Sequential iconicity in temporal adverbial clauses

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Keywords: artificial language learning; sequential iconicity; temporal adverbial clauses; language production; language learning

Sequential iconicity is a diagrammatic mapping between the order of events in reality and discourse (Haspelmath 2008). Thus, *The cat meowed and jumped* presupposes that the meowing happened first. While temporal adverbial clauses with connectives such as before or after enable non-iconic presentation of events (*Before the cat jumped he meowed*), corpus data suggest that even such constructions tend to be placed in an iconic fashion (*After A, B* and *A, before B*) (Diessel 2008; Rezaee and Golparvar 2016). This tendency is in line with the functionalist view of iconicity as a major mechanism influencing language structure and processing (e.g. Ramat 1995). This has been shown by de Ruiter and colleagues (2018) for the comprehension of *before-* and *after-*clauses by five-year-olds. In this paper, I will present the results of three experiments designed to assess the influence of sequential iconicity in language learning and production.

Using the artificial language learning paradigm (Culbertson, Smolensky, and Legendre 2013), a miniature language was created. During exposure, participants saw pictures paired with sentences with temporal adverbial clauses with *after* or *before*. Twelve new event combinations were presented during the test phase. Responses from 98 speakers of Czech (1042 responses) were analyzed. The results show two distinct patterns. First, a number of participants relied purely on structure, applying the same clause order in all or most of the responses. Conversely, a smaller group relied on sequential iconicity. The overall preference for iconic orders in this group was 66.75% (73.12% for *after-*clauses). These results suggest that an isomorphic mapping between conceptual structure and the order of linguistic items can be utilized as a general supporting mechanism in language learning. Furthermore, the two strategies may be taken to reflect the tension between the principles of iconicity and syntacticity (Givón 2018) on a synchronic, individual level. To further validate the results, two additional experiments were created (data collection in progress). First, a sentence picture verification task was created using the same stimuli, in which participants decide whether a given sentence with iconic or non-iconic clause order matches a given picture. Second, the same combinations of scene depictions will be presented together with the Czech connectives *předtím než* 'before' and *potom co* 'after' and participants are asked to describe the scene using the given connective.

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