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Cooperation as Joint Action*

Abstract: The paper studies cooperation as joint action, where joint action can, first, be conceptualized either individualistically in terms of the participants' individual goals and beliefs that the joint action is taken to serve. This is individualistic or 'I-mode' cooperation. Special version of it is 'pro-group I-mode' cooperation, where the goals are shared. Second, cooperation can be of the kind where a group of persons act together as a group in terms of the non-aggregative 'we' that they form. The results of the paper support the conjecture that we-mode conceptualization and an account of cooperation is needed to complement the individualistic (pro-group) I-mode account(s) in social science theorizing and experimentation.

1. Introduction

We tend to think that cooperation is voluntary as well as free and autonomous activity between people or, in a derived sense, as a kind of relationship between people and norms, standards, or the like. In this paper I will give an account of cooperation, including cooperation that is based on a group's internal authorization of some members. I will mostly concentrate on cooperation as activity based on and involving joint action and especially on joint action 'as a group', a strong kind of cooperation. In my approach such strong cooperation will be called 'we-mode' cooperation, where 'we' refers to a group viewed from the 'inside', from the members' point of view. The kind of group contexts that we-mode cooperation primarily concerns are situations of the following kind: The people involved in them share some common goals, values, beliefs, norms, or something of the kind and in which, most importantly, they view or 'construct' themselves as a social group capable of group action and in which they think and reason in terms of a non-aggregative 'we' (e.g. 'we intend X as a group, so each of us must contribute to X', 'we believe that p as a group', 'S is our institution').¹ The Oxford Dictionary of English takes cooperation most centrally to be "the action or process of working together to the same end". My account will ex-

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¹ Some passages in this paper are based on material drawn from R. Tuomela/M. Tuomela 2005; Tuomela 2007, especially Chapter 7.

plicate this kind of standard idea, and I will concentrate on a strong, we-mode sense of cooperation.

We-mode cooperation depends on concepts expressing full collective intentionality, such as joint goals and intentions, joint actions, group beliefs and knowledge, and, especially, collective acceptance and construction as well as group reason. These concepts, argued to be irreducible to individualistic concepts in *section 4*, will be clarified below in a sense taking into account the internal authoritative power of each member. In virtue of its connection to these concepts, we-mode activity can be regarded as intrinsically cooperative, whereas functioning in the I-mode is at best only contingently cooperative. This accounts in part for the functional superiority and the preferability (in many contexts) of we-mode activity in relation to I-mode activity. On conceptual grounds, we-mode cooperation seems, furthermore, to give a better account of hierarchical groups with positional structure than I-mode cooperation, and can account for full-blown actions attributable to a group, in contrast to I-mode cooperation. (Not all of the above topics can be defended in this short paper.)

The structure of the paper is as follows. In *sections 2* and *3* I will present two approaches to cooperation, an individualistic one termed ‘I-mode cooperation’ and a (mildly) collectivistic, group-based one termed ‘we-mode cooperation’, where ‘we’ refers to a group viewed ‘internally’, from the group members’ point of view. Both approaches can explain at least some kind of cooperation. I will argue that indeed the we-mode approach handles well standard cooperation involving joint action towards a joint goal. The paper is also a defense of the functional superiority of we-mode cooperation against I-mode cooperation, and in *section 4* I will present some arguments purporting to show that the we-mode approach indeed is needed to supplement the individualistic, I-mode approach. In at least some cases the we-mode account fares better than the I-mode approach even when the members in the I-mode group are group centered.

2. I-Mode Cooperation

We intuitively think that some social action is cooperative while some other is not. For instance, carrying a table jointly and singing a duet together seem to be unproblematic paradigm cases of cooperation whereas quarreling is basically non-cooperative. What about playing a game of tennis? Is walking in a crowded street cooperative if the people intend to avoid bumping into each other? A philosopher of cooperation needs to know in more detail what is involved in examples such as these. What kinds of elements are or must be involved in cooperation, and how weak can cooperation be? I will below answer some of these questions but will mostly focus on strong kinds of cooperation, more precisely on we-mode cooperation. But let me start by a brief account of I-mode cooperation, that is, individualistic cooperation that yet may involve a kind of shared intention or goal.

As I have elsewhere (Tuomela 2007, chapter 7) given an account of I-mode cooperation, I will cut corners in my presentation below. I-mode cooperation

essentially involves adjusting one's means actions and goal (assuming only one is at stake here) to the other participant's actions and goal so as to further both the other's goal (i.e., goal satisfaction) and one's own goal, the latter possibly only through the other's furthering it by his actions. (See clause (2) of (CIM) below.) As indicated, the means actions may be naturally or institutionally dependent prior to action (think of carrying a table jointly or playing chess), but in some cases, the agents' connected goals will make them dependent even when there is no prior action dependence. Thus, for instance, we may cooperate in the I-mode so that my goal to go to Paris to take care of my business is connected to your goal to go to Rome to take care of your business by my adding to my antecedent goal my promotion of your business while in Paris, and analogously for you. Even if there is no behavioral dependence between the means actions, the latter still have become dependent—your means action will further the satisfaction of my goal, and vice versa.

Here is my proposal, the analysans of which entails other-regarding (and in group context, 'pro-group') I-mode action:

(CIM) A_1 and A_2 (intentionally) cooperated in the I-mode to achieve their goals G_1 and G_2 if and only if

- (1) A_1 and A_2 had the goals G_1 and G_2 , respectively, as their intended private goals (namely, goals had as private persons in contrast to goals had as full-blown members of a social group);
- (2) they willingly performed respective interdependent means actions x_1 and x_2 believed by them to be conducive (at least indirectly, via the other's action) to their respective goals so that each took herself thereby to have adjusted her acting and goal to the other's action and goal (as required by the context) with the purported result that the other's achievement of his (possibly adjusted) goal is furthered and that, by the other's analogous acting, also the achievement of her own (possibly adjusted) goal is furthered.
- (3) A_1 and A_2 mutually believe that (1) and (2).
- (4) (2) in part because of (3).

Note that if G_1 and G_2 are identical goal types, the agents cooperate to achieve their shared goal G ($= G_1 = G_2$).² To save space I will not write out the shared

² I will not here discuss shared I-mode goals but only give the following summary of shared I-mode intention of intended goals from chapter 5 of Tuomela 2007:

(IMJI) You and I share in the I-mode the intention to perform X jointly if and only if

(1) I intend that we X in the external reason-based we-attitude sense (namely, I intend that we X in part because I believe that you intend in the external reason-based sense that we X and that we mutually believe that each of us so intends), and

(2) you similarly intend that we X in the external reason-based we-attitude sense.

