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## **Modest Sociality: continuities and discontinuities**

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### *Abstract*

A central claim in Michael's Bratman account of shared agency is that there need be no radical conceptual, metaphysical or normative discontinuity between robust forms of small-scale shared intentional agency, i.e., modest sociality, and individual planning agency. What I propose to do is consider another potential discontinuity, whose existence would throw doubt on his contention that the structure of a robust form of modest sociality is entirely continuous with structures at work in individual planning agency. My main point will be that he may be wrong in assuming that the basic cognitive infrastructure sufficient to support individual agency doesn't have to be supplemented in significant ways to support shared agency.

*Keywords:* Bratman; Shared agency; Joint action; Shared representations; Discontinuities

### **1. Introduction**

In his important new book, *Shared Agency*, Michael Bratman develops in detail an account of modest sociality. His main aim is to demonstrate that there need be no radical discontinuity between robust forms of small-scale shared intentional agency, i.e., modest sociality, and individual planning agency. His view is thus to be contrasted with the approaches of Margaret Gilbert and John Searle who both, although in rather different ways, emphasize what they take to be fundamental discontinuities between individual and shared agency. What I propose to do here is consider another potential discontinuity, whose existence would throw doubt on Bratman's central claim that the structure of a robust form of modest sociality is continuous with structures at work in individual planning agency. My main point will be that Bratman may be wrong in

assuming that the basic cognitive infrastructure sufficient to support individual agency doesn't have to be supplemented in significant ways to support shared agency.

I start with some stage setting regarding Bratman's account of modest sociality, the way his approach contrasts with the approaches of Gilbert and Searle and the kind of continuities and discontinuities their disagreements are about (§2). I then concentrate on the mutual responsiveness condition in Bratman's account and consider some recent empirical evidence that a distinctive set of skills and capacities are engaged in supporting mutual responsiveness (§3). This suggests that there may be an important discontinuity between the cognitive infrastructure needed to support individual agency and the cognitive infrastructure needed to support shared agency. While Bratman allows that planning agency may not by itself ensure the capacity for modest sociality and that further capacities may be needed to move from planning agency to modest sociality, he nevertheless maintains that these further capacities need not involve fundamentally new elements. In contrast, I'll argue that the further capacities needed to effect this move point to a discontinuity that is at least as important as another discontinuity Bratman pays much more heed to, namely the cognitive discontinuity that grounds his distinction between planning agency and simple purposive agency (§4).

## **2. Bratman's constructivist approach to modest sociality**

Bratman's objectives in his book are both limited and ambitious. On the one hand, they are limited to the extent that he is concerned primarily with *modest sociality*, that is, with shared intentional activities of small groups of adult agents that neither involve asymmetric authority relations between members of the groups nor constitutively depend on the existence of institutions. They are also limited insofar as he aims at providing a set of *sufficient* conditions for shared intention and modest sociality rather than a set of *necessary and sufficient* conditions. On the other hand, his objectives are also ambitious, since he wants to show that the step between individual planning agency and shared agency need not involve fundamentally new conceptual, metaphysical or normative elements. This is his *continuity thesis*. For Bratman, the main discontinuity in agency is not between individual and shared agency, but rather, as he argues in his 1987

book, *Intention, Plans, and Practical Reason*, between simple purposive agency and planning agency, with the new practical elements essential to it, namely intentions. In pursuit of these aims, Bratman develops a constructivist approach to shared intentions that exploits the conceptual and normative resources of his planning theory of individual agency. His basic thesis is that one can capture the interconnections among agents characteristic of shared agency by construing shared intentions as complexes of interlocking and interdependent intentions and other attitudes of individual agents. While the interconnected intentions Bratman's basic thesis appeals to have special content, they are, *qua* mental attitudes, ordinary personal intentions. This is an important difference with Searle's account according to which what is essential to shared agency is a special individual attitude of "we-intention" (Searle, 1990). A "we-intention", as Searle conceives of it, is a primitive kind of psychological attitude. Thus, for Searle, in order to account for shared agency, we need to introduce a basic new element in the furniture of the individual mind. In contrast, Bratman's basic thesis is metaphysically parsimonious in appealing only to psychological kinds that are already needed for individual planning agency.

