
Gestural Simulation of Motion Verbs

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We aimed to investigate how the path of a motion verb is mentally simulated and realized in gestures when it is encoded in path-joined motion verbs (e.g., “enter the house”), path-disjoined motion verbs (e.g., “go into the house”), and pathless motion verbs (e.g., “walk in the street”). We conducted 2 studies to answer this question. In Study 1, we analyzed gestures produced by presenters in a set of YouTube videos. We used several chi-square tests to find out what type of gesture (path representational, non-path representational, beat, pointing gestures, and no-gesture) co-occurred more frequently with path-joined, path-disjoined, and pathless motion verbs. In Study 2, we analyzed gestures produced by a group of participants in a story-retelling setting. Both studies showed that path representational gestures co-occurred more frequently with path-joined motion verbs than path-disjoined and pathless motion verbs. Furthermore, the probability of using a path representational gesture with a path-joined motion verb having a human subject was higher than that having a nonhuman subject. Although the language difference in Study 1 and Study 2 might be a limitation, the consistency of results of the 2 studies suggests that the findings are generalizable. We suggest that gestural simulation of a motion verb is affected by how the direction or path of motion is encoded in the verb. When the path of motion is encoded in the main part of the verb, the motion and its path or direction are simultaneously simulated. This account implies that the motor system plays an active role in the process of simulating the path.

KEYWORDS: gestural simulation, pathless motion verb, path disjoined, path-joined