The external reason-based sense here means essentially contingency: The agents' reasons for their intended goals need not be based on their intrinsic intention to cooperate but to achieve their goals, which here happen to be identical. Joint action based on (IMJI) is I-mode joint action.

goal case explicitly, but what is needed is only appropriate linguistic changes in the above account.³

According to (2), the participants are assumed to be disposed willingly to perform relevant contributory actions that their own goals may not strictly require. Thus the participants are disposed to incur extra costs (this being rational as long as the costs of performing them are less than the gross gains accruing from their performance).

Some comments on the variety of dependencies that might be involved in (2) are now due. First we note that G_1 and G_2 may—for example, in cases of spontaneous cooperation with no further individual goals—be just the proximate goals conceptually inherent in intentional actions, namely, the so-called result-events of x_1 and x_2 , respectively. I already noted that action dependence might be due to antecedent goal dependence (although, conversely, some amount of indirect goal dependence anyhow comes about due to means action dependence). For example, we might have $G_1 = G_2$, assuming these goals can only be satisfied by the same state token. Then the means actions cannot rationally conflict, and A_1 's action must contribute to A_2 's goal, and vice versa. A case in point is where two drivers coming from opposite directions get out of their cars to remove a fallen tree from the road; their shared goal is $G_1 = G_2 =$ the log is removed from the road. The removal of the log might take place in terms of I-mode cooperation in the sense of (CIM).⁴ Note that cooperation in the present sense can be present even if the goals G_1 and G_2 were not achieved.

As to (3) and (4)—see below *section 3*.

The intentionality of cooperation in our account depends on the intention to cooperate, possibly under the participants' own descriptions of cooperation involving the main elements of (CIM). This intention thus basically has the content to perform means actions of the kind specified by clause (2), given the information in clause (1). The intention to (willingly) cooperate, accordingly, does not entail that the participants need to have a separate goal to cooperate over and above their intended goals and intended actions as specified in (1) and (2) of (CIM); rather, it can be an unreflected intention-in-cooperation. Note that cooperation does not, of course, guarantee that G_1 and G_2 actually are achieved.

When people act together in the I-mode (in the sense of (CIM)) they do not act as a group, which they can be said to do when they act in the we-mode. In the I-mode case, they act collectively in an 'aggregative' sense that possibly involves interdependent means actions and goals. In the I-mode case, a person's private intended goal is achieved only when she has achieved it by his action in

³ In the shared goal case making clause (2) a bit more explicit will make my account nearly equivalent with Michael Bratman's (1992) account of cooperation. The mutual adjustment of the actions can be formulated as a kind of 'meshing subplans' requirement that we have in Bratman's account. As intentions (at least in my view) entail commitments it can be argued that they account for 'cooperative stability' in his account. I have written a somewhat critical appraisal of Bratman's theory of cooperation in Tuomela 2000, chapter 3, to which I refer the reader (although I do not now fully subscribe to my argument there about meshing subplans).

⁴ See Tuomela 2007, chapter 7, for some sharper and stronger formulations of action dependence.

the context of collective action. In contrast, in the we-mode case, the Collectivity Condition (of chapter 2) is satisfied.

Account (CIM) allows for I-mode cooperative action in a group context. We arrive at such a context, in a rudimentary sense at least, by assuming that $G_1 = G_2$ and these goals form the ethos of the simple I-mode group that the participants here form. In more interesting cases, there is a preexisting group that the goals G_1 and G_2 serve (e.g., the ethos could be the goal of cleaning a yard, and A_i 's goal would be to do what he reasonably can to help the ethos goal being achieved). The end result of successful cooperation would be the achievement of the privately shared goal.

Above the agents perform the token actions x_1 and x_2 . We may now call their set $\{x_1, x_2\}$, or in the n-person case $\{x_1, \dots, x_n\}$, an individually intentional cooperative collective action or, using our technical terminology, an intentional cooperative collective action in the I-mode.

3. We-mode Cooperation

Any full-blown joint action—such as carrying a table or singing a song together—is cooperative: there is a shared goal and there are relevant shared beliefs related to its achievement, and there is also the participants' cooperative joint action that purports to achieve the goal. In its full sense, all cooperation must on conceptual grounds be intentional, viz. be done on purpose and performed for a shared reason. If I carry the table intentionally and you just accidentally happen to support one side of the table we do not have a case of cooperation. Accepting this, the shared collective goal involved must indeed be a jointly intended goal meant to satisfy the group's interests. That is, the participants must intend jointly to realize the goal by their relevant cooperative actions so that, necessarily, it is satisfied for all members when satisfied for one of them based on the group's acceptance of the goal as its goal.

Joint intentions in their full sense involve the we-mode 'we-perspective'. Briefly, the participants have the joint intention to do something X together, and this involves ideally that each participating agent 'we-intends' to achieve X jointly with the others. He must accordingly intend to contribute to X or to do his part of the joint X as his part of it qua a group member.⁵

We-mode thinking, reasoning, and acting are concerned with thinking and acting as a group member. The group can be an antecedently existing group (anything from an informal friendship group to an organization or to a nation), or it might be formed on the spot as in such spontaneous cases where some people are moving a table together. Such a we-mode group and such we-mode thinking and acting can be contrasted with thinking and acting individualistically, in the I-mode, which in the case of several such I-modes (be they egoists, altruists, group benefactors or something else) results in an I-mode group. One can have sophisticated forms of I-mode cooperation where the participants choose

⁵ See e.g. Tuomela 2007. Relevant background and contextual beliefs are of course needed and assumed in this account, but they are not my present focus.

to share the same goal or intention to which they are privately committed. This I have called cooperation in the *pro-group* I-mode. There are both conceptual, ontological, and functional differences between the we-mode approach and the pro-group I-mode approach, as will be seen below.⁶

Let me here mention one central conceptual difference between the we-mode and the I-mode approach related to cooperation. In the we-mode case we are dealing with *collectively intentional* cooperative action where the group members, or at least some of them, *have a collective intention* expressible by ‘We will act together to achieve goal G’. This contrasts with I-mode cases, in which the intentions are private and are in general expressible by ‘I intend to contribute toward goal G’, where G is a goal shared in the I-mode. A special case of this is obtained from Michael Bratman’s account of cooperation, where the basic cooperative intention has the form ‘I-intend that we perform joint action X’, where ‘we perform joint action X’ instantiates G (Bratman 1992). His account can be regarded as a pro-group I-mode one. Consider now I-mode versus we-mode reasoning in the present kind of situation. The we-mode account goes in terms of premises of the kind ‘we intend to perform joint action X’, assumed to be accepted by each participant. Now, if all participants indeed do accept it, then it is true that the participants (‘we’) intend to perform joint action X. However, in the pro-group I-mode case we analogously get only an aggregated set of private intentions of the kind ‘I-intend that we perform joint action X’, which when applying to all agents in Bratman’s theory is the basic building block making true ‘We intend to perform joint action X’. There is thus a clear difference between the two modes concerning the initial intentional beginning point of cooperation—the pro-group I-mode is based on individual intentions with collective content, thus a weak ‘we’, while the we-mode is based on a strong ‘we’ (and group) and group intention. No wonder then, that there may be differences on the level of cooperative actions.

