

## The Social Dimension of Action Theory

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### **ABSTRACT**

The paper gives an overview of part of the author's work in the Philosophy of Social Action. The main part of the discussion concentrates on the notions of joint and joint intention («we-intention»). The importance of the notions of joint action and we-intentions is illustrated by reference to analyses of the notions of group action, free-riding and standing in reserve. A classification of cases where there it is justified to act together is also given in the paper.

### **I. INTRODUCTION**

In this paper I shall make a plea for a philosophical study of action that takes as its point of departure the view that human beings are essentially or at least in an important sense socially interacting and jointly acting beings. Their mental life is essentially social – at least if the core of the recent criticisms against methodological solipsism is right. They interact, exercise power over each other, they do things together, and they participate in mass movements. All this is of course no news. But it is still somewhat surprising to find out how little serious theorizing has been performed – not only in philosophy but in social psychology and sociology as well – on the nature of joint social actions (in the sense of actions jointly performed by several agents) and other related notions. Actions performed by single agents have been extensively discussed both in philosophy and in psychology. As we well know, there is a field called action theory in philosophy, but it has so far strongly concentrated on actions performed by

single agents only and – at least until very recently – almost ignored the problems related to joint social action.

It should not be forgotten, however, that there is game theory, which is a doctrine studying systematically the strategic interaction between several rational agents. Yet this important theory, over and above its restriction to strongly rational acting, fails properly to study several central problems related to the conceptual and philosophical nature of joint social action. We also have the branch of study, advocated especially by economists and political theorists, which deals with collective action purporting to provide public goods. This field of discussion, however interesting it may be, still has failed to take into account the interactions and feedbacks from each other's actions that seem necessary – at least in the case of groups with the possibility of face – to – face contact – for a satisfactory clarification and explanation of what is going on when public goods are being – or not being – produced.

I shall below take up a few important «social» questions that future work in action theory should address itself to. Especially, I will give a partial survey of my own recent work in the field of the theory of social action.

## II. WHAT IS JOINT SOCIAL ACTION?

By a joint social action I shall here roughly mean an action performed by several agents who by implicit or explicit agreement relate their individual actions to the others' actions in pursuing some joint goal or in following some common rules, practices, or the like. Consider thus two or more agents' doing something X, say carrying a table or writing a book (linguistically, e.g., «Tom and John wrote a book»). I will below be interested in the interpretation under which they jointly (rather than each of them separately) did X. Or consider a still better example sentence «All the king's men surrounded the castle». Here the organized action of surrounding the castle at least seems to be an irreducible joint action (or a multi-agent action, as we will also say).

Joint social action in my sense will include such diverse multi-agent actions as carrying jointly a heavy table, riding a tandem-bicycle, playing tennis, playing jointly Bach's concerto for two violins, getting married, greeting, asking questions and answering, conversing, quarrelling, etc. Also such actions by collectives as a group's solving a problem, a community's electing a leader, a nation's declaring war, and so on, can be argued to involve or have as their ingredients joint social actions (cf. Section VI).

Social actions can – of course – be classified and grouped in a number of informative ways. There are some pertinent criteria of classification giving important ingredients of social action that are worth mentioning here. To be able to do that we need to introduce a concept-dichotomy. We say that the result of my action of opening the window is the event of the window's becoming open. In more general terms, the result

of an action is an event (or state) related to that action such that this action (logically) cannot take place unless that terminating event occurs (cf. von Wright, 1971, p. 67). Events and states which actions generate but do not logically presuppose are called consequences. Thus, if in opening the window I (inadvertently) let in a mosquito, the event of the mosquito's coming in is called a consequence of my action in question. As we shall think of actions as achievements (performances) with certain public aspects, any action will have a logically inbuilt result. It will also have plenty of consequences. The result-consequence distinction naturally applies to joint actions as well.

