Dialogue in joint activity: Complementarity, convergence and conventionalization

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ABSTRACT

Dialogue is tightly interwoven within everyday joint activities that require moment-by-moment coordination of utterances and actions. A common account of coordination is that it is established via progressive convergence (alignment, entrainment, similarity) of interlocutors' representations and behaviour. In order to examine how coordination is established and sustained, this paper distinguishes between (1) Semantic coordination of referring expressions (2) Procedural coordination of the timing and sequencing of contributions. Drawing on data from a series of maze experiments, this paper shows how both kinds of coordination result in the rapid development of highly elliptical, systematized and normative conventions. Focussing on how these conventions are established, this paper shows how interlocutors exploit partial repetition as an interactive resource, resulting in interlocutors' turns becoming progressively divergent and complementary. Further, this paper develops the claim that since repetition is best conceived as a special case of complementarity, it cannot be the general explanation of coordination.

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1. Introduction

Dialogue in joint activities is the most basic form of language use. We learn language via dialogical interaction, and it is in our everyday conversational interactions that we use language. A central feature of dialogue is that it is intertwined with our activities in a myriad ways: for example, conversing with a friend while walking down the street, joking while passing food around the table, or making small-talk while buying something at a shop. Dialogue can also serve to elaborate or augment an ongoing activity, for example a dentist explaining the stages of a procedure, whether for the comfort of a patient or to instruct a student. Often, successful performance of an activity depends intrinsically on dialogue, in particular on activity-specific utterances that coordinate how the activity unfolds. Purchasing an item in a shop requires performing the correct requests, actions and responses in the correct order. Similarly, two people manoeuvering a large piece of furniture up a flight of stairs must communicate moment-by-moment in order to establish when and how to lift. Finally, even in the absence of any overt physical actions, dialogue is *sui generis* analyzable as a joint activity (Clark, 1996). Interlocutors must collaboratively negotiate how to transition through different stages in the conversation; the form of this negotiation depends strongly on the type of conversation (e.g. story-telling, gossiping, enquiring about a product's price, or inviting friends for dinner) and here too, successful coordination can also require the use of activity-specific expressions and routines.

These insights have yielded theoretical units of analysis that take into account the relationships *between* multiple utterances and actions, e.g. language game (Wittgenstein, 1958), speech genre (Bakhtin, 1986), activity type (Levinson, 1992), speech act[1] (Austin, 1962), adjacency pair (Schegloff, 2007), joint project (Clark, 1996), scripts (Schank & Abelson, 1977), communicative project (Linell, 1998).

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[1] This only applies to Austin's speech acts, as Searle's subsequent formalization (1969) removed the requirement of "uptake" by the hearer.

Based on these insights, a vast body of work has uncovered the rich variety of communicative devices (i.e. conventionalized, interactive routines) used by interlocutors to both establish and sustain coordination in joint activities, e.g. the use of gestures or body-posture to signal readiness to engage (Kendon, 1976; Schegloff, 1998), the use of special kinds of utterance such as "outlouds" (Heath & Luff, 1992) or other signals to suspend and resume the activity (Bangerter & Clark, 2003), as well as the use of physical artefacts to coordinate the activity (Hutchins, 1995; Scribner, 1986).

Using these kinds of routines seamlessly in the interaction can require extremely high levels of moment-by-moment phonological, lexical, syntactic and semantic coordination of both utterances and actions, between multiple interlocutors. This can involve knowing specialized vocabularies, knowing which behaviour is sanctioned, which complementary actions, utterances and associated roles your interlocutors are performing, which roles and associated actions you are expected to perform, and when and how to perform them. Even in non-verbal activities, studies of joint action have demonstrated the rapidity with which participants establish coordination that allows them to predict the timing, spatial orientation and format of each other's actions (Sebanz, Bekkering, & Knoblich, 2006).

Despite its centrality for any theory of dialogue there has been a paucity of experimental studies that systematically address how interactive routines become conventionalized in the first place. On the one hand, studies of interactive practices (e.g. situated cognition, ethnographic studies, conversation analysis) typically restrict their analyses to single (or few) episodes of interaction. The analyst's task is to uncover the (often highly tacit and activity-specific) conventionalized routines used by interlocutors, yielding highly detailed analyses of short stretches of talk. However, these studies do not systematically address how two or more interlocutors, when encountering a novel situation, interactively conventionalize novel routines for coordinating with each other in the activity *ab initio*. Nor do these studies systematically address how these conventions might be transformed on each occasion of their use (whether successful or unsuccessful), as interlocutors become progressively coordinated.

On the other hand, experimental approaches that *do* study the emergence of conventions in dialogue typically restrict their analyses to the study of referring conventions, also eschewing systematic analysis of how the interactive routines that yield these referring conventions are established and sustained. Within these approaches, conventionalization in dialogue is typically framed as a problem of how two (or more) participants converge on the same referring expressions. The immediate question that emerges is: How amenable are the basic coordination mechanisms proposed by existing accounts of referential conventions for explaining how interactive routines become established? Can the development of routines be adequately accounted for as a form of progressive convergence?

The point of departure of this paper is to clarify how existing models account for convergence. First, this paper argues that convergence presents interlocutors with a SEMANTIC COORDINATION problem: interlocutors must adapt the semantics of their referring expression to each other and the demands of the activity. The development of semantic coordination exhibits patterns of repetition that cannot be adequately captured with existing models. Second, coordinating on routines requires PROCEDURAL COORDINATION of the timing and sequencing of contributions. Procedural coordination is underpinned by interlocutors making COMPLEMENTARY and different contributions. The "progressivity" (i.e. "forward momentum") (Schegloff, 2007) of an interaction depends intrinsically on interlocutors *not* repeating each other's utterances. Since repetition in dialogue is a special case of complementarity, it cannot be the general mechanism behind coordination.

To examine separately how both kinds of coordination are established and sustained, this paper draws on findings from a collaborative maze task. In accounting for the development of SEMANTIC COORDINATION, this paper draws attention to the central role played by partial repetition. The proposal advanced here is that turn-by-turn repetition of structure is best conceived as a form of scaffolding which supports the repair of existing representations and also supports the construction of novel representations. While some of these supporting structures might become integrated into the resulting representation, they need not be; some may be reused to construct other representations, and others may simply be used on a single occasion and then discarded. Convergence does not arise straightforwardly out of repetition – the structures that are repeated turn-by-turn are not the same structures that end up being converged on over the course of the interaction.

In accounting for the development of PROCEDURAL COORDINATION, this paper argues that from the outset of the interaction participants' are orientated towards the COMPLEMENTARY structure of their contributions. Interlocutors use communicative devices for establishing complementary structures, in particular for anchoring contributions at sequential and temporal "junctures" within the activity. As procedural coordination develops, and the forward momentum of interlocutors' contributions increases, interlocutors produce progressively *divergent* turns, demonstrating that coordination cannot be explained as a straightforward form of convergence.

On encountering a novel activity with a novel partner, neither SEMANTIC nor PROCEDURAL coordination can be presupposed. However, on encountering and resolving both kinds of coordination problem, the solutions become progressively refined and systematized. As coordination progresses, and the activity becomes sufficiently well-defined, this paper argues that in addition to developing normative referring conventions (see Brennan & Clark, 1996, "conceptual pacts"), interlocutors also rapidly develop normative procedural conventions (i.e. "procedural pacts") for resolving the procedural coordination problems encountered in the activity.

2. Accounting for coordination in dialogue

2.1. Semantic coordination of referring expressions

One of the most basic findings in studies on referring conventions is that convergence requires interactive