THE PARADOX OF GROUP SIZE IN COLLECTIVE ACTION: A THEORY OF THE CRITICAL MASS. II.*

PAMELA E. OLIVER GERALD MARWELL

University of Wisconsin

Many sociologists incorrectly believe that larger groups are less likely to support collective action than smaller ones. The effect of group size, in fact, depends on costs. If the costs of collective goods rise with the number who share in them, larger groups act less frequently than smaller ones. If the costs vary little with group size, larger groups should exhibit more collective action than smaller ones because larger groups have more resources and are more likely to have a critical mass of highly interested and resourceful actors. The positive effects of group size increase with group heterogeneity and nonrandom social ties. Paradoxically, when groups are heterogeneous, fewer contributors may be needed to provide a good to larger groups, making collective action less complex and less expensive.

Empirical researchers have often found that the size of a group is the best predictor of its level of collective action. Spilerman (1970, p. 654) summarized his analysis of the black riots of the 1960s: "[T]he larger the Negro population, the greater the likelihood of the disorder. Nothing else appears to matter." Scott and El-Assal (1969) found that size of student body was the only significant predictor of demonstrations and other disturbances on college campuses. Interpreting their results, Marwell (1970) argued that the simplest theory would assume that

> a given proportion of students [at all schools] are ready to stage a demonstration in response to certain types of events but . . . this proportion is small. Given that a demonstration is a collective event, it takes some minimum number of such students to get a demonstration off the ground. The larger the university, the greater the chance it has to get a minimum number. (p. 916)

Very large constituencies such as Afro-Americans or women have given rise to much larger social movements in the United States than small constituencies like Armenian-Americans or paraplegics. These empirical findings make a great deal of sense, since larger groups have more resources and more people who might contribute them for collective action.

Nevertheless, many believe on theoretical grounds that it is more difficult for larger groups to sustain voluntary collective action. The major source of this belief is Mancur Olson's *Logic of Collective Action* (1965). Hardin describes Olson's "central conclusion" as "large groups will fail; small groups may succeed (1982, p. 38)."[1]

When theory conflicts with empirical research, the problem usually lies with the theory. Hardin calls Olson's "group size" assertion "the most controversial issue in the contemporary literature on collective action." As he and others have shown, Olson's argument, which seems so plausible at first, does not stand up to close technical analysis. We begin by reviewing the key issue in this dispute, effects of jointness of supply on the size argument.[2] This review suggests a paradox to which we next turn: providing a collective good to a larger interest group may require *fewer* individual contributors. The final section discusses the implications of this paradox by considering it in relation to the social processes underlying the organization of collective action and the conceptualization of the "group" in collective action theory.

Many sociologists have believed that instrumentalist assumptions must be abandoned to account for the obvious inconsistencies between the real world and Olson's "group size" argument, but our analysis of the paradox of group size stays within the instrumentalist framework. We assume that decisions are made

* Direct all correspondence to Pamela E. Oliver, Department of Sociology, University of Wisconsin-Madison, Madison, WI 53706.

This research was supported by National Science Foundation Grant Number SES-8408131.

[1] In the social psychological literature, "diffusion of responsibility" findings also suggest that the presence of others reduces an individual's propensity to assist someone in need (Piliavin, et al. 1981, pp. 120–32; Latane and Nida 1981).

[2] In an earlier draft, we presented a much more abbreviated review of the literature in this area, and found that reviewers and colleagues who were obviously well-read sociologists nevertheless thought that we were misunderstanding Olson. Thus, we feel it is appropriate to provide a thorough treatment of this issue in a sociological journal, even though the relevant arguments have been published by scholars in other disciplines.

consciously with attention to costs and benefits, and that resources are limited. This is a correct, although partial, description of the behavior of people who care about some collective good, have limited resources, and want to "spend wisely" in pursuit of the good. We do not say that people always act out of instrumentalist motives; rather, we show what the consequences will be when they do. We assume that each person can be described by a relatively fixed "potential contribution level." It does not matter to our analysis what individual motives generate these levels, or whether they are the same or different for different people. Solidarity, altruism, or personal morality may all affect the potential contribution level, as may "external" factors such as the intensity of a propaganda campaign or a conversion process.[3]

