Twenty-five Years with *The Logic of Collective Action*

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A quarter of a century has passed since Mancur Olson wrote *The Logic of Collective Action* (1965). In this seminal work, Olson argued that collective action will not take place if individuals are rational egoists and the group is large. This is a review article summing up 25 years of continuing debate about the validity of this argument. Surprisingly little has been added that goes beyond Olson's *informal* analysis. His *formal* analysis has proved less robust. Above all, his size argument has been shown to be defective. Collective action is not a simple function of group size. The main message of this article, however, is that the assumption of self-interest, used by Olson and by a majority of rational choice theorists, is inadequate and must be replaced by an assumption of mixed motivations. What this mix is going to be is still an open question.

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In 1965 there was published one of the most cited, celebrated and criticized, in short, one of the most influential social scientific books of this century: Mancur Olson's *The Logic of Collective Action*. In this work, Olson challenged conventional wisdom by arguing that 'unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interest*' (Olson 1965/1971: 2). The argument is applied, in particular, to interest groups.

In a sequel to the above work, *The Rise and Decline of Nations* (1982), Olson carries the analysis of interest groups further in important ways. He presents the latter work as 'an outgrowth of *The Logic of Collective Action* and in large part even an application of it' (Olson 1982: 18), but the discontinuity is more striking. *The Logic of Collective Action* is about the problem of organizing interest groups, *The Rise and Decline of Nations* assumes the existence of interest groups at the outset. This presupposes that the problem of collective

action is already solved. My interest here is limited to the problem of collective action, as treated in *The Logic of Collective Action*.[1]

In this article, I am going to review the literature that followed in the wake of Olson's first book and attempt to diagnose the present state of the theoretical problem of collective action.[2] It is a review with a critical intent. My purpose is to argue that Olson's economic theory of collective action has proved inadequate and must be replaced by a theory assuming mixed motivations.

1. Olson's argument

The reason rational egoists will not act in their common interest is that interest groups trade in collective, or public, goods, which are characterized by non-excludability (Olson 1965/1971: 14). Public goods, if provided at all, have to be, or are best, supplied to all members of a group.[3] But if this is so, the most rational course of action, for a self-interested individual, is to take a free ride; to enjoy the benefits of the collective goods without contributing to the costs.

Olson divides groups into small, intermediate and large (Olson 1965/1971: 48–50). Free-riding is not a problem if the group is small, or 'privileged', which means that 'each of its members, or at least some one of them, has an incentive to see that the collective good is provided, even if he has to bear the full burden of providing it himself' (p. 50). This happens when the value to any one individual (Vi) of a collective good is larger than the total cost of its production (C); when, therefore, the advantage (Ai) to this individual is a positive sum; when $Ai = Vi - C > 0$. In small groups, there are also a number of social incentives at work; friendship, social status, prestige, etc. (pp. 60–65). But, as the size of the group (Sg) increases, there is a decrease both in the relative importance of each individual's contribution to collective action and in each individual's share, or fraction (Fi), of the value of the collective good for the group as a whole (Vg). $Fi = Vi/Vg$. In the intermediate group, no single member benefits enough to supply the collective good for the group. But an intermediate group is not large enough to let a free rider remain anonymous. Hence, there is the possibility of obtaining collective goods with some coordination and organization. In the large, or latent, group, however, individual benefit is definitely too low and organization costs too high, for collective action to be possible (p. 48). In addition, each contribution is too small to make a perceptible difference to the outcome. Free-riding definitely dominates cooperation. Large groups, therefore, have to rely on selective incentives, such as journals or insurances, or on coercion, in order to secure support (p. 44). This conclusion leads Olson to advance the so-called 'by-product theory' of pressure groups (pp. 132 ff.). If the provision of a public good is not enough to motivate people to join an organization, then they must also be organized for some other purpose. Lobbying for collective goods is a by-product of organizations that receive their strength from selective incentives. Olson's logic of collective action calls for a leader, or political entrepreneur, to explain the emergence and existence of interest groups (pp. 174 ff.).

Olson makes sure at the outset that self-interest is not enough for collective action. Therefore, considering the amount and importance of collective action in the world, Olson's theory does not lend unambiguous support to an economic theory of collective action. Quite the contrary, the existence of collective action 'stands as an indication of the fundamental inadequacy' of the economic theory of collective action, 'a clear sign that its postulates are flawed' (Barnes 1990: 274). It should be pointed out, however, that Olson is more aware of the limits of self-interest and of his theory of collective action than many of his critics seem to have noticed. First, while assuming utilitarian rationality in his own analysis, he does not suggest that all action, or even all collective action, can be explained this way. Olson's logic of collective action is not intended to apply to 'non-economic lobbies' with social, political, religious or philanthropic interests and 'mass movements'. Collective action, on the part of these groups, is non-rational or irrational and, therefore, the subject matter of sociology (Olson 1965/1971: 159–165). Second, and related, Olson acknowledges the existence of moral incentives, but excludes them from consideration on the ground that they are hard to verify. He criticizes the tendency to analyse all behaviour with economic models, but at the same time suggests how it can be done in the case of moral incentives (Olson 1965/1971: 61n). Despite a certain ambiguity on this point, I believe that Olson should be interpreted as using the assumption of self-interest as a heuristic device, or theoretical principle, rather than as an explanatory law (Willer 1992: 50–58).

Olson's theory of collective action is, in some respects, less restricted than those of many of his economic colleagues. First, even though the bulk of Olson's analysis relies on the assumption of self-interest, he claims that the assumption of rationality would be enough for his results to obtain, at least in the case of large groups. The reason is that in large groups, even an altruistic contribution would not be perceptible (Olson 1965/1971: 64, 159, 1982: 19 f.). Second, Olson's theory is not 'materialistic'. Many selective-incentives are *social*: status, prestige, social pressure, etc. (Olson

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1965/1971: 60–65, 1982: 21–25). Third, even while his *formal* analysis is atomistic and static, his *informal* analysis is interactionist and dynamic. Social control is effective only in a dynamic context. By pointing out the importance of social sanctions as selective incentives, Olson precipitates the results later obtained by the dynamic use of game theory. Fourth, Olson was well acquainted with institutional solutions to the collective action problem, such as leadership and formal organization, long before the new institutionalism made an impact on the economic theory of collective action.

2. Group size

It is nowadays widely agreed that Olson's size arguments do not stand up to scrutiny (see, e.g., Frohlich & Oppenheimer 1970; Frohlich et al. 1971: 145–150; Chamberlain 1974; Hardin 1982: ch. 3; Taylor 1982: 39 ff., 1987: 7–11; Oliver & Marwell 1988; de Jasay 1989: 149 ff.; Sandler 1992: 35–54). One of the best discussions, to date, is by Russell Hardin in his important *Collective Action* (1982). Hardin points out that Olson's analysis suffers from a conflation of two typologies: the distinction between privileged, hence manifest, and latent groups *and* the trichotomy of small, intermediate and large groups. Olson writes as if small groups were always privileged and large groups always latent, but there is really no necessary relation between the two dimensions. A small group may be latent and a large group privileged. The most dubious assumption, made by Olson, is that individuals' net benefit necessarily declines as the group becomes larger. Two circumstances could turn each group member's net benefit into a decreasing function of group size: (1) individual benefits decrease, (2) individual costs increase – or both. This may, but need not, be the case.

According to Olson, each individual receives a fraction (Fi) of the group gain (Vg), such that $Fi = Vi/Vg$. This formula says nothing about the absolute value of the collective good to the individual (Vi). But Olson's size argument obviously depends upon the assumption that individual benefit is a decreasing function of group size. Why else, should he attach so much

importance to fractions? Also, much that Olson says about the effects of group size simply does not make sense without this assumption. But the analytical truth that individual benefit is a fraction of group benefit, does not imply the synthetic statement that individual benefit decreases with group size.

