1 DESIGNING INSTITUTIONS

1-1 The Logic of Collective Action

Mancur Olson Jr.

With the publication of The Logic of Collective Action *in 1965, Mancur Olson Jr. introduced the fundamental dilemma of collective action to all who study politics. When members of a group agree to work together to achieve a collective goal, each member as an individual faces powerful disincentives, Olson showed, that can frustrate the efforts of the group as a whole. For example, when each can foresee that their relatively small contribution to a collective enterprise will not affect its overall success, many will fail to contribute—a phenomenon known as free riding—and leave to everyone else the burden of supplying the collective good. As a consequence, collective enterprises based on cooperation, and supported by the entire collectivity, nevertheless often fail.*

It is often taken for granted, at least where economic objectives are involved, that groups of individuals with common interests usually attempt to further those common interests. Groups of individuals with common interests are expected to act on behalf of their common interests much as single individuals are often expected to act on behalf of their personal interests. This opinion about group behavior is frequently found not only in popular discussions but also in scholarly writings. Many economists of diverse methodological and ideological traditions have implicitly or explicitly accepted it. This view has, for example, been important in many theories of labor unions, in Marxian theories of class action, in concepts of "countervailing power," and in various discussions of economic institutions. It has, in addition, occupied a prominent place in political science, at least in the United States, where the study of pressure groups has been dominated by a celebrated "group theory" based on the idea that groups will act when necessary to further their common or group goals. Finally, it has played a significant role in many well-known sociological studies.

The view that groups act to serve their interests presumably is based upon the assumption that the individuals in groups act out of self-interest. If the individuals in a group altruistically disregarded their personal welfare, it would not be very likely that collectively they would seek

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some selfish common or group objective. Such altruism is, however, considered exceptional, and self-interested behavior is usually thought to be the rule, at least when economic issues are at stake; no one is surprised when individual businessmen seek higher profits, when individual workers seek higher wages, or when individual consumers seek lower prices. The idea that groups tend to act in support of their group interests is supposed to follow logically from this widely accepted premise of rational, self-interested behavior. In other words, if the members of some group have a common interest or objective, and if they would all be better off if that objective were achieved, it has been thought to follow logically that the individuals in that group would, if they were rational and self-interested, act to achieve that objective.

But it is *not* in fact true that the idea that groups will act in their self-interest follows logically from the premise of rational and self-interested behavior. It does *not* follow . . . that they would act to achieve that objective, even if they were all rational and self-interested. 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.* In other words, even if all of the individuals in a large group are rational and self-interested, and would gain if, as a group, they acted to achieve their common interest or objective, they will still not voluntarily act to achieve that common or group interest. The notion that groups of individuals will act to achieve their common or group interests, far from being a logical implication of the assumption that the individuals in a group will rationally further their individual interests, is in fact inconsistent with that assumption. . . .

A THEORY OF GROUPS AND ORGANIZATIONS

The Purpose of Organization

Since most (though by no means all) of the action taken by or on behalf of groups of individuals is taken through organizations, it will be helpful to consider organizations in a general or theoretical way.[1] The logical place to begin any systematic study of organizations is with their purpose. But there are all types and shapes and sizes of organizations, even of economic organizations, and there is then some question whether there is any single purpose that would be characteristic of organizations generally. One purpose that is nonetheless characteristic of most organizations, and surely of practically all organizations with an important economic aspect, is the furtherance of the interests of their members. That would seem obvious, at least from the economist's perspective. To be sure, some organizations may out of ignorance fail to further their members' interests, and others may be enticed into serving only the ends of the leadership.[2] But organizations often perish if they do nothing to further the interests of their members, and this factor must severely limit the number of organizations that fail to serve their members.

The idea that organizations or associations exist to further the interests of their members is hardly novel, nor peculiar to economics; it goes back at least to Aristotle, who wrote, "Men journey together with a view to particular advantage, and by way of providing some particular thing needed for the purposes of life, and similarly the political association seems to have come together originally, and to continue in existence, for the sake of the *general* advantages it brings."[3] More recently Professor Leon Festinger, a social psychologist, pointed out that "the attraction of group membership is not so much in sheer belonging, but rather in attaining something by means of this membership."[4] The late Harold Laski, a political scientist, took it for granted that "associations exist to fulfill purposes which a group of men have in common."[5]

The kinds of organizations that are the focus of this study are *expected* to further the interests of their members.[6] Labor unions are expected to strive for higher wages and better working conditions for their members; farm organizations are expected to strive for favorable legislation for their members; cartels are expected to strive for higher prices for participating firms; the corporation is expected to further the interests of its stockholders;[7] and the state is expected to further the common interests of its citizens (though in this nationalistic age the state often has interests and ambitions apart from those of its citizens).