JOINTNESS OF SUPPLY AND THE GROUP SIZE ARGUMENT

A *public good* is defined by its nonexcludability: if any one group member consumes it, it cannot feasibly be withheld from other group members (Olson 1965, p. 14). Here, a "group" is all individuals in a relevant population who have a positive interest in the good.[4] Anyone who wants to enjoy a public good must be prepared to provide it to everyone in the group.

For Olson, groups come in three theoretically different sizes: *small* or *privileged,* in which some individual may have enough interest in the collective good to provide some level of it himself; *moderate,* in which no individual can provide a significant portion of the good himself, but some individuals can make a "noticeable" difference in the level of provision of the collective good, i.e., affect it enough that it seems to have increased a small amount; and *large,* in which no individual can make even a noticeable difference (p. 44). Although he seems to *define* a large group as one in which no contribution is noticeable (e.g., p. 45), Olson notes that this would be tautological (pp. 48–9n), and recasts his position as "the (surely reasonable) empirical hypothesis that the total costs of the collective goods wanted by large groups are large enough to exceed the value of the small fraction of the total benefit that an individual in a large group would get" (p. 49n). Hence, Olson argues, no rational individual in a large group would ever contribute towards the provision of a public good.

Although this may seem a reasonable empirical hypothesis, it has been well established that Olson's group size argument is either tautological or wrong. Although a variety of critical issues have been raised (Chamberlin 1974; Frohlich and Oppenheimer 1970; McGuire 1974; Oliver 1980), jointness of supply is most important. (See Hardin 1982, pp. 38–49 for a very thorough treatment of this issue.)

A good with *jointness of supply* costs the same no matter how many people "enjoy" it.[5] The classic jointly supplied good is a bridge, which has a fixed cost regardless of how many people use it. The cost of defending a border is roughly the same regardless of how many people are protected within that border. A special interest tax loophole may involve the same lobbying costs whether it benefits one company or a thousand. Jointness of supply can be a matter of degree. A classic private good has zero jointness of supply and a cost which is proportional to the number who enjoy it. A good with pure jointness of supply has all fixed costs and no proportional costs. Between these extremes lie economies of scale, costs that rise less than proportionately with the number who enjoy a good.

Olson discusses jointness of supply in a footnote:

> at least one type of collective good considered here exhibits no jointness whatever, and few if any would have the degree of jointness needed to qualify as pure public goods. Nonetheless, most of the collective goods to be studied here do display a large measure of jointness (p. 14n)

Despite this, Olson never discusses how jointness of supply would affect his group size argument.

To appreciate the significance of jointness of supply for the group size argument, it is crucial to recognize that the relevant cost for collective action is that borne by the collective actors. Even though a tax loophole that applies to many will cost taxpayers more than one that applies to few, what matters is how much the *lobbying* will cost. The cost of cleaning up pollution is roughly proportional to the number of polluters, but the cost of obtaining laws requiring polluters to clean up their own messes is not. Government policy as a public good usually has high jointness of supply. An interest group or social movement campaigns for legislation of benefit to them, but their costs are unaffected by the

[3] We are not claiming that this is the *best* way to capture such feelings, simple that they *can* be incorporated into an instrumentalist model.

[4] This definition of "group," which is fairly standard in economics, is different from that most common in sociology, and is closer to the idea of an "interest group" or "beneficiary constituency" (McCarthy and Zald 1977).

[5] See Samuelson (1954) and Head (1974) for general treatments of public goods.

existence of others who would also be benefited by the legislation.