Second, Bratman also argues that the social normativity characteristic of shared agency derives from the normativity already associated with individual planning agency. According to the planning theory of intentions, individual intentions are subject to central norms of consistency, agglomeration, coherence and stability. Intentions of individual participants, when they are interconnected in the way specified by the basic thesis, will normally, in responding to these norms of individual practical rationality, lead to the emergence of corresponding norms of social consistency, social agglomeration, social coherence and social stability. This contrasts with Gilbert's view that the fundamental phenomenon in shared agency is joint commitment with the obligations and entitlement inherent in it (Gilbert, 1992, 2009). As Bratman points out, for Gilbert, the idea of a joint commitment is a primitive social notion that does not admit of further reductive analysis. Similarly, the obligations and entitlements a joint commitment grounds cannot be understood as moral in kind or as emerging from the norms associated with individual planning agency. Rather, they engage a *sui generis* kind of social normativity. Clearly then, there is, on Gilbert's account, a deep conceptual, metaphysical and normative discontinuity between individual and social agency.

However, neither Bratman nor Gilbert contemplates the possibility that a different kind of discontinuity, namely a discontinuity in cognitive infrastructure may also be at play.<sup>1</sup> I now introduce recent empirical evidence that a distinctive set of skills and capacities are needed to support modest sociality and in particular mutual responsiveness.

### **3. The basic cognitive infrastructure of mutual responsiveness**

What, according to Bratman, distinguishes shared intentional activity from other phenomena of group or collective agency is that in shared intentional activity, joint action is appropriately explained by a shared intention. This is what he calls the connection condition. One task Bratman sets himself is thus to specify the nature of this explanatory connection. He proposes to characterize it as involving an appropriate form of mutual responsiveness of each to each in their relevant intentions and actions, or, as he puts it: 'the basic idea is that what is central to the connection condition is that each is responsive to the intentions and actions of the other in ways that track the intended end of the joint action (2014:79). Responsiveness in intention means that each will adjust his subsidiary intentions concerning means and preliminary steps to the subsidiary intentions of others in a way that keeps track of the intended end of the joint action. It is thus essentially a matter of responsiveness in planning. Responsiveness in action is a matter of adjusting one's actions to the actions of others in a way that keeps track of the plan for the joint activity.

While Bratman describes negotiation, bargaining, shared reasoning and shared deliberation as some of the central processes through which mutual responsiveness in intentions is achieved, he has little to say about the processes involved in responsiveness in action. To know more about this, we have to turn our attention to

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<sup>1</sup> This is less clearly the case for Searle. While his account of what he calls collective intentionality appeals, as we have seen, to the notion of we-intentions, Searle also stresses that having the capacity to form such intentions requires particular Background skills, namely 'something like a pre-intentional sense of "the other" as an actual or potential agent like oneself in cooperative activities' (Searle 1990: 414). Interestingly, he also denies that this sense of others as cooperative agents is constituted by collective intentionality, insisting rather that it could exist independently of any collective intentionality and that the functioning of collective intentionality presupposes it. While one may regret that Searle does not spell out more fully what these Background skills involve, his remarks suggest that he may have been willing to countenance an important discontinuity between creatures possessing these skills and creatures lacking them.

recent psychological work on joint agency. In contrast to philosophical approaches, cognitive psychology studies of joint action typically focus on the perceptual, cognitive, and motor processes that enable individuals to flexibly coordinate their actions with others online. This psychological literature has grown too vast to allow for an easy summary. Here, I offer only a sample of this literature. In the next section, I try to extract what I take to be the key achievement these mechanisms contribute to.

Knoblich and colleagues (Knoblich et al, 2011) distinguish between two broad categories of coordination processes, emergent and goal-directed.<sup>2</sup> In emergent coordination, coordinated behavior occurs due to perception-action couplings that make multiple individuals act in similar ways. One source of emergent coordination involves interpersonal entrainment mechanisms. For instance, people sitting in adjacent rocking chairs will tend to synchronize their rocking behavior, even if the chairs have different natural rocking tempos (Richardson et al. 2007). The perception of common or joint affordances can also lead to emergent coordination. A joint affordance is a case where an object affords action to two people that is may not afford to each of them individually. Thus, a seesaw may afford action to two kids, but not to a single child. A third source of emergent coordination is perception-action matching, whereby observed actions are matched onto the observer's own action repertoire and can induce the same action tendencies in different agents who observe one another's actions (Jeannerod, 1999; Prinz, 1997; Rizzolatti & Sinigaglia, 2010). It is likely that such processes make partners in a joint action more similar and thus more easily predictable, and thereby facilitate mutual responsiveness in action. Importantly, however, emergent forms of coordination can operate independently of any joint plans or common knowledge, which may be altogether absent, and do not ensure by themselves that the agents' actions track a joint goal.

