Article

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Joint Improvisation, Minimalism and Pluralism about Joint action

https://doi.org/10.1515/jso-2020-0068
Published online April 14, 2021

Abstract: This paper introduces freely improvised joint actions, a class of joint actions characterized by (i) highly unspecific goals and (ii) the unavailability of shared plans. For example, walking together just for the sake of walking together with no specific destination or path in mind provides an ordinary example of FIJAs, along with examples in the arts, e.g., collective free improvisation in music, improv theater, or contact improvisation in dance. We argue that classic philosophical accounts of joint action such as Bratman's rule them out because the latter require a capacity for planning that is idle in the case of FIJAs. This argument is structurally similar to arguments for minimalist accounts of joint action (e.g., based on joint actions performed by children before they develop a full-fledged theory of mind), and this invites a parallel minimalist account, which we provide in terms of a specific kind of shared intentions that do not require plan states. We further argue that the resulting minimalist account is different in kind from the sort of minimalism suggested by developmental considerations and conclude in favor of a pluralistic minimalism, according to which there are several ways for an account of joint action to be minimal.

Keywords: joint action, improvisation, minimalism, plans, shared intentions

For three decades or so, joint action has been attracting more and more philosophical interest. What does it mean to act together? Does it involve specific mental attitudes, and if so which ones? How do we human beings come to act together at all? Does it involve specific cognitive mechanisms, and if so which ones? The first philosophical discussions aimed to provide *definitions* of joint actions, that is, to

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provide necessary and sufficient conditions (hopefully) for a set of individual actions to qualify as a joint one (Bratman 1992, 1993; Gilbert 1989; Searle 1990, 1995; Tuomela and Miller 1988). But those initial proposals ended up requiring *sui generis* mental states (Searle 1990, 1995) or modes (Tuomela and Miller 1988), *sui generis* social bonds (Gilbert 1989), sophisticated nested structures of intentions and common knowledge (Bratman 1992, 1993, 2014), or even new kinds of agents (Helm 2008).

As a result, the main salient trend in the second-generation literature on joint action has been a reaction to these first approaches which aimed to retain their ambition while becoming more realistic. To many, the original definitions of joint actions were too much: too ideal, cognitively too demanding or too limited in scope. Accordingly, a second wave of works, which is still thriving today (Fiebich 2020), started emphasizing *minimalism* about joint action. "Taking a minimalist approach means finding a simplest possible starting point, adding ingredients only as needed, and avoiding as far as possible ingredients which would require the agents to have abilities additional to those already required." (Butterfill 2016: 359) This could only be done by weakening traditional definitions of joint action (so they would fit more cases), while hoping to retain much or even all of their explanatory power regarding how and why agents may act together.

Arguments in favor of minimal approaches typically rely on cases that qualify as *bona fide* joint actions while failing to satisfy key requirements of philosophical analyses. For example, Butterfill (2012) argues that the collective behaviors performed by children before they have acquired full-fledged mentalizing abilities but play an active role in the development of those abilities qualify as joint actions even though they fail to involve "shared intentions" as defined by Bratman. Butterfill proposes instead a minimalist account of joint action, based on shared goals, as opposed to shared intentions, which, unlike Bratman's account, rules in the relevant collective behavior of children. Butterfill remains however pluralist about joint action in that he does not see his minimal account as a correction of Bratman's account of joint action, but rather as an account of a different kind of joint action.

In this paper we would like to question a uniqueness assumption that is sometimes implicitly carried by the idea of a "simplest starting point". The minimalist approach invites one to organize the plurality of joint action accounts by means of a "simpler than" partial order, which connects less stringent to more stringent accounts. For example, Butterfill's shared-goal account is less stringent than the type of joint actions captured by Bratman's account, and thus is strictly simpler than Bratman's relative to this partial ordering. But do we have good reason to assume that this partial order has a *unique* lowest element?

To question this assumption, we propose to consider a class of collective behavior we call "freely improvised joint actions" (§1). We argue that they are joint

actions from which crucial ingredients of classical philosophical analyses, in particular Bratman's, are missing (§2). As a result we propose a simpler account that rules freely improvised joint actions in, in line with minimal approaches of joint action (§3). We then consider how the latter minimal account relates to Butterfill's own minimal account with respect to the "simpler than" partial order and argue that it is best seen as incomparable with it (i.e., neither equivalent, no simpler, nor less simple). We conclude that the pluralism about joint action that accompanies the minimalist approach should be supplemented with a pluralism about minimalism itself: there are several ways for an account of joint action to be minimal (§4).

1 Freely Improvised Joint Actions

In this section, we introduce a kind of joint action that has so far been relatively neglected in the philosophical literature on joint action – namely freely improvised joint actions ("FIJAs" for short). This class is based on examples of collective improvisations in the arts, but as we shall see, its extension is by no means restricted to artistic practice and encompasses a number of familiar ordinary joint actions.

Before we arrive at the notion of a FIJA, it is worth preparing the ground with the more basic notions of improvised action and improvised joint action. Improvised actions are typically characterized as actions that do *not* involve the execution of an antecedently elaborated plan. An improvised speech, for example, is one that I compose on the spot, without planning in advance what I am going to say first, second, etc. and how I will end it. By an antecedently elaborated plan for an action, we mean here a mental state formed ahead of the action representing the end of a temporally extended and articulated action, together with some initial steps, and an outline of intermediary steps leading to the end.[1] Of course, plans need not be exhaustive or even detailed specifications of all the steps to be taken in order to reach a given goal. Furthermore, prior plans need not be rigidly fixed once and for all before the action starts. They can be adapted and even revised in the course of action, in light of unforeseen events or salient new information. Still,

1 There is for sure a use of the verb "plan" in ordinary language that is more liberal and only involves an end, without any representation of initial and intermediary steps. For example, on a holiday, I may say: "Today I plan to stay home and do nothing". While we do not want to deny the legitimacy of such uses, we should make it clear that our characterization of improvisation requires the more constrained notion of plan we used above. See Preston (2012: 45–46) for a discussion of this contrast between ordinary uses and what she calls the "prototypical" notion of plan that we endorse.

what is characteristic of improvised actions is that they are not governed by plans, however partial or flexible, that are formed ahead of the action.

