Which Joint Actions Ground Social Cognition?

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challenge

Explain the emergence, in evolution or development, of sophisticated forms of social cognition.
Representing perceptions, knowledge states and beliefs is hard, for it requires a challenge. Explain the emergence, in evolution or development, of sophisticated forms of social cognition.
Representing perceptions, knowledge states and beliefs is hard, for it requires

(a) conceptual sophistication
- takes years to develop
- development tied to acquisition of executive function and language
- development facilitated by training and siblings

(b) scarce cognitive resources
- attention
- working memory

Explain the emergence, in evolution or development, of sophisticated forms of social cognition.
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"perception, action, and cognition are grounded in social interaction" (Sebanz & Knoblich 2008)

"the unique aspects of human cognition ... were driven by, or even constituted by, social co-operation" (Moll & Tomasello 2007)
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conjecture

The existence of abilities to engage in joint action partially explains how sophisticated forms of social cognition emerge in evolution or development (or both).
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Given the conjecture, what could joint action be?
tidying up the toys together
(Behne et al 2005)

cooperatively pulling handles in sequence to make a dog-puppet sing
(Brownell et al 2006)

bouncing a ball on a large trampoline together
(Tomasello & Carpenter 2007)

pretending to row a boat together
painting a house together
   (Bratman 1992)
lifting a heavy sofa together
   (Velleman 1997)
preparing a hollandaise sauce together
   (Searle 1990)
going to Chicago together
   (Kutz 2000)
walking together
   (Gilbert 1990)
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shared intention
‘I take a collective action to involve a collective [shared] intention.’

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'The sine qua non of collaborative action is a joint goal [shared intention] and a joint commitment'

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‘the key property of joint action lies in its internal component [...] in the participants’ having a “collective” or “shared” intention.’

(Alonso 2009, pp. 444-5)

‘Shared intentionality is the foundation upon which joint action is built.’

(Carpenter 2009, p. 381)
What is shared intention?
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**Functional characterisation**

**Substantial account**
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Functional characterisation
shared intention serves to (a) coordinate activities, (b) coordinate planning and (c) structure bargaining

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Substantial account
We have a shared intention that we J if
“1. (a) I intend that we J and (b) you intend that we J
“2. I intend that we J in accordance with and because of la, lb, and meshing subplans of la and lb; you intend [likewise] …
“3. 1 and 2 are common knowledge between us”

(Bratman 1993: View 4)
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Intentions about intentions

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Knowledge of others’ knowledge of intentions about intentions

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‘Shared intentional agency consists, at bottom, in interconnected planning agency of the participants.’

(Bratman 2011, p. 11)

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2. Shared intention requires sophisticated theory of mind cognition.

Therefore:

3. Abilities to engage in joint action could play no significant role in explaining how sophisticated theory of mind cognition emerges.
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Given the conjecture, what could joint action be?

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dog’s singing

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Bodily movements ‘are all the actions there are’ (Davidson 1971, p. 59)

In supposedly paradigm cases of joint action, there are no bodily movements with more than one agent. Therefore:

Supposedly paradigm cases are not joint actions.

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Joint action:
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Grounding

Events $D_1, ... D_n$ ground $E$, if:

- $D_1, ... D_n$ and $E$ occur;
- $D_1, ... D_n$ are each (perhaps improper) parts of $E$; and
- every event that is a proper part of $E$ but does not overlap $D_1, ... D_n$ is caused by some or all of $D_1, ... D_n$.

Agency

For an individual to be among the agents of an event is for there to be actions $a_1, ... a_n$ which ground this event where the individual is an agent of one or more of these actions.

(Adapted from Pietroski 1998)
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- your pulling
- dog’s singing

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- Olive’s shooting
- Fred’s death

Fred’s killing

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intention or other goal-state
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It is possible to represent goal-directed actions without representing intentions.
End Detour
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G is a distributive goal: it is an outcome to which each agent’s activities are individually directed and it is possible that: all agents succeed relative to this outcome.
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(a) it is a distributive goal;

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