In goal-directed coordination, agents plan their own motor actions in relation to the joint goal and also to some extent to their partners' actions. As emphasized by Knoblich, Butterfill and Sebanz (2011), shared task representations play an important role in goal-directed coordination. Shared task representations do not only specify in advance what

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<sup>2</sup> These authors actually speak of emergent vs. planned coordination. What they have in mind is motor planning and the processes involved in the specification of goal-directed sequences of movements and in the control of their execution. To avoid unnecessary confusion with Bratman's very different notion of planning, I refer here to what they call 'planned' coordination as 'goal-directed' coordination.

the respective tasks of each of the co-agents are, they also provide control structures that allow agents to monitor and predict what their partners are doing, thus enabling interpersonal coordination in real time. Empirical evidence shows that having shared task representations influences perceptual information processing, action monitoring, control and prediction during the ensuing interaction (Heed et al., 2010; Schuch & Tipper, 2007; Sebanz et al., 2006). Thus, for instance, people tend to predict the sensory consequences not only of their own but also of other participants' actions (Wilson and Knoblich 2005) and to automatically monitor their own and others' errors (van Schie et al. 2004). Furthermore, several studies have shown that actors may form shared representations of tasks quasi-automatically, even when it is more effective to ignore one another (Atmaca et al., 2008; Sebanz et al., 2005; Tsai et al, 2008).

An important complement to the co-representation of tasks and actions is the co-representation of perception. Thus, joint attention provides a basic mechanism for sharing representations of objects and events and thus for creating a perceptual common ground in joint action (Tomasello & Carpenter, 2007; Tollefsen, 2005). Joint attention can also allow agents to perform joint actions more efficiently. For instance, a study by Brennan and colleagues (Brennan et al., 2007) demonstrated that co-agents in joint visual search space were able to distribute a common space between them by directing their attention depending on where the other was looking and that their joint search performance was thus much more efficient than their performance in an individual version of the search task.

What can we learn from this empirical work? First, it suggests that mutual responsiveness in action relies on a number of alignment and co-representation processes that are largely, if not always, automatic and involuntary and that involve, at least in part, sub-personal psychological mechanisms. Second, while these processes are crucial to shared agency, they are not needed to support individual action. It seems perfectly conceivable that creatures lacking a capacity for perception-action matching, for the co-representation of actions and perception, or for joint attention could still be successful action planners when acting on their own.

Bratman accepts these two points. Indeed, he appeals to these processes to counter the charge that his model of modest sociality may be psychologically too demanding and he suggests, for instance, that 'the modest sociality modeled by the basic thesis can involve forms of interpersonal responsiveness that are not reflected in the contents of relevant

intentions' (2014: 104). He also takes seriously Tomasello's conjecture that humans are equipped with a set of species-unique skills and motivations for shared intentionality and that great apes are planning agents but lack these shared intentionality skills (Tomasello, 2009). Acknowledging this possibility, he claims that his account leaves open 'theoretical room for planning agents who do not have this social capacity' (2014: 4).

*Prima facie* at least, it would seem that there is an important discontinuity between cognitive architectures that support shared intentionality skills and cognitive architecture that don't. Why doesn't Bratman consider these skills as new practical elements? Why does he think this poses no threat to his continuity thesis?

Bratman's confidence that no deep discontinuity threatens his construction appears motivated by what he sees as the similar constructivist conservatism of the evolutionary proposal put forward by Tomasello and Carpenter, who write:

“The emergence of these skills and motives for shared intentionality during human evolution did not create totally new cognitive skills. Rather, what it did was to take existing skills . . . and transform them into their collectively based counterparts of joint attention, cooperative communication, collaborative action. Shared intentionality is a small psychological difference that made a huge difference in human evolution . . .” (Tomasello & Carpenter, 2007: 124; quoted by Bratman in note 11 of chapter 4).

Now, evolutionary stories are not typically chockfull of discontinuities. They are evolutionary stories after all, not revolutionary stories. But jokes apart, a discontinuity in the relevant sense need not involve totally new entities, skills or capacities, but only entities, skills or capacities that do not let themselves be reduced to combinations of other pre-existing entities, skills and capacities.

I don't want to engage here in a detailed discussion of what we mean or should mean when we talk of discontinuities. Rather, what I'll do in the next section is argue that however Bratman wants to label and characterize the discontinuity that grounds his distinction between simple purposive agency and planning agency, there is as significant a discontinuity between individual and shared agency.

