What's in the verbal that predicts the non-verbal? The first steps of a dynamic, cognitive-functional gesture predictor

Kasper Kok & Alan Cienki
Vrije Universiteit Amsterdam

Even though most (cognitive) linguists agree that the form of linguistic utterances is contingent upon both cognitive and communicative factors, they typically approach language production *either* from a cognitive or functional perspective (Nuyts 2005). What's more, in describing how messages are formulated, cognitive and functional linguists often neglect the (variably) multimodal nature of spoken communication, reflecting a general implicit bias towards written language in linguistic analysis (Linell 2005).

In this paper, we address these two issues and explore what it takes to develop an integrative cognitive-functional model of spoken language use. First, we seek points of convergence between two prevalent frameworks in cognitive and functional linguistics: Cognitive Grammar (e.g., Langacker 1987; 2008) and Functional Discourse Grammar (Hengeveld and Mackenzie 2008). Integrating principles of these models to the degree possible provides a model of language production that takes into account not only construal operations, but also pragmatic factors that play a role in interpersonal communication. Second, we examine to what extent cognitive-functional characteristics of the verbal channel are predictive of the occurrence and form of co-verbal behaviors: we focus on a limited set of co-speech manual gestures for practical (manageability) and theoretical (semantic) reasons, namely those involving reference to the topic of conversation via pointing (e.g., Kita 2003) or representing (e.g., Beattie and Shovelton 1999).

For addressing these questions we use a portion of the InSight multimodal videocorpus (Brone & Oben, submitted; http://wwwling.arts.kuleuven.be/chil/projects.html) that covers one hour of talk in Dutch by two pairs of participants and has been heavily annotated: the corpus has been segmented in terms of conceptual and strategic discourse units (Hannay and Kroon 2005) and transcribed in terms of the verbal and gestural expressions these units encompass. This information-dense corpus allows us to statistically test which interpersonal factors (e.g., illocutionary act) and aspects of verbal construal (e.g. conceptual domain) are significant predictors of gesture occurrence and form in spoken communication.

On the basis of this analysis, we discuss two issues that have important implications for the scope and external validity of (cognitive and functional) linguistic theory. In particular, this work gives an indication of (1) the extent to which theoretical models such as CG and FDG are useful for learning about 'real-life' online formation of multimodal expressions, and (2) what the merits are of a 'dual' (i.e., cognitive-functional) model in this respect, compared to existing models that highlight just one of these two sides of linguistic expression.

References

Beattie, G. and H. Shovelton (1999). Mapping the range of information contained in the iconic hand gestures that accompany spontaneous speech. *Journal of Language and Social Psychology* 18(4): 438-462.

Hannay, M. and C. Kroon (2005). Acts and the relationship between discourse and grammar. *Functions of language* 12(1): 87-124.

Hengeveld, K. and J. L. Mackenzie (2008). *Functional Discourse Grammar: A typologically-based theory of language structure*: Oxford: Oxford University Press.

Kita, S. (2003). *Pointing: Where language, culture, and cognition meet*. New York: Erlbaum.

Langacker, R. (1987). *The Foundations of Cognitive Grammar: Volume I: Theoretical Prerequisites*: Stanford university press.

Langacker, R. W. (2008). *Cognitive grammar: A basic introduction*. Oxford: Oxford University Press.

Linell, P. (2005). *The Written Language Bias in Linguistics: Its Nature, Origins, and Transformations*. London: Routledge.

Nuyts, J. (2005). Brothers in arms? On the relations between Cognitive and Functional Linguistics. *Cognitive Linguistics: Internal dynamics and interdisciplinary interaction*. F. R. de Mendoza Ibanez and M. Pena Cervel. Berlin: Mouton De Gruyter**:** 69-100.