Let us now go to our criteria for classifying social actions. One criterion is whether, or to what extent, the full result-event of the social action in question comes about or is generated causally rather than conventionally (broadly understood). For instance, two agents' carrying jointly a heavy table is causally brought about, and in this sense generated, by their component actions of carrying the table (whatever those component actions are in each particular case). We can say that the results of the component actions causally generated the full result of the social action of carrying jointly the table. Here causal generation is all that matters. But consider next two agents' toasting by lifting appropriately their glasses. Here the full result of the joint action, viz. a toasting getting performed is conventionally generated by the individual glass liftings the result of agents' component actions. (Here the conventional generation amounts to a redescription according to the toasting-convention describing the meriological of the individual result events.) In many social actions both causal (or factual) and conventional (or «conceptual», as we may more broadly say) generation plays a role. As an especially important subclass of these we have so-called communicative joint actions such as querying – answering, commanding – obeying, and so on.

Another, quite different criterion of classification is whether the original agents themselves, as it were, carry out the whole social action or whether at some point they employ some representatives or «proxies». For instance, when a nation declares a war or negotiates a treaty it is (or its members are) represented by, say, the cabinet or perhaps the prime minister only: or when a worker's union negotiates a wage increase it takes place by means of some representatives only. In the case of proxying, accordingly, action generation takes place with respect to actions by different agents (cf. Section VI).

### III. WE-INTENTIONS AND JOINT ACTIONS

1. As said, I shall in this paper be concerned especially with actions which several agents perform jointly or together (as opposed to separately or alone). I shall use the phrase «jointly» in a broad sense, partly as a technical term (see Tuomela, 1984, Chapter 5, for an exact characterization). A joint action, of type X, say, performed by some agents, say  $A_1, \dots, A_m$ , involves that each of these agents does something – his part, as we may call it – when the agents jointly perform X. An agent's part can be

preassigned on the basis of social conventions or norms, etc., or it can be created on the spot in the context of the social action to be performed. If we let  $X_i$ ,  $i = 1, \dots, m$ , stand for  $A_i$ 's part action or component action, we may ask how the performances of the  $X_i$ 's should be put together, as it were, so that we get a performance of  $X$ . This is a non-trivial problem as obviously the agents could, for instance, each of them build a house or sing a song without it being the case that they jointly build a house or sing a song. So what kind of interaction or relatedness should we require? My central claim here is that at least a full blown notion of an intentional joint action should be taken to involve a group-intention or, more exactly, a we-intention on the part of every participating agent.

Let us look for support for the above claim. Suppose some agents  $A_1, \dots, A_k, \dots, A_m$  (perhaps repeatedly) jointly perform  $X$ , e.g., sing a song or play a game of cards, and do it intentionally. We cannot say that they did it fully intentionally, viz. intentionally as a collective (at least if the collective is antecedently unorganized), if any of them lacked a certain relevant group-intention (usually one to do  $X$ ) expressing the agents' joint (or common) goal, even if each  $A_i$  would have performed his part intentionally. Had, e.g.,  $A_k$  performed his part of  $X$  intentionally but without sharing the other agents' joint goal he would not have intentionally acted jointly with them, we may say. Because of this, the agents would not intentionally have acted as a group, and so their joint action would not have been fully intentional.

Consider next an example where agent  $A$  gave lethal poison to  $C$  to kill him and where  $B$  did the same, too. We assume that  $A$  and  $B$  each gave an amount sufficient to kill  $C$ .  $A$  and  $B$  acted without knowing (or even having beliefs) about each other's intention. Can we say that they intentionally jointly killed  $C$ ? Obviously not – rather we say that each killed – or contributed to the killing of –  $C$  separately. Why is this so even if  $A$  and  $B$  in a sense both had the same intention to kill  $C$  by poisoning, and also acted on this intention? One central reason is that each lacks a belief that the other on will intentionally do his (implicity or explicit) agreed-upon part of the total action. When we add this we almost arrive at we-intentions in the sense of schema (WI) below and at the requirement of acting on such we-intentions.

Thus, on the basis that the individual agent's intentional actions as such involve relevant intentions and that full blown intentional joint actions involve intentionally performed single-agent actions we have come to the view that the social relatedness of fully intentional joint actions in addition requires we-intentions. The difference between acting separately and acting jointly in the case of fully intentionally performed joint actions lies between acting on (possibly different) «mere» personal intentions (or I-intentions) and acting on a common we-intention. (For weaker notions of intentional social action see Tuomela, 1984, Chapter 5).