In the we-mode case, an agent thus is supposed to view herself as part of a social group or collective and acts as a full-fledged and well-informed member of the group guided by the goals and norms of the group. To think (believe, want, intend, or feel) and act in the we-mode is to think and act as a group member so that an individual sees her own activities essentially as part of what the group is doing as a group. A we-mode group, one based on we-mode thinking and action, is organized (to an extent) and capable of action. It is organized at least in the sense that the members have constructed—and continue to construct and maintain—it as their group in an ‘entified’ sense. In this kind of group construction the group is given an ‘ethos’ which consists of collectively accepted (constructed) constitutive group goals, beliefs, norms, standards, etc., that the

⁶ See also Tuomela 2007, especially chapters 2,7, and 8. I give several kinds of arguments for the difference between the two approaches. They relate e.g. to the functionality of cooperation, cooperation in large groups, social institutions, and group responsibility, and they also indicate the need for we-mode theorizing in addition to I-mode theorizing. See also Hakli et al. 2010, where a strong game-theoretic argument concerning the difference is given: the we-mode approach is capable of yielding more collective order (in terms of Nash equilibria) than the pro-group I-mode approach. As for a pro-group I-mode approach, the foremost accounts available today are those by Bratman 1992; 2009 and Miller 2001.

members are collectively obligated to promoting.⁷ Accordingly, the acceptance of group membership and the adoption of the group's point of view requires cooperation between the members to facilitate the group's action as a group.

As said, cooperation in the full, we-mode sense is acting together as a group (as one agent) to achieve a shared collective goal. To use a slogan, such cooperation involves a person's 'identification with the group', i.e. adopting a group perspective ('we-perspective') and properly acting as a group member. The we-mode group perspective arguably involves that collective intentionality is *sui generis* and irreducible to individual intentionality (see *section 4*). I will argue that adequate conceptualization, description and explanation of the full range of cooperative social activities, in addition to I-mode notions, requires the use of we-mode, which concerns social groups capable of action and of being functionally viewed as group agents with extrinsic intentionality. The group forms attitudes (e.g. intentions and beliefs) for itself and reasons as an intentional agent. When viewed from the members' point of view this reasoning is we-reasoning (e.g. 'We intend to achieve goal G and believe that this requires us to perform X together'). In the causal realm the group exists functionally as a social system capable of producing action as a group, but not as an intrinsically intentional agent, for it can only function through its members' functioning appropriately. In this ontological sense individual agents are primary actors. In contrast, in the I-mode case the individual is the sole acting agent interacting with other agents.

I have argued elsewhere that the three most central framework features of the we-mode, all based on group acceptance, are the presence of an *authoritative group reason* for member action, the satisfaction of a *collectivity condition* (a kind of 'being in the same boat' condition), and the members' *collective commitment* to what the group has accepted for itself. The central distinguishing elements of the we-mode are its constitutive dependence on the group viewed conceptually as a group agent, and the accompanying group thinking and reasoning. The above constitutive markers of the we-mode are to be understood from this perspective. A simple argument for the presence of the above trio of conditions can be proposed by assuming group agents' activities to be relevantly analogous to single individuals' activities: Analogously to intentional action of an individual agent, intentional action of a group agent and its parts, the members, is based on reasons for actions. Analogously to an individual having to coordinate the movements of her body parts, the members of a (we-mode) group coordinate their action (indeed all activities including mental ones) both synchronically and diachronically in order to achieve group goals. Analogously

⁷ Collective acceptance is to be understood in the we-mode and to be basically non-aggregative. It amounts to the members' becoming and being collectively committed to the accepted content in the right way, viz. with the right direction of fit (see Tuomela, 2007, chapter 8). The central element here actually is the group's acceptance, which on the member-level amounts to the members' acceptance. However, not all members need to directly participate in the acceptance (but e.g. their majority) while those who do not are at least obligated to go along with what the group has accepted. The group is obligated to promote its goals, etc., analogously with the case of an individual agent. Members of the group are thus bound by their membership to this kind of action as a group member. (If they fail to act properly, they may face sanctions at least if the failure was intentional.)

to an individual agent who is committed to her intended actions, the group members are committed as a group, i.e. collectively committed, to the group's actions. Thus, the mentioned three distinguishing criteria of the we-mode are fulfilled (Tuomela 2007, chapters 1 and 2; 2010, chapter 2). Let me emphasize that the analogy concerns only the central conceptual and functional aspects of the respective individual and group agents, not their ontological aspects or features, as group agents do not literally have bodies or phenomenal consciousness over and above being a kind of fusions of individual agents.

We-mode joint action indeed is inherently cooperative already on conceptual grounds—the satisfaction of the collectivity condition, or ‘being-in-the same-boat’ condition, already shows this. I will argue in section 4 that the best account of cooperation in this full sense is given by the we-mode theory that views cooperation as we-mode joint action, although the we-mode account may have to be complemented by I-mode theorizing to cover all cooperative phenomena.

There can be joint actions of several kinds, e.g. joint actions based on explicit agreement making, joint plans, or on more spontaneous kinds of joint actions. I will not here discuss the various kinds of joint action, but below in my later account of cooperation a general view of what a joint action is will be presupposed.