Zero Jointness of Supply: Group Size Has Negative Effect

Olson's group size argument is clearly correct *only* when the good has zero jointness of supply, i.e., when the cost of providing the good is proportional to the number who share in it. Consider an example loosely drawn from our experience. Imagine that wiring arrangements and university regulations require that all terminals for a departmental computer be placed in public access space and be available to all members of the department. If 50 percent of the department's members want to work at a time, 5 terminals are necessary to provide perfect computer access in a 10-person department, and 50 terminals are necessary for a 100-person department. Suppose individual faculty members are encouraged to buy terminals for the department from their research grants. One terminal is 1/10 of the number necessary in the smaller department, but only 1/100 of the number necessary for the larger department. The individual who buys a terminal raises her own ability to work on the computer whenever she wants to by .1 in the smaller group (since all 10 members have equal access to the terminal), but by only .01 in the larger group, where all 100 members have equal access. If a terminal costs $500, an expected-value maximizer would have to value computer access at more than $5000 to be willing to buy a terminal for the small department, which is bad enough, but would have to value access at $50,000 to be willing to buy a terminal for the larger community. Every increase in group size would lower the expected value of a contribution of a given size or, alternately, raise the price of a given level of provision of the good in terms of individual benefit.

If the cost of a nonexcludable good increases proportionately (or more) with the number who enjoy it, larger groups are much less likely to be provided with the good than smaller groups. This is clearly the situation Olson has in mind in his analysis, and there is nothing wrong with his logic. The trouble is that few collective goods meet this condition. Most goods with no jointness of supply are also quite excludable. We had to invent a nonexcludability constraint in our example. Olson's major example is a group of businesses joining together to restrict production in a perfectly competitive market. This is hardly the kind of "collective action" that interests sociologists and political scientists.

Pure Jointness of Supply: Positive Effect of Group Size

The opposite result obtains when goods have pure, or complete, jointness of supply. Then, larger interest groups are much more likely to have a "critical mass" (Oliver, Marwell, and Teixeira 1985) of people willing to provide the collective good. For any individual deciding whether to contribute to a collective good with pure jointness of supply, it is irrelevant how many others might share in the good. Individuals will provide the good if their own benefit from the good outweighs its cost. We may use another example from our own experience. In the course of this research, we had to purchase a simulation compiler. The license for the compiler is for the whole computer, but we could have placed the compiler in a public access file or in a private file available only to ourselves. Obviously, the fact that others can use the compiler is totally irrelevant to the benefits we obtain from it, so we opted for public access. Because this good has pure jointness of supply, we had absolutely no reason to withhold it from others.

In general, the irrelevance of group size for individuals' decisions when there is pure jointness of supply translates into a positive effect of group size on (1) the probability that *someone* in a group will provide the good, and (2) the total amount of contributions from the group. The only exception to this rule is the extreme (but common) case in which the cost of a collective good is so high relative to the interest and resource distributions of those interested in it that no one in the group is willing or able to provide the good. In this case, group size is irrelevant to the outcome. *There really is a dilemma of collective action for public goods, but the dilemma adheres to the high cost of providing them, not to the number who share in them.*

To illustrate this point, let us look at a case at the opposite extreme. When the cost of the collective good is very low relative to the group's interest, the group's size will have little effect on the probability that *somebody* in the interest group will contribute. But group size will have a positive effect on the total number of contributors and the total amount of their contribution. Consider the problem of providing the collective good of calling the power company to report an outage. Making a phone call entails some cost and will benefit others who have not called. There are doubtless many free riders, and even a "diffusion of responsibility" effect of people assuming that someone else is making a call that they would be perfectly willing to make. Nevertheless, someone nearly always calls, whether the affected group is big or small. In fact, there are almost always quite a few calls made about any particular outage, and the number of calls is usually greater the more people are affected. Although a higher *proportion* of smaller affected populations may call, there is a greater total number of calls, that is, more overall collective *action,* in a larger group.

