Maximalizing Minimalism: Prospects for a Minimal, Naturalistic Account of Joint Action

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Outline

1. Analysis of Joint Action: the State of the Current Literature
2. “Minimalist” Analyses of Joint Action: Their Motivations and Challenges
3. A Neutral Analysandum of Joint Action
4. Sketching a Minimalist Account
The Problem of Joint action

- Do joint actions require a special kind of intention?
- How does joint action relate to cooperation?
- How does joint action relate to social structure?

**Constraint**
I cannot intend that you do something
Causal Action Theory

Intention → Action

I intend to ride my bicycle to school
Bratman’s analysis of joint action

We intend to J if and only 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
   1a, 1b, and meshing subplans of 1a and 1b;
   you intend that we J in accordance with and because
   of 1a, 1b and meshing subplans of 1a and 1b

3. 1 and 2 are common knowledge between us

Bratman’s Analysis Illustrated

1a. I intend that we carry
1b. you intend that we carry

2. I intend that we carry in accordance with and because of 1a, 1b, and meshing subplans of 1a and 1b

3. 1 and 2 are common knowledge between us
“Minimalist” Analyses of Joint Action: Their Motivations and Challenges
Joint Action by Young Children?

1a. I intend that we carry
1b. you intend that we carry

2. I intend that we carry in accordance with and because of 1a, 1b, and meshing subplans of 1a and 1b

3. 1 and 2 are common knowledge between us
Adult Spontaneous Action?

1a. I intend that we carry
1b. you intend that we carry

2. I intend that we carry in accordance with and because of 1a, 1b, and meshing subplans of 1a and 1b

3. 1 and 2 are common knowledge between us
Minimalism and its Motivation

- Common knowledge, meta-intention, meta-belief are too cognitively demanding for:
  - Small children
  - Adult spontaneous joint action
  - Higher animals
  - Social accounts of thought and language
A Minimalist Analysis: Tollefsen

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3. 1 and 2 are jointly perceived

A Minimal Cognitive Architecture

- Representation
  - Goal
  - Tasks of agent and partner
- Process
  - Monitor task with respect to the goal
  - Predict consequences of actions
- Coordination Smoothers

Heinonen’s Challenge to Minimalism

- Minimalist accounts either:
  
  1. Provide analyses that weaken or eliminate the joint prior intention (Tollefsen)
    - But: there is a “tight conceptual connection” between joint prior intention and joint action
  
  2. Propose cognitive mechanisms that show how joint action is achieved (Minimal Architecture)
    - But: these are consistent with the standard analyses

Reply to Heinonen’s Challenge

- Heinonen’s challenge turns on a “tight conceptual connection” between joint action and prior intention.
  - But minimalist counter-examples challenge that connection.
- Problem: There are no criteria for inclusion into the class of “joint actions.”
The Paradox of Analysis

“To give a correct analysis of … a concept…, the philosopher must in some sense already understand or know the meaning of the … concept” (Fumerton 1983, p. 479)

“Joint action” is a philosophical term of art, so there is no prior understanding


x is F iff:
1. Gx and
2. Hx

Examples of F
A Neutral Analysandum of Joint Action
Two platiitudes about joint intentional action:
- Such actions are *intentional*
- Such actions are *joint*
A Neutral Description of the Analysandum

Joint intentional actions are *intentional*

- J. L. Austin: *unintentional* does the work
  - To say an action was intentional is to say that it was not an accident, mistake, unforeseen consequence, bad luck, etc.
  - Intentional actions are those for which we hold each other responsible
A Neutral Description of the Analysandum

Joint intentional actions are *joint*

- Distributive vs. Collective predicates
  - Both are predicated of a number of objects
  - Distributive predicates are true of each object
    
    *Peregrin’s books are on the bookshelf.*
  - Collective predicates are true only of the group
    
    *The legs support the table.*
A Neutral Description of the Analysandum

A joint action is intentional under a description that involves an action verb contextually requiring multiple subject participants and interpreted as a collective predicate.

- **Paradigm examples:**
  - Lifting a heavy object together
  - Dancing together

- **Clearly not joint actions:**
  - Pure coordination mechanisms
  - Strangers walking in the same direction
The neutral description does not distinguish between deliberate and spontaneous action.

Some clear cases include joint action by children and adult spontaneous joint action.

The “tight conceptual connection” between prior intention and joint action is not necessary.
Sketching a Minimalist Account
Strategy for a Robust Minimalism

- Begin with spontaneous joint action, treat deliberate joint action as the special case
- Build with capacities that do not presuppose linguistic representation
The Minimalist Architecture: Goals

- Represented goals
  - Must represent the goal as something requiring help (ME+X)

- Objective goals
  - Single outcome at which the actions aim
  - Outcome must be collective, not distributive
The Minimalist Architecture: Tasks

- In all action, the agent’s immediate task is represented in the motor cortex.
- The partner’s task must be represented.
- But… not in detail.
The Minimalist Architecture: Processes

- Tasks must be *monitored* with respect to the goal, and
- *Predictions* made about the immediate outcome of movement
- Without monitoring the partner, all corrections are individual and the action description becomes distributed.
The Minimalist Architecture: Processes

- A conundrum:
  - Partner tasks cannot be represented in detail
  - If partner tasks are not represented in detail, they cannot be monitored
  - Without partner monitoring, all error corrections are distributed, not collective
Adding Social Cognition to the Minimalist Architecture

Three social-cognitive capacities
- Recognition of joint affordances
- Joint attention
- Combined task output
- Affordances
- Role responsibility
Robust Minimalism for Joint Intention-in-Action

- **Task and goal representation.** Goals are represented as something that cannot be done alone.

- **Collective Goal.** Output of the actions is a collective state.

- **Joint Affordance Recognition.** The agents recognize the affordances relevant to the goal.

- **Joint Attention.** The agents jointly attend to the affordances, the results of their ongoing tasks, and the goal.

- **Role Responsibility.** The agents recognize and take interlocking roles in the action, and coordinate their actions appropriately.
Robust Minimalism for Deliberate Action

- Deliberate actions involve some degree of forethought or planning.
- Joint deliberate actions sometimes are the result of explicit negotiation about roles and goals.
- Two additional cognitive mechanisms:
  - Capacity for deliberation, planning, or forethought
  - Capacity to remember the results of planning, and to use the plan to inform goals and roles
Robust Minimalism

- Joint intention-in-action = minimal architecture + social-cognitive capacities
- Joint deliberate action = joint intention-in-action + deliberation and decision
- Robust minimalism would account for the whole phenomenon, without meta-beliefs, complex intentions...
- So, robust minimalism is *incompatible* with the standard analyses