What do co-speech gestures tell us about conceptualization? The case of caused motion events

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Space is fundamental to human cognition and is part of our daily life. Although it is supposed to be a universal cognitive domain, crosslinguistic research has shown that there is a lot of diversity in the way it is expressed. Talmy (1985, 2000) distinguished between verb-framed languages (V-languages), i.e., languages in which path is encoded in the verb and manner in a satellite (e.g., Romance languages) and satellite-framed languages (S-languages), i.e., languages in which manner is encoded in the verb and path in a satellite (e.g., Germanic languages). These two types of languages also show similar patterns when it comes to the realization of caused motion events. In V-languages, there are two typical ways to express caused motion events: using a transitive verb as in (1) or a complex causative construction (faire 'make' + infinitive) as in (2) (Hendriks, Hickmann & Demagny 2008). In S-languages, the verb expresses cause and/or manner and path is expressed in satellites as in (3).

(1)   Il a monté la balle dans sa chambre.
         He took the ball up to his room.
(2)   Il a fait rouler la balle le long du mur.
         He rolled the ball along the wall.
(3)   Zij schopte de bal in het doel.
         She kicked the ball into the goal.

As we acquire our first language, we learn a specific way of thinking-for-speaking (TFS) (Slobin 1991). Our first language has an influence on how we describe the world both in speech and gesture (i.a., Kita & Özyürek 2003; Stam 2006; McNeill & Duncan 2000; Gullberg 2009; Negueruela et al. 2004; Kellerman & van Hoof 2003). When we learn a second language, we thus need to learn the multimodal thinking-for-speaking pattern of our target language. The current study aims to (further) describe the multimodal thinking-for-speaking pattern of French and Dutch by analyzing how they realize caused motion events and see which strategies French-speaking learners of Dutch use to describe these events.

We conducted an elicitation experiment in which participants recounted scenes from the Tweety and Sylvester cartoon *Tweet Zoo* (1957) which contain 69 caused motion events. 15 L1 French speakers, 12 L1 Dutch speakers, and 15 CLIL French-speaking learners of Dutch with a proficiency level ranging from A1 to B2 completed the task. The semantic components (manner, path, cause) encoded in the verb and satellites are identified following Hendriks, Hickmann & Demagny (2008). Gestures are analyzed regarding the semantic components of motion they convey (path, manner & cause; path & cause; manner & cause; ground).

The data are currently being analyzed. Preliminary results already show some tendencies that will be confirmed or nuanced and quantified in due course. There seems to be more variation in French than in Dutch in terms of speech combinations, which corresponds to Hendriks, Hickmann & Demagny (2008)'s findings on French and English. L1 Dutch speakers tend to conflate manner and cause in the verb and combine it with a path-satellite and a gesture conveying manner, cause, and path as in Figure 1 where the participant used the verb *gooien* [throw] and satellite *naar de tijgers* [to the tigers] with a gesture depicting both the manner and path of the movement. Surprisingly, L1 French speakers sometimes encode only manner and cause in speech. These utterances are often accompanied by gestures conveying cause, manner, and path. Still, L1 Dutch speakers tend to produce conflated gestures more often than L1 French speakers. These three semantic components are also present in L2 learners' gestures. Finally, they sometimes use these gestures as a compensation strategy. Indeed, caused motion events are sometimes described as transfer events in speech as in Figure 2 where the participant used the neutral verb *geven* [give] instead of a motion verb such as *gooien* [throw]. If we look at their gesture, we can actually see what happens in the cartoon scene, i.e., that the character throws Sylvester into the tiger's cage and that the speaker also perceived the event as a caused motion event. The fact that they do not orally describe as such could be accounted for by a lack of vocabulary or syntactic difficulties.

As well as adding information to speech, gestures also allow us to determine how speakers conceptualize events as it has already been underlined by Stam (2018) in the case of self-propelled motion events.

Index Terms: caused motion; L2 co-speech gesture; thinking for speaking

Figure 1: Gesture co-occurring with "dan zit iemand biefstukken naar de tijgers te gooien"
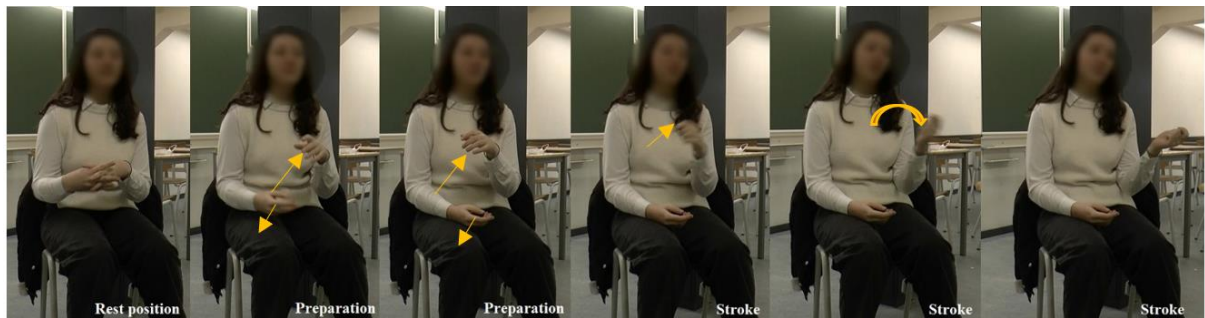*[Then someone is throwing steaks to the tigers] (DU10, ME36)*

Figure 2: Gesture co-occurring with "en <> hij geeft ook Grosminet aan de dieren"
[and <> he also gives Sylvester to the animals] (CLIL9, ME37)

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