Collective goods are typically characterized by some jointness of supply. According to Samuelson, jointness is a necessary condition and defining characteristic of collective goods (Samuelson 1954: 387). A second, commonly accepted, defining characteristic is non-excludability. Mancur Olson chooses to emphasize the latter (Olson 1965/1971: 14). But this choice is tendentious, since it supports his own argument. Non-excludability makes for free-riding and works against the provision of public goods. Jointness works in the opposite direction. It tends to increase the probability that collective goods will be provided. 'Jointness' means that the utility one person derives from a good does not diminish as a result of its use by other people. A lighthouse is one commonly cited example. Legislation intended to give us clean air would be another. In the case of perfect jointness, therefore, individual benefit is independent of group size. Perfect jointness may be rare, but some degree of jointness characterizes all collective goods. Indeed, most collective goods sought by interest groups; laws and regulations, import quotas and tariffs, exemption from taxes, etc., are general and, therefore, perfectly joint, in a formal sense. Materially, varying degrees of rivalry occur as indirect effects of the implementation of governmental policy. The absence of jointness, however, means that a particular good is possible only as a private good.[4]

Many collective goods exhibit increasing returns to scale. This is especially so in all cases where the provision of the collective good depends on protest and revolt, or, more generally, on the active participation of the members of a social group, or movement. Activities, such as riots, strikes, petitions, demonstrations, revolutions and wars often depend crucially upon numbers. The ability to exert pressure, not only in the form of force, but also in the form of

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persuasion, is largely a function of group size. In the case of increasing returns to scale, individual benefit increases with group size.

Olson is rather brief about costs. He assumes that total costs will be a monotonically increasing function of the quantity produced of a collective good. He further assumes that fixed costs will usually be high, that marginal costs will eventually decline and finally rise again, so that the cost function will be U-shaped. The only costs explicitly discussed by Mancur Olson are organization costs, which are usually greater in large groups than in small groups, at least in the start up of an organization. But these are largely overhead costs, which do not vary much with the size of the group. Once the organization is there, production of public goods often shows dramatically decreasing marginal costs. Always when this is the case, per capita costs decrease as a function of group size. But only when there is cost-sharing.

Olson mentions cost-sharing, but obviously does not believe that it can give rise to voluntary cooperation in large groups.[5] For Olson, public goods will be provided only when $Ai = Vi - C > 0$. But if cost-sharing is feasible, $Ai = Vi - Ci$, where Ci is the cost to one individual (i) of providing some public good. Shared costs are necessarily lower for each individual than is the total cost of a public good. In the case of shared costs, since Ci is only a fraction of C, or total group cost, it is, of course, much more likely that Ai will take on a positive value. For Olson, however, cost-sharing is possible in large groups only by way of coercion, in which case Ci becomes a tax. This argument does not depend upon a pure size effect. It follows analytically from Olson's atomistic assumption of independent decision-making in large groups and causally from the hypothesis about free-riding (cf. Frohlich & Oppenheimer 1970).

The problem of crowding effects in the production of public goods is usually solved by organization. Large interest organizations usually divide into a small nucleus of active members that do the job and a large, passive troop of supporters. In this way, the persuasiveness of number is com-

bined with the effectiveness of organization and leadership to produce public goods at low costs to each member. Also the provision of a specific government may be seen as a collective good with increasing returns to scale. As a collective good, government is also characterized by an extreme 'lumpinesss', since, in democratic countries, it can usually be produced only by a majority. In the case of government, lumpiness is institutional, but often it is technical. A bridge costs a lot, but once it is built, it costs little to maintain and is extremely useful to lots of people. In the case of lumpy goods, cost-sharing is often the only possibility of obtaining a public good at all.

The conclusion of this section would be that Olson's size argument is seriously defective. There are many types of collective goods and Olson's argument applies only to some of them. There is not one simple relation between group size and collective action. Production functions may be accelerating, decelerating, S-shaped or discontinuous (Oliver et al. 1985), and even decreasing (Elster 1989a: 32–34, 189 ff., 1989b: 127–134). One thing remains true, however: social control is more difficult in large groups. Therefore, 'The size effect which . . . should be taken most seriously is *the increased difficulty of conditional cooperation in larger groups* (Taylor 1987: 12).

3. Time and interaction

Of considerable importance for the subsequent treatment of collective action, was Russell Hardin's analysis of Mancur Olson's collective action problem as identical with an N-person Prisoner's Dilemma (Hardin 1971, 1982: chs 1–2; Barry & Hardin 1982: 23–26).[6] For each person, defection dominates cooperation, irrespective of the choices of the rest. But if all players defect, they will be worse off than if they all cooperate. Universal defection is Pareto-inferior to universal cooperation. The problem of collective action, then, is the prospect of an outcome that is the reverse of Adam Smith's invisible hand. It is the problem of how to avoid a situation when individual rationaility leads to collective

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irrationality, instead of to the common good.

Of even greater consequence, however, was the analysis of the problem of collective action as an iterated Prisoner's Dilemma supergame.[7] It is a major shortcoming of Olson's formal analysis and of one-shot Prisoner's Dilemmas that they are static. The insight that in real life people meet again, and often remember what happened last, has proved to be of paramount importance for an understanding of the logic of collective action. If people meet again, they can establish a convention, or implicit contract, to cooperate for their mutual benefit. Contractarianism does not work in a static analysis of a one-shot Prisoner's Dilemma, where people meet only once, but in a dynamic analysis of an iterated game, contract may suffice to ensure cooperation. In a dynamic context, it is even possible to achieve cooperation on strictly utilitarian grounds.

The most famous use of an iterated Prisoner's Dilemma in the analysis of collective action, or cooperation, is Robert Axelrod's computer tournament, reported in his *The Evolution of Cooperation* (1984).[8] Axelrod invited a number of philosophers and social scientists to participate in the tournament, each using a strategy of his own choosing. The tournament consisted of an indefinite number of two-person Prisoner's Dilemma games, where all participants played against one another. To Axelrod's surprise, the strategy that emerged victorious was the simple 'tit-for-tat', suggested by the well-known game-theorist Anatol Rapoport. Tit-for-tat is the strategy of always cooperating in the first round and to defect only when the other player defects. What this result suggests, is that, in the long run, it is rational even for the egoist to cooperate. There are two conditions: 'that the cooperation be based on reciprocity and that the shadow of the future is important enough to make this reciprocity stable' (Axelrod 1984: 173).

First to analyse the collective action problem as an iterated Prisoner's Dilemma, or a 'Prisoner's Dilemma supergame', was Michael Taylor in his *Anarchy and Cooperation* (1976).[9] Taylor's conclusion concerning the two-person supergame is similar to that of Axelrod. Cooperation is possible among rational egoists, if they use conditional cooperative strategies (tit-for-tat), if the number of two-person Prisoner's Dilemmas is indefinite and if the players do not discount the future too much, relative to their immediate payoffs (Taylor 1976: 31–43, 86–89, 1987: ch. 3).

Taylor is aware of the serious limitations of the iterated two-person Prisoner's Dilemma. Collective action, typically, does not consist of pairwise interaction. Also, people's cooperation is not dependent upon the cooperation of other players, one at a time, but upon enough others cooperating all the time. Collective action, therefore, is better captured by an N-person Prisoner's Dilemma (Taylor 1987: ch. 4). Taylor's analysis of this game, unfortunately, does not give rise to any definite conclusions. Perhaps, the most important result is that for cooperation to occur at all, some of the players must be conditional cooperators. Also the N-person Prisoner's Dilemma supergame is obviously inadequate as a representation of reality. The most important shortcoming, according to Taylor himself, is that it assumes a static environment. 'In some of the public goods problems of interest here, a more realistic description of reality would require a *changing* payoff matrix, possibly a changing set of available strategies, and even a changing set of players' (Taylor 1987: 107). At this point, I believe, we have reached the limits of game theory. Perhaps the idea of nested games has something to contribute,[10] but probably the most viable alternative is some kind of institutional analysis.

Taylor does not agree with Hardin and Axelrod in their identification of the public goods problem as a Prisoner's Dilemma. There is a public goods problem also when preferences have the structure of a game of Chicken (Taylor & Ward 1982; Taylor 1987: ch. 2; see also Jankowski 1990). This game is defined by a payoff structure, such that mutual defection is the worst alternative for all players. There is, thus, a stronger incentive for cooperation than in a Prisoner's Dilemma, at least if people are risk averse.[11]

Neither is the public goods problem identical with the problem of collective

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action. First, there are public goods, the provision of which does not necessarily create a collective action problem. This is the case, if provision of a public good takes the form of an Assurance game. Payoffs in this game are such that unilateral defection is worse for all than mutual defection, while mutual cooperation is the alternative preferred by all players. In this game there is no temptation to free ride, but it pays to cooperate only if all others cooperate.[12] It has become rather common to analyse instances of collective action as games of Assurance, involving only a problem of coordination and therefore possible to solve by convention, or tacit collusion (see, e.g., Hardin 1982: ch. 10, 1990; Hechter 1990b; Macy 1991: 830 ff.).

