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# Crowding out Citizenship[1]

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The currently accepted theory of collective action presumes that individuals are helplessly trapped in social dilemmas. This has led to a form of policy analysis that presumes external authorities must solve all collective-action problems. The presumed universal need for externally implemented incentives is based, however, on a single model of rational behavior. This model has been shown to be an inadequate foundation to explain extensive empirical findings from the field and the experimental laboratory related to nonmarket settings. Thus, it is necessary to adopt a broader theory of human behavior that posits multiple types of individuals – including rational egoists as well as conditional cooperators – and examines how the contexts of collective action affect the mix of individuals involved. I will briefly review the empirical evidence related to intrinsic motivations and how external incentives may crowd out or crowd in behaviors that are based on intrinsic preferences. I then discuss the delicate problem of designing institutions that enhance citizenship rather than crowding it out. The penchant for neat, orderly hierarchical systems needs to be replaced with a recognition that complex, polycentric systems are needed to cope effectively with complex problems of modern life and to give all citizens a more effective role in the governance of democratic societies.

## I. The Zero Contribution Thesis

'Indeed, 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 interests*' (Olson 1965, 2, author's emphasis). With this oft-cited statement – which I call the zero contribution thesis – Mancur Olson kicked off an active and exciting debate about the foundation of social order in modern societies (Hardin 1971, 1982). This fertile and wide-ranging research program has been of central interest to all of the social sciences.

In the currently accepted theory of collective action, the temptation to free ride – to receive benefits without paying costs – prevents individuals from voluntarily contributing to joint efforts in groups without selective benefits. And creating rules that induce contributions is itself a second-

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order social dilemma not likely to be solved by those mired in their inability to solve the first-order problem (Oliver 1980). Enforcing these rules would be a third-order social dilemma – costly to those who impose punishments on others and generating benefits of compliance that everyone, even free riders, would receive. If those facing a first-order dilemma are incapable of overcoming the temptation to free ride, they certainly would not overcome the second-order and third-order dilemmas necessary to extract themselves from the initial problem. This result – coming so soon after the parallel result in the Prisoner's Dilemma (PD) game – stimulated an immense outpouring of theoretical and empirical research largely to demonstrate that the theory was wrong (see Lichbach 1995; 1996). That rational individuals could generate an irrational outcome from the perspective of society has been deeply disturbing to scholars who were interested in economic, political, and social orders (Barry & Hardin 1982).

Field research has confirmed that free riding is a potential problem whenever individuals cannot be excluded from receiving the benefits of others' contributions to joint outcomes. A major result of Olson's work has been the permanent and healthy alteration of the then existing Panglossian view that groups will self-organize whenever it is in their joint interest to do so. On the other hand, field research has also challenged the now standard theory that without selective benefits no one in a large group will 'act to achieve their common or group interests.' Mara Loveman (1998) vividly documents how brave individuals have formed human rights organizations in Latin American countries governed by military dictatorships. The former governor of Buenos Aires, for example, is reported to have said, 'First we will kill all the subversives; then we will kill their collaborators; then their sympathizers; then the indifferent, and finally, the timid' (quoted in Loveman 1998, 477). The message is patently clear. Acting to achieve common interests would have fatal consequences. To organize the human rights organizations documented by Loveman in the face of such threats cannot be explained by the standard theory of collective action.

Nor can the standard theory explain how organizations of concord – organizations that bring together members of groups who have fundamentally opposing views – could have been formed and achieve successful outcomes. Yet Kaboolian and Nelson (1998) document the meta rules used by such groups including the Columbia Interfaith Centers, which bring members of all religions together, and the Common Ground for Life and Choice, which brings activists together who have opposing views related to abortion. Such groups must overcome their strongly opposing views to work toward a more peaceful and respectful way of living in the same community.

From these and many studies of successful efforts to self-organize to provide public goods and solve common-pool resource problems (see studies

summarized in Ostrom 1990), one is forced to conclude that Olson's initial negative result is not as general as he originally stated. Too many empirical cases exist where participants have voluntarily overcome the temptation to free ride on the provision of a collective good. Nor can one simply retreat to the earlier view that groups will voluntarily organize when collective benefits can be achieved. Too many empirical cases exist where the problems of overcoming free riding have proved too substantial and collective action has failed to emerge or has faltered after initial successes.

Instead of one simple and general theory of collective action based on a narrow, rational-choice model of human behavior, social scientists are in the midst of developing a family of collective-action theories based on four general building blocks: (1) a broader theory of human behavior, (2) the study of multiple types of collective goods, (3) the attributes of groups that affect individual behavior, and (4) the study of diverse rules as they affect individual incentives and behavior (Ostrom 1999c). Here I will discuss two of these building blocks – a broader theory of human behavior and the impact of diverse exogenously and endogenously designed and enforced rules.