There is no need to require an antecedently existing group here, because a joint intention already defines one, a social group capable of action. Such a joint intention may function as a group reason, which will typically, and at least in authority-based institutional cases, be preemptive. A group reason in the meant sense is always authoritative for the members. In simple cases the participants in cooperation agree on a group goal and its pursuit, and it (viz. the fact that they have collectively accepted the goal as their group's goal) will be their authoritative reason (viz. a reason authorized by them) to participate. In such a case, the joint intention is (i) an authoritative group reason and I call this an authority-based case in a broad sense. Another typical case is (ii) one with one or more authorized persons, operative members in the sense of leaders, who plan, organize, coordinate and direct the group's activities, and they are often also operatives for the execution of plans and actions.⁸ A important point about leaders and their directives and orders is that in principle the members cannot in ‘normal’ circumstances qua group members rationally and without being criticizable by the others refuse to comply with those directives, if they have acknowledged the leaders as their leaders for the topic at hand. (Valid excuses are possible in some cases, e.g. due to moral reasons that conflict with the leader's directives, but I will not here go into these matters.) To mention yet another case, there can be (iii) a social norm or rule (e.g. a law) that the participants acknowledge and give authority to and which accordingly ‘reasons’ their participation.

⁸ Let me note that of course also (pro-group) I-mode cooperation can involve authorized leaders. The I-moderers can simply accept norms and make agreements to that effect. I cannot here discuss this side of the coin.

My account below of (two-person) we-mode, thus full-blown, cooperation differs from my earlier one in that now internally authorized leaders can be accommodated:⁹

(CWM) A_1 and A_2 (successfully) intentionally cooperated with each other (in the we-mode sense of cooperation) in bringing about goal G if and only if

- (1) A_1 and A_2 intended jointly, as a group, to achieve G , a goal type dividable—either *ex ante actu* or *ex post actu*—into A_1 's and A_2 's parts, by acting jointly as a group and hence for the group, thus by acting in congruity with the ethos of the group and for a group-authoritative reason—typically an (i) informally formed authoritative group reason related to G , (ii) a group reason based on the directive by an internally authorized leader, or (iii) a group reason based on a collectively accepted social norm or rule directing the members to accept G as a group goal.¹⁰
- (2) A_1 and A_2 achieved G jointly in accordance with and partly because of acting on this joint intention of theirs to achieve G together but still in compliance with the appropriate authoritative reasons of clause (1), i.e. one of (i)–(iii).
- (3) A_1 and A_2 rationally mutually believed that (1), (2);
- (4) (1) and (2) in part because of (3).

I wish to emphasize that the notions of joint intention and joint action in (CWM) will have to be understood as we-mode notions, in the sense of Chapters 4–5 of Tuomela (2007) for the resulting cooperation to be in the we-mode. Thus (CWM) is not reductive with respect to the we-mode (cf. *section 4*). Note, that we need to make the we-mode assumption for the explicans because, linguistically, the clauses of (CWM) can be also individualistically interpreted. Thus joint intention in principle could be I-mode shared intention. The I-mode and the we-mode are hard to distinguish from each other in linguistic terms at least if only a simple action description in a natural language is available—e.g. ‘We carried the table together’ admits of both interpretations.

To discuss (CWM) in some detail, note first that any intentionally performed joint action must involve a joint intention, a prior intention or a joint-intention-in-action. I will not here specifically argue for this view that is commonly accepted in the literature and that I have argued for in my earlier work (e.g. Tuomela 1995). Accordingly, it can be taken for granted that all full jointly intentional cooperation involves a joint intention.¹¹

⁹ For the earlier account see chapter 7 of Tuomela 2007. Cases of external authority do not in my view give full-blown cooperation but rather compliance behavior, but in this paper I cannot discuss those cases.

¹⁰ I use the we-mode as my technical notion to explicate ‘as a group’. Furthermore, I use ‘jointly’ as a we-mode notion even when not accompanied by ‘as a group’. I normally use ‘shared’ to signify the I-mode sense.

¹¹ The account below draws on R. Tuomela/M. Tuomela 2005; Tuomela 2005; 2007, chapter 7, but is slightly more liberal.

As to the clauses in (CWM), (1) accepts both cooperation without and with a leader, as long as the leader is internally authorized. Recall that in my account any social group is assumed to have an ethos—it is basically just the constitutive ‘jointness’ element shared by the members, e.g. joint goal. Clause (2) rather trivially guarantees success of cooperation on the basis of intentional cooperative joint action and does not here require further comments. Clause (3) expresses a standard epistemic requirement: The intention content in (1) is ‘presuppositionally’ based on the participants’ beliefs that the other(s) will participate with some probability. The participants must share the presuppositional belief that they cannot rationally realize their intentions without the other participating, and each has acquired the belief that indeed the other will participate with some probability. Mere hope is not in general sufficient (although admittedly in some cases one might rationally act on a mere hope, for example, when the matter is important and there is no other reasonable choice).

Notice that the participants intend jointly and hence collectively commit themselves to joint action. They must, as members of the joint project rationally presuppose—and in general also believe—that the other participants will indeed perform their parts of the cooperative joint action. Thus there is a connection both on the level of intended goals and relevant means-end beliefs. Basically, it is neither rational nor ‘group-socially’ beneficial for one of them to defect at least as long as the others do not defect. A participant cannot defect without being legitimately criticizable by the other.

Furthermore, unless a participant (say I) is disposed to believe that the other (you) believes that I intend so to participate, it would not be rational for you to participate and thus not rational for me to start acting either—and so on. (Actually, the loop belief need not be a ‘positive’ one, but the requirement can be of the form that I am not to have the belief that you believe that I will not perform my part.) Clause (4) says that the beliefs in (3) cannot be idle but function as a partial social reason (indeed a consequence of their group reason given by their joint intention) for the agents’ joint intention.

As to the scope of account (CWM), my claim is that it covers all full-blown cooperation. As is easily seen, it correctly includes standard tokens of yard cleaning and table carrying as cooperation and also some cases involving conflict between the agent’s parts (e.g., as in playing tennis together), as long as a ‘joint action bottom’ is preserved. But it can be taken to typically exclude tokens of the following kind of case. Suppose that some persons intentionally refrain from polluting the air by greenhouse gases with the hope that this would eventually prevent the climate from getting warmer. However, even if they believed that many other agents also similarly will refrain from polluting and also believed that this collective activity might result in a reduction of global warming, all this need not yield cooperation in our sense of (CWM). This is because the participants might not satisfy clause (1), as they might only have a shared I-mode goal here; and, of course, neither are then clauses (3) and (4) satisfied. All that we are sure to have in here is a kind of contingent, less than fully intentionally connected aggregate of individual actions contributing to the same goal. The agents need

not here be collectively committed to the end, and they could interrupt their participatory activities without the criticism of letting the others down.

