

Joint Action

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1. Joint Action vs Parallel but Merely Individual Action

Two sisters cycling to school together exercise shared agency whereas two strangers who happened to be cycling the same route side-by-side do not (compare Gilbert 1990).

When members of a flash mob respond to a pre-arranged cue by noisily opening their newspapers, they exercise shared agency. But when others happen to noisily open their newspapers in response to the same cue, they do not (compare Searle 1990).

Question What distinguishes joint actions from parallel but individual actions?

Simple Account (Intentional) joint action occurs when there is an act-type, ϕ , such that each of several agents intends that they, these agents, ϕ .

2. Bratman on Shared Intention

'each agent does not just intend that the group perform the [...] joint action. Rather, each agent intends as well that the group perform this joint action in accordance with subplans (of the intentions in favor of the joint action) that mesh' (Bratman 1992, p. 332).

Our plans are *interconnected* just if facts about your plans feature in mine and conversely.

'shared intentional [i.e. collective] agency consists, at bottom, in interconnected planning agency of the participants' (Bratman 2011).

Bratman's claim. For you and I to have a collective/shared intention that we J it is sufficient that:

- (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 that we J in accordance with and because of la, lb, and meshing subplans of la and lb;
- (3) '1 and 2 are common knowledge between us' (Bratman 1993, View 4)

3. Counterexample to Bratman

We have an *unshared intention* that we $\langle J_1, J_2 \rangle$ where $J_1 \neq J_2$ just if:

- (1') (a) I intend that we J_1 and (b) you intend that we J_2
- (2') I intend that we J_1 in accordance with and because of la, lb, and meshing subplans of la and lb; you intend that we J_2 ...
- (3') 1 and 2 are common knowledge between us.

Our individual subplans concerning our $\langle J_1, J_2 \rangle$ -ing *mesh* just in case there is some way I could J_1 and you could J_2 that would not violate either of our subplans but would, rather, involve the successful execution of those subplans.

4. Parallel Planning

A representation or plan is *agent-neutral* if its content does not specify any particular agent or agents; a planning process is agent-neutral if it involves only agent-neutral representations.

Practical vs theoretical reasoning: 'The mark of practical reasoning is that the thing wanted is *at a distance* from the immediate action, and the immediate action is calculated as a way of getting or doing or securing the thing wanted' (Anscombe 1957, p. 79). See also Millgram (2001, p. 1): 'Practical reasoning is reasoning directed towards action: figuring out what to do, as contrasted with figuring out how the facts stand.'

Some agents each *individually make a plan for all the agents' actions* just if: there is an outcome; each agent individually, without discussion, communication or prior arrangement, plans for that outcome; and each agent's plan specifies roles for herself and all the other agents.

Our plans are *parallel* just if we each make a plan for all of our actions.

Two or more plans *match* just if they are the same, or similar enough that the differences don't matter in the following sense. First, for a particular agent's plan, let the *self part* be those steps concerning what will be the agent's own actions and let the *other part* be the other steps. Now consider what would happen if, for a particular agent, the other part of her plan were as nearly identical to the self part (or parts) of the other's plan (or others' plans) as psychologically possible. If the agent's self part would not be significantly different, let us say that any differences between her plan the other's (or others') are not rele-

vant for her. Finally, if for some plans the differences are not relevant for any of the agents, then let us say that the differences don't matter.

5. Motor Representation in Joint Action

Motor representations concern not only bodily configurations and movements but also more distal outcomes such as the grasping of a mug or the pressing of a switch (Butterfill & Sinigaglia 2014; Hamilton & Grafton 2008; Cattaneo et al. 2009).

Some motor processes are planning-like in that they involve deriving means by which the outcomes could be brought about and in that they involve coordinating subplans (Jeannerod 2006; Zhang & Rosenbaum 2007).

Motor processes concerning actions others will perform occur in observing others act (Gangitano et al. 2001)—and even in observing several others act jointly (Manera et al. 2013)—and enables us to anticipate their actions (Ambrosini et al. 2011; Aglioti et al. 2008).

In joint action, motor processes concerning actions another will perform can occur (Kourtis et al. 2013; Meyer et al. 2011), and can inform planning for one's own actions (Vesper et al. 2013; Novembre et al. 2013; Loehr & Palmer 2011).

In some joint actions, the agents have a single representation of the whole action (not only separate representations of each agent's part) (Tsai et al. 2011; Loehr et al. 2013; M enoret et al. 2013), and may each make a plan for both their actions (Meyer et al. 2013).

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