While many social scientists are still challenging and reformulating the theory of collective action, the zero contribution thesis has become widely accepted in public policy textbooks and by public officials as the foundation for contemporary policies. Centrally designed and externally implemented rule-based incentives – both positive and negative – are seen as universally needed to overcome all types of social dilemmas. Leviathan is alive and well in our policy textbooks. The state is viewed as a substitute for the shortcomings of individual behavior and the presumed failure of community. The universal need for externally implemented incentives is based, however, on a single model of rational behavior which presumes short-term, self-interested pursuit of material outcomes as the only mode of behavior adopted by individuals. It is this model, as I will discuss in section II, that has been shown to be an inadequate foundation to explain extensive empirical research. Thus, it is necessary to adopt a broader theory of human behavior which posits multiple types of individuals – including rational egoists as well as conditional cooperators – and examines how the contexts of collective action affect the mix of individuals involved.

In section III, I will briefly review the evidence regarding intrinsic motivations and the need to consider the presence of multiple types of players. The evidence shows that in some settings – particularly those where individuals lose a sense of control over their own fate – providing external inducements to contribute to collective benefits may actually produce counterintentional consequences. External incentives may crowd out behaviors that are based on intrinsic preferences so that lower levels of contributions are achieved with the incentives than would be achieved

without them (Frey 1994; 1997). External incentives may also crowd in behaviors based on intrinsic preferences and enhance what could have been achieved without these incentives.

In section IV, I will then discuss the delicate problem of designing institutions that enhance citizenship rather than crowding it out. Instead of relying on the state as the central, top-down substitute for all public problem solving, it is necessary to design complex, polycentric orders that involve both public governance mechanisms and private market and community institutions that complement each other (see McGinnis 1999a; 1999b; forthcoming). Reliance primarily on national governments crowds out public and private problem solving at regional and local levels (as the opposite would do if radical decentralization were adopted). Effective institutional designs create complex, multitiered systems with some levels of duplication, overlap, and contestation. The policy analyst's penchant for neat, orderly hierarchical systems needs to be replaced with a recognition that complex, polycentric systems are needed to cope effectively with complex problems of modern life.

## II. Testing the Predictions of the Standard Model of Rational Choice

One of the great advantages of contemporary game theory and formal models of collective-action theory is that they generate clear predictions of expected behavior in specific types of situations. Given precise models of collective-action situations and clear predictions of expected behavior, it is then possible to set up experimental laboratory designs that enable one to test the empirical veracity of the predictions. Given the substantial methodological advances in conducting experimental laboratory research (Smith 1982; Plott 1979), this method has become a useful tool for social scientists in the testing of theories and the replication of findings by multiple scholars in diverse cultures. Experimental research related to the theory of collective action has generated very clear predictions that have repeatedly been challenged in the lab. Let us briefly discuss two related predictions and results.

### *Predictions and Empirical Results from Linear Public Good Games*

When individuals are in a one-shot linear public good situation, each individual can choose between contributing nothing to the provision of a benefit that all will share or contributing some portion of a given endowment of assets. Each individual is predicted to contribute zero assets. When

the game is repeated a finite number of times, each individual will contribute zero assets in the last round, and because of backward induction each individual is predicted to contribute zero assets in each and every round leading up to the final round.

Not only do we have evidence from many field settings that individuals do – as described in the introduction – contribute to the provision of public goods, there is similar evidence from a large number of carefully controlled laboratory experiments. Between 40 and 60 percent of subjects in a one-shot, linear public good situation contribute assets to the provision of a public good (Dawes et al. 1977; Isaac et al. 1984; Davis & Holt 1993; Ledyard 1995; Offerman 1997). About the same percentages of subjects contribute tokens in the first round of a finitely repeated public good experiment. The rate of contribution, however, decays over time, approaching but never reaching the predicted zero level (Isaac & Walker 1988). Because of the decay toward zero contributions in experiments lasting ten rounds, an initial reaction by theorists was that it took subjects ten rounds to learn the rational way to play the game. Subsequent experiments extended the preannounced time horizon to 20, 40, and 60 repetitions. These showed that subjects tended to keep cooperation levels varying in the 30–50 percent range for long sequences of time and that the decay toward zero contributions did not occur until very soon before the final round (Isaac et al. 1994).

