Fast Stuff and Slow Stuff: Is a unified theory desirable?

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There is an odd disciplinary divide in our field between those who focus on ‘Slow Stuff’ and those who focus on ‘Fast Stuff’. Linguists have traditionally tried to characterize linguistic abilities in process-neutral terms that emphasize what speakers can do when freed of constraints of time and memory. Psycholinguists, on the other hand, are more typically fixated on process models that describe what speakers can do very quickly, with little interest in abilities that appear more slowly. (This is not as simple as a linguistics vs. psychology divide -- no corresponding separation is found in the study of language development.) The title of this year’s special session suggests that a close relation between linguistic theories and models of language processing is obviously desirable. But this is not obvious. Rather, it is an empirical question. In this talk we will give a tour of the relevant empirical questions, and what we currently do and do not know.

For some it is self-evident that language is ‘designed’ for information transmission between speakers, i.e., comprehension and production, and that we are very good at it. For others it is self-evident that language is ‘designed’ for information encoding, storage, reasoning, etc., and that its properties are poorly suited to communication. There is serious empirical evidence for both of these positions. One key question is how close is the alignment between the knowledge that speakers reveal in the absence of time constraints and the knowledge that speakers reveal in rapid comprehension/production tasks. There are certainly many instances of close alignment, as seen in years of research on the on-line effects of various grammatical constraints. However, there are also notable instances of mismatches between on-line and off-line sensitivity to grammatical constraints (errors and ‘grammatical illusions’). It is important to determine whether these mismatches reflect (i) embedding of grammatical rules and constraints in a noisy architecture, or (ii) evidence for distinct constraints that are used in on-line processes.

We will argue that the existing experimental evidence lends itself to the following view: human grammars are ‘implementation dependent’, i.e., speakers show scant evidence of being able to construct the same representation in different manners/orders. This motivates a tight relation between theories of Slow Stuff and Fast Stuff, and we offer suggestions on what such theories could look like. However, the goal of this exercise is not to take a menu of existing trade-marked grammatical theories and argue that one or another should be preferred because of its performance-friendly properties. Attempts to use on-line evidence as judges in a bake-off among competing formal theories have typically proven to be disappointing, and most of the conclusions about grammar-parser-producer relations have ecumenical implications.