

Inferential Symmetry In Synonymic Strings: Angular Representation Of Semantic Space Geometry

Michael Bilynsky (Lviv National University, Lviv)

A synonymic string is a set of words relating to the dominant on the grounds of graded semantic proximity determined by the lexicometric formalism taking into account the length of the string and the constituent's ordinal position in it. The farther the word from the dominant, the greater the distance to it. The direct dictionary of synonymic strings offers the even distribution of the semantic distance with the gauge between the adjacent synonyms equaling the distance between the last string constituent and the dominant. In the reverse thesaurus an arbitrary constituent from the direct string is taken for the string dominant and the dominants from the direct thesaurus in whose strings the said constituent occurs become the reverse string constituents. The heuristic advantages of the reverse thesaurus lie in the uneven compactness of the string semantic scale, the availability of the string constituents located at the same distance from the dominant and the lack of the constant increase of the semantic distance between each subsequent constituent and the dominant.

The reflexivity of a pair of constituents from the thesaurus occurs when they are mutually reversible in the synonymic strings of each other. This inferential symmetry is often failing both structurally, when the verb *a* occurs in the synonymic string of the word *b* with the converse statement not being true, and quantitatively, when the semantic closeness between the word *a* and the word *b* established lexicometrically abides by non-Euclidean geometry.

The differentiation of one-directed or bilateral pairs of synonyms and optional fluctuations in the semantic bond between the latter give grounds for the stratification of the entire synonymic strings in the thesaurus. They fall under those that do not provide a single example of the inference of the semantic bond in one direction from that in the opposite direction and those in which a proportion of the instances of two-member relatedness between the dominant and the constituent is bilateral. The latter type, which is prevailing numerically, admits a further internal stratification on the basis of the network factor values determined by taking into account the number of cases of inferential symmetry in the string and the number of the string constituents. Further, the string of synonyms itself with the uneven compactness scale of semantic distances of

its own, on the one hand, and the 'shadow string' containing the semantic distance values from the relatedness in the other direction within the pairs where the bond is bilateral, on the other, are represented as two vectors. The distance between these vectors attains an expression in terms of angular geometry. The values of the angles will be represented both in the tabular and diagram forms in degrees and radians.

The report will be accompanied by the evidence obtained from the application of especially developed software to the electronic corpora of present-day English verbs and deverbatives as well as ample statistics, pragmatically and otherwise important exemplification together with relevant diagram visualization.