### *Predictions and Empirical Evidence Related to Second-Level and Third-Level Social Dilemmas*

Not only is there a clear prediction concerning the lack of provision in public good situations; participants are viewed as helpless in getting out of such situations. An effort to arrive at an agreement for determining how much of a public good should be provided and how the costs of provision should be shared would take time and effort to achieve. Once achieved, everyone would benefit whether or not they had contributed to the design of such an agreement. Thus, the prediction is that no one would participate in the effort to extract themselves from the initial dilemma. Further, monitoring conformance to such an agreement and sanctioning those who did not do their agreed-upon share would be costly for those who might think about undertaking such an activity. Again, everyone would benefit from such activities whether or not they had contributed. Thus, no one is expected to invest any of their own resources in monitoring and sanctioning activities.

In experiments where subjects are offered an opportunity to pay a fee in order to assess a fine against someone else, subjects are willing to use costly punishment to deter noncooperators (Ostrom et al. 1992; Fehr & Gächter

1998; Yamagishi 1986). As observed in field settings, subjects in a lab are rather indignant and angry at others who do not do their share in protecting a common-pool resource or providing a public good. They are willing to give up costly resources to sanction noncooperators.

Further, individuals are willing to invest substantial time and energy in both experimental and field settings in designing and adapting rules so that they can achieve collective outcomes. In field settings, the time and effort may be substantial (Ostrom 1999b; Lam 1998; Tang 1992). When local users feel a sense of ownership and dependence on a local resource, many of them invest intensively in designing and implementing ingenious local institutions – some of which are sustained for many centuries (Ostrom 1990).

## III. Intrinsic Preferences and Multiple Types of Players

These and other closely related empirical findings (see Ostrom 1998; forthcoming) consistently challenge predictions based on a presumption that all individuals can be characterized by a single model of rational behavior when they interact outside a highly competitive market setting. It is thus necessary to reconstruct our basic theories of collective action and to assume that at least some participants are not rational egoists (Sen 1977). At least some individuals in social dilemma situations follow norms of behavior – such as those of reciprocity, fairness, and trustworthiness – that lead them to take actions that are directly contrary to those predicted by contemporary rational choice theory. In other words, the behavior of many individuals is based on intrinsic preferences related to how they prefer to behave (and would like others to behave) in situations requiring collective action to achieve benefits or avoid harms. Intrinsic preferences lead some individuals to be conditional cooperators – willing to contribute to collective action so long as others also contribute. Intrinsic preferences transform some dilemmas into assurance games where there are two equilibria and not just one (Chong 1991; Sen 1974). On the other hand, some individuals do behave in a manner that closely approximates the prediction for how rational egoists will behave. Thus, one needs to assume multiple types of actors rather than only rational egoists.

Recent developments using an indirect evolutionary theory provide clearly developed theoretical tools that can be used to model situations where rational egoists interact with conditional cooperators in social dilemma situations (see Güth & Yaari 1992; Güth 1995; Güth & Kliemt 1998). In situations where individuals have complete information about each other's type and can choose with whom they will interact over time, conditional cooperators will consistently do better than rational egoists. They are able to solve a diversity of collective-action problems with those

who also share similar norms. By knowing the type of individuals with whom they interact, they can gain benefits unachievable by rational egoists while avoiding paying costs that others do not share and therefore ending up being a 'sucker.' On the other hand, in situations where individuals have no information about each other's type, rational egoists will continuously do better than conditional cooperators (Ostrom forthcoming).

In many ongoing field situations, humans do obtain considerable information about each other and are able to engage in collective action with those that they estimate share similar norms. In such situations, some rational egoists will survive along with conditional cooperators so that it is not possible to rely only on the intrinsic motivation of all participants to cooperate. Intrinsic motivation needs to be backed up by institutions that enable those motivated to solve problems while protecting them from free riders and untrustworthy partners.

Evidence that institutions can crowd out intrinsic motivations (as well as crowding them in) has been mounting over the three decades since Titmuss (1970) first raised this possibility. Psychological research provides evidence that intrinsic motivation is diminished when individuals feel that their own self-determination or self-esteem is adversely affected (Deci & Ryan 1985; Deci et al. 1999). In a recent review of this theory, Frey and Jegen (1999, 7) identify the psychological conditions in which crowding out or crowding in is likely to occur:

1. External interventions crowd out intrinsic motivation if the individuals affected perceive them to be controlling. In that case, both self-determination and self-esteem suffer, and the individuals react by reducing their intrinsic motivation in the activity controlled.
2. External interventions crowd in intrinsic motivation if the individuals concerned perceive it as supportive. In that case, self-esteem is fostered, and the individuals feel that they are given more freedom to act, which enlarges self-determination.

