

# One step forward, two steps back – not the Tango: comment on Gallotti and Frith

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Does it take two to tango? According to Gallotti and Frith [1], one thing required for joint action is the right psychological attitude, namely ‘mental representations’ in a ‘we-mode’, which they paradoxically describe as both irreducibly collective and belonging to the individual. However, by eschewing the explanatory power of interaction dynamics in favour of individual mental attitudes, the authors are unable to account for how the we-mode functions, gets coordinated, or is even possible.

The authors take a step forward by noting that social encounters often find us adopting an attitude in which we move in a ‘we-space’ of action, attention, affect, language, and concerns. This is welcome in the context of a move away from individualism in social cognition research [2–5].

Stepping back from this idea, however, Gallotti and Frith miss some of the subtleties of a genuinely plural psychological attitude by focusing on the we-mode in relation to joint, goal-directed action. A sense of being together, and interacting together, can be sustained despite the absence of joint action goals, as Murray and Trevarthen’s double TV-monitor experiment shows [6]. The intentions of mother and infant need not be shared, but are nonetheless coordinated in a give-and-take that keeps the parties together, giving rise to a subjective we-experience. The infant loses interest or becomes distressed if shown a delayed video of her mother, suggesting that sustaining a we-mode requires real interaction but not necessarily a joint-action goal.

Our second worry concerns the coherence of Gallotti and Frith’s proposal. How is a psychological mode irreducibly collective, if all its manifestations and functionality are reduced to individual ‘representations’? They contend that mental activity in the we-mode is possible in the absence of engagement with others. Consequently, the we-mode is definitely not collective (much less irreducibly so), but strictly individual (carrying trans-individual content, like most intentional attitudes, social or non-social). More than just possessing such a mental attitude is required for joint action, we are told. But not what more – except the engagement of two agents in the we-mode. Lacking a definition of what they mean by engagement, this can be taken, in circular fashion, to mean joint action itself.

The situation is at best unclear. Does a person adopt a we-perspective, which happens to be appropriate to situations of interactions with others? Or does the interaction

shape individual attitudes, thus making the we-mode an interactive achievement? In the first case, it remains unclear how the necessary coordination is achieved such that group members adopt we-attitudes that produce joint performance. In the second interpretation, interaction has a formative role for individual attitudes beyond that of ‘content’ and affects not only what an individual intends in a social context but also how she intends. Gallotti and Frith accept the first possibility and reject the second, without further explanation. We think granting interactive dynamics their proper role can ease tensions the authors must otherwise confront.

Why the resistance to acknowledging truly collective factors? The reason cannot be the lack of a precise definition of social interaction [2,4] or of supporting empirical evidence [2,3], which goes undisputed by the authors. Is it a suspicion that the idea of a collective factor playing enabling or constitutive roles is theoretically unsound? Here, too, arguments have been presented, clarified, discussed, and improved [2,7]. No firm grounds have yet been found to discard them nor do the authors offer any.

It may be uncomfortable to consider a truly extra-individual constitutive element in social cognition, even if it is measurable, increasingly studied, and already enriching social cognition research. Contrast these features of social interaction with the difficulties of studying empirically a putative internal psychological mode that may or may not coincide with situations of joint action. We do not understand the discomfort, because granting some autonomy to interactive dynamics does not divest individuals of their autonomy (by the definition of social interaction). Is it an ideological issue?

Participatory sense-making [2], far from describing how interactions ‘define and constrain the contents of individual minds’, refers to the mutual shaping of psychological attitudes through a history of coordination, breakdown, and recovery during social encounters. It does not need the prior adoption of a we-mode to occur or even an intention to engage. It can just happen. And yet, this process can easily account for the spontaneous emergence of plural psychological attitudes, as mutual co-regulation of the interaction develops into mutual recognition [8] and finally into a sense of shared, mutually shaped intentions towards the world. This we-mode-in-interaction is irreducibly collective.

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### References

- 1 Gallotti, M. and Frith, C.D. (2013) Social cognition in the we-mode. *Trends Cogn. Sci.* 17, 160–165
- 2 De Jaegher, H. *et al.* (2010) Can social interaction constitute social cognition? *Trends Cogn. Sci.* 14, 441–447
- 3 Di Paolo, E.A. and De Jaegher, H. (2012) The interactive brain hypothesis. *Front. Hum. Neurosci.* 6, 163
- 4 De Jaegher, H. and Di Paolo, E. (2007) Participatory sense-making: an enactive approach to social cognition. *Phenomenol. Cogn. Sci.* 6, 485–507
- 5 Schilbach, L., *et al.* Towards a second-person neuroscience. *Behav. Brain Sci.* (in press).
- 6 Murray, L. and Trevarthen, C. (1985) Emotional regulation of interactions between 2-month-olds and their mothers. In *Social Perception in Infants* (Field, T.M. and Fox, N.A., eds), pp. 177–197, Ablex
- 7 De Jaegher, H. and Di Paolo, E.A. (2013) Enactivism is not interactionism. *Front. Hum. Neurosci.* 6, 345
- 8 Froese, T. and Di Paolo, E.A. (2011) The enactive approach: theoretical sketches from cell to society. *Pragmatics Cogn.* 19, 1–36

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