

Language as the tool for interaction: surfing uncertainty together.

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Having recently come across Andy Clark's "Surfing Uncertainty" (2016) in which he argues for a generative probabilistic model of cognition encompassing perception and action, I was struck by how closely the dynamic underpinning of his model matches the dynamics of Dynamic Syntax (DS: Kempson et al 2001, Cann et al 2005, Gregoromichelaki et al 2011, Kempson et al 2016; and the goal of this talk, given that so many of us are now radically rethinking the old-style competence-performance divide, is to reflect on the significance of this parallelism.

This talk will start by emphasising that the data displayed in conversational dialogue are problematic for all static sentence-based grammar formalisms and yet cannot be ignored. Then, I am going to introduce just enough Dynamic Syntax to be able to show you how Dynamic Syntax can naturally express these data, and yet matches the desiderata of a conventional grammar formalism. What is surprising about Dynamic Syntax is that it has no concept of ordinary syntax. Syntax is nothing other than a set of procedures for incrementally projecting representations of content/linear strings online, relative to context. We will see how it can handle traditional syntactic puzzles, express linguistic universals and yet be able to be sensitive to language-particular facts, including the ongoing interactivity displayed in conversational dialogue.

I shall then turn to setting this perspective within the Predictive Processing (PP) model of cognition (Clark 2016), whose architectural properties the DS concept of language matches almost point by point. Like perception in the PP model, the DS grammar is a "fundamentally action-oriented" set of procedures, grounded in predictive processing resources shared by speakers (action) and hearers (perception) alike and "executed using the same basic computational strategy" leading to effects of interactive coordination without any need to invoke mind-reading or propositional inference. The result is that linguistic processing, perception, action, and thought are predicted to be "continuously intermingled" yielding representational updates "tailored to good enough online controls rather than aiming for rich mirroring". Instead, such updates are accomplished due to a strong version of affordance competition since the brain "continuously computes multiple probabilistically inflected possibilities for action" in a cost-effect balancing dynamic, with possibilities progressively winnowed down, allowing for possible revision, to yield at least one output in any successful outcome. To this set of characteristics (Clark 2016 p. 251), we have only to add the potential for interaction which such a language system predicts as default, and a wholly different perspective on language evolution opens up. Language can now be seen as an emergent and evolving system with manifest potential for consolidating cross-individual interactions, hence group effects, without ever having to invoke high-level inferences as external, "designer"-imposed motivation for such consolidation, this a dynamic for which language change already provides robust motivation.