We may also view the situation from the point of view of a group's action. Why does not a mere shared intention (rather than an agreed-upon we-intention) to do  $X$  (or perhaps rather one's part of it) suffice? Suppose things go wrong when the group starts doing  $X$ . For instance, one of the agents may fail to do his component action. Then,

ideally at least, the others will help, exert pressure, and do whatever else they think is necessary in order for the collective to succeed to do X. This again indicates that it must be believed by everyone in the collective that everyone else will do his agreed-upon part, and, paradigmatically, shares the relevant action-prompting intention to do X and has the beliefs required for carrying out the intention. To the extent these beliefs are justifiable we may speak of the agents' mutual beliefs here. A mutual belief that everyone (in the collective) will do his part of X ideally consists in everyone's believing that everyone will do his part and everyone's believing that everyone believes that everyone will do his part, and so on theoretically ad infinitum (even if in actual practice only two or three layers may be needed). The iterability of 'everyone believes that' can be regarded as giving justification to the lower degree beliefs.

We have just been discussing what may be called the argument from intentional joint action for the introduction of the notion of we-intention. Note that this argument purports to show not only that the notion of intentionally performed joint action presupposes the notion of we-intention but also that as people surely perform intentional joint actions – that we actually have we – intentions (in our heads, so to speak) at least on those occasions. There are also other arguments (see Tuomela and Miller, 1988, and Tuomela, 1991). Let us briefly consider them.

What was called the first argument or reason for we-intentions in the mentioned paper goes as follows. It is a commonplace that one's group (via its members) affects one's thoughts and actions, and conversely. It is plausible to claim that a proper account of this requires a notion of group-consciousness and even – in the context of intentional action – specific group notions such as we-intentions (cf. Sellars, 1968). In spite of its generality and vagueness, this idea about the internalization of the notion of group in its members is central.

A second argument comes from the familiar point that in the context of acting on the welfare of one's community as opposed to acting on one's personal happiness conflicts can arise. Such conflicts basically will be between we-intentions (or group intentions, more generally) and mere personal intentions (or mere «I-intentions»); and we therefore need a concept of we-intention which is not reducible to mere personal I-intentions (cf. Sellars, 1974, pp. 41-42). This is a distinction which has moral significance and which deserves respect.

Another, related argument for the postulation of we-intentions is that to have a notion of a rational agent acting for reasons we need a social notion of self expressing we-ness or the person's group(s) (cf. Sellars, 1968, pp. 223-226, and Rosenberg, 1980, Chapter 7). «I» in this sense is concerned with «one of us» and thus with what it is to be a member of *our* group or community. Because persons act on their intentions, such a social notion of «I» requires something like we-intentions in addition to mere non-social personal intentions, says this third argument.

There are still further reasons for the introduction of we-intentions. Perhaps it should be pointed out that in principle the strongest reason for postulating we-intentions and other we-attitudes stems (or at least can stem) from the best-explaining social

theory or theories. But as the social sciences presently are at a fairly primitive and undeveloped stage, discussion of best-explaining social theories is bound to amount to only so much hand-waving. Our fourth argument for we-intentions coming from the notion of intentional joint action was already discussed, and I take it to be the best developed and – presently – the most tenable argument for not only the introduction of the notion of we-intention but also for the actual presence of we-intentions in our minds.

2. How can group-intentions or we-intentions to do something X then be characterized in detail? Perhaps the most central fact about group-intentions is that the participants' agreed-upon joint goal, viz. X, is part of their content. If there were no joint goal we would not be dealing with a group intention but either with a social intention involving other agents in some weaker sense or then with a non-social intention. And if the joint goal were not part of the content of the intention, it could not be involved in the agents' intentional joint action X. (In saying this I am allowing that the we-intentions here could be «action-intentions» or «endeavorings», viz. act-relational intentions not formed prior to action; cf. below). As we know, in contrast to e.g. wants, wishes, and hopes, intentions are necessarily related to one's own action. While I can be said to intend that my assistant does a job this ultimately involves my intending to do something which brings about the goal of the original intention. Accordingly, when an agent  $A_i$  is said to group-intend or we-intend what he will necessarily have to intend on the level of his own action is his part of the joint goal. And for  $X_i$  to be  $A_i$ 's part it is required (in some suitably broad sense) of  $A_i$  in the situation at hand in the case of successful joint action that he performs it in order for the participating agents to succeed in doing X. It is required, furthermore, that his doing  $X_i$  in that situation is conducive to the total action's (X) coming about. Accordingly, if X is a joint action type, we should require the presence of the intention to do one's part of X in the case of each participating agent to have a fully intentional joint action (cf. jointly carrying a table, singing a song).