What about intermediate goods, whose cost is low enough that someone might be willing and able to pay for them, but high enough that this willingness and ability is a relatively rare trait? Continuing with computer examples, consider the problem of paying the fairly large cost of linking a computer installation to a world-wide communication system such as BITNET. Users at each installation vary in their interest (e.g., how much they collaborate with people in other countries) and in their resources (e.g., discretionary grant or overhead funds). Only a few users combine high interest in BITNET with large discretionary funds. For the sake of a model, we assume that the whole fee must be paid out of one user's fund, that only a small proportion of all computer users combine high interest with large funds, and that users are randomly distributed across installations.

We can model this as a large population from which samples of various sizes are drawn. Imagine, for example, a distribution of interest (collaboration) and resources (grants) such that the probability is .01 (i.e., 1 in 100) that an individual from that distribution would be willing and able to provide the collective good (pay the fee). The probability that a sample (installation) of size n will have at least 1 person who exceeds a threshold with probability p is $1 - q^n$, where $q = (1-p)$, while the expected number who will exceed that threshold is np. If the installation size is 10, the expected number of purchasers when p is .01 is .1, and the probability that someone will purchase BITNET rounds off to about .1. That is, only 10 percent of installations of size 10 would be expected to connect to BITNET. If the installation size is 100, the number who can be expected to contribute is 1, and the probability that at least one will do so is about .6, so that 60 percent of all installations of size 100 would be on BITNET. But if the installation size is 1,000, the expected number of users who have both interest and funds is 10, and it is virtually certain that there will be at least one person who will pay for the connection.

Interactions: Group Size and Economies of Scale

Most real cases lie between the extremes of pure and no jointness of supply. They exhibit partial jointness of supply, or economies of scale, in which the cost of the collective good rises less than proportionately with the number who enjoy it. In these intermediate cases, the amount of collective action as a function of group size depends on the interaction between the cost function for the collective good and the distribution of potential contribution levels among members of the group.

These interactions are always specific to a particular case, but we can identify the two important principles that govern them. First, the more the cost function for the collective good approximates jointness of supply, the more likely group size is to have a positive effect on the provision of the good. Secondly, the more heterogeneous and positively skewed the distribution of potential contribution sizes, the more likely group size will have a positive effect on the provision of the good.

These two relations interact. Group size has a positive effect whenever the interest and resource distributions are skewed enough relative to the steepness of the cost function that the effect of enlarging the pool of potential contributors compensates for increased costs. If costs increase only slightly with group size, almost any heterogeneity in contribution levels is enough to make larger groups more successful than smaller ones. If costs increase substantially with group size, however, then larger groups will be less successful unless they are very heterogeneous.[6]

THE PARADOX OF GROUP SIZE AND THE NUMBER OF CONTRIBUTORS

In general, the complex interactions described above are a difficult basis on which to build useful substantive principles. However, they have allowed us to recognize at least one important paradoxical relation that has not previously been appreciated. *When groups are heterogeneous, a larger interest group can have a smaller "critical mass."* That is, when a good has high jointness of supply, it may be provided by fewer people in a larger group than in a smaller group.

There are precursors of this result in the literature. Both Olson, briefly (1965, p. 29), and Hardin, much more extensively (1982, pp. 67–89), argue that group heterogeneity has a positive effect on the prospects for collective action. Hardin gives several examples to show

[6] Using simulations, we have explored these numerical relations extensively. However, we do not think that numerical examples would do much to clarify the substantive meaning of this result. The principles are as we state them in the text, but real world situations differ greatly in the actual forms of the two functions and, thus, differ greatly in the outcome predicted by their interaction.

that the especially interested and resourceful members of an interest group may provide collective goods that benefit many others. He proves that what he calls the "efficacious subgroup" (what we call the critical mass) will be smaller in a more heterogeneous group. We go one step farther and demonstrate that, if groups are heterogeneous, the critical mass will be smaller in a larger interest group.

We may illustrate the paradox with an example. Suppose the users of a computer facility are asked to chip in to buy a $125 software package that will be publicly available. For the moment, ignore the social process problem of coordinating contributions. It happens that the average person is willing to contribute $5. If the group is homogeneous, it takes 25 people to provide the good, a result that is invariant with group size.