Improvised actions, in other words, unfold without a blueprint (Brown 2000). What explains the course taken by an improvised action at each time of its development is partly the spontaneity of the agent and the seizing by the agent of opportunities offered by the environment and the course of the action until then. When I am asked to give a speech I have neither prepared, nor anticipated, I can only rely on what pops up in my mind for a start. Then, as I formulate that first idea, it brings to mind another idea, and so forth. By paying attention to the way my audience reacts to what I say, I can also elaborate a bit more on the current idea if it catches their interest or skip to another one, if not.

Now, improvised joint actions are just improvised actions involving more than one agent. If plans can play a role in the intra-personal temporal organization of individual actions, they can also contribute to the inter-personal organization of joint actions, both diachronically and synchronically. The mark of improvised joint actions, then, is that their course and coordination are not governed by prior plans, however partial or flexible, but rather by a mixture of spontaneity and receptivity to opportunities offered by the environment and the prior courses of all co-agents.

FIJAs form a special class of improvised joint action however. Their distinguishing mark is best approached by the consideration of some artistic practices, such as contact improvisation dancing (De Spain 2014), improv theater (Leep 2008) or free improvisation in music (Bailey 1992; Corbett 2016) where they occur consistently. The musical case is perhaps particularly revealing as it allows to clearly exemplify the core features of freely improvised joint actions, and we will thus proceed from there.

Musical improvisation, whether individual or collective, is often based on a predetermined structure or "referent" (Pressing 1984) that guides the extemporization of a particular performance. For instance, jazz musicians improvise on the chord sequences of a particular jazz standard, classical Arabic musician improvise on a given melodic scale (*maqām*), etc. In the jazz case, an improvising soloist creates a melody in the course of performance but with the constraint that this melody should fit the chord sequence of the chosen standard. The chord sequence is at the same time a constraint and a resource for intra-personal coordination (for the soloist) and inter-personal coordination (for all the members of the group). In collective musical improvisation of this kind, the fact that the referent is common knowledge among the performers plays an important role in the explanation of the coordination of the ensemble.

Now in collective *free* improvisation, no such referent is selected beforehand. Nothing more specific than the very general intention to play some (aesthetically satisfying) freely improvised music together is common knowledge from the start

and throughout the performance among all performers.[2] This does not mean that the ability to coordinate derives purely from the ongoing reciprocal information flow between performers, as members of a freely improvising ensemble often share a non-trivial musical background, for example if they are used to playing together in a given ensemble (Canonne and Aucouturier 2016) or belong more broadly to the same musical community, which may shape their attention, anticipations and decisions in the course of performance. Still, the shared prior knowledge they have is highly implicit and cannot by itself guide the temporal unfolding of a musical content in the way that a commonly known referent usually does (Canonne 2018). In other words, there is a gap between the very general collective intention of freely improvising a musical piece together, and the specific musical content that emerges in the course of performance from the interactions of the players. Even though the general intention to improvise music together partly explains how the specific content is generated, this part is rather small. A same ensemble in the same context can generate extremely different musical contents on the basis of the same general collective intention of freely improvising music together.

Abstracting from this musical case, one may characterize the class of Freely Improvised Joint Actions, by the following individually necessary and jointly sufficient conditions:

a. the execution of the joint action occurs by way of a highly general collective intention, and
b. no shared plan is commonly known nor derivable from means-end reasoning from what is commonly known at the beginning of the joint action.

Roughly, (a) accounts for the *free* character of FIJAs, while (b) reflects its *improvised* character. Each element of characterization deserves comment. Regarding (a), one might be tempted to say that even the members of a string quartet about to perform Bartók's *Second quartet in A minor* will perform that piece by way of a similarly general intention of *playing music together*. Even though they do have the more specific intention to play Bartók's *Second quartet* in the precise way they have rehearsed, they also have the more general intention to play music together. To this, we reply that (a) is to be understood in a much stronger sense. The chamber musicians have that general intention to play music together only insofar as they have the more specific intention to play that particular piece in that particular way.

2 What is meant here by "aesthetically satisfying" is simply that performers typically intend not just to improvise together any sort of music (which might be fulfilled by playing any kind of bad, incoherent, or chaotic music), but to improvise together a music that is as satisfying (from an aesthetic point of view) as possible. Of course the content of this implicit aesthetics is left open, as it may vary with the identity of the performers and the contexts of performance.

In the characterization of FIJA, clause (a) should be understood as requiring that this highly general intention drives the action by itself rather than in virtue of another more specific collective intention entailing it. How general this collective intention is has to be left vague on purpose as it may differ from one context to another. The basic idea is that there should be a wide variety of significantly different joint actions that may fulfill this intention, so that the agents are in a sense collectively *free* to fulfill this intention in many different ways. This should be clear from the musical example: the general intention to freely improvise music together leaves a wider variety of possible realizations than the much less general intention to play Bartok's *Second quartet in A minor* as rehearsed.