We know from the theory of intention that an agent cannot intend to do something unless he believes that the action in question is possible or at least realizable with some nonnegligible probability<sup>1</sup>. With double analogy, an agent cannot we-intend unless he

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<sup>1</sup> In Tuomela (1977) a partial analysis of intending is given. It may be summarized (with two slight changes) as follows for so-called complex intending (cf. Tuomela (1977), p. 133; also cf. Audi (1973)):

An agent A intends to perform X by performing Y only if

(1) A believes that he, at least with some nonnegligible probability, can perform X by performing Y (or at least can learn so to perform X by performing Y);

(2) A wants (and has not temporarily forgotten that he wants) to perform X by performing Y;

(3) A has no equally strong or stronger incompatible want (or set of incompatible wants whose combined strength is at least as great), or, if A does have such a want or set of wants, he has temporarily forgotten that he wants the object(s) in question, or does not believe he wants the object(s) and perform X by performing Y.

(Also see Tuomela, 1984, Chapter 12). In fact, my notion of willing (effective intending to perform the

believes not only that he can perform his part of X but also that he together with his fellow participants can perform the joint action in question. This idea is incorporated in clause ii) of my analysis below. (For a defense of it and a discussion of some other explications of the present idea, see Tuomela 1989a, Tuomela and Miller, 1988).

A third idea, accounted for by clause iii) below, is that it be mutually believed by the participants that the presuppositions for the (intentional) performance of X hold. (See Tuomela and Miller, 1988, for an argument showing mutual beliefs at least in the weak sense of so-called social loop beliefs need to be involved, viz. beliefs of the type «I believe that you believe that I will do my part of X»).

Without here going into a fuller discussion, I will now reproduce my definition of we-intending which explicates the above ideas. This analysis can be stated as follows for a collective assumed to consist of  $A_1, \dots, A_m$ , with  $i = 1, \dots, m$ :

(WI) A member  $A_i$  of a collective  $G$  *we-intends* to do X if and only if

(i)  $A_i$  intends to do his part of X (as his part of X);

(ii)  $A_i$  has a belief to the effect that the joint action opportunities for an intentional performance of X will obtain, especially that a right number of the full-fledged and adequately informed members of  $G$ , as required for the performance of X, will (or at least probably will) do their parts of X, which under normal conditions results in an intentional joint performance of X by the participants;

(iii)  $A_i$  believes that there is (or will be) a mutual belief among the participating members of  $G$  (or at least among those participants who do their parts of X intentionally as their parts of X) to the effect that the joint action opportunities for an intentional performance of X will obtain.

Consider now the following potential criticism against (WI). The analysandum of (WI), viz. essentially ' $A_i$  we-intends to do X', clearly involves the total social action, while the analysans only speaks about its parts. Is there not missing an intentional component, so to speak? For  $A_i$  conceivably could intend to do his part of X for some other purpose than for the participating agents' success to perform the full action X. This is, however, blocked basically by my strong notion of  $A_i$ 's intending to do his part of X in clause (i) of (WI). For when we require that  $A_i$  intends to do  $X_i$  as his part of X this involves that he believes that  $X_i$  is his part of X and, obviously, that he intends to do  $X_i$ . (Analogously we can define the notion of  $A_i$ 's doing  $X_i$  as his part of X).

In addition to absolute we-intentions we need for some purposes also conditional we-intentions, in which the condition in question occurs in the content of the intention of clause i) of (WI) (see Tuomela and Miller, 1988, for them)<sup>2</sup>. Such conditional we-

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action in question now) can best be construed as relying on complex intentions (involving the by-locution) rather than simple ones. I refer the reader to Wilson (1980) for a clear and plausible account of the logical form of intention sentences.

2 The following notion of conditional we-intention seems applicable for analyzing such notions as standing in reserve and free-riding:

(CWI) A member  $A_i$  of a collective  $G$  *conditionally we-intends* to do X if and only if

(i) there is a condition  $C_i$  such that  $A_i$  intends to do his part of X, given that  $C_i$  will obtain;

intentions can be argued to play a central role in characterizing the notion of being in reserve and, in a less direct sense, the notions of free-riding and social loafing (see Tuomela and Miller, 1989).