In contrast, consider three installations with 100, 1,000, and 10,000 users, in which the distribution of resources among users is *heterogeneous*. Table 1 shows the proportions and actual numbers of users within each of these installations (groups) expected to have each whole number of resource units for two arbitrary distributions. The first is a normal distribution (which is, of course, symmetric), and the second is a moderately skewed lognormal distribution; both have a mean of $5 and a standard deviation of $1.

The data in Table 1 show that, regardless of group size, the simple fact of heterogeneity (around the same mean) reduces the minimum size of the critical mass. Even in the symmetric distribution, the smallest heterogeneous group (100), contains a minimum critical mass of size 20 (1 person contributing $8, 6 contributing $7, and 13 contributing $6), 5 less than the 25 contributors needed under homogeneity. This

Table 1. Computation of Critical Mass for Two Distributions (Normal and Lognormal with Mean 5 and Standard Deviation 1) and Three Group Sizes (100, 1,000, and 10,000)

A. Expected Numbers of Individuals Willing to Make Each Size Contribution. Rounded to Integers.

		Normal				Lognormal		
Value	Prob.	*E*(100)	*E*(1,000)	*E*(10,000)	Prob.	*E*(100)	*E*(1,000)	*E*(10,000)
0	.0000	0	0	0	.0000	0	0	0
1	.0002	0	0	2	.0046	0	5	46
2	.0060	1	6	60	.0747	7	75	747
3	.0606	6	61	606	.1877	19	188	1,877
4	.2417	24	242	2,417	.2197	22	220	2,197
5	.3829	38	383	3,829	.1821	18	182	1,821
6	.2417	24	242	2,417	.1273	13	127	1,273
7	.0606	6	61	606	.0815	8	81	815
8	.0060	1	6	60	.0497	5	50	497
9	.0002	0	0	2	.0296	3	30	296
10	.0000	0	0	0	.0175	2	17	175
11					.0103	1	10	103
12					.0061	1	6	61
13					.0036	0	4	36
14					.0022	0	2	22
15					.0013	0	1	13
16					.0008	0	1	8
17					.0005	0	1	5
18					.0003	0	0	3
19					.0002	0	0	2
20					.0001	0	0	1
21					.00008	0	0	1
22					.00005	0	0	1
23					.00003	0	0	0
24					.00002	0	0	0
25					.00001	0	0	0

B. Computation of Size of Critical Mass.

Distribution	Group Size	Size of Critical Mass	Detail
Normal	100	20	1 @ 8; 6 @ 7; 12 @ 6; 1 @ 3.
Normal	1,000	17	6 @ 8; 11 @ 7.
Normal	10,000	16	2 @ 9; 13 @ 8; 1 @ 3.
Lognormal	100	15	1 @ 12; 1 @ 11; 2 @ 10; 3 @ 9; 5 @ 8; 2 @ 7; 1 @ 1.
Lognormal	1,000	9	1 @ 17; 1 @ 16; 1 @ 15; 2 @ 14; 3 @ 13; 1 @ 10.
Lognormal	10,000	7	1 @ 22; 1 @ 21; 1 @ 20; 2 @ 19; 1 @ 18; 1 @ 6.

minimum number declines slightly with the group size: to 17 for the installation with 1,000 users, and to 16 for the largest group of 10,000 members.

This pattern is more pronounced when the resource distribution is more skewed. For the moderately skewed distribution in this example, the minimum number of contributors is 15 for the smallest group, 9 for the medium-sized group, and 7 for the largest group. Extremely skewed distributions, in which some members might be willing and able to contribute 100 times more than the mean of all others, would show even more pronounced effects, so that one or two people might be able to provide the good for the whole group.

It should be clear that this pattern is not dependent on any particular distribution, but rather may arise whenever a group is heterogeneous in the sizes of its members' potential contributions. The mechanism causing the paradox is really very simple: the expected number of individuals willing and able to give at any specific contribution level will always be higher for a larger group. Since collective goods with pure jointness of supply have a fixed cost that does not vary with the size of the group enjoying the good, the greater expected number of large contributors in a larger group means that, in general, fewer people will be needed to achieve a given *total contribution* size than in a small group.

