Joint Action and the Emergence of Mindreading

Which Joint Actions Ground Social Cognition?

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Explain the emergence, in evolution or development, of sophisticated forms of mindreading.

The existence of abilities to engage in joint action partially explains how sophisticated forms of mindreading emerge in evolution or development (or both).
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The existence of abilities to engage in joint action partially explains how sophisticated forms of mindreading emerge in evolution or development (or both).

Joint action presupposes sophisticated mindreading.
shared intention
(or ‘collective’)

‘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)
'I take a collective action to involve a collective [shared] intention.'  
(Gilbert 2006, p. 5)

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Joint

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Jack and Sue walk together

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Jack and Sue walk alongside each other

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We collectively perform a dance by running to a shelter at the same time

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We each individually run to a shelter at the same time (in response to a sudden shower).

(Searle 1990, 92)

(Gilbert 1990)
What is shared intention?
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shared intention <-> joint action

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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

**Substantial account**
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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

Knowledge of others' knowledge of intentions about intentions
What is shared intention?

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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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1. All (significant) joint actions require shared intention.

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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Do all joint actions involve shared intentions? No.
(Zhang and Rosenbaum 2007)
1. All (significant) joint actions require shared intention.

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.
step back: what is joint action?
tidying up the toys together
(Behne et al. 2005)

coopertively 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
tidying up the toys together  
(Behne et al 2005)

coopertatively 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)
Joint action: an action with two or more agents (Ludwig 2007)
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‘our primitive actions, the ones we do not by doing something else, ... these are all the actions there are.’ (Davidson 1971, p. 59).
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- move fingers
- turn key
- unlock door
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‘our primitive actions, the ones we do not by doing something else, ... these are all the actions there are.’ (Davidson 1971, p. 59).

- turning key to unlock door
- move fingers
- 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)
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- tidying up the toys together (Behne et al. 2005)
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We make the dog sing

- My pulling
- Your pulling
- Dog’s singing

my pulling \( \rightarrow \) dog’s singing \( \rightarrow \) your pulling
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We make the dog sing
1. Joint action: an action with two or more agents (Ludwig 2007)

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

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

4. Supposedly paradigm cases are not joint actions.

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Joint action: an action event with two or more agents (Ludwig 2007)
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 $D_1, ... D_n$.

(Adapted from Pietroski 1998)
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Agency

For an individual to be among the agents of an event is for there to be actions $a_1, \ldots a_n$ 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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an action event with two or more agents (Ludwig 2007)
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- Nora’s shooting
- Olive’s shooting

Fred’s death

Fred’s killing

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Too broad
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Goal-directed joint action: an event with two or more agents which, taken as a whole, is directed to a goal.

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Detour
Goals are not intentions
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- Act
- Intention or other goal-state
- Teleological function
- In part because (i) the action and the goal (or outcomes) have been caused of this type; (ii) the action happens now
End Detour
Goal-directed joint action: an event with two or more agents which, taken as a whole, is directed to a goal.
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G is a distributive goal: it is an outcome to which each agent’s actions are individually directed and it is possible that: all actions succeed relative to this outcome.
Joint

Jack and Sue walk together

Not joint

Jack and Sue walk alongside each other

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Joint

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G is a collective goal

(a) it is a distributive goal;

(b) the actions are coordinated; and

(c) coordination of this type would normally facilitate occurrences of outcomes of this type.
"It ... seems useful to draw a distinction between elementary or thin forms of joint action common to humans and other social mammals and sophisticated or thick forms of joint action, perhaps unique to the human species."

(Pacherie & Dokic 2006, 110)

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Each agent most wants and expects the goal to occur as a common effect of all their goal-directed actions.

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challenge

Explain the emergence, in evolution or development, of sophisticated forms of mindreading.

conjecture

The existence of abilities to engage in joint action partially explains how sophisticated forms of mindreading emerge in evolution or development (or both).

2nd objection

Joint action presupposes sophisticated mindreading