Second, there are collective action problems that do not involve public goods. The reason collective action problems cannot be reduced to public goods problems, is that the former occur because of non-excludability, whereas public goods are characterized by both non-excludability and indivisibility, or jointness of supply.[13]

4. Heterogeneity and social structure

The superiority of the iterated, over the one-shot, Prisoner's Dilemma, lies in the introduction of time and a rudiment of social interaction in the economic analysis of collective action. This is important, but more could be done to approximate real life. Game theory assumes that players are homogeneous in their preferences, if not in their strategies, but in reality they are not. Even though collective action presupposes a common interest, members of the collective also have diverging and more or less intense interests, and unequal resources to back them up. It is a serious lack of realism, therefore, to assume, as does the economic theory of collective action, that individuals are homogeneous and interchangeable (Elster 1989a: 49, 152 ff.).

An equally serious lack of realism in an iterated N-person Prisoner's Dilemma is the assumption that players understand the logic of the situation, have perfect information about the previous moves of other players and can estimate the probability of

meeting a sucker again and be recognized by her/him (Hechter 1990a, 1990b; Macy 1991b: 810). These conditions are likely to be met, if at all, only in social structures permitting a high degree of social control. The important thing is that people meet again, not that they play the same game over and over again. For this to happen, it suffices that people are engaged in overlapping activities. If there is closure of interaction, an individual defecting in one game, may be punished in another game – the ultimate punishment being exclusion from the group (see Hardin 1984: ch. 11; Coleman 1986, 1990a: 41–52, 1990b: 226 ff., 318–320; Hechter 1984: 175, 1987: 36–39, 161–167).

The most serious lack of realism in the theory of games, both iterated and one-shot, is the ban on communication – the most distinctive feature of social life. I will return to this issue when discussing the evidence pertaining to collective action.

In several respects, the use of the iterated Prisoner's Dilemma was a step back, relative to Mancur Olson's informal analysis, which allowed groups to be heterogeneous and, therefore, privileged, if the group is small, and to rely on organization and leadership, if the group is large. It should be pointed out, though, that Axelrod and Taylor, in particular, are aware of the limitations of game theory. Axelrod has supplemented game theory with institutional analysis (Axelrod & Keohane 1985; Axelrod 1986) and Taylor has discussed the social structural conditions of decentralized cooperation in his *Community, Anarchy and Liberty* (1982; see also Taylor 1988 and 1989). The reason cooperation is possible only in a community is, exactly, the closure of social interaction necessary to solve the problems of indeterminacy and information in an iterated N-person Prisoner's Dilemma (Taylor 1976: 92 f., 1987: 92 f., 104 f.).

If the group is not privileged, heterogeneity may nevertheless lead to collective action, if decisions to join are conditional and taken in a sequence. Of much importance for the development of sequential models of collective action was Thomas C. Schelling's analysis of chain reactions and his subsequent introduction

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of the concepts of 'threshold' and 'critical mass' (1971: 85 ff., 1978: 91 ff.).

The notion of 'threshold' was used to analyse collective action, or 'behaviour', by Mark Granovetter (1978). It is a fundamental feature of social life that the actions of individuals depend, in different ways, upon the actions of other individuals. This goes for collective action as well. The simplest form of interdependence is purely quantitative. People's binary decision whether to participate, or not participate, in collective action depends upon the number, or proportion, of others already participating. Since we know that people differ in their readiness to participate in collective action, we may define an individual's 'threshold' as the number, or proportion, of others who must take action before he/she does.

Granovetter's analysis is 'economic'. He assumes that people act so as to maximize their utility, and that this utility depends upon the actions of others. Unlike traditional economic analysis, however, he also assumes that people take the actions of others into account when deciding whether to participate, or not. Like Frohlich, Oppenheimer and Young (1971), Granovetter assumes that people act strategically, but he differs from the former in making strategy depend upon knowledge of objective circumstances, instead of upon a subjective estimation of probabilities. In Granovetter's model people act on perfect information, not in a situation of risk. This is possible because his model is sequential; each person knows, at every instant, how many others have joined collective action. This is, in many cases of collective action not a very realistic assumption. Granovetter's main example is participation in riots. Even in this case, however, information about the number and proportion of rioters is, of course, far from perfect. People know only what happens in their immediate surroundings. Information about more distant events typically takes the form of rumours.

Nevertheless, some insights can be gained from Granovetter's analysis. One important insight is that collective action may be highly 'accidental', in the sense that small differences in the distribution of

'thresholds' in the population make a big difference to the aggregate outcome. Because of this, it is virtually impossible to infer the distribution of thresholds from the aggregate outcome. Granovetter illustrates with the following example: Suppose we have a group with 100 members, where the distribution of thresholds takes the form of the following series: 0, 1, 2 . . . 99. In this group, the individual with threshold 0 will begin and the rest will follow, like the bricks in a game of domino. But if only one link in the chain had been missing, collective action would have failed to appear. The burden of Granovetter's analysis is to demonstrate the possibility of domino, or bandwagon effects, in collective action.

The term 'critical mass' has been used by Oliver et al. (1985) to denote the well-known fact that much collective action depends crucially upon the money and labor of small groups of dedicated individuals who provide collective goods for themselves and/or a much larger group of passive beneficiaries, or free riders. Oliver, Marwell and Texeira discuss collective action as a function of two variables: (1) the heterogeneity of interests and resources and (2) the shape of the production function. I have already discussed production functions in the section on group size and concentrate on heterogeneity of interests and resources.

A critical mass is simply a form of heterogeneity that makes collective action possible. As such, it has much in common with Mancur Olson's 'privileged group'. A novelty is that the former is made dependent, not only upon interests, but also upon resources. The critical mass typically consists of persons rich in resources: money, time and, above all, organizational skills. It is a well-known fact that critical masses are often middle class, while the passive mass of recipients usually consists of less resourceful persons.

The introduction of heterogeneity in people's preferences and resources has opened an avenue for further research on the collective action problem. Among those who have followed this route are Russell Hardin and Jon Elster. They both take the further step of assuming a qualitative, not just a quantitative, heterogeneity in pref-

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erences. I will discuss qualitative heterogeneity in the section on mixed motivations and turn, instead, to the subject of social structure.

There is an additional dimension in the analysis of Granovetter and Oliver et al. that I have not mentioned: the amount and structure of social ties and networks in the population. In a well-known article with this title, Granovetter argued for 'The Strength of Weak Ties' (1973). The idea is that strong ties are possible only within small circles of friends, whereas ties that connect small groups with one another are usually weak. The importance of weak ties lies in their possible function as channels for the diffusion of innovations and messages. As such, weak ties can also enhance the capacity of communities for collective action (pp. 1373–1376). In his article on thresholds of participation, Granovetter makes no mention of weak ties, but argues that strong ties of friendship may influence individuals' thresholds. They are lowered if our friends have already joined, and raised if our friends remain outside a collective endeavour (Granovetter 1978).

The possible effects of social ties and networks on collective action were also investigated by Marwell et al. (1988). The method used was computer simulation. Results, therefore, should be treated with caution. What came out of the computer confirms our prejudices. Marwell et al. mention as an unanticipated result that network centralization is conducive to collective action. Considering the importance usually attached to leadership and hierarchy in both sociological and economic theories of organization and collective action, I find it surprising that this result was unanticipated. The explanation Marwell et al. give for this result is in terms of *selectivity*. Network centralization, in combination with preference heterogeneity, makes it possible for organizers to pick out and concentrate their mobilizing efforts on individuals with a high propensity for collective action, thereby enhancing the overall probability of finding a critical mass triggering collective action (Marwell et al. 1988: 503, 526–532).

Michael C. Macy builds upon the work of Granovetter and Marwell et al. in his modelling of the emergence of cooperation. Macy argues that the concepts of 'critical mass' and of 'thresholds' may be the key to solving the collective action problem, but only if rational choice is replaced by a less demanding model based on learning theory (Macy 1990, 1991b). Macy confirms the strength of weak ties and also the importance of a hard core of dedicated activists with his own computer simulations. Like Axelrod, Macy works with an evolutionary model of the emergence of cooperation. Unlike the former, however, he does not rely on selection. Cooperation emerges as the result of a stochastic learning process, involving the sanctioning of defectors. Adaptation by learning is a much shorter route to cooperation than is selection (Macy 1989, 1990, 1991b).