GROUP SIZE AND THE SOCIAL PROCESSES FOR COLLECTIVE ACTION

Olson is right: there are many public goods which will never be provided by individuals acting in independent isolation. However, Olson argues that, even if we allow for social processes, the group size effect would obtain, since such social processes, as well as feelings of group solidarity, are more likely to overcome the collective dilemma in "moderate" sized groups than in large ones (p. 48). This argument is seriously flawed by a floating conception of what the "group" is. When a good has jointness of supply, it is irrelevant to those who contribute how many others there are "out there" in the interest group who might benefit. When a "social" solution to the collective dilemma is required, what matters is the relationship among the possible contributors in the critical mass, not the relationship among everyone in the interest group. Paradoxically, the size of the critical mass will be smaller when the size of the interest group is larger, and social processes may be *more* beneficial in larger interest groups.

Because larger interest groups have more total resources, they are generally more likely to have the *possibility* for a successful collective action. Especially when goods have high and "lumpy" costs (i.e., where a large minimum amount is needed to provide any of the good, such as a bridge), smaller interest groups may be simply unable to supply enough resources, no matter how well they organize. Where a larger group might need to mobilize only 5 percent of its potentially available resources to provide a good, the smaller group might require 100 percent of its resources, or more.

There are doubtless some small interest groups with the kind of social structure that would permit them to mobilize 100 percent of their members to action, and it is likely to be very exciting when it happens. But it is probably more common to see a critical mass coalesce within a larger interest group. There are costs to organizing and coordinating contributions by a number of people, and those costs are usually higher the more contributors there are involved. Thus, it will generally be much easier and cheaper to organize a collective action involving a small number of contributors from within a large interest group than one involving a larger number of contributors from within a small interest group.

Of course, it may be especially difficult and costly for the small number of potential contributors in a very large interest group to find one another and coordinate their actions. If society were organized randomly, this would always be a serious problem for collective actors. If social ties were distributed randomly across a large city, it would be unlikely that the five people who would be willing to contribute $1 million each to a geology museum, or the ten people who would be willing to devote six months of their lives to organizing a nuclear freeze campaign, would ever meet. In fact, the real world surely contains many "interests" whose distributions are essentially random, and about which collective action is very unlikely. But randomness is *not* the rule. Especially wealthy people know most of the other especially wealthy people. Potential political activists associate themselves with events and organizations expressing their political concerns. City residents who would be most harmed by a proposed expressway live near each other, in its path.

The problem of collective action is not whether it is possible to mobilize every single person who would be benefited by a collective good. It is not whether it is possible to mobilize everyone who would be willing to be mobilized. It is not even whether all the members of some organization or social network can be mobilized. Rather, the issue is whether there is some social mechanism that connects enough people who have the appropriate interests and resources so that they can act. It is whether there is an organization or social network that has a *subset* of individuals who are interested and resourceful enough to provide the good when they act in concert, and whether they have sufficient social organization among themselves to act together.

In one sense, our argument is that Olson's "large group" problem is resolved by the "small group" solution. Olson is right in saying that collective action almost never takes the form of small, unnoticeable contributions from thousands or millions of isolated individuals. If everybody's interest or resources are equally small, collective action will generally not happen, no matter how big or small the interest group. Collective action arises around those interests for which there are a group of especially interested and resourceful individuals who are socially connected to one another. (For a much fuller analysis of the effects of social ties within groups, see Marwell, Oliver, and Prahl, forthcoming.)

The small number of wealthy people are able to act collectively to get what they want not because there are few of them, but because they are wealthy. Resources and interests being equal, movements on behalf of very large constituencies often are more successful than movements on behalf of tiny minorities. Large interest groups do sustain more collective action then smaller ones, when costs are equal and the individuals in the groups have comparable interest and resource levels. Resources and social organization are the problem, *not* group size. If a group is heterogeneous enough that it contains a critical mass who can make large contributions, and if those members are socially connected to one another so that they can act in concert, collective action *is* possible and *more* likely in larger groups.

