience and links/web.

Knowledge is represented in values, standards. Knowledge is transformed into quality that does not depend on the quantity of knowledge. But the procedure of collecting data, analysis of information, synthesis and its transformation into knowledge is an entire hierarchical process.

The Results of the Thesis.

The results of the thesis were published in Multilingual Reviewing International Scientific Magazine “Scripta manet” and were presented at the international conference held at the University of Georgia in May, 2017.

The article deal with discreteness of knowledge. Language in this case has the function of division, objectification and eventually interpretation of knowledge.

The criteria of truth and the methods of research have been discussed.

The following operations of thinking have been relevant for the research: 1.analysis; 2.abstraction; 3.synthesis.

Different stages of transformation of knowledge have been emphasized, namely modality and systematization of knowledge. The criteria of objectivity and historicism have also been discussed.

Publications and Conferences:

1. “Cognitivistcs and Linguo-Culturology”, The University of Georgia, International Scientific Journal “Scripta manent”, No. 1(29) 2016.
- 2.“The Issue of Knowledge Representation”, The University of Georgia, International Scientific Journal “Scripta manent”, No.4(36), 2017.

3. “Semantic Frame as the Structure for Representing Knowledge”, The University of Georgia, 7th annual conference, the school of Arts and Humanities, 2015.
4. “Language as a Cognitive Mechanism - Decoding and Transformation of Knowledge”, The University of Georgia, 8th annual conference, the school of Arts and Humanities, 2016.
5. “Types of Knowledge in the Semantic Frame”, The University of Georgia, International Conference “Language, Culture and World View”, 2016.
6. “Markers of Knowledge and Principles of Structure”, The University of Georgia, 9th annual conference, the school of Arts and Humanities, 2017.