Reconstructing cognitive maps in Renaissance texts: A diachronic cultural linguistics perspective

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Abstract

“Mapping is a hot topic in different fields, but still there is a lack of a shared methodology to approach various problems concerning mental, historical and actual maps: How and why do humans use maps to create, store and measure spatial knowledge? How do we deal with historical maps and/or their counterparts in verbal descriptions?” This paper tackles these questions directly in presenting a methodology based on mental space and mapping theory and common sense geography approach.

This case study aims for a detailed cognitive semantics analysis of the detailed historio- and geographical descriptions in Biondo's Italia Illustrata. It also presents various mapping processes that operate to build and link mental models and is thus embedded in a cognitive historiography approach. This approach is guided by cognitive semantic analysis based on visual perception and mental space theories. In addition, computational linguistic methods are applied for the semi-automated text analysis.
The following selected cognitive semantic parameters serve as bottom-up heuristics in analyzing mapping processes based on textual cues or "verbal descriptions":

1. Path: source-trajectory-goal (Caesar<sub>source</sub> marches into<sub>trajectory</sub> the city<sub>goal</sub>)
2. Toponyms (buildings, bridges, churches, fountains, walls, streets, squares, gates, memorials, sites, temples etc.); topological relations: inside/outside, connected/disconnected
3. Landmarks (hill, region, river, forest)
4. Frames of reference (relative, intrinsic, absolute)
5. Gestalt principles based on trajector[figure]–landmark[ground] asymmetry
6. Geometrical object classifications and properties: size, scope, shape of objects
7. Distances (proximal, medial, distal)
8. Perspectives: bird’s- and frog’s-eye, vectorial, hodological

The cognitive semantics framework and the computational linguistics tools reveal an intricate and detailed network of implicit knowledge structures of mental spaces. A case in point is a diagrammatical description of a cognitive semantic analysis of English spatial locatives:

Space builders like English <i>into</i> and <i>to enter</i> are mental motion processes between a trajector and a landmark unfolding in time (t). Encoding a change of location (trajectory) is a cognitive mapping process including source-trajectory-goal constructions All of the simple viewing arrangements in the next diagram indicate different viewing and mapping processes.

The diagrams indicate processes of a trajector’s event or the focus on a container, e.g., a room/place (= small-scale) or a region/area (= large-scale). The real and rather fictional or metaphorical depictions of spaces are analyzed and modeled besides the historical facts about places and environmental conditions and specifics presented in the text, but also in actual maps.
Based on digital annotation and parsing techniques from computational linguistics and referring to the meta-language as developed in cognitive semantics, this project shows the intricate and detailed network of cognitive maps in the *Italia Illustrata*. Spatial coordinate systems such as spatial frames of reference, geometric relations and various trajector-landmark asymmetries are delineated specifically.
ABSTRACTS

38th International LAUD Symposium // 2nd Cultural Linguistics International Conference

University of Koblenz-Landau (Landau Campus)

23-26 July 2018

www.uni-koblenz-landau.de/de/landau/fb6/philologien/anglistik/laudsymposium

CLAUD 2018

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