Regarding (b), the key idea is that the realization of the collective intention does not involve antecedent planning either, and is thus improvised. But FIJAs, unlike other improvised joint actions, are such that the online formation of shared plans is not possible, or at least highly unlikely. While it is common for participants in a joint action to settle in advance a shared plan by means of verbal communication, there are cases where available background or contextual knowledge is enough for agents to derive a series of appropriate means that allows the group to reach its collective intention. For example, during a house moving, it may happen that two participants start to take a sofa together outside the flat, without explicitly committing to do so, and agreeing on how to do it: while one stands at one side, and the other stands at the other, it is easily understood between them that they can successfully move it out by each lifting their closest side and walking to the door following the most convenient path. Such cases, involving the derivability of plans, are also excluded from FIJAs. It is mostly in situations where the agents have too little information about the environment and their co-agents, or where the environment and the agents' behavior are for some reason too unpredictable for planning to be of any use or efficiency that FIJAs are likely to occur. For instance, in freely improvised music performances, the nonverbal means of communication and the considerable under specification of the set of acceptable musical moves make it unlikely to form in the course of the performance a shared plan for the next stages of the performance. Let us stress that condition (b) excludes the availability of shared plans formed in the course of performance only in the constrained sense of "plan" that is relevant for our characterization of improvisation. We do not mean to exclude the possibility that musicians form shared goals for the near future, e.g., building tension until a climax is reached (Goupil et al. 2021). A sufficient level of familiarity between musicians might enable coordination on this basis, although it is arguably more plausible to assume coordination in such cases to occur on the basis of compatible goals, rather than shared ones (Saint-Germier and Canonne 2020). In any case, such hypothetical shared goals would typically target a

common end for the music of the group, and lack the sequential structure that is necessary for a full-fledged plan.

Those two conditions are independent from one another. On the one hand, some improvised joint actions satisfying (b) occur by way of a rather specific intention. For example, suppose we intend to go together to a concert hall at a not too distant time, in a city we do not know at all and where we do not have any private means of transportation. Suppose that all relevant information sources about public transportation are for some reason unavailable to us and there is no language that the locals and us both understand. In such a situation, we are forced to improvise our way to this concert hall. But our intention is highly specific: we want to meet at a particular place and time. On the other hand, not all joint actions that proceed by way of a highly general intention need to satisfy (b). One can think here of cases of collective problem-solving, where the problem is open in such a way that the sought solution could take a very wide variety of forms, while the group possesses a clear method that allows a step by step planning of the solving process.

In case the *consistency* of the pair formed by (a) and (b) were in doubt, the aforementioned example of collective free improvisation in music, should work as a reminder that this characterization is not empty and *a fortiori* not inconsistent.[3] It is not difficult to see that other artistic examples (contact improvisation dance, improv theater) also fit this characterization. But examples of FIJAs are not restricted to such artistic practices. There are indeed familiar ordinary settings where FIJAs can occur. For some types of joint actions, *what* we do together matters less than the fact that we do it *together*. Consider a couple of friends who decide to take a stroll together just for the sake of walking in good company, without any interest in the environment of the stroll. The destination they reach, or their precise trajectory does not matter as long as they walk close to one another. The goal is highly general in the sense of (i), and when they adopt it, they have no particular plan capable of guiding even the initial steps, and no such plan seems derivable at the start from the shared intention they have and the background knowledge. They

3 One specific reason to doubt the consistency of (a) and (b) would be to hold a view of collective intentions as involving shared plans, along the lines of Bratman's account of shared intention (Bratman 1992, 1993, 2014). To the extent the mentioned examples clearly satisfy conditions (a) and (b), they indeed raise a *prima facie* difficulty for Bratman's account. This does not beg the question against Bratman's account at this stage, since there might be ways for Bratman's account to accommodate FIJAs or good reasons to revise our characterization in terms of (a) and (b). We deal specifically with Bratman's account in the next section. See Preston (2012) for arguments against planning theories of intention in the individual and the collective case based on improvised actions.

will just follow whoever moves first and continuously adjust to each other's direction and pace until they decide that the stroll is over.

Now that we have delineated the class of FIJAs, the next step in our argument is to motivate a distinctive brand of minimalism based on this class of joint actions.

2 Minimalism from Freely Improvised Joint Actions

In this section, we use the case of FIJAs to motivate a minimalist account of joint action. Let us first see why classical accounts fail to cover FIJAs, by focusing on Bratman's analysis of joint action as a benchmark.

In a nutshell, Bratman's classic account (1992, 1993, 2014) claims that joint actions occur by way of shared intentions, which are characterized as follows.

We intend that we J if and only if:

i. we each intend that we J,
ii. we each intend the following: that we J by way of the intention of each that we J,
iii. we each intend the following: that we J by way of meshing subplans of (i),
iv. (i), (ii) and (iii) are common knowledge between us.[4]

The first condition states the basic necessary condition for the existence of a shared intention. It states that each co-agent should have an intention, the content of which is that all the members of the group J. For such a conjunction of intentions to give rise to an intention that is shared within that group, further conditions need to hold. The second condition requires that those intentions be fulfilled by way of *those very* intentions. (If it turned out that we J independently without those intentions to J playing any role in our J-ing, then our initial intentions to J would not have been fulfilled). Our intentions, by condition (ii) thus need to be reflexive and interlocking. The third condition requires that the subplans by way of which each of us guides, in the course of the action, her part of the fulfillment of our joint action, should be intended to mesh with the subplans of each other. This does not mean we should have knowledge of the subplans of each other, of even strong beliefs about them, but only that each time we form a subplan, we intend it to mesh with whatever subplans others may form. Finally, the last condition requires that all this should be commonly known among the agents. In other words, it should be

4 We follow here the structure of Bratman's original account (1993). A more sophisticated version can be found in Bratman (2014). Since our argument addresses core features of the account, we focus on the original and simpler version, but it applies equally to the more sophisticated one. We however take the liberty to refer to clarifications of the general approach offered in the 2014 book.

out in the open among the members of the group that all of those conditions are fulfilled.