One reason social networks can sometimes solve the collective action problem is that they make conventions, or all-or-none contracts, possible. People agree to contribute if all contribute (Marwell et al. 1988: 509 f.). Collective action, then, takes the form of an Assurance game. It is a cooperative game; commitment to the contract is binding and all that is needed for cooperation. In other cases, however, the temptation to break the contract is stronger and the game turns into the non-cooperative game of Prisoner's Dilemma, necessitating the use of sanctions to achieve cooperation.

Appeal to social sanctions is the typical rational choice solution to the problem of collective action. A problem with sanctions is that they are, themselves, collective goods subject to a collective action problem. The use of sanctions to solve the first collective action problem, gives rise to a *second-order* collective action problem (Oliver 1980). Using sanctions, therefore, complicates the picture, and forces the game theorist to analyse the collective action problem as a compounded, or nested game (Heckathorn 1989). Oliver suggests that use of sanctions may change the incentive structure in such a way as to make an intially 'irrational' collective action 'rational'. This is, of course, possible, especially with the use of positive sanctions. If, for instance, there is strong interest and resource heterogeneity in the group, those with considerable interest and resources

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may use side-payments to induce the rest to cooperate. James Coleman has pointed to the existence of an almost costless, but nevertheless powerful, selective incentive, in the form of encouragement (Coleman 1988, 1990b: 273–278). In general, however, the necessity to use sanctions makes the problem of collective action more severe. This is because all sanctions are costly and, therefore, increase the total cost of collective action. In the case of punishments, costs very soon become forbidding. Thus, even, if the second-order collective action problem is usually less severe than the first-order problem (Hardin 1982: 172; Heckathorn 1988: 544; Elster 1989a: 41), the combined problem is necessarily more difficult to solve.

Side-payments are usually not feasible in large groups and encouragement can not be a general solution. The most prominent rational choice solution is the use of negative sanctions, or punishments. But why should an individual accept to be punished? One deficiency in Oliver's analysis of the second-order collective action problem is the absence of a concept of 'opportunity cost'. Why not exit? The reason suggested by Hirschman (1970) would be loyalty, but this is not an option in this case, because loyalty would make people cooperate in the first place. As a possible solution to the collective action problem, loyalty belongs to a sociological frame of reference. An economic alternative has been suggested by Michael Hechter. The use of punishment is an exercise of power. It is possible only when an individual is in some way *dependent* upon the group and, therefore, not 'free' to leave (Hechter 1983: 21–24, 50, 53). This is, of course, the case in many instances of collective action, but surely not in all.

Michael Hechter draws our attention to the monitoring costs involved in the use of sanctions (Hechter 1984). Free riders must be detected in order to be punished. Hechter first divides monitoring costs in metering costs, sanctioning costs and allocation costs; the costs incurred by the problem of sanctioning the right people in the right way. Later, he recognizes two types of costs associated with social control: monitoring costs and sanctioning costs (Hechter 1987:

150). Fortunately, or perhaps unfortunately, there are institutional mechanisms available to economize on control costs in large groups. One such mechanism stands out as dominating the historical scene: hierarchical organization. All large groups tend towards hierarchy. The economic explanation of this fact is in terms of transaction costs (Williamson 1975). In the case of collective action, some organization and leadership is often necessary to achieve coordination, continuity and effectiveness. Control costs are part of transaction costs and they remain a part of all organizations. In private firms, as in most organizations, cooperation is to some extent secured by compensation in the form of wages. In the case of organizations providing public goods the possibility of free-riding make social control more of a necessity. A hierarchical structure of federated groups combines informal control in small groups with formal control from above (Hechter 1987: 178–186). One special device is the use of group sanctions from above to increase the informal control in a group. Because group sanctions are collective goods, or bads, they create a new collective action problem in the group subjected to them (Heckathorn 1988, 1990). A common control technique is to punish the whole group for some act committed by one of its members. If the punishment is severe, as it often is, this technique may be horrendously effective.

Hechter's analysis of collective action exemplifies the recent development of a new and promising type of institutionalism – a synthesis of rational choice and traditional institutional analysis. Other representatives of this new institutionalism are Bendor and Mookherjee, who argue that organizational structure is important for the maintenance of cooperation (Bendor & Mookherjee 1987). According to them, two solutions to the collective action problem feature prominently in the literature: the centralized solution of Olson and the decentralized solution of Axelrod and Taylor. Both have their particular drawbacks. The decentralized solution is not feasible in large groups and the centralized solution permits free-riding. A combination of the two into a federal, or hierarchic structure maintains the advantages, while avoiding

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the disadvantages, of both. In a federal organization, the decentralized units do the monitoring and the central unit the sanctioning of free riders.[14] Organization, then, is the solution to the maintenance of cooperation. But how is collective action possible in the first place? Bianco & Bates (1990) argue that the presence of a leader, controlling the reward structure of the remaining players, may suffice to resolve the collective action dilemma in the initial stage. The precondition is that the leader is motivated by strong enough incentives and has the capability of issuing credible and effective threats.

The recent discussions about the role of networks and organizations in collective action elaborates and improves upon themes already to be found in Mancur Olson's *The Logic of Collective Action*. Very little is definitely new and there is nothing to challenge his main conclusions.[15] Networks, it is reasonable to assume, have the size of intermediate groups, in which collective action, according to Olson, is possible, if problematic. What Hechter has to say about the necessity of social control and its possibility in groups of different size only confirms the previous conclusions of Olson. Also Bendor and Mookherjee's argument about the advantages of federation is clearly stated by Olson (ibid., pp. 62 f.) and, before him, by many sociologists. Bianco and Bates's argument about leaders is simply a restatement of Olson's central thesis: that, in large groups, the collective action problem can only be solved by using coercion, or some other selective incentive.

5. Selective incentives

An early assessment of Olson's theory of collective action can be found in Brian Barry's *Sociologists, Economists and Democracy* (1970/78). While, in the main, sympathetic, Barry nevertheless raises some objections. Most importantly, he is sceptical concerning the possibility of explaining actual collective action in terms of 'selective incentives' – unless, under this rubric, we include virtually everything which may motivate an individual to join an organization, in which case the allegedly

economic explanation becomes empty (pp. 33–37).

> Obviously, the constant danger of 'economic' theories is that they can come to 'explain' everything merely by redescribing it. They then fail to be of any use in predicting that one thing will happen rather than another. Thus if an organization maintain itself, we say 'It must have provided selective incentives'; and this is bound to be true since whatever motives people had for supporting it are called 'selective incentives'. (Barry 1970/78: 33)

I think Barry's admonitions concerning selective incentives should be taken seriously indeed. The reason is this: if we allow any kind of selective incentive (Si), they will function as an unlimited reservoir, or potential, of *ad hoc* explanations, which renders the economic theory of collective action immune to refutation. What a free use, or interpretation, of Si achieves is a guarantee that an individual's net benefit (Ai) will turn into a positive sum and the economic theory of collective action thereby confirmed. $Ai = Vi - C + Si > 0$.

Barry's complaints about selective incentives have been repeated and substantiated by a number of critics (White 1976: 268–276; Fireman & Gamson 1979: 20; Chazel 1990: 227–229), but have not attracted the attention they deserve.[16] Or, perhaps, defenders of the assumption of rational egoism simply prefer parsimony to empirical content. A good illustration of Barry's point is Gordon Tullock's use of an E term, for 'entertainment value of participation' to explain why people make revolutions (Tullock 1971). An even better illustration is Morris Silver's redefinition of Tullock's E term as 'psychic income from participation in revolution', including 'the individual's sense of duty to class, country, democratic institutions, the law, race humanity, the rulers, God, or a revolutionary brotherhood as well as his taste for conspiracy, violence, and adventure' (Silver 1974: 65). Other examples of doubtful use of selective incentives include James Coleman's redefinition of a zealot as a person willing to bear extreme costs for the benefit of encouragement (Coleman 1988, 1990b: 273–278) and Muller and Opp's even more sensational redefinition of 'self-interest' to include altruism, feelings of solidarity and

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conformity to norms (Muller & Opp 1986: 474, 1987; Opp 1986: 90–92).

