DETECTION OF REQUIREMENTS FOR MODELS OF KNOWLEDGE REPRESENTATION FOR THE DOMAIN OF OCCASIONALISMS TRANSLATION

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Today modeling is used in increasing number of domains. Purposes of its usage vary from the prognosis of a modeling object and calculation of its parameters to the fixation of its current state. However in spite of large number [1] of basic knowledge representation models (KRM) and even greater number of their modifications that vary basic parameter by morphological analysis principle, there are still domains that cannot be described by existing KRM due to their specific. This work is dedicated to the analysis of problems of basic KRM application for the domain of occasionalisms (author's neologisms, created according to the language rules of word-formation which due to wordplay construct new semantic meanings in boundaries of particular text) translation. The aim of this work is the synthesis of requirements for KRM, capable of adequate representation of occasionalisms domain on the grounds of basic KRM shortcomings analysis.

Difficulties of occasionalisms translation are the result of the fact that occasionalisms comprise up to several meanings or may not have corresponding constructions in target-language. It is advised to translate occasionalisms by means of language constructions existing in target-language or to invent one's own new occasionalism and describe it in the footnotes. This process is highly creative and we do not have information about cases of its automatization.

We can suggest following ground principles for basic KRM: semantic network – distinguishing of elements and their interconnections; production system – distinguishing of dynamics of elements' changes; logical model – distinguishing of basic elements and rules of their assembling; frame model – distinguishing of properties of objects; semiotic model - usage of adaptation rules in addition to the principle of another basic KRM.

Thus, basic KRM are not applicable for the domain of translation of occasionalisms because of the following reasons: semantic network – provides capabilities for modeling of particular occasionalism or of interconnections of occasionalisms in text scope but does not provide tools for modeling of occasionalisms' meanings dynamics in text scope; production system – distinguishing of production rules appears to be exceedingly difficult because of the lack of formal descriptions of processes of revelation, perception and changes of occasionalisms' meanings; logical model – in addition to difficulties of occasionalisms' meanings (basic elements) distinguishing it is incapable of recording their dynamics that occurs due to occasionalisms interactions in text scope; frame model - provides tools just for a static recording of occasionalisms' meanings contexts in word scope and does not allow to modify them dynamically in response to interactions of occsaionalisms in text scope; semiotic model – allows only to record changes in meanings of occasionalisms due to their interactions in text scope, if it is premised that all meanings are known beforehand and peculiarities of their changes can be represented by means of finite number of adaptation parameters, which is a contradiction to the idea of occsionalisms as an author's neologisms by prohibiting emergent synthesis of new meanings.

Hence, we can state following requirements for KRM, suitable for domain of occasionalisms translation:

• 'Importance' of different elements of KRM should be dynamical;

• KRM should provide tools for recording of a set of auxiliary elements that implement meaning context for each of modeled objects. This context implementation should allow recorrelation among the context and modeled object and also - implementation of context to the context;

• KRM should provide tools for recording of changes in occasionalisms' meaning interpretation peculiarities that occur due to time flow or due to acquired or lost knowledge;

• KRM should provide tools for recording of results of emergent process of folding modeled objects' contexts of meanings.

References

1.   Shapochkin, E.A. Building of search classification of model of knowledge representation / E.A. Shapochkin, L.N. Butenko // VSTU news. Series "Actual problems of administration, computers and informatics in technical systems". Issue 6: intercollegiate collection of scientific articles / VSTU. – Volgograd, 2009. - №6. P. 79-82.