As it is apparent from the formulation of condition (iii), Bratman's account of joint intentions is based on the capacity for planning and acting on a plan. According to him, shared intentions are "plan states":

> they are embedded in forms of planning central to our internally organized temporally extended agency and to our associated abilities to achieve complex goals across time, especially given our cognitive limitations. One's plan states guide, coordinate, and organize one's thought and action both at a time and over time. For this to work one's plan states need to involve a view of the present and the future that is both consistent and sufficiently detailed to support effective agency. (Bratman 2014: 15)

How do plan states fulfill these roles?

> Plan states play these organizing roles, both synchronically and diachronically, in part by way of a hierarchical structure: plans concerning ends embed plans concerning means and preliminary steps. And these hierarchical structures will normally involve a characteristic partiality: one's plan may favor E and yet so far not include means to E even if one knows that as time goes by one will need to settle on some such means. (Bratman 2014: 15)

The hierarchical structure and the partiality of plan states go hand in hand. Plans enable inter- and intrapersonal coordination by specifying an end and some immediate means and initial steps to achieve this end. Plans need not specify all such means and steps in detail, though, since reaching such an end efficiently plausibly requires an adaptation to a specific context. This is already true when we rely on plans to organize our own intentional actions over time: since our environment may change contrary to our expectations, we need to leave parts of our plans open to negotiation in the course of the action. This is all the more true in the case of joint action, where we need to adapt the fine details of our own action to that of our co-agent. The gaps in a partial plan, however, will be filled in due course by choosing the most appropriate means, at the relevant time, given the end initially targeted by the plan. So the hierarchical structure of plans allows them to be partial, and their partiality takes advantage of their hierarchical structure to be completed in real time.

Now it follows from what Bratman says about plans that there is a *limit* to their partiality. In his words, they need to be "sufficiently detailed to support coordination": they should contain enough information about ends, so that immediate means and preliminary steps can be specified initially, and so that the gaps left about the intermediate means can be filled by a means-end reasoning of the kind described above. But when our shared intentions specify (a) a highly general end such as merely improvising music together, and (b) such that means-end

reasoning cannot be applied to select appropriate means, then plans, however partial, are not in a position to support coordination.

To make this point clearer, let us come back to the comparison between the performance of a string quartet and that of a collective free improvisation. The members of a string quartet presumably have shared intentions specifying a performance goal as an end. This performance goal is partly determined by the score and partly determined by a shared view of the work usually shaped and solidified during rehearsals (Keller 2008). Of course, this end, however rich, hardly specifies all the details of the performances. In particular the coordination of expressive timing and dynamics requires a continuous adjustment of each performer to each other. But the logic of these adjustments is still dominated by the performer's shared view of how the work should sound like, taken as an end. For instance, when and how the first note of the quartet is to be played is regulated by reference to that end: based on the common knowledge of how the performance should sound like, and some reliable expectations about the way her partners will play their first note, each performer can decide to play their first notes in *that* way.[5] In the case of collective free improvisation (or CFI for short), however, no such logic is applicable. The members of a CFI ensemble have a shared intention to improvise music together when they take part in a CFI performance. However, from this highly general end and the available information they possess, they cannot derive or justify a decision regarding how to start the improvisation, for instance. A great number of initial notes would sound good while a no less great number of initial notes would sound bad, depending on what all others do. However, it is impossible to deduce what combination of notes to expect from other players, given the available knowledge and thus it is impossible to derive from the general intention and what is commonly known a view of the initial steps to be taken to fulfill the general intention, as part of a larger, even very partial, plan. The problem of initiating a collective free improvisation is importantly different from the problem of initiating a collective referent-based improvisation. In a jazz setting, everyone knows what the first chord of the sequence is, and what notes can be expected from other players. This makes a short-term planning approach to jazz improvisation possible: as a solo improviser in a jazz context, I can decide to start with a "lick" that fits the first two chords, knowing that it can be prolonged by another lick that works well on the next two chords, leaving further details of the solo as yet undecided, but decidable on the basis of how the rhythm sections accompanies me,

5 We do not mean to imply, of course, that musicians continuously *reason* at all times from ends to appropriate means in order to adjust their means. However, if pressed, after the performance, to justify why they adjusted in that particular way, they are expected to argue that this is the best way to reach the sound of an ideal performance.

and what I feel like playing when the fifth chord comes.[6] Starting a collective *free* improvisation, *a contrario*, raises specific difficulties. It is generally characterized by an initial "observation round" where most musicians wait and see what others spontaneously propose and then progressively adjust each other's discourse to elaborate a collective musical proposal. As saxophonist Evan Parker, a leading performer of free improvisation, nicely puts it:

> In a group situation, who makes that first sound is very important. What can that first sound be? It can be anything, of course. We're interested in the chance, the arbitrary, almost, because we feel confident that we can make sense of anything. And that's what we try to do. Sometimes it works, sometimes it doesn't. Sometimes it's a bit sticky – or you put your foot down and there's no solid ground there. You thought: 'At least we can make this step and we'll know where we are' but – no! The foot goes into a hole, puddle, mud – that wasn't a good idea. […] Those first decisions are almost a religious moment because they set such a train of events in motion – even if it goes wrong a little bit at the beginning it can still come right later. (Denzler and Guionnet 2020: 2)

To sum up, we have a *prima facie* counterexample to Bratman's nested-intentions account of joint actions. The argument can be summed up as follows:

1. If Bratman's account gives necessary conditions for joint action, then joint action requires plan states.
2. There is a class of joint actions that do not rely on plan states.
3. Therefore, Bratman's account does not give necessary conditions for joint action.

