semanticists precisely on developing theories of information states and their dynamics in dialogue – see, for example, work within the EU TRINDI project (Consortium 2000) and the annual SEMDIAL series of conferences on the semantics and pragmatics of dialogue. Links to all previous conferences, starting in 1997, in Munich, are available from: http://cswww.essex.ac.uk/semdial/

2. The # symbol is used here, as standard in linguistics, to mark an infelicitous utterance.

Dialogue: Can two be cheaper than one?

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Abstract: Pickering & Garrod (P&G) argue that language processing in dialogue is in principle easier than in monologue. Although dialogue situations may provide more opportunities for facilitative priming, those priming mechanisms are also available in monologue situations. In both cases, the interactive alignment model calls strict modular accounts of language processing into serious question.

Pickering & Garrod's (P&G's) argument for the primacy of dialogue is a refreshing alternative to the isolated sentence as the unit of analysis in psycholinguistics. Others, such as Krauss, Clark, and their students and colleagues, have made similar arguments (cf. Clark 1996; Fussell & Krauss 1992), but none have made the additional argument that much of dialogue production and comprehension is automatic, requiring minimal cognitive or linguistic resources. The details of the priming processes have yet to be worked out in detail, but P&G provide enough empirical evidence to warrant optimism about an eventual fleshing out of their interactive alignment proposal. Beyond such details, their account has several intriguing implications, not the least of which is the claim that language production and comprehension are easier in interactive dialogue than in monologue. This flies in the face of the consensus that dialogue requires complex inferences about the mental state of one's interlocutor that are not required when one is, say, talking to oneself, or processing utterances under monologue conditions.

Is language processing in dialogues inevitably easier (more fluent, requires less processing, etc.) than in monologues? I do not think this question can be answered unequivocally. I can think of contexts in which dialogue language production would be quite difficult and contexts in which monologue production would be quite easy. An example of the former might be trying to hold a conversation with a sullen teenaged son or daughter on the merits of atonal music. Examples of the latter might include the think-aloud paradigm used in research on reasoning and problem-solving, or young children talking to themselves or to their dolls when no one else is around. So, as usual, the answer is: It depends.

A more useful question addresses the ways in which dialogue might be more likely than monologue to facilitate language processing. Such ways might in principle be available only in dialogue. Alternatively, it might just be a matter of likelihood, rather than a principled difference between monologue and dialogue. Consider the stages of speech production that could be facilitated in monologues and in dialogues. Following Levelt (1989), production could be facilitated at any or all of the following stages: the message (what to talk about); grammatical encoding (syntactic representation and lexical access); phonological encoding; and articulation. One of the more obvious ways to facilitate speech production is to provide something to talk about. In dialogue, the situation (including one's interlocutor) usually provides this, but of course there are (sometimes painful) situations where one does not know what to talk about next. In monologue, including the occasional classroom lecture (or a *BBS* commentary, for that matter), one can be at a loss as to what to say or write, but this is not a principled characteristic of monologues, just an unfortunate occasional one.

Grammatical and phonological encoding, on the other hand, may well be advantaged in dialogue via the mechanisms of priming and the opportunities for imitation. P&G make a convincing argument that such priming not only occurs but may well be automatic. However, such priming could in principle operate in monologue as well, although the opportunities are undoubtedly less likely. In monologue, as in dialogue, opportunities to repeat specific syntactic forms should facilitate successive productions. Similarly, opportunities to repeat specific word senses should facilitate lexical access and sense selection. What's missing from monologue, of course, are the contributions of an interlocutor, which can provide opportunities for imitation, as well as for syntactic, lexical, and phonological priming (but see Ferreira & Griffin 2003 for evidence of potential sources of priming in monologue).

Finally, P&G note that contextual constraints might operate more efficiently in dialogue than in monologue, but, again, this is probably not a principled difference. They write "With respect to lexical ambiguity, we predict that context will have a very strong role, so that effects of meaning frequency can be overridden" (sect. 5.4, para. 3). To my knowledge, this prediction has not yet been tested under dialogue conditions. However, it has been confirmed under monologue conditions, most recently by Sereno et al (2003), who found very early context effects on word recognition that overrode frequency effects.

To the extent that automatic priming can facilitate language comprehension and production, dialogue may well afford more opportunities for such priming than monologue. Nevertheless, the same mechanisms should be available for both. P&G's contribution is thus more profound than the observation that language processing in dialogue might be easier than in monologue. Instead, the contribution is in the insight that there may be mechanisms of language production and comprehension that can circumvent the need for costly cognitive processing in interactive conversation. People may not need to use a theory of mind or make inferences about common ground and mutual knowledge. They may, instead, rely on automatic priming both within and between interlocutors to produce alignment of representations, which, in turn, makes for successful and relatively effortless speech processing. The theoretical implication for theories of language processing is clear: A strictly modular, bottom-up language processing model simply will not do the job.

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Resonance within and between linguistic beings

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Abstract: Pickering & Garrod (P&G) deserve appreciation for their cogent argument that dialogue merits greater scientific consideration. Current models make little contact with behaviors of dialogue, motivating the interactive alignment theory. However, the theory is not truly "mechanistic." A full account requires both representations and *processes* bringing those representations into harmony. We suggest that Grossberg's (1980) adaptive resonance theory may naturally conform to the principles of dialogue.

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