What Are Constructions and What Can They Do?

Remi van Trijp
Sony Computer Science Laboratories Paris
6, Rue Amyot – 75005 Paris (France)
remi.vantrijp@sony.com

Construction grammar grew out of the need to model the whole of language instead of distinguishing core linguistic expressions from peripheral ones (Fillmore et al., 1988; Kay and Fillmore, 1999), and has since then established itself as the grammatical embodiment of cognitive-functional linguistics (Croft and Cruse, 2004). Its central claim that all linguistic knowledge can be represented as form-meaning mappings – called constructions – has been embraced in both data-oriented and experiment-driven subdisciplines such as language acquisition (Dabrowska et al., 2009; Diessel, 2004; Tomasello, 2003), corpus linguistics (Hilpert, 2015; Stefanowitsch and Gries, 2003; Zeschel, 2012), historical linguistics (Barðdal et al., 2015; Colleman, 2016; Coussé et al., 2018; Fried, 2009; Van de Velde et al., 2013; Van Goethem, 2017), sociolinguistics (Höder, 2014; Hollmann and Siewierska, 2007), psycho- and neurolinguistics (Barrès, 2017; Dominey et al., 2006; Perek and Goldberg, 2017), computational and formal linguistics (Bergen and Chang, 2005; Boas and Sag, 2012; Michaelis, 2004; Steels, 2011) and artificial intelligence (Beuls and Steels, 2013; Steels, 2004; Van Eecke and Beuls, 2017).

As is often the case, however, it takes time before the potential of an innovation is fully explored and understood. Early movies, for example, strongly mimicked theater and used long and static shots before film makers developed their own cinematic “grammar”. A similar process happens in science, and while construction grammar is already too mature to be directly compared to early cinema, the formal and computational properties of its most important data structure are not yet completely worked out. As a result, construction grammar has become an umbrella term for all linguistic studies that roughly agree on what Bill Croft (2005) dubbed vanilla construction grammar, but more precision is needed in order to prevent a babelesque confusion from installing itself in the field and thereby impeding much-needed breakthroughs.

In this presentation, I will try to offer a more precise perspective on what constructions are and what they can do. More specifically, I will look at the representational and algorithmic properties of constructions. The goal of the presentation
is therefore not to favor one or the other analysis, but simply to elicit more clarity about which analyses are possible and which criticisms on constructional analyses are valid concerns and which are not. In order to substantiate my claims, all analyses are accompanied by a concrete computational implementation in Fluid Construction Grammar (FCG; Steels, 2011), an open-source computational platform for exploring issues in constructional language processing and learning.

References