Note that our argument is not limited to Bratman's account, insofar as alternative accounts involve mental states that are directed towards definite goals and so qualify as plan states in Bratman's sense. For instance, Tuomela (2005) explicitly equates joint intentions with plans. Similarly, Miller (2001: 57) considers collective ends as crucial for joint actions and insists that they need to be specific enough for appropriate means to be derived from them. As for Gilbert (2014), she also associates collective goals to the contents of joint commitments, for similar reasons, which suggests that they need to have the same level of specificity. Although it would require each time a more detailed analysis, the reasons why Bratman's account fails to accommodate FIJAs do not seem to be peculiar to Bratman's

6 The possibility of chaining short-term plans in this way does not cancel the improvised nature of the whole solo, as long as the solo is not taken to be the execution of a single overarching plan. What explains the actual course of the improvised solo as a whole is not the following of a partial and flexible plan, but rather the combination of spontaneity and responsiveness to the context that characterizes improvised actions generally.

account, and FIJAs should be expected to raise similar difficulties, *mutatis mutandis*, for the other leading philosophical accounts.

3 Shared Intention to Freely Improvise: A Minimal Account of Joint Action

If the joint intentionality of FIJAs cannot be explained by the existence of Bratmanian shared intentions, what can it possibly consist of?

In order to account for the jointness and the intentionality of FIJAs, we propose to consider two kinds of intentions as ingredients for our analysis: *continuational intentions* and *ad hoc proximal intentions*. Continuational intentions, or c-intentions for short, are intentions directed at the continuation of an ongoing state or activity. For example, intending to continue walking, when I am walking, is an individual continuational intention. Continuational intentions are both present-directed and future-directed in the sense that they target the continuation of the present state or activity *from now on, for an unspecified amount of time*. Insofar as they are directed toward the future, it is not towards an external distal goal, and in that sense, they are distinct from distal intentions. They are autotelic in the sense that they target the continuation of the present state or activity, as opposed to an external distal goal. If the ongoing activity is itself directed towards a specific goal, like reaching the top of a mountain, then the continuational intention can be said to be oriented towards that distal goal but only in a derivative sense, i.e. only because the activity towards which the continuational intention is directed is itself goal-directed. More important for the present case, continuational intentions can also take as objects activities with highly general goals. A walker freely wandering might intend to walk about and to continue walking about, without any specific spatiotemporal goal in mind. She just intends to continue walking, until she decides not to.

Continuational intentions have an intrinsic temporal indeterminacy. When continuational intentions have activities with a highly general goal, they provide insufficient information for planning. The content of the intention is not rich enough to allow the selection of any appropriate subplan by means-end reasoning. What do I have to do first, in order to walk aimlessly, if I don't care where I go, nor where I go by? It seems like I just need to walk and keep walking. For there to be a question of planning, I would need to form an intention with a much finer temporal and telic resolution. However, highly general continuational intentions may admit more specific subintentions: even if one's intention is just to wander aimlessly in the city, one still intends at each point to walk in a certain direction, at a certain

speed, etc. Those sub-intentions are importantly different from subplans in that they are not embedded in the hierarchical structure of a larger plan, since continuational intentions are not plan states and lack this sort of structure.

Let us turn to the second basic ingredient of the account, namely *ad hoc proximal intentions*. Proximal intentions are intentions for the immediate future. Although they are future-directed, they do not involve planning, at least at the personal level.[7] Proximal intentions, as opposed to distal intentions (Pacherie 2003) do not provide inputs for further means-end reasoning, they are just immediately directed towards an action. By *ad hoc* proximal intentions, we mean proximal intentions that are formed *ad hoc* because they fit the particular context of some action, rather than appearing as a means towards an end posited by a prior distal intention. In other words, *ad hoc* proximal intentions take some given features of the contexts as available means for a new, *ad hoc* end.

To take a greatly simplified example, for the sake of clarity, consider the musical example of a solo free improvisation, where the musician may take a previous note, say C4, as a means for developing an idea, which becomes the object of a new *ad hoc* proximal intention, directed towards a new note, say a D4. The C4 is intended as means towards the D4, not because the latter was first (distally) intended as a landing place for a musical phrase and the former then (proximally) intended as a mean towards that initial end. Rather, the D4 is *proximally* intended as an *ad hoc* end for the C4, only after it has been produced. In other words, given that a C4 has been sounded, the D4 appears as a way to make the C4 part of an interesting musical phrase. Similarly, such *ad hoc* proximal intentions play an important role in collective free improvisation, in which musicians can use the actions of their fellow co-improvisers as opportunities for introducing new ends for their own actions: for example, in his book on the *Instant Composers Pool* – a long-standing free improvisation ensemble – Schuiling (2018) describes a concert in which the intervention of pianist Misha Mengelberg retrospectively modified the finality of trumpet player Thomas Herberer's musical action, turning it into a transition rather than a missed ending:

> Mengelberg provided a harmonic accompaniment to Heberer's motivic variations, which turned out to be the start of a new section in the improvisation. Wierbos and Bennink responded by creating sound effects on their instruments. Heberer's motivic variations acquire a new meaning and significance because of Mengelberg's piano playing, generating material for further exploration, which also means that Wierbos and Bennink have to readjust to this new situation, which they had thought to be an ending. (Schuiling 2018: 172)

7 One may describe the preparation for the motor activity in the brain as a sort of motor planning, but this planning occurs at the sub-personal level. The notion of planning that is relevant in the context of this article concerns the explanation of action at the personal level.