Our theoretical analysis is consistent with much recent empirical scholarship on social movements. It is never the case that all women (Freeman 1983), all blacks (Morris 1981, 1984), everyone opposed to the reopening of the Three Mile Island reactor (Walsh and Warland 1983), everyone for a clean environment (Mitchell 1979), or all northern whites concerned about voting rights in the South (McAdam 1986) are mobilized, nor is the existence of a large mass of "free riders" any particular hindrance to the mobilization or success of a movement. In fact, public opinion polls identifying large pools of nonactivist adherents to a cause tend to help the cause, not hurt it. What matters for successful mobilization is that there be enough people who *are* willing to participate and who are also reachable through social-influence networks. Empirical accounts of actual social movements and movement organizations show over and over that most of the action originates from a relatively small number of extremely active participants.

The "free rider" dilemma, correctly analyzed, is the problem of not being able to make a big enough difference in the outcome to compensate for the costs one bears. Thus understood, the theory of collective action does not predict that collective action will *never* occur, but rather that it will not take the form of small isolated contributions. Instead, the theory of collective action explains why most action comes from a relatively small number of participants who make such big contributions to the cause that they know (or think they know) they can "make a difference." In social movements, these contributions are usually time and energy, not money.

Theory and empirical research also agree in tending to discount the causal significance of the size of the aggrieved population as a direct determinant of collective action. Current research stresses the importance of social networks and organizational resources among some interested subset of the population, coupled with "political opportunities" created through party politics (e.g. McAdam 1982; Jenkins 1987). Full-time professional activists (McCarthy and Zald 1973, 1977) are also seen as important, although less so than several years ago.

Let us not, however, conclude that the masses are irrelevant for collective action. We have shown theoretically that larger groups *should be* more likely to give rise to collective action than smaller ones (given the jointness of supply of so many collective goods), and it is empirically true that very large social movements tend to arise from very large mass bases. However, undifferentiated impoverished masses do not usually support social movements. What seems to be critical is the presence of a *minority of the aggrieved population* who are well educated or especially politically conscious, who have high discretionary time, or who are economically independent of the oppressors.[7] Larger populations are likely to have larger numbers of these "unusual" members, and the size of their potential contributions is likely to be larger.

The more obvious effect of interest-group size is also important: larger populations generally have more total resources than smaller ones. This has frequently been ignored by those who are theoretically sophisticated, because it is understood that those resources do not automat-

[7] Perhaps we should cite Lenin on this point, as well as the social movements literature. We should stress that we are emphasizing the theoretical importance of differentiation *within* the aggrieved population, which is very different from an "external resources" argument, which has fared badly empirically (e.g. McAdam 1982; Jenkins and Eckert 1986).

ically or easily become contributions. But one thing the small critical mass of large contributors can do is invest time, energy, and money in organizing and coordinating events that draw in and make use of small contributions. The critical mass can use preexisting organizations and networks to create the social conditions under which small contributors will participate in a march or demonstration. They can pay the overhead for large mass mailings to solicit small monetary contributions under circumstances that make the donors' costs low relative to their psychic "benefits" (see Oliver and Furman forthcoming for more discussion). The larger the total size of the interest group, the larger the potential gain from either of these strategies.

As a final note, it is important that our argument not be read only as a critique of Olson. Instead, we have tried to constructively describe *how* group size affects the prospects for collective action. Of course, the kind of cost/benefit considerations we analyze are not all that are involved in collective action. But if we understand how the cost structure of a good, and the distribution of resources and interest across the pool of people interested in that good, interact with the size of the group to produce structural constraints on the possibilities for action, we can use this information as a baseline for investigating the effects of other factors on the prospects for collective action. The time is long past for sociologists to stop debating whether free riding does or does not occur (sometimes it does and sometimes it does not) and get on with specifying the conditions that favor or hinder collective action.

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