Languages as Mechanisms for Interaction

Ruth Kempson, Eleni Gregoromichelaki, Christine Howes

This poster will present the argument that, instead of essential use of representational constructs, natural language (NL) syntax is expressible as embodied action mechanisms that enable coordinated multi-modal interaction among participants. The point of departure is the phenomenon of *compound utterances* (Gregoromichelaki et al., 2011; Howes et al., 2011). In conversation, any syntactic/semantic dependency can be split across more than one participant. This means that participants can initiate a structure that can be continued by more than one party, without anyone having the emergent structure in mind prior to that exchange:

(1) A: Is that cousin of yours going to be at the party?
(2) B: Sue, from Melbourne, who we've promised we won't....
(3) A: abandon ?
(4) B: (laughs) So we're giving her a ride
(5) C: with the dogs?
(6) B: only to Birmingham.

These data constitute major challenges for conventional grammar formalisms in that these all assume sentential representations as the basis for licensing dependencies. In contrast, compound utterances are directly modellable by assumptions of the Dynamic Syntax framework (DS; Cann et al., 2005), in which the grammar is defined in action terms, as a set of procedures inducing incremental construction/linearization of conceptual structures and verbal signals, in stepwise interaction with either the social or physical context. In DS, the incremental definition of the grammar necessitates a parsing/production dynamics based on the twin concepts of inducing underspecification and providing updates, whether from a dialogue participant's own resources or from context. The grammar architecture is thus based on prediction of incoming information and parsing/production couplings that, in conversational settings, result in direct mirroring and coordination of each other's actions. Consequently, at each processing step, each participant is licensed to take over the exchange and contribute an element that satisfies a pre-existing common prediction.

Support for the framework comes from the modelling, unique to this perspective, of even core "syntactic" processes standardly analysed as "movement" ((1) illustrating aux-subject inversion, (2)-(3) long-distance dependency), in action-terms that parallel the types of resolution of context-dependency observed in both anaphora and ellipsis, and, moreover, as dependencies shareable and satisfiable across participants. Under their modelling in DS action terms, anaphora, ellipsis and such structural dependencies all involve variant types of underspecification and update. More specifically, actions inducing an initially underspecified relation/structure which underpin both long-distance dependency and an auxiliary being separated from its predicate ("Aux-subject inversion") parallel ellipsis and anaphora in allowing update: (i) from previous linguistic context, intra-sententially or from previous dialogue; (ii) subsequently from within the current construction process; and (iii) indexically. Of such structural underspecification+update effects: long-distance dependency (2)-(3) illustrates a nonlocal variant of (ii), and the auxiliary separated from its predicate expansion as in (1) and (2)-(3) illustrate local variants of (ii), with both types of dependency resolved across a participant switch, as is also the split between the verb *giving* and its complement (4),(6); stripping/bare argument ellipses as in the answer (2) and C's follow-on (5) illustrate (i); children's one-word utterances, amongst other fragments, illustrate (iii).

References

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