

We-Mode

Theoretical and Methodological Challenges

September 23-24, 2014

Interacting Minds Center

Aarhus University



When people engage in social interactions, they experience thought and agency as shared. Talk of shared minds gestures in the direction of the idea that, when the mental states of the agents become aligned in a dynamic and predictive manner, they achieve more than they would be able to if they were acting alone. One way to describe the nature and mechanism of mental alignment in ordinary language makes salient the use of first-person plural ('we') concepts. Theories of the *we*-mode abound in the philosophical literature, yet references to '*we*-intentionality' and '*we*-representations' are relatively new in psychology and neuroscience. This workshop brings together philosophers and scientists to discuss how philosophical concepts of the *we*-mode relate to the use of the word across the mind and brain sciences, as well as how experimental practice can help us to address theoretical issues that still await clarification. We aim at addressing theoretical and methodological questions about thought and agency in the *we*-mode – such questions as: What would count as evidence of the *we*-mode in both design of experimental studies and interpretation of data? In the absence of an agreed upon definition, what factors would current empirical research suggest as ideal candidates for articulating a mechanistic theory of the *we*-mode? What is the *we*-mode?

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Programme

TUESDAY, SEPTEMBER 23RD

- 9.30 *Registration and Coffee*
- 10.00 **Mattia Gallotti**
University of London & Aarhus University
We-Mode. Theoretical and Methodological Challenges
- 10.30 **Chris Frith**
University of London & Aarhus University
Is There a We-Mode?
- 11.00 Discussion
- 11.15 *Coffee Break*
- 11.30 **Ivana Konvalinka**
Technical University of Denmark
*Interpersonal Coordination as an Approach to Understanding
Potential Mechanisms of the 'We-Mode'*
- 12.15 Discussion
- 12.30 *Lunch Break*
- 14.00 **Dan Zahavi**
University of Copenhagen
You, Me, and We: Different Lessons from Phenomenology
- 14.45 Discussion
- 15.00 *Coffee Break*
- 15.15 **Merle Fairhurst**
University of London
The Dynamic Nature of Two Way Social Interactions
- 16.00 Discussion
- 16.15 *Coffee Break*

- 16.30 **Sebastian Rödl**
Leipzig University
Joint Action and Plural Self-Consciousness
- 17.15 Discussion
- 17.30 *End of First Day*
- 19.00 *Dinner*

WEDNESDAY, SEPTEMBER 24TH

- 9.30 *Registration and Coffee*
- 10.00 **Jeppe Sinding Jensen**
Aarhus University
*The Social Manifestation Thesis. On the Enabling Features of
Cognition in the We-Mode*
- 10.45 Discussion
- 11.00 *Coffee Break*
- 11.15 **Guillaume Dumas**
Institut Pasteur & Florida Atlantic University
*Operationalizing Social Neuroscience Through Human-human and
Human-machine Interactions*
- 12.00 Discussion
- 12.15 **Andreas Roepstorff**
Aarhus University
Closing Remarks
- End of Workshop*

Abstracts

Guillaume Dumas

Human Genetics and Cognitive Functions Laboratory, *Institut Pasteur*, Center for Complex Systems & Brain Sciences, Florida Atlantic University

Operationalizing Social Neuroscience Through Human-human and Human-machine Interactions

How are neural, behavioral and social scales coordinated in real time so as to make possible the emergence of social cognition? Answering this question requires to study the dynamics of coordination in real human interactions. However, even at the simplest dyadic scale, methodological and theoretical challenges remain. I will first present how hyperscanning methodology combined with situated social paradigms allows to uncover intra- and inter-brain dynamical patterns related to different aspects of social interaction, such as interactional synchrony, leader-follower roles, and co-regulation of turn-taking. In the second part of the talk, I will present a new paradigm called the Human Dynamic Clamp which reciprocally couple in real-time a human and a “virtual partner” that integrates equations of coordination dynamics. This allows controlling the dynamical parameters of the interaction while maintaining the continuous flow of interaction. This technique scaled up to the level of human behavior the idea of dynamic clamps used to study the dynamics of interactions between neurons. Combining studies on both human-human and human-machine interactions thus present new approaches for investigating the neurobiological mechanisms of interpersonal coordination, and test theoretical/computational models of the dynamics unfolding across neural, behavioral and social scales.

Merle Fairhurst

University of London

The Dynamic Nature of Two Way Social Interactions

Chris D. Frith

Institute of Philosophy, London; Interacting Minds Center, Aarhus University

Is There a We-Mode?