A second important critique of Mancur Olson's economic theory of collective action came from Bruce Fireman and William A. Gamson (1979). Their main arguments concern the use of selective incentives in the explanation of collective action in large groups (Fireman & Gamson 1979: 12). First, if selective incentives are necessary, why bother with collective goods at all? And since selective incentives are private goods, how come they are not provided by firms on the market? Since firms can produce these goods without the detour of collective goods, they must be able to produce them at a much lower cost. Isn't there something slightly absurd about a theory of interest groups, or collective goods, as by-products of organizations providing private goods, in the form of selective incentives, at an enormous competitive disadvantage? Also, if people join social movements mainly for the *social* selective incentives involved, why do they need a cause? Wouldn't a club be a better alternative? Do people need an excuse for sociability? This argument was hinted at by Frohlich et al. (1971: 18) and repeated by de Jasay (1989: 151n). It is so devastating for Olson's account of collective action, that my immediate reaction was to believe that it must be wrong. I have not, as yet, been able to figure out what is wrong. One exception to the validity of this argument, would be the case when the group, or leaders, have an effective monopoly over some good, used as a selective incentive (Sandler 1992: 60).

A second argument of Fireman and Gamson is directed at the interpretation of social control – the positive and negative sanctions sometimes used to promote collective action – as selective incentives. As we have already seen, this interpretation creates a second-order collective action problem about sanctions: why would anyone wish to sanction other individuals out of self-interest. This problem occurs because sanctions are, themselves, collective goods contributing to social order (Fireman & Gamson 1979: 19, 35; cf. Oliver 1980). In addition to first-order norms against defection, therefore, there are metanorms telling

people to punish free riders (Axelrod 1986: 1100 ff.). But, in the words of Douglas D. Heckathorn (1989: 80): 'If the second-order defection problem is solved through a met-anorm sanctioning system, that gives rise to a third-order free riding problem, and so forth'. Against this argument, Heckathorn maintains that, in the real world, sanctioning systems *do* solve the second-order collective action problem. Part of the solution is the existence of hypocrites telling others to cooperate, while defecting themselves. Heckathorn's solution is vitiated by a conflation of norms with sanctioning systems. However, Heckathorn is wise enough, not to present hypocrisy as a general solution to the (second-order) collective action problem (Heckathorn 1989: 98. I concur with Elster (1989a: 40): 'The provision of selective incentives cannot be the general solution to the collective action problem' (cf. Taylor 1987: 22; Hardin 1990: 366). The reason is the second-order collective action problem. The impending infinite regress can be stopped only by invoking solidarity and/or morality. 'Most obviously, perhaps, the problem of sanctioning nonconformers may be resolved by ethical motivations, as for example by a demand for fair play' (Hardin 1982: 172).

Michael Hechter attempted to circumvent both these problems by suggesting that large groups, providing public goods, develop out of small groups, providing only excludable 'club' goods, in the form of collectively produced 'selective incentives'. According to Hechter (1987: 121), 'There is no inherent reason why the members of an insurance group cannot convert their assets into a strike fund and reconstitute themselves as a trade union'. Hechter's argument hinges on the existence of formal control in the insurance group. With an effective control system, it is possible to make a switch in production from private to public goods (see also Hechter 1990b: 20 ff.).

This solution is as ingenious as it is simple. It rests on the cunning of history. And it does not lack support. Organizations often develop out of other organizations and this seems to have been the case with many trade unions. But it is essentially the solution suggested by Mancur Olson's by-

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product theory of interest groups – although Hechter denies that it is – and it shares the problems of the latter. First, why are there no private market substitutes for insurance groups? (cf. Popkin 1988: 15). Second, would rational egoists ever accept to forgo insurance for the uncertain outcome of strikes? Third, how can trade unions keep their members after they have switched to public goods? One answer would be excludability in the form of closed shop. (It has been tried and it exists, but it is far from universal). The main answer is social control. But, then, we are back with the second-order collective action problem.

The discussion of the second-order problem and of social sanctions has raised the vexed issue of social norms. This is so because negative sanctions, in particular, are usually attached to social norms. Since social norms can have no place in the hard core of an economic research programme, they must be rendered harmless. If social norms are at all allowed, they must be endogenized. That is, social norms must be explained, but are not allowed to explain.

The classic strategy of economic reductionism, accordingly, is to explain the emergence and maintenance of social norms in terms of rational egoism. This is the typical procedure in the social contract tradition. But it is a one-sided treatment of social norms. For if they emerge, they exist: and if they exist, they may be presumed to make some difference. There would be no point in creating rules nobody obeyed.

This leads to the next move of economic reductionism. Rules are obeyed, but only because of the sanctions attached to them. Indeed, rules, or norms, are sanctioning mechanisms. They work by altering the costs and benefits associated with different actions; what economists call the opportunity, or feasible, set. This move, however, leads to the second-order collective action problem, to metanorms, and, eventually, to an infinite regress, which can only be stopped by reinvoking the efficacy of social norms independently of sanctions.

This argument may not have the finality it appears to possess. The second-order collective action problem is usually less severe than the first-order problem. If so, it may still be possible to explain both cooperation and sanctioning in terms of rational egoism, or a minimal amount of altruism and social norms (Elster 1989a: 41). But there is another argument. Complying with norms only because of the sanctions attached to them is sheer opportunism. According to this view, we are all like Tartuffe: opportunists, hypocrites, impostors. But this is absurd. Norms cannot be reduced to a sanctioning mechanism. Norms are not systems of threats and offers, punishments and rewards. We all know the difference between opportunists and honest people. The very possibility of identifying someone as an opportunist, or hypocrite, depends upon the existence of honest people. Paradoxically expressed, if all were equally opportunistic, there would be no 'opportunists', or there would be no word for them (see Smelser 1962: 30). Coleman points out that people who have failed to internalize norms are called 'sociopaths' (Coleman 1990b; 294). It might be added that these people were formerly called 'psychopaths', because they lack a conscience, or superego. The diagnosis of pathology is possible only because normal adults are supposed to be equipped with a conscience of internalized norms.

Smelser's 'linguistic' argument has an 'ontological' counterpart, convincingly presented by Jon Elster (1989a: 128 f., 1989b: 118, 1991: 116 ff.). The opportunistic interpretation of norms as means of rationalization and manipulation is self-defeating. Norms can have no instrumental value, unless they have an independent power of their own – they would be useless even for strategic purposes of manipulation – and whatever independent power norms may have derives from their internalization.

As a last resort, economic reductionists admit that social norms are internalized, but reduce people's consciences, or superegos, to internal sanctioning mechanisms (see Stroebe & Frey 1982: 134 f.; Coleman 1990b: 293 f.; Ostrom 1990: 35, 205). Our consciences do indeed function this way. We feel guilt, or shame, when we violate internalized norms, and proud, or self-righteous, when we do our duty. But this is no proof of the universality of the economic approach, because the costs and benefits associated with internalized norms are

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derived from moral consciousness. If people did not believe in right and wrong, they would feel neither guilt, nor self-righteousness. Therefore, if economics is a theory of rational choice and sociology a theory about social norms; to treat moral consciousness as a sanctioning mechanism producing psychic costs and benefits, makes economics parasitic upon sociology. Social norms return as exogeneous variables in the economic theory of cooperation. The reductionist strategy of endogenization has failed. This is where we stand.

Once it is admitted that social life is, to some extent, rule-governed, the economic theory of cooperation is doomed as a totalizing approach. The reason is that following a rule is utterly different from rational choice. 'When I obey a rule, I do not choose. I obey the rule *blindly*' (Wittgenstein 1953/1974: 85). This is a statement about the nature of rules. It does not say that people actually do follow rules blindly. Of course, people always have the binary choice of obeying, or not obeying a norm, even though individuals with strongly internalized norms may not feel that they have a choice at all. Thus, an economist might say of people obeying norms that they prefer to do so. But this tautology does not resurrect economic man, because a non-opportunistic obedience to norms is a 'preference' for sociological man.

6. Mixed motivations

There is an emerging consensus, among competent observers, that there is much more collective action in the world than a narrowly economic theory leads us to expect. Even so, many social scientists prefer to keep the assumption of rational egoism, for reasons of parsimony, or for heuristic purposes. This is perfectly legitimate, but it is not entirely without dangers. Like some religions, it may lead to other-worldliness; to a withdrawal from the complexity of the mundane world, into a more simple world of pure abstraction. In this enchanted world of intellectual constructs, many social scientists feel at home, apparently satisfied with activities, such as model-building and story-telling.