Joint action is the more cooperative the more willingly (and in this sense cooperatively) the participant in cooperation performs his part out of a cooperative or willing attitude. A cooperative joint action performed out of the participants' cooperative attitude can of course be regarded as more cooperative than one performed reluctantly. All kinds of action that can be performed jointly (have parts to be performed, etc.) can thus have both willingly and reluctantly performed tokens. As willingness to any considerable degree seems not to be a conceptually entailed requirement I will not here discuss it further.

Consider next the role of (internally authorized) leaders in cooperation. The authority that the leaders (when existent) are given by the members concerns group-central matters and their authoritative powers are over the group members qua members. Thus, leaders may and will not only give new directives and goals to the group members but they typically also have the power to see to it that those goals are appropriately achieved by suitable means activities. Sometimes this may require that they impose sanctions and give various kinds of incentives to the members. They may also have to correct the members' part performances and perhaps ask somebody else to step in and help. The members must obey their internally authorized leaders on pain of contradicting themselves relative to their earlier expressed will. Some coercion-like activity may be present here, and the participants may not be allowed to help each other extensively if that happens at the expense of the quality of the total performance (leader-directed cooperation). Even when the behavior is overtly indistinguishable from domination and coercion in a proper sense, the leaders' activity is legitimate within the group as long as they act within the powers conferred upon them by the majority of the members (how much coercion is admissible may depend on the ethos and organization of the group—but even leader-directed cooperation must still allow that all the cooperators act intentionally for the right group reason.)

Typically there is some functional basis for the division of authority within the group: the task that the group is achieving may be too complex to achieve without hierarchical organization, or the members may simply appoint somebody in charge in virtue of her superior capacities and knowledge of the situation. Consider the following example: some people are searching for a lost child in a forest. They get organized and someone who knows the forest well assumes the role of a leader and designs and coordinates the group's activities as well as he can. Similarly, a chamber music ensemble may choose one of the players to be the conductor of the ensemble. The conductor's task here is to gently coordinate the players' activities in a 'musical' way (for instance, choice of tempi and phrasing is central here). Such a leader may solve coordination and bargaining problems between the members that could not be solved by their usual decision procedures.

The complex of authority relations within a group gives rise to the operative-non-operative distinction, which may be task-relative and result in several kinds of authorized operative members. For instance, a member (or type of member, a position) may be an operative for an action (e.g., building a bridge) while subject to obeying orders from another operative. The authority system (all

the operative-non-operative distinctions for various tasks) can be hierarchical in a multi-layered sense (organizations that involve groups as their elements), although I here will only consider the two-layered case. The authority system can be codified and might thus consist just of a voting procedure or of the rule to act as in the past, and in such cases no specially authorized persons are needed. In this kind of case the source of authority may be external to the group. Still, the directives and orders that the system yields can be authoritative. Note that authority may flow from the rank and file members to the leaders and down again, as when a (democratically elected) head of department appoints some subset of the staff to prepare the filling in of a vacancy in the department. In each case, we are dealing with a complex task-right system with authority relations that may be omnifarious.

In the we-mode context, the group is taken to be capable of action qua a group and to be a we-mode group.¹² The group will at least try to bring it about that goal G is satisfied or promoted in accordance with its ethos. When the members intentionally together see to it that G is promoted, the members (at least the active participants) have a part or ‘slice’ in this joint bringing about or promoting G, and this part is in principle irreducible to actions described without reference to the joint seeing to it that G is promoted. The parts here may involve also helping, advising, or sanctioning others when needed. The totality of the members’ part actions, based on their jointly seeing to it that G, when successful, collectively taken, amounts to a we-mode cooperative collective (or joint) action toward G. The account (CWM) will be satisfied in this type of general, typically large-group case (given the relaxation that only operatives actually need to cooperate). Notice that not all the participants in many-person cooperation need to have goal G, as long as the cooperative action functionally works. For various reasons, some members may stand in reserve, and in the group action case actually the authorized operative member(s) may perform the actions that are needed for the group’s action to be generated. The other, non-operative members ought yet to have a pro-attitude toward what the operatives are doing, at least if they know about it, but they need not share the operatives’ joint intention entailed by the group’s intention.¹³ In any case, when a group agent acts as a group an amount of intra-group cooperation must be involved, although the non-operatives need not actively contribute as they cooperate through the operatives’ actions.

The we-mode account can be conjectured to cover cooperation both in small groups and in large ones—in principle group members need not be counted and considered individually. The interchangeability-in-principle of members especially in organizational contexts can be handled by the we-mode account (better than I-mode accounts in general). This is because the we-mode account is ‘positional’, we-mode acting being explicitly or implicitly concerned with roles and positions that can be filled by new individuals. (In the case of simple egalitarian groups all members occupy the same kind of position that simply requires them to obey the ethos and what it entails.) This guarantees the continuity of group

¹² See Tuomela 2007 for a precise characterization of a we-mode group.

¹³ The reader is referred to my 2007 book.

life in a way that respects group history (traditions, practices, norms, etc.) affords trust in groups and makes them responsible agents as well as promotes intergroup cooperation.¹⁴

4. Arguments for We-mode Cooperation

We-mode cooperation surely suffices for cooperation, but is it really needed? In addition to the arguments for the we-mode approach that were considered in the previous sections, I will below present some other, central arguments for the we-mode approach in general and for the case of cooperation in particular (Tuomela 2007, chapters 2 and 4). These arguments show that the we-mode cooperation is different from I-mode cooperation. Indeed the we-mode is individualistically irreducible and in some cases fares better (in some relevant sense, see below) either on conceptual or empirical grounds than the I-mode (including the pro-group I-mode) as will be argued below in the case of cooperation. Several arguments are appropriate, because philosophical arguments are viewpoint- and background-dependent and never conclusive, in contrast to mathematical and logical arguments (and even they do not always rely on indubitable premises). This is my main reason for presenting several different arguments, which concern specific action-theoretic concepts in collective intentionality cases (arguments (1)–(2)), institutional practices (3), choice-theoretic matters showing that sometimes the we-mode approach is functional-rationally better than the pro-group I-mode one (4), broader action-philosophical issues (5), and purely empirical and experimental results (6).

- (1) To begin, here is my argument for the *irreducibility of we-mode concepts and states*:
 - (a) The predicates (concepts) expressing joint attitudes, and actions as a group and other similar we-mode collective intentionality notions (e.g. cooperation) are not conceptually reducible to predicates (concepts) expressing private (viz. I-mode) intentions and actions and what can be conceptually constructed out of I-mode resources.
 - (b) Given (a), we-mode joint intention and joint action (e.g. cooperation) at least in some cases differ ontologically from private intentions and actions with the same content (or with a ‘counterpart’ content).