What is more, we still need a more general notion of group-intention, viz. a notion which covers not only action-prompting but also standing group-intentions. Put somewhat differently, we need a characterization of the notion of group-intention satisfying the truth-conditions of the conatively used, intention-expressing sentence «We will do X», where X denotes an arbitrary joint action type. While it is rather obvious that we-intentions in the sense of our (WI) make true this sentence schema, there are also other truthmakers. I have argued in Tuomela (1989a) that also conditional we-intentions with conditions believed by the agent to be satisfied qualify and so do also dispositions to we-intend in general. More exactly put, I defend the following analysis in the mentioned paper:

(WW) «We will do X» is true of  $A_i$  (relative to his group G) if and only if

- 1)  $A_i$  we-intends to do X (in the sense of (WI)); OR
- 2)  $A_i$  has a conditional we-intention to do X and believes that the conditions in the intention (as well as the normal conditions required for deconditionalization) are fulfilled or will be fulfilled no later than at the time of the performance of X; OR
- 3)  $A_i$  has formed an unconditional standing group intention to do X, which is a disposition to we-intend to do X.

#### IV. INTENTIONAL JOINT ACTIONS

I have indicated above the need for a we-intending on the part of every acting agent in the case of full-blown intentional joint action. I hope that I have in any case convinced the reader at least of the fact that if an intention is so needed in the case of every agent it must, at least ideally, be a we-intention in something like the above sense. And surely the agents  $A_1, \dots, A_m$  may, e.g., decide to perform X jointly and so each of them will form the intention, and indeed the we-intention, to do X. But recall that I am claiming much more – that there must be present a relevant we-intention, expressing the agents' intended and agreed-upon joint goal, in the case of every full-blown intentional joint action. (This we-intention can in some cases be merely a «we-willing», allowed to be an «action-intention» or «endeavoring» in some cases; cf. Tuomela, 1984, Chapter 5, Bratman, Chapter 9, 1987).

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(ii)  $A_i$  has a belief to the effect that all (or most) of the joint action opportunities for an intentional performance of X will obtain, especially that a right number of the full-fledged and adequately informed members of G, as required for the performance of X, will (or at least probably will) conditionally do their parts of X, which will under normal conditions result in an intentional joint performance of X by the participants. (Conditional acting here means that, for  $j = 1, \dots, m$ , there are conditions  $C_j$  such that  $A_j$  will do his part  $X_j$  given that  $C_j$  obtains, where  $C_j$  is the condition for  $A_j$ 's action to do  $X_j$ . The conditions  $C_1, C_2, \dots, C_m$  are assumed by  $A_i$  to be jointly realizable).



To recall one of the points made, consider the Manhattan project or any similar case where the agents do have a common goal but where the goal is not known to and intended by all the agents. Their joint action is not either fully intentional and, I argue, this is just because they lack an intended joint goal, a shared we-intention, to be more precise. One could multiply and vary this kind of examples for the presence of a relevant guiding we-intention. However, I surely acknowledge the existence of joint actions which are intentional in a weaker sense than the full blown sense. For instance, organized groups like military units may act intentionally without all the members having the relevant we-intention. This is obviously because of the strongly hierarchical structure which allows that only the leaders need to have the relevant «full» intentions needed for the joint action. On the other hand, there are cases involving unstructured and informal groups, such as mobs, where the group can act (e.g. move to a certain place) with a reason without all the agents sharing that reason. (See Tuomela, 1984, 1989a, for weaker senses in which a joint action can be intentionally performed).