Other social scientists are a bit more down to earth and believe that their primary task is to build models that fit the facts, simple or not. If so, models must be adjusted to what we know, or believe we know, about the world. In our case, if there is no reason to believe that motives other than self-interest explain collective action, we should introduce them in our models. This is what many social scientists have tried to do.

Brian Barry, for instance, suggested that much collective action cannot be explained without invoking non-economic motives, such as altruism, duty, or solidarity, most importantly in the form of class-consciousness (Barry 1970/78: 33–37). Earlier still, Amartya Sen had identified the problem of assurance, which may arise if we break the isolation of prisoners in the Prisoner's Dilemma. In the Assurance game, defection is not the dominant strategy. Each player prefers to cooperate, if all others cooperate, and will do so if they are assured that all others will do so too (Sen 1967: 114 f.). The game of Assurance has been used as a possible interpretation of the Marxist concept of 'class consciousness'. It has been suggested that workers, or most of them, do not play the Prisoner's Dilemma, but are engaged in the alternative game of Assurance (Shaw 1984: 21–28; Sabia 1988: 64 f.). Workers prefer cooperation and contribute to the provision of collective goods, *if* others do. In the terminology of Elster, the solidarity, or altruism, of workers is conditional (Elster 1979: 21, 1982: 468–470). They have a '*conditional preference for cooperation*' (Elster 1985a: 362). This suggestion has been advanced both as an interpretation of Marx and as a possible explanation for working-class action. I find it plausible in both cases.

To say that people might prefer to cooperate is not enough, however, as Amartya Sen was among the first economists to admit in his famous article 'Rational Fools'. We wish to know *why* people sometimes prefer to cooperate. Sen mentions two possible candidates: (i) sympathy and (ii) commitment (Sen 1979: 95 ff.). Of these, commitment is most destructive for economic theory. Both replace self-interest, but commitment replaces economic 'rationality',

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too. This is so, because 'commitment does involve, in a very real sense, counterpreferential choice . . .' (ibid., p. 96). Commitment replaces utility-maximization, because it does not imply that we prefer more to less.

In a later article, Sen makes the distinction between (1) self-centred welfare, (2) self-welfare goals and (3) self-goal choice (Sen 1985: 341, 347). The important difference is between (2) and (3). The pursuit of self-welfare goals is simply narrow self-interest, while self-goal choices may include sympathy, or altruism. Both are compatible with economics as rational choice. Commitment, on the other hand, implies self-imposed restrictions on self-goal choice and is now related to a person's 'identity' (Sen 1985: 348). People identify with various collectives, such as their nation, community, class, sex, race, ethnicity, etc. But people also identify with values of various sorts. In this case we may talk about 'second-order metapreferences' concerning the kind of person they want to be (Hirschman 1982: 66–76, 1984: 89 f., 1985: 8–11).

The most well-known attempt to develop a new model of rational choice, along the lines suggested by Sen's notion of 'self-goal choice', is by Howard Margolis. His basic idea is to assign to the individual two separate interests, or selves; self-interest (S-Smith) and group-interest (G-Smith). The choices of S-Smith and G-Smith are mediated by an arbiter called U-Smith, allocating resources according to a rule of 'fair share' (Margolis 1981, 1982: 36 ff.). One reason for advancing this alternative, was the inability of economic man to solve the problem of collective action. While recognizing the free-rider problem as 'absolutely crucial', Margolis maintains that it 'rather overkills this issue'.

> The conventional economic model not only predicts (correctly) the existence of problems with free riders but also predicts (incorrectly) such severe problems that no society we know could function if its members actually behaved as the conventional model implies they will. (Margolis 1982: 6)

This quotation gives a succinct statement of the fundamental problem with any narrowly economic model of collective action.

Russell Hardin shares Margolis's doubts about Mancur Olson's economic theory of collective action. 'Under the logic of collective action, we should expect to see very little large-scale collective action motivated by narrow self-interest . . . Yet we know that many large-scale interests are organized' (Hardin 1982: 101). This fact can only be explained by assuming 'extrarational' (non-egoistic) motivations, such as morality, the desire for self-development through participation and ignorance about the relation between costs and benefits (ibid., pp. 102 ff.). All these motivations may be interpreted in a way that make them consonant with Margolis's new model of rational choice.

The final step is taken by Jon Elster, who eventually recognizes the necessity of going beyond not only self-interest, but also utilitarianism and rational choice, in order to explain collective action. If economic man will not cooperate, or only conditionally, large-scale cooperation can only be explained by invoking sociological man. What Elster has to say about sociological man has, of course, been said by sociologists before, but not always with such acumen.[17] Sociologists, naturally, tend to take sociological man as given to analysis. Elster has reached his present position by a different route. He started as a defender of economic man and rational choice and has reached his hard won conclusions by reflection, rather than by education. This fact, together with the unusual ability of this prolific writer, gives a special weight to his argument.[18]

It is Elster's contention that collective action can only be explained by assuming *mixed motivations* (1985b: 141 ff., 1986: 16 ff., 1989a: 187 ff.). Besides self-interest, there are altruism, morality and social norms. Altruism is a psychological motive directed at particular persons, whereas morality consists of general principles (Elster 1985b: 148, 1989a: 47). Elster also makes a distinction between moral and social norms; the former being consequentialist, the latter non-consequentialist (1985b: 145, 1986: 8 f., 1989a: 100 f.). What this means, is that morality is concerned with the outcome of actions, while social norms tell us to act, or not to act, in certain

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ways, irrespective of the result. An alternative way of looking at this distinction would be to treat moral norms as a subclass of social norms; those social norms that are justified in terms of the *Good*, whether it is freedom, justice, equality of some other moral value. In addition, there are other social norms, such as technical norms and mere conventions. The distinctions between altruism, morality and social norms are not sharp. Though different types of motivation, they merge into one another. One reason for this, is that they have a common basis in emotions (cf. Elster 1989a: 99 f., 1989b: ch. 7).

Elster does not attach much importance to altruism in explaining collective action. The reason is that altruism is limited to a close circle of family and friends (1986: 25). Therefore two possible categories of non-selfish motivations remain: morality and social norms. Within these two categories, Elster (1989a: 187 ff.; see also 1985b: 148 ff. and 1986: 8 ff.) recognizes three specific types of special importance for collective action: utilitarianism, everyday Kantianism and the norm of fairness. Utilitarianism is a morality oriented wholly to outcome. It motivates people to participate in collective action if it leads to increasing average benefit. Everyday Kantianism is a blend of morality and social norm, but more of the latter. It is a consequentialist non-consequentialism. It tells people to cooperate unconditionally, because it is their duty to do so. But 'only if universal cooperation is better for everybody than universal defection' (Elster 1989a: 192).[19] The norm of fairness, finally, is conditional upon the cooperation of others. It is a norm against free-riding.

Elster's idea is that these motivations interact and reinforce one another, so that the result is more than the sum of their isolated effects. They do so, in part, by being effective at different stages in the cumulative development of collective action. The explanation of collective action, therefore, requires a sequential model (Elster 1989a: 204–206, 1989b: 132–34). In the beginning only everyday Kantians cooperate, because they alone do so 'unconditionally', or irrespective of success. Everyday Kantians, therefore, are nec-

essary to trigger off collective action. If there are enough Kantians, the utilitarians might find it worthwhile to join, thereby creating the conditions necessary for the norm of fairness to come into play. The norm of fairness, by its very 'logic', functions as a multiplier leading to universal cooperation. This model lacks the simplicity and elegance of most economic models, but, according to Elster, something like this is the best we can hope for, in terms of simplicity at least (1989a: 205). I agree.

7. Experimental evidence

The problem of collective action, especially in the form of a Prisoner's Dilemma, has been subjected to countless experiments. Before considering the results of these experiments, it is important to make the distinction between a 'strong' and a 'weak' version of the free rider hypothesis (Brubaker 1975: 150). According to the strong version, a rational egoist will always free ride, in the absence of coercion, or some other selective incentive. According to the weak version, pubic goods will be provided, but allocation will be suboptimal. The hypothesis suggested by Mancur Olson's free rider argument is the strong version. The hypothesis suggested by his formalism is the weak version, but only for small groups (Olson 1965/1971: 28). Even so, Olson makes room for *some* cooperation also in large groups and in the absence of selective incentives. The argument is that people may prefer to allocate small amounts of time, energy and/or money to public goods, than to take the trouble to make a cost-benefit analysis of their contribution (Olson 1965/71: 164, 1982: 28; cf. Barry 1970/1978: 40 ff.; Hardin 1982: 112–117).