Here (a) is a conceptual irreducibility thesis while (b) can be regarded as ontological irreducibility or at least ‘difference’ thesis. (To defend a proper ontological irreducibility thesis one would have to present an account of relevant ontological categories and show irreducibility relative to them.)

If the kinds of we-mode concepts under discussion are irreducible (cf. (a)), then I conjecture that, as far a priori argumentation goes, also the social states and events to which they correctly apply are ontologically ir-

¹⁴ See Tuomela 2007, chapter 1, for positions and roles in a we-mode group.

reducible. The conceptual side, so to speak, induces naturalistically differing ways of thinking and acting in the we-mode versus I-mode cases under comparison, and this gives ontological differences (which very likely exist in the brain as well). Colloquially said, if I am thinking in the we-mode this process will ontologically differ from thinking in the I-mode—compare ‘They sang the anthem as a choir’ (typically we-mode case) and ‘They went to the movie together’ (typically I-mode case).

Premise (b) refers to really existing states and activities. I also conjecture that both singular I-mode and we-mode states and actions exist roughly as I have described these modes in this paper. (Note that, as such, in general (a) does not entail (b), e.g. because there can of course be ontologically idle concepts.)

To defend (a), a central argument for the claim that joint intention and action in the we-mode are irreducible to I-mode interpersonal intention and action is that the former are conceptually based on the group. In particular they are based on full-blown group reasons satisfying the Collectivity Condition, while the latter notions are based on private reasons, although possibly contingently on pro-group reasons. Such a we-mode group reason (e.g., ‘Our group intends to lift this heavy table’) for a participant’s intention and action to participate is different from an I-mode reason that basically pertains to an individual and not to a group or a group member qua an inherent part of a group. A group member may have a group reason to help other group members in a task, but he need not have a corresponding private reason. We-mode group reasons accordingly need not supervene on I-mode reasons—group reasons may change without corresponding change in I-mode reasons synchronic cases. Diachronic cases may be thought of differently, but my argument only requires some instances where the reducibility condition does not apply. Even if there were supervenience, that would be close to irreducibility, because at least under our standard understanding of supervenience explicit definability would be excluded.

From a somewhat different angle, we recall that all we-mode items have been argued (especially in *section 2*) to satisfy the conditions of group reason, collectivity, and collective commitment while an I-mode item does not satisfy them. I will not here recapitulate that discussion.

Let me finally support the above irreducibility argument by the following relevant considerations. When two agents jointly lift the table as a group, it must be based on their we-mode joint intention (not merely their shared intention of a weaker kind). Each agent performs her part of the joint lifting, where that part is ontologically and functionally dependent on joint lifting. The part’s ontological content might be fully determinable only after the performance of the joint action. However, a table can of course be lifted jointly also in the I-mode sense in terms of interpersonal action directed toward the shared intended end of the table being lifted. A central point here is that in full-blown we-mode cases, such as lifting a table as a group, collective commitment is present as an a priori frame-

work feature that requires group acceptance in the full, we-mode sense, and cannot be present in I-mode joint lifting. To be sure, in the I-mode case e.g. mutual promises or shared plans, etc., in the I-mode may work functionally similarly, but they are not a priori and at bottom only concern individuals and not the group. As I have indicated in section 3 of this article, there can be I-mode counterparts to we-mode group reasons, collectivity, and collective commitment, but they still will be only in the I-mode and do not involve full-blown we-thinking. Considering commitment in the case of shared and joint intention, in the plain I-mode case a person is committed to herself to satisfying her intention, in the pro-group I-mode case she is committed to herself to participating in the satisfaction of the group's shared (I-mode-based) intention, and in the we-mode she is committed to the group to participating in the satisfaction of its intention as a group member. These differences entail behavioral differences concerning committed behaviors in some cases.

My overall judgment concerning the above irreducibility argument is good reasons have been given above for the claim that we-mode states and actions are irreducible to the I-mode ones.

- (2) The following *group action argument* shows that if a group intentionally and autonomously (with at most internally authorized operatives) acts as a group in an orderly and stable sense its members have to act in the we-mode and satisfy the three central criteria for the we-mode. Here is a piece of deductively valid reasoning that gives a stylized ten-step argument for the need of we-mode cooperative acting by the members when a group when *the group acts as a group agent* (in analogy with a single agent):
- (i) Intentional action requires intention toward a relevant action, presently the action is regarded as a goal for simplicity. (Generally accepted principle.)
 - (ii) A group agent A intends to achieve a goal if and only if its members (at least the operative ones) intend jointly, as a group, to achieve it. (Bridge principle connecting a group's intended goal with its members' joint intention.)
 - (iii) Intention involves at least instrumental commitment. (Generally accepted property of intention.)
 - (iv) If group agent A is committed to an action-goal X, its members A_1, \dots, A_m must be collectively committed to it as a group as well as also to their part performances. (Bridge principle, making use also of (ii) and (iii).)
 - (v) Group action X here requires the members' A_1, \dots, A_m participation in X in terms of their respective part actions X_1, \dots, X_m , and it is here (simplifyingly) assumed that the latter bring about or constitute X. (Analysis of group action in terms of members' actions, recall (ii).)

- (vi) If the members of A have intentionally satisfied their joint intention by performing X as a group, they have acted for a group reason (a group reason for the members' part performance), the reason here being group agent A's intention to bring about X or a further goal to which the members' bringing about X contributes.
- (vii) If the members collectively act for a group reason as a group, they necessarily make the collectivity condition satisfied with respect to X and its parts: Necessarily due to acting as a group, if the group reason is satisfied (fulfilled) for any one of them it is satisfied (fulfilled) for all of them and the group. (The collective action in consideration represents intra-group cooperation and in general will satisfy (CWM).)
- (viii) The group A acted intentionally as a group to bring about X. (Categorical premise instantiating the antecedent of (vi) and (vii).)
- (ix) The members of A acted intentionally as a group for that group reason, being collectively committed to doing so, and making the collectivity condition satisfied. (From (ii)–(viii).)

Therefore:

- (x) The members of A acted cooperatively in the we-mode. (From (ix) and the three central criteria of the we-mode.)