A recent meta-analysis of 128 laboratory studies that have explored the effect of extrinsic rewards on intrinsic motivation found that tangible rewards tend to have a substantially negative effect on intrinsic motivation (Deci et al. 1999). As the authors conclude:

> Although rewards can control people's behavior – indeed, that is presumably why they are so widely advocated – the primary negative effect of rewards is that they tend to forestall self-regulation. In other words, reward contingencies undermine people's taking responsibility for motivating or regulating themselves. When institutions – families, schools, businesses, and athletic teams, for example – focus on the short-term and opt for controlling people's behavior, they may be having a substantially negative long-term effect. (Deci et al. 1999, 659)

There are obviously many interactions where 'controlling people's behavior' is what is desirable. Individuals in their role as citizens are not,

however, someone else's employees or agents. Intrinsic values are important sources of citizens' motivation to participate in political life by volunteering to do community service, finding solutions to community problems, and paying taxes. In a fascinating study of citizens' willingness to accept a nuclear waste repository in their community – an example of a classic NIMBY (not in my back yard) problem – Frey and Oberholzer-Gee (1997) conducted a survey of citizens in a region of Switzerland where officials were attempting to find a location for such a facility. Respondents were initially asked if they were willing to accept a facility in their community. About half (50.8 percent) of the respondents indicated a willingness to have a nuclear waste facility in their community. When the same respondents were asked their willingness to accept such a facility if the Swiss parliament offered substantial compensation to all residents of the community that accepted the facility, the level of willingness dropped dramatically to 24.6 percent. Being offered a financial reward to accept a NIMBY-type project thus led one-quarter of the respondents to change their minds and oppose the siting of the facility in their community.

Three important lessons can be derived from recent theoretical and empirical research based on an assumption of multiple types of players including rational egoists and conditional cooperators who have adopted norms of fairness, reciprocity, and trust. The first lesson is that many individuals are motivated by social norms that affect intrinsic motivation. Second, it is possible for individuals who adopt these norms to survive in repeated situations where they face rational egoists as well as others who share similar norms. And, so long as they can identify one another, trustworthy fair reciprocators achieve higher material rewards over time than do rational egoists. In other words, they can flourish. The third lesson is that achieving some reliable information about the trustworthiness of others is crucial to this accomplishment. Consequently, institutions that enhance the level of information that participants obtain about one another are essential to increase the capacity of individuals to solve collective-action problems. Information rules are as important (or more so) in solving collective-action problems than are changing payoff rules, but payoff rules have been the primary focus of considerable public policy. This is not the only problem, however, with the types of public policies that have been recommended, and in some cases implemented, based on currently accepted theory.

## IV. Public Policies Based on the Extant Theory of Collective Inaction

The theory of collective inaction articulated in 1965 by Mancur Olson was reinforced by the powerful metaphor of the 'tragedy of the commons' arti-

culated by Garrett Hardin in 1968 and by considerable work in noncooperative game theory examining various collective-action problems related both to public goods and to common-pool resource problems. The 1960s and 1970s were an era in which considerable faith existed in the capacity of strong, national governments to solve both social and environmental problems through the application of rational planning and the design of incentives to induce positive and deter negative behavior. Many national policies – especially in developing countries – were adopted on the presumption that local users of natural resources were unable to cope effectively with the governance and management of local forests, water resources, wildlife, and fisheries (Gibson 1999; Arnold 1998). In many countries, control over natural resources was turned over to a national bureaucracy charged with the responsibility of devising efficient and effective ways of utilizing these resources at the same time as sustaining their long-term productivity (Bromley et al. 1992; Agrawal 1999).

In many settings where individuals have managed small- to medium-sized resources for centuries, drawing on local knowledge and locally crafted institutions, their disempowerment led to a worsening of environmental problems rather than to their betterment (Finlayson & McCay 1998; Wunsch & Olowu 1995; Shivakoti & Ostrom forthcoming). Weak, and frequently corrupt, bureaucratic agencies were not able to monitor use of these resources effectively, let alone devise effective plans for their long-term sustainability (Repetto 1986). What had been de facto community property became de jure government property. In reality, it then became de facto open access and unregulated property (Bromley et al. 1992). Furthermore, citizens are effectively told two rather devastating messages in regard to the long-term development and sustenance of a democratic society.