There are two principal ways of solving collective action problems: (1) Changing the situation until the problem disappears (institutional solution). (2) Relying on individuals' capacity for non-egoistic cooperation (motivational solution). Economic theory typically relies on the first type of solution. Critics of this theory, including myself, maintain that motives other than self-interest must be invoked, in order to

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explain all collective action, cooperation and social order there is in the world.

Experimental evidence confirms the importance of institutional solutions. Social structures that facilitate interaction and social control invariably produce more cooperation. The problem with some of this evidence is that it does not discriminate clearly between successful harnessing of self-interest and prosocial behaviour. There is, for instance, very strong evidence for conditional cooperation, both in iterated and in one-shot Prisoner's Dilemmas (see e.g. Pruitt & Kimmel 1977: 375 ff.; Kuhlman et al. 1986: 155; Liebrand 1986: 125; Poppe 1986: 147; Good 1991: 231 f.; Rabbie 1991: 244–260). In iterated games, there is the possibility of punishing defectors, but there is usually no possibility of knowing whether retaliation is motivated by enlightened self-interest or a norm of reciprocity. In one-shot games, retaliation is not possible, but cooperation is still conditional upon the cooperation of others. In this case, too, we do not know whether cooperation is motivated by risk-averse self-interest, or a norm of fairness. There is no doubt, however, that institutional modifications of incentives do have profound, often decisive, effects upon cooperation. My main interest is in motivational solutions. The reason is that only motivational solutions challenge Olson's economic logic of collective action.

People do cooperate, even when rational egoism suggests free-riding. But not all of them do so and not to the same extent. People differ in their propensity to cooperate in social dilemmas,[20] and this propensity reflects their social values and orientations. In order to substantiate this hypothesis W. B. G. Liebrand (1986), classified people in four categories: (1) *altruism*, or the maximization of others' benefit; (2) *cooperation*, or the maximization of joint benefit; (3) *individualism*, or the maximization of own benefit and (4) *competition*, or the maximization of relative advantage. This classification was made prior to, and independent of, the experiment. The hypothesis was tested for three different games: Prisoner's Dilemma, Chicken and Trust (Assurance). A third independent variable was introduced; half

of the experimental subjects were given 'positive feedback', or information that a majority of the other subjects had chosen a cooperative strategy; the other half received 'negative feedback', telling them that a majority had already chosen a defecting strategy.

It was expected, of course, that people classified as altruists and cooperators would cooperate more in a social dilemma than those classified as individualists and competitors. It was further expected that defection would decrease in the game of Chicken and decrease even more in the game of Trust. It was finally expected that positive feedback would lead to increasing cooperation. All three hypotheses were corroborated (Liebrand 1986: 123–125). Altruists and cooperators did cooperate more than individualists and competitors in all three games (0.79 versus 0.60). About half of the experimental subjects cooperated in the Prisoner's Dilemma, two thirds in the game of Chicken and more than 90 per cent in the game of Trust. The effect of feedback was different in the three games, but in the Prisoner's Dilemma, positive feedback resulted in significantly higher cooperation (0.72) than did negative feedback (0.42).[21]

One of the most significant and most consistent results of experimentation over the years is that cooperation increases dramatically if people are allowed to communicate before being subjected to a social dilemma (Dawes 1980: 185 f.; Orbell et al. 1984: 154 f.; van de Kragt et al. 1986: 189; see also Liebrand 1986: 126). David M. Messick and Marilynn Brewer distinguish four different ways in which communication has been shown to facilitate cooperation (Messick & Brewer 1983: 22 ff.): (1) By eliciting *information about the choices of others*, (2) by enhancing *trust in other group members*, (3) by activating *social values and responsibility*, and (4) by creating a *group identity*.

The most systematic attempt to answer the question 'What exactly is achieved by communication' has been made by Dawes, van Kragt et al. As a first step towards an answer, they tried to isolate the effect of prosocial persuasion from that of self-interested institutional rearrangement. This was

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achieved by comparing the separate and combined effects of two conditions: (1) eliminating the possibility of free-riding by using a game of Assurance and (2) allowing group discussion. Both devices contributed equally much to cooperation by themselves, but only their joint presence produced Pareto optimality. In order to eliminate the possibility of punishment, contributions were anonymous and participants did not meet after the experiment. Having eliminated also the possibility that discussion facilitates self-interest by removing the fear of loss, Van de Kragt et al. assume, instead, that it triggers 'group-regarding motivations' (Van de Kragt et al. 1986: 192). This assumption was tried in a new set of conditions removing the relation between contribution and self-interest altogether. Making the bonus of each depend on the contribution of others, only group regardingness could motivate players of the game. Under these conditions too, group discussion had a very strong effect on contributions: they multiplied three times and were almost universal when bonus was made contingent upon the contribution of a designated set of five, out of nine, group members (van de Kragt et al. 1986: 196).

In three subsequent series of experiments, Dawes et al. have continued their attempt to find out, more exactly, why group discussion is so conducive to cooperation. They finally isolate group identity and, connected with it, solidarity as the most important factor (see also, Kramer & Brewer 1986; Rabbie 1991). This conclusion is reached after consideration of four alternative solutions to social dilemmas: (1) Hobbes's centralized Leviathan, (2) Axelrod's reciprocity, (3) Garrett Hardin's 'mutual coercion mutually agree upon' and (4) a socially instilled conscience. I quote:

We have . . . conducted a series of experiments over the past ten years, the results of which have led us, reluctantly at first, to conclude that the cooperation rate can be enhanced in the absence of egoistic incentives . . . Our experiments have led us to conclude that cooperation rates can be radically affected by one factor in particular, which is independent of the consequences for the choosing individual. That factor is group identity. Such

identity – or solidarity – can be established and consequently enhance cooperation in the absence of any expectation of future reciprocity, current rewards or punishment, or even reputational consequences among other group members. Moreover, this identity operates independently of the dictates of conscience. In other words, our experiments indicate that group solidarity increases cooperation independently of the side payments – either external or internal – often associated with such identity. (Dawes et al. 1990: 99)

Of special significance, according to Dawes (1991: 26 f.), is the finding that people cooperate also in one-shot Prisoner's Dilemmas, provided they are allowed to communicate. This is a clear indication that sanctions may not be as important as they are commonly assumed to be. At least as important is the solidarity and mutual trust that develops out of communication.

The evidence mentioned thus far derives from experiments with small groups in a laboratory. This is a problem, because Olson predicts failure of collective action only in large groups. It does not imply, however, that results from small groups are altogether invalidated as a test of Olson's theory. When there is no possibility of social control and the group is not privileged – as it is not in a social dilemma – self-interest dictates free-riding also in small groups. Most experiments fulfil these conditions and count as evidence against the economic logic of collective action. There is also some evidence suggesting that cooperation does not necessarily cease as groups become larger (see, e.g., Bonacich et al. 1976; Liebrand 1986: 128 f.; van der Kragt et al. 1986: 191).

The strongest evidence for cooperation in large groups (80 members), comes from experiments conducted outside the laboratory by Gerald Marwell, Ruth E. Ames and Geraldine Alfano. In these experiments we once again find unequivocal, and for the experimenters unexpected, evidence against the strong version of the free rider hypothesis. In a series of experiments they intended first to corroborate the hypothesis of free-riding in a purely public choice situation and then to change the situation in various ways in order to find out exactly

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what makes people contribute to the provision of public goods. Their hypothesis was refuted in the first experiment. On the average, people allocated almost half of their allotted resources to the provision of the public good, instead of free-riding on the contributions of others (Marwell & Ames 1979: 1349 f.). Replications of the experiment with variations in resources, interests, group size, etc., confirmed the original results. Three variables had an effect on the outcome. When stakes were increased (by a factor of five), contributions to the provision of the public good sank to (on average) a third of people's resources (Marwell & Ames 1980: 933–935). When the public good was changed from a divisible to an indivisible one, contributions increased to 80 per cent of the resources (Alfano & Marwell 1981: 305 ff.).