The upshot is that the group fully acts as a group agent if and only if its members (or at least the operative members, but above this generalization has not been considered) act jointly as a group and only if they act in the we-mode. As cooperative action in the present case involves we-mode joint action and as such action has been argued to be cooperative in the sense of (CWM), I have not above always repeated that joint action is cooperative.

It has now been argued that the idea of a group's reasoning and acting as one agent requires that the members act for a shared *group reason* that they have accepted for the group and being *collectively committed* to the reason and to the 'reasoned' action. The *collectivity condition* applies not only to the coming about of the intended result but to the whole process of the group members' intentional attempt to achieve it.

- (3) Consider now the case of *institutional cooperation*.¹⁵ Suppose that a community has accepted the institution that silver coins are their money. When the members use silver coins as money in their commercial exchanges they usually cooperate at least in a weak sense through their monetary institution. Such exchange, e.g. selling—buying, can be of the individualistic kind of cooperation (cf. CIM) or sometimes even of the we-mode kind (cf. CWM). There is, however, a broader sense of cooperation in the group that is involved. It is the sense in which institutional action in general is cooperative. Community members use money in many kinds of contexts

¹⁵ See the discussion in Tuomela 2007, chapter 8.

and ‘actionally’ independently of each other. Why can they be taken to cooperate? They operate and cooperate on the same collectively accepted view that silver coins are money. This view is goal-like in having (also) the world-to-mind direction of fit, thus requiring action. Indeed, it requires that the group members respect that view, an institutional group belief, and act in accordance with it.¹⁶ This kind of cooperation with respect to an goal-like institutional belief will ideally satisfy (CWM).

The fact that silver pieces or coins are money in the group, a person functioning in the group context can normally expect that the others will take the silver coins to be money. Most centrally, this is not only an interpersonal matter of the members’ beliefs about who takes those pieces to be money and who does not, but is a group matter concerned with all actual and potential group members and others (e.g., visitors) functioning in that group. The group members are supposed to act for a desire-independent group reason (‘these coins are money in our group’) to be trustworthy partners. This (we-mode) case contrasts with the situation (an I-mode case) where the members only we-believe individually that they, without reference to a group reason, can use the pieces of metal in their everyday commerce. But even in the I-mode case, the general I-mode we-belief that those coins are money in the group is required on pain of financial loss.

In general, (CWM) can here be required to be satisfied by a substantial amount of group members. This can be argued for by the stability the we-mode has generated through the members ‘identification’ with the group (especially acceptance of its ethos) and the resulting collective commitment involved and through the joint motivation that the collectively accepted group belief with the world-to-mind direction of fit involves. More concretely, it can be argued for by the case of a change of the institution to something else (e.g. switching from silver to gold coins). This typically requires organized decision making by the group and in any case some we-mode thinking for the group concerning what it (and thus ‘we’) should do—and some we-mode action on this basis. Here we have an argument for we-mode cooperation in the case of institutional action.

- (4) Let us now consider briefly how we-mode reasoning may explain *cooperation in collective action dilemmas (and coordination cases)*. Collective action dilemmas such as the Prisoner’s Dilemma are problematic for rational choice theory, since it generally entails that rational utility-maximizing leads to suboptimal solutions, and the only way to reach Pareto-optimal outcomes (e.g. mutual cooperation in the PD) requires individualistically irrational, out-of-equilibrium play, indeed coordinated play, by the parties. In a PD, cooperation by everyone is better than defection by everyone. In this sense Pareto-optimal outcomes can be seen as collectively rational to pursue.

¹⁶ See Tuomela 2007, chapter 8, for such institutional beliefs. Most centrally they have to satisfy the condition that e.g. for something to be money it must be collectively accepted and known in the group (if not by all members at least by functionally sufficiently many) to be money.

In the group case the situation is different, and below I focus on we-mode groups, thus group agents capable of acting as a group. The individuals here function as group members striving to realize the group's goals and interests (or, if you prefer, to maximize group utility). Group members functioning qua group members are motivated to cooperate to reach them because they are group goals or at least are conducive to group goals to which the members are bound by their membership. The group here functions as the kind of coordinator required for arriving at the Pareto-optimal outcome. Thinking and acting as a group member in the we-mode is based on the reason that the group should reach its goals and will (ultimately) further also its members' private interests and goals. The we-mode approach here is not reducible to the individualistic, I-mode framework because it necessarily differs from it with respect to two facts: it is based on a group agent as the basic agent and it involves we-reasoning instead of I-reasoning. The we-mode approach accordingly involves viewing the situation from the group's rather than from the individual members' private point of view. This means in the we-mode case that there is no PD relative to group-based we-mode utilities but only one relative to the members' private (personal) utilities.¹⁷ The group agent typically prefers the cooperative solution (in which all members choose to cooperate) after having weighed between the possible (joint) outcomes (e.g. CC, CD, DC, DD in the two-person case).

In a paper by Hakli, Miller, and myself (2010) it is shown in a technical way that there are several cases of collective action dilemmas in which e.g. in a PD a we-mode attitude and action gives a better result than a (pro-group) I-mode attitude and action. I cannot here present the complicated details which owe much to game-theoretical results by the economist Michael Bacharach (1999; 2006). Let me put the basic point as follows: The switch to group thinking (esp. group agency and we-reasoning) together with the assumption of Pareto-optimality (viz. 'common interest') relative to the members' private utilities will often lead to group-rational mutual cooperation in e.g. the PD and Chicken, to High outcome in Hi-Lo, and other social dilemmas involving common interest and action interdependence. The difference between we-mode reasoning and (pro-group) I-mode reasoning is that in the we-mode case the functionally conceived group agent is performing the reasoning via its members' we-reasoning, while generally in the I-mode case only individualistic reasoning will take place.¹⁸ Furthermore, a we-mode group is to be seen 'positionally' in the sense of the individual members occupying refillable positions. Also this shows that individualistic considerations cannot be included in we-mode

¹⁷ I am here and below assuming that the we-mode preferences and I-mode preferences are comparable. In some cases, but no necessarily, the members' we-mode (viz. group-based) utilities can be regarded as averages of their individual, I-mode utilities.

¹⁸ Let me note that in the pro-group I-mode case the participants may of course promise to each other to reason together using the 'we' notion and act on the basis of such reasoning, but this 'we-reasoning' is basically constructed bottom up from the individuals and is conceptually and explanatorily based on the group.

we-reasoning (except in special cases, e.g. when the group agrees to use averages based on individualistic properties), whereas in the I-mode case the individuals' views and preferences in general will affect the reasoning process.