Putting these two ingredients together, we propose a new account of joint action. Like Bratman's account, the key notion is that of a shared intention, but our shared intentions, unlike Bratman's, do not presuppose any capacity for planification. Let us call them shared-intentions-to-freely-improvise or SIFIs for short.

Accordingly, when J is a kind of FIJA, we propose the following characterization of the SIFI to J:

i. we each c-intend that we J,
ii. we each c-intend the following: we J by way of the c-intention of each that we J,
iii. we each c-intend the following: that we J by way of *ad hoc* proximal sub-intentions of each of our c-intention in favor of J-ing that mesh with each other,
iv. (i), (ii), and (iii) are common knowledge between us.

This analysis follows the main structure of Bratman's (1993, 2014). Condition (i) is a basic necessary condition. Conditions (ii)-(iv) are meant to complete the account so that it reaches sufficiency. Condition (ii) expresses, like in Bratman's account, a requirement of reflexivity: we intend to be J-ing in virtue of our having these very intentions to J, rather than for any other reason. The key difference with Bratman's account occurs with condition (iii): instead of requiring meshing sub-plans, we only require meshing ad hoc proximal sub-intentions. Bratmanian plans involve a hierarchical structure embedding sub-plans as specific means towards the end posited by the plan. While continuational intentions lack such embedding structures, they can be *realized* by a variety of more fine-grained intentional action. For example, even though our walker has the c-intention to continue exploring the city with no particular path or destination in mind, they may realize this highly general intention by turning left here, slowing down here to avoid a car, etc. Those intentional actions, into which the fulfilment of the general c-intention can be broken down, are not sub-plans that lead, as *means*, to the end of continuing the present activity. In particular, the high generality of the c-intention makes it impossible to select them in virtue of means-end reasoning, as one chooses to take the train as means to reach New York from Newark. The relation between those intentional actions by which the general c-intention is realized and the c-intention itself is better conceived as a relation of *realization*. The key difference with Bratman's account, then, is that *ad hoc* proximal sub-intentions do not represent *means* towards the (indefinite) end targeted by continuational intentions, but rather partial *temporary realizations* of the continuational intention.

The Bratmanian notion of meshing is thus replaced by a new one, more adapted to *ad hoc* proximal intentions which runs as follows: my *ad hoc* proximal intention to X meshes at *t* with your *ad hoc* proximal intention Y just in case:

a. my intention settles an immediate end for what we have just done at *t*
b. your intention settles an immediate end for what we have just done at *t*

c. our immediate ends are compatible in the sense that reaching my end does not preclude reaching your end and reaching your end does not preclude reaching my end.

Note that in (c), the compatibility requirement is fairly weak; in particular, it does not entail that the participants' various ends be identical or even common knowledge between them. In a musical free improvisation, participants may have various more or less vague developments in mind for the performance, none of which may actually occur. What counts is that their actions are coordinated in a step-by-step fashion and in the weak sense that they do not preclude all further developments. In particular, this compatibility requirement allows for coordination in the absence of a "common view" of the performance, as suggested by Linson and Clarke (2017: 62). It also entails, in line with the main claim of Linson and Clarke, that the design of the performance is distributed across the musicians. For in such cases, the evolution of the music over a time interval Δ does not strictly correspond to the content of any one ad hoc proximal intention, but is shaped by the joint effect of divergent intentions, as long as they meet the compatibility requirement.

While some amount of divergence between the contents of the ad hoc proximal intentions of each musician is possible, and in fact expected in most cases, the requirement of compatibility sets a limit to the amount of divergence that can be tolerated for the joint improvisation not to break down into merely parallel individual improvisations.[8]

Finally, condition (iv) expresses the requirement of common knowledge that is necessary for the resulting joint action to be intentional. Since this requirement concerns only the continuational intention and the intention to act by way of meshing sub-intentions, which are out in the open from the start, there is nothing particularly unrealistic about this common knowledge requirement, even in the context of freely improvised joint actions.

Although structurally akin to Bratman's account, this analysis differs markedly by giving no role to plan states in the coordination of joint action. In that sense, it provides a minimal account which covers a kind of joint actions, FIJAs,

8 We may even add that this compatibility requirement allows for the possibility that further developments be made more difficult or challenging for the other performers. For instance, a performer may intentionally make things more difficult for others, because they think it will end up having creatively interesting results or because they want to make things even less expected. This agonistic approach to improvisation is nicely described by John Corbett: "Dispute […] more often is a matter of a musician feeling a need emerge in the music for a little contrary energy, something to allow one, as a senior improvisor once told me, not to swim with the school, but to *bite at the feet of the others*" (Corbett 2016: 60–61).

that escapes Bratman's treatment. Still, such structural similarity strengthens our starting intuition that FIJAs are instances of joint action indeed, but of a "simpler" kind.

One interesting feature of FIJAs now becomes apparent, namely the particular role that luck plays in them and their resulting fragility and robustness. In some cases, the performance of a joint action may be lucky, that is, participants may act jointly in some conditions that made their success unlikely. For instance, this is the case when agents mistakenly have distinct goals that nonetheless fit in such a way that their difference is not revealed for a while (Schönherr 2019). However, FIJAs are more robust to lucky events, because those can often be interpreted as intentional. Even if a musician participating in a collective free improvisation performs poorly or mistakenly for a minute, her error may be interpreted as an intentional proposal to start something new or to direct the performance in a different way. FIJAs are fragile in the sense that their success may be unlikely beforehand. However, they are also robust insofar as (un)lucky events may shape rather than jeopardize them. This robustness precisely stems from the loose compatibility of individual goals and the back-and-forth nature of the interactions that appear in typical FIJAs.