#### **4. Time-slice vs. body-bound agents**

We are, according to Bratman's theory of individual planning agency (Bratman, 1987), planning agents regularly making more or less complex plans for the future and guiding our later conduct by these plans. This planning ability appears to be if not unique to humans at least uniquely developed in the human species. Bratman's theory takes the intentions of individuals as distinctive elements of individual human agency, elements that go beyond the ordinary desires and beliefs characteristic of simple purposive agency. Such intentions are embedded in coordinating plans that play basic roles in the temporally extended structures that are characteristic of individual human agency. As Bratman puts it, 'intentions enable us to avoid being merely time-slice-agents' (Bratman, 1987: 35). Instead of constantly starting from scratch in our deliberations and simply weighing current belief-desire reasons, intentions allow us to become temporally extended agents. In other words, having a capacity for intentions frees us from the confines of the present, allowing us to coordinate our present self with our future selves. While I don't think the word "discontinuity" appears in his 1987 book, Bratman would presumably endorse the claim that there is a deep discontinuity between simple purposive agency and planning agency, with the later involving a new practical element, intentions, that makes possible temporally extended agency. Note that, from an evolutionary point of view, the step from purposive to planning agency need not rest on totally new cognitive skills. Rather, it may simply involve increases and transformations of skills already present in purposive agency, such as increases in the capacity of prospective and working memory systems, more robust executive functions, new layers of cognitive control, etc.

Simple purposive agents may be prisoners of the present but they are also, perhaps more basically, prisoners of their own body, its capabilities and its location in space. Where an agent's body is located and what its motor capabilities are define an agent's action space. This idea is reflected in the basic functional organization of our brain. It is at the core of Goodale and Milner's very influential two-stream model of vision (Goodale & Milner, 1992), according to which the ventral 'perceptual' stream provides the rich and detailed representation of the visual world required for cognitive operations whereas the dorsal 'action' stream transforms incoming visual information into the required coordinates for skilled motor behavior. Crucially, the coordinate systems and frames of reference that organize this action space are essentially anchored in and determined by the agent's body, the structure of her body schema and her motor

capabilities. On the one hand, this allows for efficient sensorimotor transformations that account for the flexibility and precision of action execution and that support responsiveness in action. On the other hand, though, as long as the action space remains strictly anchored on and structured by the agent's own body, it remains difficult to see how mutual responsiveness in joint action can be achieved.

Having a capacity for planning agency may free us from the confines of the present and expand our temporal horizon, but it does little by itself to free us from the confines of our own body. Bratman's extension of his planning theory of agency from individual to shared agency exploits the idea that the relations a planning agent has to his future selves are, up to a point, analogous to the relations it has to other agents in shared agency. In other words, the glue that binds together the different time-slices of an individual agent can also serve as the social glue that binds together the minds of different agents in modest sociality.

The problem though is that the joint actions characteristic of modest sociality – painting a room together, moving a table together, dancing the tango – typically involve physical interactions and coordination between the agents, thus requiring not just mind glue but also body glue.<sup>3</sup> Mutual responsiveness in action may thus require the construction of what Pezzulo and colleagues (2013) call shared action spaces, action spaces that incorporate and integrate information about a co-agent's motor capabilities and frames of references, thus allowing a move from individualist to social sensorimotor transformations. While Pezzulo and colleagues offer their own detailed proposal as to how shared action spaces may be constructed and what their different types may be, the various processes described in the previous section can be interpreted either as contributing to the construction of such a shared action space (e.g., joint attention, perception-action matching) or as exploiting an already constructed shared action space (e.g., perception of joint affordances, task co-representation).

To recap, Bratman argues that the same step that frees us from the confines of the present – the emergence of a capacity for intentions – can also free us from the confines of our own mind and make possible the sharing of minds that characterizes modest sociality. My point is that modest sociality and the mutual responsiveness in action it

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<sup>3</sup> As Bratman notes (2014: 81) prepackaged actions may be an exception.

implies require in addition that we free ourselves from the confines of our own acting body. While freeing ourselves from the present may require adding new elements to the furniture of the piano nobile of the mind, breaking the bounds set by our own body may require no less a transformation in its lower floors. To paraphrase Tomasello and Carpenter, from an evolutionary perspective, neither a capacity for intentions nor a capacity for shared action space need be counted as totally new cognitive skills, yet both made a huge difference in human evolution. In short, it remains unclear to me why, in Bratman's view, one should be counted as a major discontinuity and the other as a minor tweak. Finally, if the two capacities have different roots, then it should be conceivable not just that planning agents may lack a capacity for shared agency, but also that agents that lack a capacity for planning may exhibit a form of 'simple purposive shared agency', and thus for a form of sociality presumably more modest than Bratman's modest sociality.

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