First, public pronouncements stress that only short-term selfish actions are expected from 'the common people.' When this is the case, solving collective-action problems requires public policies that are based on externally designed and monitored inducements. What we know from social psychological research, however, is that external inducements tend to crowd out intrinsic motivations when individuals feel like they have lost control. Or, as Bruno Frey (1997, 44) has stressed, 'a constitution designed for knaves tends to drive out civic virtues.' When intrinsic motivations are crowded out, substantially more resources are required to induce effort than when incentives support a sense of control and reliance on intrinsic as well as material incentives. When citizens feel a moral obligation to pay their taxes, it is possible to design a tax collection service that keeps collection costs at a low level. An effective tax system, however, requires that most citizens accept the norm that they should pay taxes. To achieve this objective over the long run, the tax system must function in a fair manner and citizens must be able to trust that others are also contributing their fair share (Rothstein 1998).

The second message contained in the policy literature is that citizens do not have the knowledge or skills needed to design appropriate institutions to overcome collective-action problems. Professional planners are, on the other hand, assumed to have the skills to analyze complex problems, design optimal policies, and implement these policies. Citizens are effectively told that they should be passive observers in the process of design and implementation of effective public policy. The role of citizenship is reduced to voting every few years between competing teams of political leaders. Citizens are then supposed to sit back and leave the driving of the political system to the experts hired by these political leaders. Let us briefly examine how realistic is the assumption that national officials can actually select optimal policies for the regulation of natural resources.

Over the last 15 years, we have collected thousands of written cases of resources managed by local users of inshore fisheries, irrigation systems, and grazing lands (Schlager 1994; Schlager & Ostrom 1992; Blomquist 1992; Agrawal 1994; Ostrom et al. 1994; Tang 1992; Lam 1998; Hess 1999). We are now engaged in a massive ten-country comparative-over-time study of diverse forest institutions (Gibson et al. forthcoming). We are paying particular attention to the specific rules that individuals use to regulate entry and allocate uses of local resources. What we learn from this research is the huge variety of rules that are used in practice – many combinations of which are successful.

For example, we have identified 27 different types of boundary rules used by self-organized resource regimes (for specifics, see Ostrom 1999a). Many of these rules enhance the likelihood that individuals know each other and will be engaged with one another over the long term. In other words, the endogenously designed rules enhance the conditions needed to solve collective-action problems. We have also identified over 100 authority rules used to allocate the right of resource users to the flow from a resource system (ibid.). Many of these rules focus on time, space, and technology rather than on the quantity of resource flow allocated. Consequently, these rules increase the information that individuals obtain about the actions taken by others at a low cost. Compliance rates are increased when individuals feel that others too are following the rules.

The policy of assigning all authority to a central agency to design rules is based on a false conception that there are only a few rules that need to be considered and that only experts know these options and can design optimal policies. Our empirical research strongly challenges this presumption. There are thousands of individual rules that can be used to manage resources. No one, including a scientifically trained, professional staff, can do a complete analysis.

All policies need to be viewed as experiments (Campbell 1969). The possibility of errors is always present given human limitations. Thus, creating

some redundancy in the design of rules for well-bounded local resources (or communities) encourages the considerable experimentation that is essential to discover some of the more successful combinations of rule systems. Further, ecological systems vary from one place to another and one mix of species to another. The combination of rules that works well for lobster fisheries may be a disaster for deep-sea fisheries (and vice versa). A good combination of rules for a river system that has multiple regulatory devices, such as dams, may be a disaster for an ordinary river system, and vice versa.

Thus, instead of proposing highly centralized governance systems, the best empirical evidence we can bring to bear on the question of building sustainable democratic systems for sustainable resource use is to design polycentric systems (V. Ostrom 1987, 1997). A polycentric system has semiautonomous units of governance (some of which may be in the private sector) located at small, regional, national, and now international scales of organization (Keohane & Ostrom 1995). Having only a decentralized system of small local units can lead to small-scale tyrannies. Large-scale, overlapping units are an essential part of a modern democratic system. But so are smaller- to medium-scale units a necessary part of an overall polycentric system.

Modern policy analysis needs to catch up with contemporary empirical research. The two implicit messages of public policy analysis are not only inefficient and ineffective, they are dangerous for the long-term sustainability of democratic systems of governance. The first undermines the normative foundations of a free society. The message basically says that it is okay to be narrowly self-interested and to wait for positive or negative inducements to action. The second undermines the positive foundations of a free society by destroying the capacity of citizens to experiment with diverse ways of coping with multiple problems and to learn from this experimentation over time. The message basically says that there is one best way of solving all collective-action problems and it is knowable by the experts. Citizens are viewed as having little to contribute to the design of public policies.

Thus, much of contemporary policy analysis and the policies adopted in many modern democracies crowd out citizenship. They do this by crowding out norms of trust and reciprocity and by crowding out the knowledge of local circumstances and the experimentation needed to design effective institutions. Crowding out citizenship is a waste of human and material resources and challenges the sustainability of democratic institutions over time.

NOTE

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