TAM and Gesture in North American English: A multi-modal corpus study

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In signed languages, the path, shape, and cadence of gesture are used iconically to express aspect (Wilcox 2004, Sweetser 2009). This corpus-based study investigates whether the same close relationship with aspect exists in co-speech gesture in naturalistic interaction. In the gesture and cognitive literatures, co-speech gesture is seen as equally integral to an utterance as a speaker's words, and gesture and speech are seen as parts of a single process (Kendon 2004:5; McNeill 1992). Gesture also provides a 'window' into conceptualization, and as such is used to investigate effects of linguistic features on event construal. Studies have shown, for example, that grammatical aspect modulates event conceptualization (Bergen and Wheeler 2010; Parrill, Bergen and Lichtenstein, in press). However, these studies were behavioural and used stimuli marked only for grammatical aspect. Here, I investigate the co-occurrence of gesture and aspectual cues in speech in naturalistic, face-to-face interaction. This is part of a larger study investigating the correlation between linguistic cues, intonation, gesture and body movement, where robust correlations would suggest that the notion of construction (Goldberg 2006) should be extended from speech to include gestural and intonational components.

The corpus consists of video footage from public domain broadcasting for which transcripts were available, and is annotated for a wide range of variables, including linguistic (person, clause-type, TAM marking, etc.); gesture (e.g., hand shape, cadence, iterativity); and other multi-modal variables (e.g., change in posture, change in eye gaze, head movement). I focus on four semi-auxiliaries: *continue, keep, start,* and *stop*. *Continue, start* and *stop* belong to Frawley's (1992) inceptive and terminative phase aspects, and *keep* is a force-dynamic 'honorary auxiliary' (Talmy 2000). As semi-auxiliaries, *continue* and *start* occur in one of two constructions: either the progressive [aux + V-ing], or the infinitival [aux to V] form, as in *continue V-ing* and *continue to V,* respectively*. Keep*, *keep on,* and *stop* are available only in the former.

Results from an analysis of these four semi-auxiliaries support the view that aspect is reliably and consistently marked in co-speech gesture. In 27 instances of the auxiliary *keep/keep on*, 88% were marked with gesture, and 10 were correlated with a clearly distinguishable gesture phrase (GP) with the stroke or cadence marking aspect. For *start*, over 80% of instances were marked with gesture, and in over half of those cases the gesture reflected aspect. As a baseline, instances of progressive aspect with the regular *have* auxiliary have also been annotated.

Mapping the fine-grained TAM system of English onto the indeterminate system of gesture, where aspect can be – but is not always – marked in the GP, is a complex endeavor. According to Kendon (2004:126), the part of the speech unit that the GP is related to "depends on how the utterance is being fashioned." In this study, for example, there were many instances of semi-auxiliaries that presented no gestural correlate. However, if gesture is non-essential or context dependent, does this weaken the evidence that speech and gesture are two parts of one cognitive system? This study uses naturalistic data to investigate a broader spectrum of aspectual linguistic cues than has been examined to date. In creating an extensive behavioural profile for the semi-auxiliaries examined here, the study begins to grapple with the integration of the fine-grained time course of gesture, morphosyntactic and intonational cues, with higher order conceptual and linguistic notions such as TAM.

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