The experiment by Marwell et al. raises an issue not discussed so far: the relative allocation of resources to public and private goods. The large share allocated to public goods is, of course, the result of the fact that total resources are those allotted to experimental subjects by the experimenters (cf. Kim & Walker 1984: 14 f.). The complementarities between public goods and private goods is a neglected subject that will probably attract the attention of economists more than other social scientists.[22]

There is no doubt that experimental evidence falsifies the strong free rider hypothesis and supports the alternative hypotheses of mixed motivations. Which version of the latter provides the best explanation of collective action is undecidable in the present state of our knowledge. Except for one thing, I tend to believe that Elster's sequential model is the most adequate so far. What is missing in Elster's model is a recognition of the importance of collective identity for an understanding of collective action.[23]

8. Conclusion

Conceived as an explanatory theory, Olson's economic logic of collective action must be considered refuted. Conceived as a heuristic device, it is one of the most fertile suggestions in the history of social science. Subsequent research suggests that size is not always an obstacle to collective action and that free-riding is not always a dominant strategy. In those cases where Olson's logic does apply, selective incentives do not suffice to explain collective action. Motives, other than self-interest, must be part of an adequate explanation of most collective action.

Because of Olson's original formulation of the problem and because of the use of game theory to analyse it, collective action has been seen as a matter of either/or. Once it is accepted, as a matter of course, that people do participate, contribute and cooperate, it becomes possible, once again, to ask 'how much?' and 'under what conditions?'. But this time with a much better understanding of the problem of collective action.

Notes

[1] For a useful restatement, with minor modifications, of the argument of this book, however, see *The Rise and Decline of Nations*, ch. 2.

[2] For a more extensive review of the literature on collective action since the publication of Mancur Olson's *Logic of Collective Action*, see Todd Sandler (1992). Though partly overlapping with my concerns in this article, Sandler's book is addressed primarily to economists and is largely unconcerned with the motivational aspect central to this article.

[3] The original definition of a collective, or public, good is by Paul A. Samuelson. For Samuelson, the important feature of a collective, or public, good, is 'jointness of demand' (1954: 389): 'each individual's consumption of such a good leads to no subtraction from any other individual's consumption of that good . . .' (ibid., p. 387; see also Samuelson 1955; 350).

[4] Michael Taylor (1987: 11) makes a distinction between imperfect jointness, or crowding, and rivalness. If there is crowding, the amount of a collective good available to each individual decreases with increasing group size. If there is rivalness, it is the individual's benefit that decreases. Crowding is objective and rivalness subjective.

[5] This is because of the non-excludability of public goods. If exclusion is possible, cost-sharing is also possible, but then we have a club good rather than a public good. The economic theory of clubs originates with Buchanan (1965a). See also Sandler (1992: 63–75).

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[6] Hardin was not the first to interpret the problem of collective action as an N-person Prisoner's Dilemma. James Buchanan had done this before (Buchanan 1965b: 8, 1968: 87 f.), but it was Hardin who introduced this game theoretic application among political scientists, with definite repercussions for the subsequent analysis of collective action.

[7] Equally important was Thomas C. Schelling's invention of a special diagram to represent a multiple Prisoner's Dilemma (1973, 1978: 217 ff.).

[8] See also Axelrod (1981) and Axelrod & Dion (1988) where further research on the evolution of cooperation is discussed.

[9] See also *The Possibility of Cooperation* (1987), which is a revised edition of *Anarchy and Cooperation*, and 'Cooperation and Rationality: Notes on the Collective Action Problem and Its Solution' (1990), which is based on parts of *The Possibility of Cooperation*.

[10] On nested games, see Heckathorn (1984: 169 ff.) and Tsebelis (1990).

[11] An analysis, similar to that of Taylor, can be found in de Jasay (1989). Instead of relying on iterated Prisoner's Dilemmas, de Jasay denies that public goods problems, generally, or inevitably, have the structure of this game. Hence, 'not subscribe' to the provision of public goods is not necessarily a dominant strategy. The ranking of possible payoffs may form a straddle: while 'not subscribe' is obviously the best alternative if the public good is provided, it may turn into the worst alternative should the public good not be provided. Being a sucker, exploited by free riders, may well be preferable to having to manage without public goods (de Jasay 1989: 137–140). The straddle ranking has much in common with payoffs in the game of chicken, as analysed by Michael Taylor (ibid., pp. 175–179).

[12] The 'game of Assurance' was discussed and baptized by Amartya Sen (1967). In his version of the game, individuals prefer to cooperate and will do so if they are assured that others will do so too. But the payoff structure of this game can be achieved also by technical and institutional means. If a public good is extremely lumpy, it may be the case that it can only be produced if all cooperate (cf. Elster 1985b: 140). An institutional means to create an Assurance game may be a decision rule to the effect that a public good will be provided only if there is unanimous agreement to contribute (cf. Buchanan 1968: 92). In the Assurance game, unlike the Prisoner's Dilemma and the game of Chicken, there is no problem of cooperation, only a problem of information, or coordination.

[13] Taylor (1987: 3 f.) mentions Garrett Hardin's famous 'Tragedy of the Commons' (1968) as an example of a collective action problem which involves no public good – the common, as all natural resources to which there is open access, is divisible.

[14] Bendor & Mookherjee are wrong to attribute to Olson a centralist position. Olson saw the importance of 'social incentives' in small groups and also the possibility of a federalist solution of the collective action problem in large groups (Olson 1965/1971: 62 f.). In fact, Olson argued that large interest groups, such as contemporary labour unions, are only possible by a fusion of small, local, unions (ibid., 66 ff.).

[15] Elinor Ostrom's *Governing the Commons* (1990) is an attempt to break some new ground in the institutional analysis of collective action. It is a study devoted to renewable common pool resources, such as inshore fisheries, groundwater basins, grazing areas, irrigation canals, etc. Firmly rooted in the real world of collective action, Ostrom's study emphasizes the fact that collective action problems differ, but that people have the capacity to restructure the situation in a way conducive to their solution. For a similar emphasis on people's ability to change the conditions of collective action, see Buckley et al. (1974: 278 f., 289 ff.).

[16] It should be pointed out that Mancur Olson, himself, is aware of the problematic tradeoff between parsimony and empirical content, and, therefore, excludes 'moral incentives' (Olson 1965/1971: 61 n.).

[17] I am thinking especially of Elster's effective rebuttal of the various forms of economic reductionism (1989a: 125–151, 1989b: ch. 12, 1989c: 544–550, 1991: 116–126). For an early, but inventive, treatment of the collective action problem, by two sociologists (and one mathematician), see Buckley et al. (1974).

[18] By the same token, I am, of course, obliged to attach special importance to the views of James Coleman and other rational choice sociologists who have abandoned sociological man for economic man. If I am not mistaken, however, the tendency in rational choice sociology is now to reintroduce sociological man.

[19] Everyday Kantianism has a certain affinity with Emile Durkheim's conception of 'morality' and, thereby, with his conception of 'sociological man'. In opposition to Kant, Durkheim (1974: 36) claims that 'the notion of duty does not exhaust the concept of morality. It is impossible for us to carry out an act simply because we are ordered to do so and without consideration of its content. For us to become the agents of an act it must interest our sensibility to a certain extent and appear to us, in some way, *desirable*. Obligation or duty only expresses one aspect abstracted from morality. A certain degree of desirability is another characteristic no less important than the first'.

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[20] The term 'social dilemma' was used by Robyn M. Dawes (1980) to denote a situation with the structure of a Prisoner's Dilemma. It is the term nowadays used by most experimental psychologists when testing hypotheses about cooperation in various game-like situations. Another term, often used by psychologists as an approximate synonym for 'collective action problem' is 'social trap' (Platt 1973).

[21] The results reported by Liebrand were corroborated by Kuhlman et al. (1986). They advance an alternative hypothesis to explain these results, however. The difference, according to them, lies in expectations about the behaviour of others, rather than in motivations. Evidence against this hypothesis is reported by Orbell et al. (1984), who found that cooperators are more loyal to their group than defectors, even when there is the possibility of exit.

[22] A notable exception is the theories of Hirschman and others about cycles of private and public concerns (Hirschman 1982).

[23] Claus Offe and Helmut Wiesenthal have argued that there are 'two logics of collective action': one based on rational egoism, the other on collective identity (Offe & Wiesenthal 1980). Elster is rather dismissive of their analysis as a whole and 'sceptical about the explanatory value of the concept of collective identity' (Elster 1989a: 168).

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