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Topic 1: A Grammar for Incremental Semantics

Incremental processing at least as fine grained as word-by-word has long been accepted as a basic feature of human processing of speech (see e.g., Schlesewsky and Bornkessel (2004)) and as an important feature for design of spoken dialogue systems (see e.g., Schlangen and Skantze (2011), Hough et al. (2015)).The ability to deal with incrementality has for many years been a selling point of Categorial Grammar in both its versions CCG (Ades and Steedman (1982), Steedman (1996)) and TLG (Morrill (2000)), and in LTAG (Demberg et al. (2013)). It has also served as the motivation for new formalisms, e.g., Dynamic Dependency Grammar (Milward (1994)) and, more recently Dynamic Syntax (Kempson et al. (2001)). Over the years there has been some work on incremental versions of HPSG, e.g., (Gu¨ng¨ordu¨ (1997)) and recently (Haugereid and Morey (2012)). Nonetheless, on the whole, incrementality in HPSG has been viewed as a performance issue—see e.g., Sag and Wasow (2015):

'The locality of the constraints maximizes the information available in partial structures and supports a variety of processing regimes (top-down, bottom-up, left-corner, probabilistic, etc.). Hence, this property of our sign-based model of grammar is useful in modeling the incre- mentality of processing (our italics—JG,RC).' (Sag and Wasow (2015), p. 53)

Over the last few years, several works have appeared detailing the view that grammars should be viewed as systems that classify an utterance as it occurs in conversation see e.g., (Ginzburg (2012), Ginzburg and Poesio (2016), Kempson et al. (2016), Cooper (2016)). Thus, Ginzburg and Poesio (2016) argue that phenomena such as dis- fluencies, non sentential utterances, quotation, and co–speech gestures are as rule-governed as binding, control, and dislocation—traditional sentence-level phenomena captured in formal grammars. Given the existence of formal accounts for all these conversational phenomena within frameworks such as KoS (Ginzburg (2012)), PTT (Poesio and Rieser (2010)), SDRT (Asher and Lascarides (2003)), Dynamic Syntax (Kempson et al. (2016)) and other related frameworks,[2] this suggests the need for a new view wherein grammar is a means for directly characterising speech events, abolishing the performance/competence distinction (though recasting this in a way that allows maintaining a distinction between the linguistic phenomena from the specific details of how they get processed.).

Indeed, with respect to incrementality, once one examines ongoing conversational data even in a fairly cursory fashion, one discovers the pervasive nature of phenomena whose analysis requires incremental semantic composition. Consequently, such data push any grammar formalism that aspires to handle conversation, and this includes without doubt HPSG, to adapt and offer means of handling incremental semantic composition. However, this does not, as we will suggest, force one to radically redesign one's formalism, as long as one allows for a sufficiently tight coupling between grammar and conversational context. This topic will involve writing a detailed grammar that is incremental using e.g., a formalism like HPSG, building on much recent work in this area surveyed in Hough et al 2015 (IWCS 2015).

Topic 2: Sluicing with non-sentential antecedents

An alternative topic is to run experiments on incrementality with respect to phenomena such as the following. Sluicing (A: I met a friend of yours in the park. B: Who?) has often been argued to involve sentential ellipsis (i.e. a clausal question is underlyingly generated and deleted). This is an area with much controversy. There are various alternative views that see sluicing as a directly interpreted fragment (summarized most recently in the paper « Ellipsis in HPSG » by Ginzburg and Miller https://sites.google.com/site/jonathanginzburgswebsite/publications/HPSG-Ellipsis-16-10-17.pdf?attredirects=0&d=1)

One phenomenon that call the sentential deletion view into question is the fact that one can get sluicing before a complete sentence has been generated:

(5) a. The translation is by—who else? —Doris Silverstein (The TLS, Feb 2016)

b. He saw—can you guess who?—The Dude;

c.Queen Rhonda is dead. Long live . . . who? (New York Times, Nov 2015);

d. A: A really annoying incident. Some idiot, B: Who? A: Not clear. B: OK A: has taken the kitchen scissors.

e. (From a live blog:) On 2nd & 4, Brady finds, who else?, Damon Amendola who stretches out to make a touchdown catch that gives the Patriots the lead.

The experiments could involve, for instance, investigating what sort of clarifications and completions are possible while an utterance is ongoing.