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Beyond Synchrony: Complementarity and Asynchrony in Joint Action

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Summary of Topic

Recent advances in social cognition and joint action reveal the social and the mutual, rather than the individual and the dichotomous aspects of cognition (Hasson, Ghazanfar, Galantucci, Garrod, & Keysers, 2012). A widespread and powerful model of socially interactive behavior is ‘synchrony’ (Jirsa & Kelso, 2004): Numerous studies have thus recently indicated how individuals through social interaction become increasingly entrained on multiple levels from physiology to syntax: through interaction people synchronize their heart rates, their subtle postural sways, their gestures and gaze behaviors, align their lexicon and their syntax (Fusaroli & Tylén, 2012; Louwerse, Dale, Bard, & Jeuniaux, 2012; Pickering & Garrod, 2004). However, emerging scholarship is increasingly attending to many instances in which patterns of complementary and asynchronous actions rather than synchronous ones seem to predict high levels of interpersonal coordination and joint performance. While some activities such as expertly timed

rowing may afford interacting agents to synchronize their individual behaviours to reach high levels of joint performance, other types of joint activity – like playing a game of baseball – rather afford complementary actions: i.e. tightly coupled, reciprocal activity derived from *different* behaviours performed across an *extended* temporal sequence. Shared construction tasks as well as task-oriented dialogues, for instance, have been shown to require smooth turn-taking, and the development of interactional routines which might involve complementary roles (Dale, Fusaroli, Duran, & Richardson, in press; Fusaroli, Raczaszek-Leonardi, & Tylén, accepted). Cultural practices dwell upon and stabilize complementary distribution of work, to make challenging task as the sailing of a warship or the construction of huge buildings possible (Hutchins, 1995; Perry, 2010).

The session will address the implications and respective roles of synchrony, complementarity and asynchrony as components of coordination. Different methods and perspectives for quantifying and assessing coordinative dynamics in language, behaviour and physiology will be presented conceptually and in their empirical application.

Speakers

Rick Dale (moderator) is a cognitive scientist at UC Merced. He has worked and published extensively on language and social interaction developing and applying a range of novel non-linear statistical methods to assess dynamical properties of multimodal social coordination (Dale, et al., in press; Dale & Spivey, 2006; Louwerse, et al., 2012; Tollefsen & Dale, 2012).

Patrick Healey is a professor of human interaction and head of the Interaction Media and Communication research group at University of London. His research concerns experimental work on technology-mediated dialogical communication and – in particular – miscommunication (Healey, Howes, & Purver, 2010; Healey & Mills, 2006; Mills & Healey, 2008).

John J. McGraw, cognitive anthropologist (TESIS, a Marie Curie Initial Training Network), and Panagiotis Mitkidis, cognitive psychologist (Interacting Minds Centre at Aarhus University and Center for Advanced Hindsight at Duke University) investigate the role of objects and material structures in the coordination of behavior, cognition, and the enhancement of cooperation (Xygalatas et al., accepted).

Dorthe Døjbak Håkonsson is an associate professor at the Aarhus School of Business. As an organization scientist, her research focuses on how team shared emotions influence organizational decision-making (Håkonsson, Burton, Obel, & Laurdisen, 2012). Dan Mønster is a physicist and assistant professor in the Department of Economics and Business at Aarhus University. His current research interest is investigating interactions among team members and the effects of these interactions on team decisions and team performance.

Kristian Tylén and Riccardo Fusaroli are both post doctoral fellows at the Center for Semiotics and the Interacting Minds Center, Aarhus University, with a background in semiotics and cognitive science. They have published on experimental and dynamical systems approaches to social coordination – in particular task-oriented dialogue (Fusaroli et al., 2012; Fusaroli, et al., accepted; Fusaroli & Tylén, 2012).

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