Taking FIJAs seriously as joint actions lead us to a minimal account centered on a distinctive kind of shared intentions, our SIFIs. However, the view that classical accounts such as Bratman's should be weakened is not original, as several minimalist approaches have been proposed over the years. The remaining question is thus how the minimalism induced by FIJAs compares with other sorts of minimalist approaches. Is it merely a new version of the kinds of minimalism already on the market, or is it a new kind of minimalism?

4 A New Kind of Minimalism

To address this question, we focus on what we take to be a representative instance of the current minimalist approaches in the philosophy of actions, namely Butterfill's shared-goal account of joint action.

Butterfill starts from a criticism of Bratman's account, which accordingly does not provide necessary conditions for joint actions. His argument has a similar structure as the one we put forward in Section 2. According to Bratman, joint action requires sophisticated mentalizing, namely "intentions about intentions and even intentions about subplans of intentions" (Butterfill 2012: 27). However, for psychologists, children engage from their first birthday in joint action, which facilitates the development of their theory of mind. So Bratman's conditions for joint

action cannot be necessary, or they would be conditions for their own development; as such, they cannot fit early joint action.

Butterfill's minimal account, however, is based on shared *goals*, as opposed to shared intentions. He first defines goal-directed actions: "an action is goal-directed when it makes sense to ask which of its possible and actual outcomes are goals to which the action was directed" (2012: 36). Here, goals are to be understood not as mental states, but merely as outcomes in the world towards which actions may be directed, in the sense that they favor the accomplishment of this outcome. Therefore, ascribing a goal to an action is cognitively less demanding than ascribing intentions. While the latter requires the ascription of a mental state to an agent, and therefore requires the ability to form meta-representations, the former does not. Another consequence is that shared goals involve no sharing of intentions, but merely the following: the existence of a same goal for several agents, who identify with one another; and the presence of expectations that others will perform goal-directed actions and that the goal will occur as a result (Butterfill 2012: 40). According to Butterfill, this set of conditions accomplishes the same function that joint intentions typically do, namely it allows for inter-agent coordination, without requiring the same higher cognitive abilities such as meta-representation. Butterfill, finally, does not present his account as a better account of joint action in general, since he does not deny the adequacy of Bratman's account with respect to a large number of typical joint actions performed by mature adult agents. What he contends is that there is a distinct, and simpler, kind of joint actions which Bratman's account does not cover. So his minimalism goes hand in hand with a pluralism about joint action.

This alliance of minimalism and pluralism is typical of what Heinonen (2016) calls the "complementarist" version of the minimalist program, as it seeks to "analyze a functionally different kind of joint action from the kind of joint action that is analyzed by established philosophical accounts of shared intentional action" (Heinonen 2016: 168). It is also attractive from the perspective of the minimalism we are putting forward, which also counts as complementarist in Heinonen's sense. We surely do *not* mean to deny that some joint actions involve plans. We insist however that there is a distinctive, and simpler, kind of joint actions that a planning account does not cover. So we should acknowledge FIJAs as a distinctive kind of joint action for which the minimalist SIFI account is preferable to Bratman's own shared-intentions account.

What remains to be seen is how those two minimalisms relate to one another. It is clear that the two kinds of minimalisms are not equivalent. On the one hand, our minimalism involves shared intentions as key components while Butterfill's does away with them. On the other hand, our minimalism accommodates coordination with respect to highly general goals, while Butterfill's seems unable to do so: it is

difficult to see how goals can be shared among a group of agents without being sufficiently specific to point to a sufficiently determinate outcome.

This non-equivalence, however, does not fully answer the question of comparison. As suggested at the beginning of this paper, we can order all accounts of joint action by means of a partial order corresponding to the "simpler than" relation, relative to which minimalist accounts are indeed minimal. What we have so far is a picture according to which the shared-goal account and the SIFI accounts are distinct and both simpler than Bratman's account. But it remains to be seen whether they are comparable with respect to that ordering, and if so whether one is "simpler" than the other.

It may be tempting to view the shared-goal account as strictly simpler. After all, the SIFI account requires shared intentions, while Butterfill only requires shared goals. If the reason why the shared-goal account is simpler than Bratman's account is because shared goals are less sophisticated mental states than shared intentions, then this is also a reason to take it as strictly lower than the SIFI account, which also involves shared intentions. Thus our account is susceptible to the same weakening as Bratman's. This view is all the more tempting that the joint actions of the kind that Butterfill and developmental psychologists are focusing on are presumably improvised rather than planned. Children capable of doing things together with others without forming shared intentions are *a fortiori* incapable of forming shared plans. So, after all, the claim that Butterfill's minimalism takes us closer to the "simplest starting point" of joint action has a great deal of plausibility. FIJAs are just a more sophisticated sort of joint actions that the elementary improvised joint actions that children are capable of performing, even before they develop full-fledged meta-representational abilities.

