

Is alignment always the result of automatic priming?

Robert M. Krauss and Jennifer S. Pardo
Columbia University

Abstract

Pickering and Garrod's mechanistic theory of dialogue attempts to detail the psychological processes involved in communication that are lacking in Clark's theory. By relying on automatic priming and alignment processes, however, the theory falters when it comes to explaining much of dialogic interaction. We argue for the inclusion of less automatic, though not completely conscious and deliberate, processes to explain such phenomena.

This essay is a comment on Martin Pickering and Simon Garrod's, Toward a mechanistic theory of dialogue, to appear in *Brain and Behavior Science*

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In his influential book *Using Language*, Clark (1996) argued against a conceptualization of communicators as autonomous information processors, contending that language use is intrinsically a joint activity and examining communicators' practices from this perspective. His account provides a compelling description of some of the things talkers accomplish in dialogue, but it is weak on details of the psychological processes on which these accomplishments rest. Pickering and Garrod's mechanistic theory of dialogue is an attempt to provide such an account. In many respects, it is quite successful, providing a glimmer of light at the end of a long psycholinguistic tunnel. However, there are some respects in which the theory falls short of its authors' goal of providing a mechanistic explanation for the phenomena Clark described.

There are two key propositions in the target article's argument: first, that communication entails the alignment of participants' situation models; second, that priming is the principle mechanism by which this is accomplished. We find the first proposition more convincing than the second. By stressing the automaticity of the process, their mechanistic theory appears incapable of accounting for the way interlocutors use information in what appears to be a more reflective fashion. Because of space limitations, we will confine ourselves to just a few instances where the theory is deficient.

(1) The automatic priming mechanism appears to leave no room for addressee accommodation in the absence of a misunderstanding, yet there are many examples of interlocutors taking their partners' informational needs into account that are incompatible with automatic priming. For example, Kingsbury (1968) found that Bostonians asked, "I'm from out of town, can you tell me how to get to Jordan Marsh?" gave more detailed directions than those simply asked, "Can you tell me how to get to Jordan Marsh?" When asked the latter question in an exotic (nonlocal) dialect, Bostonians also gave more detailed directions. Fussell & Krauss (1992) found that the number of words used in the initial reference to a photo of a landmark in an interactive coordination task was a function of the landmark's perceived identifiability—the more identifiable the landmark was thought to be, the fewer the words used to refer to it. It is not clear how priming could account for these results or those of host of similar studies (see Krauss & Fussell, 1996, for a review). We believe that such "audience design" effects (Clark & Murphy, 1982; Fussell & Krauss, 1989) occur prior to referent selection, and not just as an attempt to remedy an emergent misunderstanding.

(2) Representational alignment requires that two or more entities be identical in some way. Assertions of identity may work for descriptions of relatively abstract syntactic and lexical levels of representation, but not for representations at the phonological level, because the phonological level is graded and repeated phonetic elements (even within the same talker) are not physically identical. Although different instances of a phoneme may be perceived as members of the same phoneme category, perception preserves some phonetic distinctions. Thus,

the very level that is the point of contact between talkers, the acoustic-phonetic level, can not support an automatic alignment/imitation based model because it is impossible to produce a perfect imitation—the monitoring system would be reporting continual error. Although the mechanism allows for degrees of alignment, we lack a rule for determining how much alignment is required.

Interestingly, the strongest evidence cited by Pickering and Garrod for phonetic alignment comes from Goldinger's (1998) study of lexical shadowing. However Goldinger's procedure assessed perceived *imitation*, which is not equivalent to phonetic similarity. Imitations of the voices of well-known figures by vocal impressionists are caricatures that exaggerate particularly salient features rather than produce acoustically accurate reproductions. The remainder of the published evidence for phonological imitation is mainly of increased similarity in speech rate and pitch (Giles, Coupland, & Coupland, 1991; Natale, 1975a; 1975b) and voice onset timing (Sancier & Fowler, 1997). In a continuously variable system, what degree of similarity constitutes an imitation?

(3) Interlocutors' speech does not always become more similar over the course of their interaction; in some cases, interaction yields divergence rather than convergence. Moreover, the speech of different participants may change to different degrees; convergence can be radically asymmetrical. It would be little more than an annoyance if such departures from symmetrical convergence were random, but frequently they reflect social processes that are fundamental to the interlocutors' interpersonal relationship and the ways they define the interaction situation. For example Bourhis and Giles (1977) found divergence in

accentedness when a talker's ethnic identity was devalued. Gregory and Webster (1996) found that the symmetry of pitch convergence between a talk show host and his guests depended on the guest's status relative to that of the host—not surprisingly, higher status guests changed less than their lower status counterparts. Again, it is difficult to reconcile such phenomena with an automatic priming explanation. It seems more plausible to suppose that they derive from a prior assessment that sets up the system to evoke particular kinds of priming.

Although our commentary is directed at what we see as deficiencies in Pickering and Garrod's theory, we applaud their attempt to move beyond participants' goals and intentions, and focus on the psychological mechanisms that make dialogue possible. Their thoughtful paper is admirable in both its scope and depth, and offers much to contemplate. A complete account, we believe, will require a hybrid model in which alignment or imitation derives from both the kinds of automatic processes they describe and processes that are more directed or reflective. Hybrid models of this sort may be less tidy (although not necessarily less mechanistic) than the one Pickering and Garrod propose, but they do seem necessary to capture the subtlety and richness of dialogic phenomena. We are reminded of an anecdote about French President François Mitterand who, when asked by an acquaintance if she might address him using the personal *tu* form, responded, "Si vous voulez." Even in cooperative settings without misunderstanding, alignment may be used strategically—language is used in the pursuit of individual goals. An elaboration of how a situation model

incorporates key aspects of social and interpersonal dynamics would increase the explanatory power of a mechanistic theory of dialogue.

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