More generally, one of Bacharach's mathematical results can be applied to show that the pro-group I-mode and the we-mode, probabilistically construed concerning mode adoption, do not entail the same equilibrium behaviors.¹⁹ This holds also for cases (even) where the choices, utilities and the probabilities of the players acting for their own benefit instead of the group's benefit are the same: The pro-group I-mode admits Pareto-suboptimal equilibria (e.g. Lo-Lo in Hi-Lo) that in many cases will not be equilibria in the we-mode case. Although the game-theoretical assumptions involved in the result restrict its 'external' validity one can fairly say that there are some realistic cases to which it applies, e.g. some coordination and some public good cases having the structure of the PD.

The present argument for the we-mode approach as against the I-mode (including the pro-group I-mode) most importantly shows that these two approaches in situations that the I-mode approach views as collective dilemmas lead to different recommendations for rational action, where the difference concerns difference in the action equilibria that the two approaches generate.

- (5) When matters are seen from the group's point of view (viz. in salient we-mode), private conflicting interests (when relevant) and costs are to be laid aside, and *the group is regarded as the basic agent*. In I-mode cooperation (including pro-group I-mode cooperation), people are only privately bound to cooperate. Even when there is a mutual promise to cooperate, they may yet decide to withdraw when the project becomes personally costly. In contrast, in we-mode cooperation, the persons, being *collectively committed*, participate in a joint project with inbuilt shared authority and are likely to cooperate more persistently than I-moders, because, as seen, in acting in the we-mode the group's point of view is activated and the members are strongly connected to the group through their identification with it (its ethos in the first place) and their consequent collective commitment to its projects. In principle, free-riding is an I-mode phenomenon. In the we-mode group rationality constrains members' action in contrast to individual rationality. Collective commitment qua group-based involves directed social commitment, due to the fact that the committed persons are coauthors of the action. Thus they are committed not only to themselves but to each other to perform their actions promoting the group's ethos.

As a consequence of the above (although I cannot here enter detailed argumentation), more *stability*, *persistence* and *resilience* concerning the fulfillment of tasks can in general be conjectured to exist in a we-mode group basically because of its nature as an 'organic whole' (no matter how

¹⁹ See Bacharach's 1999 Theorem 2.

hard all this is to spell out). It is an inbuilt presupposition in the we-mode case that the members will perform their parts of the joint project and that the project will be given up only on mutual agreement. Also more *flexibility* in action will be involved at least in the following sense: the group members will be disposed to help (or correct or pressure) each other when needed. In contrast, an I-mode group helping and pursuing ‘emergency’ tasks will in general have to be negotiated and bargained, because a member’s private costs are weighed against her private rewards, while a member’s costs in a we-mode group are seen as ‘our’ costs’ or ‘our’ rewards. Both I-mode and we-mode cooperation presuppose trust in the others’ participation, and in the we-mode case, a strong kind of trust involving respect of the others’ rights will be involved.²⁰

- (6) There are *experimental results* concerning the role of ‘we’ in social interaction. Thus, to mention just a few, there are studies showing that identification with the group and group thinking play or may play an important role in deprivation situations, in the case of situational adoption of speech style, in group polarization cases, in in-group favoritism. There are also studies pertaining directly to cooperation. Let me mention a couple of relevant results:

Empirical research supports the idea that identification with a group and commitment to it increases ethos-promoting intra-group cooperative action. Thus Marilyn Brewer (1999) argues on the basis of previous experimental research that when a collection of individuals believe that they share a common in-group membership, they are more likely to act in the interest of collective welfare than individuals in the same situation who do not have a sense of group identity. I take collective welfare to include acting for the group in promoting the ethos of the group. Hence identification with the group (and, most important, its ethos) tends to yield cooperative ethos-promoting action. Brewer also argues that identification with the in-group can elicit cooperative behavior even in the absence of interpersonal communication among group members. Functioning in an in-group context, individuals develop trust and a cooperative orientation toward shared problems. Here we thus have empirical support for the claim that in in-group contexts, we-mode behavior (or at any rate pro-group I-mode behavior) tends to come about and to supersede self-centered I-mode activities.

²⁰ The reader is referred to R. Tuomela/M. Tuomela 2005, where the relationship between cooperation and trust is examined in detail from the perspective of the account of trust developed by M. Tuomela (e.g., in her 2006 article). The participants of rational (I-mode or we-mode) cooperation can be argued to trust each other concerning the other’s participation. They need to have at least ‘rational predictive trust’ in each other. This includes that they believe that the other will perform the expected action with goodwill toward the partner and they themselves have an ‘accepting attitude’ about being dependent on the other’s action. (CWM) can be understood to satisfy these conditions because of the participation beliefs involved simply as a conceptual feature of the we-mode. (The reader is referred to the paper for detailed theses on trust in cooperation.)

Recent experiments by Colman et al. on collective action dilemmas show that over half of the participants use we-reasoning instead of I-reasoning in the dilemmas and thus end up choosing in collectively beneficial ways. Also Bardsley et al. find context-dependent support for we-reasoning in their experiments concerning subject's views on focal points.²¹

Note, however, that because of the possibility of pro-group I-mode behavior, we may not get a clear and unambiguous evidential argument for the we-mode we-perspective from these social psychological investigations. But in any case, we-thinking, be it of the we-mode or the pro-group I-mode kind, does get support. (See also the mentioned paper by Hakli et al. 2010.)

5. Conclusion

The general upshot of our discussion of cooperation is this:

- (1) We-mode cooperation exists and is different from both plain and pro-group I-mode cooperation. Indeed it is individualistically irreducible.
- (2) We-mode cooperation is in some cases functionally more effective and (i) collectively and individually more rewarding than pro-group I-mode cooperation (recall the above examples of institutional action and cooperation in collective action dilemmas). (ii) In several cases it offers more collective stability and order (by eliminating individualistic equilibria) and also flexibility than (pro-group) I-mode cooperation.
- (3) Group action as a unit in a tight sense requires the members' we-mode cooperation.
- (4) There is lots of anecdotal empirical evidence for we-mode cooperation and also some experimental evidence for it.

There are many other aspects in which especially we-mode we-thinking and acting, would seem to be superior to individualistic thinking and acting. I cannot here go deeper into these complex matters. Suffice it here to conjecture on the basis of what has been said that we-mode conceptualization and account of cooperation is needed to complement the individualistic (pro-group) I-mode account(s) in social science theorizing and experimentation.

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²¹ See Colman et al. 2008a,b and Bardsley et al. 2010 for the research referred to above.

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