However, this ordering is not the only possible one, and perhaps not the most illuminating. Although structurally similar, the argument for our minimalism and that for Butterfill's ultimately rely on rather different sorts of considerations. Unlike Bufferfill's, our objection to Bratman's account is not that it makes implausible *cognitive* requirements for some genuine cases of joint actions but rather that it implicitly takes for granted a number of *informational* resources such as the specificity of the intended outcome, the predictability of the environment and of the behavior of co-agents, which the example of FIJAs show not to be necessary for coordinating joint actions. Having a (partial and revisable) plan from the start, or being in a position to form such a plan on the basis of available information is not always possible, but it does not prevent agents from acting together. This impossibility, however, is typically not due to cognitive immaturity or impairment, but rather to the particular nature of the context in which the joint action occurs, and the kind of information flows it allows and prevents. Another possible view, thus, is to distinguish two kinds of minimality. A kind of joint action can be said to be

cognitively minimal if it requires as little cognitive abilities as necessary to perform a genuine joint action. A kind of joint action can be said to be *informationally* minimal if it requires as little information about the intended outcome, the environment, and the co-agents as necessary to perform a joint action. So we have two ways of ordering kinds of joint actions: by a cognitive criterion or by an informational one. While it may happen that the two criteria agree on some cases – children's shared-goal-based joint actions are arguably cognitively and informationally simpler than the typical instances of Bratmanian shared-intention-based joint actions (moving a sofa, painting a wall together), but overly focusing on such cases may lead to blur the different reasons why they can be seen as minimal.

A consequence of this distinction is that there is no reason to assume a "simplest starting point" for the analysis of joint action, for there are several ways for a kind of joint action to be simpler than another. It may be simpler from a cognitive point of view, in that it requires less sophisticated cognitive capacities and is thus accessible to a larger number of agents. But it may also be simpler from an informational point of view in that it requires less information at the beginning of the action. While we do not mean to deny that the shared-goal-based joint actions identified by Butterfill are bringing us to the cognitively simplest starting point of joint action (or at least comparatively much closer to it than any of the classical philosophical accounts), it is not clear at all that they bring us closer to the *informationally* simplest starting point of joint action. For children to perform shared-goal-based joint actions, they need to be in a position to form expectations about objects in their environments and about the behavior of their co-agents, as well as to engage in sufficiently specific goal-directed activity, so that they are in a position to easily detect a shared goal and guide their behavior with respect to this shared goal. Although these various kinds of necessary information are rather elementary, they are collectively richer than the information available to agents performing FIJAs. The natural conclusion is that FIJAs take us closer to the informationally simplest starting point of joint action (or at least comparatively much closer to it than any of the classical philosophical accounts).

Once this distinction between cognitive and informational simplicity is appreciated, the ordering:

shared goals < SIFIs < Bratmanian shared intentions

does not seem so attractive any more, as it mixes two distinct understandings of what a "simpler" account is and, ultimately, what a minimalist account is. A better diagnosis is that shared goals and SIFIs are both simpler than shared plans, but according to different orderings.

What we have instead is this:

$$\text{shared goals} <_{cog} \text{SIFIs} <_{cog} \text{Bratmanian shared intentions}$$

$$\text{SIFIs} <_{inf} \text{shared goals} <_{inf} \text{Bratmanian shared intentions}$$

The complication of the picture resulting from this addition of a new dimension of minimality may however be seen as unnecessary and contrary to the spirit of minimalist approaches. If one insists that cognitive simplicity is what really matters to the search of a "simplest starting point" in the analysis of joint action, we reply that cognitive sophistication is just one of several aspects for which an account of joint action, e.g., Bratman's, may be too strong and rule out genuine joint actions, as we argued in Section 2 with the case of FIJAs. If this is the case, then the spirit of minimalism needs to acknowledge that the domain of joint action turns out to be more diverse that one may have thought initially, and that there are several legitimate ways for an account of joint action to be minimal. In other words, there is no unique "simplest starting point", just because there is no unique legitimate understanding of a "simplest" starting point.

5 Conclusion

The view that classical philosophical accounts of joint action are unnecessarily strong, and leave out genuine cases of joint actions has prompted a minimalist research program devoted to uncover the "simplest starting point" of joint action. This paper contributes to this research program in three ways. First, we have identified a class of freely improvised joint actions or FIJAs that are left out of Bratman's classical philosophical account, which calls for a minimalist account that we provide by means of shared intentions for free improvisation, which, unlike Bratmanian shared intentions, allow agents to act jointly in the absence of plans and specific goals. Second, we have shown that this minimalist treatment is importantly different from existing minimalist accounts, such as Butterfill's shared-goal account, devised to allow agents incapable of full-fledged meta-representation to act jointly. Whereas Butterfill's minimalism takes us closer to the cognitively simplest forms of joint action, the minimalism derived from the consideration of FIJAs takes us closer to the informationally simplest forms of joint action.

From these results, two general lessons regarding the minimalist program can be drawn. First, it can be misleading to present the minimalist program as the quest for "the simplest starting point" in the analysis of joint action, if it is understood to be a *unique* starting point, corresponding to a unique and antecedently clear

understanding of simplicity. There are many dimensions according to which a kind of joint action may be simpler than another and the case of FIJAs shows that cognitive and informational simplicity can diverge. Second, it may be concluded from this study of FIJAs that the sorts of reasons that push minimalists like Butterfill towards a pluralism about joint action, acknowledging a diversity of relevant types of joint actions, further push towards a more fundamental pluralism about minimalism itself (Paternotte 2020). Just like there is no unique account covering all and only joint actions, there is no unique simplest starting point for joint action. Just like there are several legitimate types of joint action that deserve to be singled out by distinct accounts, there are several legitimate orders of simplicity that deserve to be singled out by distinct minimalisms.

Acknowledgement: We would like to thank two anonymous reviewers, as well as audiences in Paris, Vienna and Tampere for very helpful feedback and criticism that greatly improved the paper.

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