I have argued in Tuomela (1984) that what we need in the case of full-blown intentional joint actions is indeed we-willings, typically but not invariably resulting from effective we-willings are act-relational. Let us thus consider  $A_i$ 's we-willing to do X. It can in the present context be stated more fully (in its strongest form) by saying that  $A_i$  wills to do, by his bodily behavior, anything which he believes is required for him to do for us (viz.  $A_1, \dots, A_m$ ) to do X jointly (cf. Wilson, 1980, for relevant discussion and argumentation concerning act-relational intentions in the single-agent case<sup>3</sup>). Act-relational intentions have been argued by Wilson (1980) to be involved even in all

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3 According to Wilson (1980), p. 108, the canonical act-relational intention locution is of the form «A intends of b that it F», where the term «b», occurring in de re position, refers to a singular item of behavior and «F» stands for an action type or «doing». He argues that this kind of act-relational notions are crucial for a viable theory of action and that they irreducibly contain reference to behavior (see Chapters V, VII, and VIII of Wilson (1980) for insightful argumentation). I agree with Wilson on the importance of such irreducible act-relational intentions (and especially willings) but argue, seemingly contrary to him, for the centrality of purposive causation in accounting for human action. (I think that the purposive-causal theory is nevertheless logically compatible with Wilson's account).

By claiming that an act-relational notion is irreducible one claims that, for instance, the following simple thesis, which seems to be one that mental cause theorists (e.g. Davidson) are inclined to accept, is false: A intended (or wanted) of b that it F if and only if A intended (wanted) to F & his having that intention was a cause of b. The right hand side of this claim clearly allows wayward causal chains, and this fact is one of the main reasons for employing irreducible act-relational intentions. Another reason is that A's intending of b that it F entails that A must have the intention to F, on this simple analysis, and that is too strong (cf. Wilson (1980) for related discussion). I do not myself mean to suggest that mental cause theorists accept just the above simple claim. Rather they would accept something more complex (involving beliefs and a more general action G, say) which yet breaks the internal connection between the intention and the behavior; and how the arguments in those cases against the mental cause theorists would go is not entirely clear. However, there is a still stronger argument against the above simple analysis and also against these more complex analyses: the intention statement (whatever it is exactly) intrinsically involves an act-relational intention (see Wilson 1980), Chapter VIII). This, if true, makes the mental cause theorist's analysis viciously circular, of course.

intentions, both preformed and purely concurrent intentions, viz. «action-intentions». The latter kind of intentions, expressible by « $A_i$  intended by his behavior that so-and-so», are pertinent in cases where an agent performs many successive acts intentionally without there, so to speak, being time and occasion to form an intention prior to action; think of driving a car in heavy traffic, and in cases where an agent does something intentionally but out of habit or without really paying attention to it. In such cases the agent still meant to do what he did and in this sense intended by his behavior something. (Chisholm, 1976, and Bratman, 1987, call such action-intentions «endeavorings»).

In the case of intentional joint action we accordingly seem to need the following elements. First, and this has already been assumed, the agents must of course have brought about the singular action token in question. Secondly, it must have the right character: it must be an action of the kind the agents jointly meant to bring about. And we shall here explicate the agents' jointly meaning so to involve the agents' we-intending to perform the joint action in question.

With the above motivating arguments and discussion in mind we now propose the following analysis of what it is a joint action token  $u$  to have been intentionally performed:

(IA) Social action token  $u$  jointly performed by  $A_1, \dots, A_m$  was fully intentional if and only if there were conduct plans  $K_i$ , one, respectively, for each agent  $A_i$ ,  $i = 1, \dots, m$ , such that  $A_1, \dots, A_m$  purposively brought about  $u$  because of the social conduct plan  $K = K_1, \dots, A_m$ , where each conduct plan  $K_i$  makes essential reference to a we-intention (not necessarily one formed prior to action) that  $A_1, \dots, A_m$  shared.

## V. WHY SHOULD WE ACT TOGETHER?

I have above discussed we-intentions and joint actions in some detail and argued that we-intentions are central for analyzing at least full blown intentional joint actions. In the present section I shall present some general commonsense arguments for the possibility and existence of joint actions.

Two pairs of hands can do more than one pair, four eyes can see better than two can; masses have power that single persons lack. We keep hearing and reading this kind of statements. And we tend to think that there is some truth in them. I shall in this section examine some of the central reasons there are for acting together – as opposed to acting separately or alone. My purpose here is merely to summarize these types of cases below rather than treat them in depth here. (For a longer discussion of cases A-E and for a technical elucidation of the notion of joint action, see Tuomela, 1984).