It is self-evidently true that agents working together have the potential to know more than agents working alone. Given that the agents are, to some extent, independent, then there will be more information available to a group than to any one individual. In addition, if the information is contaminated by noise, then this noise can be reduced by combining the information across individuals. The problem is how to integrate the information and make it available to each individual. I shall show how, for many non-human animals, this integration

problem is solved through the simple rules of *bodily* alignment that create swarms, flocks and herds. In humans we can also observe *mental* alignment, which, like bodily alignment, seems to occur automatically, whether or not a joint task is being performed. So is the we-mode a state of alignment in which information is optimally integrated? When the acting group is large, alignment may be sufficient for optimal information integration leading to advantages for an individual who is part of a group. But this is not necessarily the case for small groups, such as pairs. In such small groups, complementary rather than aligned behaviour and cognition may be required. I suggest that trust and commitment may be crucial for joint action in such circumstances. We need to be sure that the other person will play their part. It is this belief in the commitment of the self and the other to the task that forms the we-mode.

Jeppe Sinding Jensen

Department of Culture and Society, Aarhus University

The Social Manifestation Thesis. On the Enabling Features of Cognition in the We-Mode

The 'we-mode' spectrum in social cognition is complex multi-tiered system: Humans appear to have a biological basis in the mirror-neuron systems for imitation and emulation that are crucial for the Development of collaboration and cooperation. At the basic generative and behavioural levels these capacities function at an 'automatic' level where 'common ground' is provided by neurological properties. At higher social and cultural regulatory levels the necessary 'common ground' will be provided by 'artefacts' such as language, norms and values, that is, by human culture in general. There seems to be good explanatory potential in drawing on and expanding Robert Wilson's 'social manifestation thesis' in explaining how 'we-mode' social cognition in complex social interactions is enabled through the cognitive functions of social institutions. The plausibility of this hypothesis will be backed by a sample of empirical cases of normative cognition and ritual action.

Ivana Konvalinka

Section for Cognitive Systems, Technical University of Denmark

Interpersonal Coordination as an Approach to Understanding Potential Mechanisms of the 'We-Mode'

The field of social cognition has recently started to depart from focusing on the individual, and how an individual processes observed social information, toward studying two or more people engaged in an interaction with each other. However, the transition from understanding individual mechanisms in a social scenario to mechanisms of an interactive dyad is still largely underdeveloped. How do we achieve a shared moment or goal, while still maintaining our individuality? And how can we quantify the mechanisms that allow us to do so? In this talk, I will propose possible intra- and inter-personal mechanisms and

requirements for achieving the ‘we-mode’ (if one exists) by employing experimental paradigms focusing on interpersonal coordination. Namely, I will show that given similar task constraints, people coordinate best when their adaptation is reciprocal, and that this two-way interaction (but not one-way) synchronizes bodily rhythms across various modalities. Next, I will show how these coordinative mechanisms are modulated by higher-order individual beliefs. And finally, I will show that a joint goal is not always achieved via symmetrical interpersonal mechanisms – rather, when there is an asymmetry in task constraints, people implicitly negotiate complementary coordination strategies in order to most effectively achieve the joint goal. These studies provide a quantitative approach to understanding low-level social interaction, and potentially mechanisms underlying the we-mode.

Sebastian Rödl

Philosophy Department, Leipzig University

Joint Action and Plural Self-Consciousness

At a conference in Leipzig in 2000, Georg Meggle propounded this principle: People are acting together if and only if they know that they are acting together. He observed that, while this cannot serve as a definition, it specifies a criterion of adequacy of a definition: a definition of acting together is inadequate if it fails to entail that those who are acting together know that they are. I shall argue that Meggle’s principle is a special case of a more general principle, which Anscombe propounds in *Intention: Someone is doing something intentionally if and only if she knows that she is doing it*. The assertion that Meggle’s principle is a case of Anscombe’s principle will seem puzzling. The latter refers to an individual subject, the former to a plurality of subjects, and many are not a case of one. However, I shall argue that there is but one principle, which is above the distinction of singular and plural. Its true expression deploys a variable whose values are indiscriminately singular and plural: “Helen”, and “Marc”, and “Helen and Marc”. This will emerge as we consider the ground of Anscombe’s principle. We shall see that the ground on which this principle rests does not include the singularity of the subject. The principle has a higher generality than first appeared: its object is action, be its subject one or many.

Dan Zahavi

Center for Subjectivity Research, University of Copenhagen

You, Me, and We: Different Lessons from Phenomenology

In my talk, I will discuss the plausibility of recent attempts to defend the idea of jointly owned token experiences and discuss to what extent a reasonable account of the we requires a preservation of self-other differentiation.