“A Topological Approach to a Space-Time Mapping”
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Abstract

Since the early 1980's, the data has been built up to show that there is a mapping of space onto time in many natural languages. The study started with Lakoff and Johnson (1980) and the other works followed. The most successful analysis on space-time mappings is with the concepts of Ego-moving and time-moving schemata ("We are coming up on Christmas" vs. "Christmas is coming"), in which our perception of movement in a real world is metaphorically used to conceptualize time-related events. So far, so good. But a new question arises: what guarantees such a mapping? In this talk, we show a necessity of introducing a topological approach to this field so that we see exactly what lies in space-time mappings. As examples, we analyze movement verbs such as 'wataru (cross),' 'tooru (get through),' and 'koeru (cross)' in Japanese, which are also used to make temporal expressions. Key words are continuations of spaces, sub-spaces, (end-)points and paths.