Let me now go in medias res and present a list of cases where it in some sense is necessary or at least useful for a number of agents to join their forces and act together rather than separately. In most cases it is due to the way the world happens to be that it in some sense pays to act together, that is, in those cases it is not a conceptual or near-conceptual necessity that acting together improves on acting alone. I shall indicate

which type of reason is in question when going through the cases. My classification consists of six different types of cases A-F. These cases would deserve a much longer discussion than is possible here. In any case, my classification goes as follows:

A. This first group consists of actions which simply are such that it is not typically or at least always possible for a single agent to perform the action in question. The possibility in question may be conceptual, moral, legal (etc.) or it may be purely factual (and generally nomological). Thus a single agent cannot in a proper, non-artificial sense alone sing a duet or play a game of chess. Nor can he alone get married. These cases represent conceptual kinds of impossibility. On the side of purely factual impossibility we have cases like carrying a piano upstairs, which – as a simple matter of fact – requires more than one person for its success.

B. Next we have the cases where it is, for various reasons, desirable or useful to perform something jointly or together. Thus joint action may save time, energy, or other similar things. Two or more agents may be able to build a house, say, or to clean one in less than half of the time (and by using less than half of the physical and mental energy) it would have taken for either one of them to do it alone. In this kind of examples the reason to act together is of course factual rather than conceptual. While the mentioned examples do not perhaps serve to prove the usefulness of joint action they should at least make the matter initially plausible and worthy of further investigation.

C. Acting jointly may as a matter of fact increase the likelihood of success. For instance, a number of deer hunters may significantly add to their chances (of, say, getting one half deer per hunter in the average) by acting jointly, as we all know (or at least seem to know).

D. Two or more agents may by acting jointly improve the quality of the joint product significantly above what they could have achieved by acting separately. Thus two scientists creating a theory (or performing an experiment) jointly may be able to bring their knowledge and skills together in an optimal way so that the resulting product is of better quality than either of them could have achieved by acting alone.

E. In some cases of competition it may profit some of the agents to form a coalition against the other agents or coalitions of agents. These situations are familiar from big (and less big) business (cf. cartels). They are also exemplified in many other cases. Here is an example for fans of track and field athletics. In Moscow Olympics 10 km. race for runners the Ethiopians acted as a team against the Finns and the other runners and that helped all the members of the team, I think. (Suppose instead that they would not have acted as a team but instead the other runners would have let Maaninka, Foster or Viren run away a couple of laps before the end of the race. Then Yifter's famous kick would not have been of much use).

F. In joint action each participating agent may gain or profit more than by acting alone. This situation may arise in the cases of exchanges between agents where some commercial values may be at stake. The phenomenon in question can be illustrated in several ways. One of the ways is the so-called Edgeworth diagrams that economists use (see e.g. Koutsoyiannis, 1975, 38-40). For lack of space I shall not here go into details.

It is not very central for the purposes of this note to examine for which cases of social action the above considerations strictly or approximately apply. It suffices that there are many such cases (or, minimally, at least some).

## VI. THE IMPORTANCE OF WE-INTENTIONS AND JOINT ACTION

1. To show the importance of the notions of we-intention and joint action let me still consider some social phenomena which can be fruitfully analyzed (or, better, partly analyzed) in terms of these key notions. Let me start with actions performed by collectives.

We commonly attribute actions to collectives. Thus, we use locutions like «Firm F produced the goods G», «Nation  $N_1$  attacked nation  $N_2$ », «The board dismissed Jones», «The team scored», and so on. On the basis of examples like these it seems to be a worthwhile project to accept this commonsense view at least in part and to think that true statements of the above kind can be made. I have elsewhere investigated in detail the central philosophically and conceptually interesting problems related to actions performed by collectives and especially under what conditions attributions of actions to collectives can correctly be made (Tuomela, 1989b).

I argue in that paper that the actions of collectives are «made up» or «constituted» by actions of persons. Let me formulate the main thesis of that paper somewhat loosely as follows: If a collective (consisting presently of the agents  $A_1, \dots, A_m$ ) does something X intentionally, then at least some of its members, say  $A_1, \dots, A_k$  (k equal to m or smaller) must jointly intentionally do, in the right social-normative circumstances, something  $X_1, \dots, X_k$ , which in normal circumstances serve to generate or «make up» X. Calling these active participants «operative»members, we can put the basic theses more precisely as follows:

(CA) A collective, G, performed an action X intentionally in the right social and normative circumstances C if and only if there were operative agents  $A_1, \dots, A_k$  for G such that these agents jointly performed X intentionally (in the sense of the criterion (IA)) in circumstances C.

For instance, if one nation declares war against another nation, this may take place through appropriate actions by the members of its government, or its parliament or by its president. Or consider a hockey team's scoring. Some player or, perhaps players, did the scoring» it was the operative members of the team (collective) who did it. The team's scoring holds under different conceptions of how to define the membership of the team (cf. the players not presently on the ice).

The above thesis, which is surprisingly simple, is meant to apply to all kinds of social collectives in principle, although I have so far substantiated and tested it only in the case of informal and unstructured groups and simple examples of organized and formal collectives. For lack of space I must refer the reader to the mentioned paper for the details.

2. A problem much discussed in the literature of the social sciences is the problem

of collective action, which in the present context means the following. Suppose there is a nonexcludable collective good, such as street lights in a city, which costs so much that it requires collective financing. Suppose that the contribution by at least  $K$  agents is needed to provide the collective good. The following two central conditions, characterizing «the» problem of collective action are satisfied in this case: 1) the situation in which the collective good has been provided is better for every member of the collective than the situation where it has not been provided; 2) there is an incentive for everyone (or at least for many members) to defect, viz. they gain more from not contributing than from contributing, given that at least  $K$  members contribute. Condition 2) explicates what I would like to call the free-rider effect.

Without further discussion, let me here reproduce the analysis of a person's intention to free-ride given in Tuomela and Miller, 1989:

(FR) A member  $A$  of a collective  $G$  intends to free-ride relative to a joint action  $X$  if and only if

1)  $A$  intends to defect (viz. not to participate or to do his part of  $X$ ).

2)  $A$  has a belief to the effect that the joint action opportunities for the performance of  $X$  will obtain, especially that at least  $K$  members (or a sufficient number of members required for the provision of the public good produced by the performance of  $X$ ) contribute (do their parts).

3)  $A$  believes that there is (or will be) a mutual belief among the fullfledged and adequately informed members of  $G$  to the effect that the joint action opportunities for the performance of  $X$  will obtain, and to the effect that each full-fledged and adequately informed member, of which he is one, ought to contribute.

4)  $A$  believes that he will gain more from defection (doing  $D$ ) than from cooperation (doing  $C$ ) if at least  $K$  agents cooperate, viz. if at least  $K$  agents out of  $N$  do  $C$ ,  $K$  being the minimal number of agents capable of jointly performing  $X$ .

5)  $A$  believes that the outcome resulting from all the agents contributing (doing  $C$ ), is better than the outcome where all defect (do  $D$ ).

6)  $A$  believes that his defection involves a cost (possibly null) to the contributing members of  $G$ .

(See Tuomela and Miller, 1989, also for conditional intentions to free-ride).

What is it for someone to be in reserve relative to a task or to a person? It means to be ready to take part in the job in question if needed, or under suitable circumstances. Basically standing in reserve relates to participation and cooperation (although in a conditional sense) and thus it is almost diametrically opposite to free-riding which in the first place is connected to defection rather than cooperation. Let me now state the following analysis of standing in reserve, given in Tuomela and Miller, 1989.

(R) A member  $A$  of a collective  $G$  intentionally stands in reserve relative a joint action  $X$  (in a certain situation) if and only if (in that situation)

1)  $A$  we-intends to do  $X$ , given that his participation is necessary for an optimal performance of  $X$ ;

2)  $A$  is disposed, under normal circumstances, to deconditionalize his conditional

we-intention when he takes the condition to be satisfied and, furthermore, accordingly to do his part of X;

3) A believes that it is a mutual belief among the members in G that 1) and 2).

(For a discussion of the notion of standing in reserve and that of (an intention to be) a free-rider of their interconnections, see Tuomela and Miller, 1989.)

There are many other social notions which can be elucidated by means of the notions of we-intention and joint action. Thus joint social power (and control), social practical reasoning, problems of social interaction in more general senses, and so on, have been argued in Tuomela, 1984, to be so analyzable. If all that is true, I think there is good reason to call we-intentions the covert, mental Tao of social life and joint action the overt Tao of social life.

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