Notice that the interests that all of these diverse types of organizations are expected to further are for the most part *common* interests: the union members' common interest in higher wages, the farmers' common interest in favorable legislation, the cartel members' common interest in higher prices, the stockholders' common interest in higher dividends and stock prices, the citizens' common interest in good government. It is not an accident that the diverse types of organizations listed are all supposed to work primarily for the *common* interests of their members. Purely personal or individual interests can be advanced, and usually advanced most efficiently, by individual, unorganized action. There is obviously no purpose in having an organization when individual, unorganized action can serve the interests of the individual as well as or better than an organization; there would, for example, be no point in forming an organization simply to play solitaire. But when a number of individuals have a common or collective interest—when they share a single purpose or objective—individual, unorganized action (as we shall soon see) will either not be able to advance that common interest at all, or will not be able to advance that interest adequately. Organizations can therefore perform a function when there are common or group interests, and though organizations often also serve purely personal, individual interests, their characteristic and primary function is to advance the common interests of groups of individuals.

The assumption that organizations typically exist to further the common interests of groups of people is implicit in most of the literature about organizations, and two of the writers already cited make this assumption explicit: Harold Laski emphasized that organizations exist to achieve purposes or interests which "a group of men have in common," and Aristotle apparently had a similar notion in mind when he argued that political associations are created and maintained because of the "general advantages" they bring. . . . As Arthur Bentley, the founder of the "group theory" of modern political science, put it, "there is no group without its interest."[8] The social psychologist Raymond Cattell was equally explicit, and stated that "every group has its interest."[9] This is also the way the word "group" will be used here.

Just as those who belong to an organization or a group can be presumed to have a common interest,[10] so they obviously also have purely individual interests, different from those of the others in the organization or group. All of the members of a labor union, for example, have a common interest in higher wages, but at the same time each worker has a unique interest in his personal income, which depends not only on the rate of wages but also on the length of time that he works.

Public Goods and Large Groups

The combination of individual interests and common interests in an organization suggests an analogy with a competitive market. The firms in a perfectly competitive industry, for example, have a common interest in a higher price for the industry's product. Since a uniform price must prevail in such a market, a firm cannot expect a higher price for itself unless all of the other firms in the industry also have this higher price. But a firm in a competitive market also has an interest in selling as much as it can, until the cost of producing another unit exceeds the price of that unit. In this there is no common interest; each firm's interest is directly opposed to that of every other firm, for the more other firms sell, the lower the price and income for any given firm. In short, while all firms have a common interest in a higher price, they have antagonistic interests where output is concerned. . . .

For these reasons it is now generally understood that if the firms in an industry are maximizing profits, the profits for the industry as a whole will be less than they might otherwise be.[11] And almost everyone would agree that this theoretical conclusion fits the facts for markets characterized by pure competition. The important point is that this is true because, though all the firms have a common interest in a higher price for the industry's product, it is in the interest of each firm that the other firms pay the cost—in terms of the necessary reduction in output—needed to obtain a higher price.

About the only thing that keeps prices from falling in accordance with the process just described in perfectly competitive markets is outside intervention. Government price supports, tariffs, cartel agreements, and the like may keep the firms in a competitive market from acting contrary to their interests. Such aid or intervention is quite common. It is then important to ask how it comes about. How does a competitive industry obtain government assistance in maintaining the price of its product?

Consider a hypothetical, competitive industry, and suppose that most of the producers in that industry desire a tariff, a price-support program, or some other government intervention to increase the price for their product. To obtain any such assistance from the government, the producers in this industry will presumably have to organize a lobbying organization; they will have to become an active pressure group.[12] This lobbying organization may have to conduct a considerable campaign. If significant resistance is encountered, a great amount of money will be required.[13] Public relations experts will be needed to influence the newspapers, and some advertising may be necessary. Professional organizers will probably be needed to organize "spontaneous grass roots" meetings among the distressed producers in the industry, and to get those in the industry to write letters to their congressmen.[14] The campaign for the government assistance will take the time of some of the producers in the industry, as well as their money.

There is a striking parallel between the problem the perfectly competitive industry faces as it strives to obtain government assistance, and the problem it faces in the marketplace when the firms increase output and bring about a fall in price. *Just as it was not rational for a particular producer to restrict his output in order that there might be a higher price for the product of his industry, so it would not be rational for him to sacrifice his time and money to support a lobbying organization to obtain government assistance for the industry. In neither case would it be in the interest of the individual producer to assume any of the costs himself. A lobbying organization, or indeed a labor union or any other organization, working in the interest of a large group of firms or workers in some industry, would get no assistance from the rational, self-interested individuals in that industry.* This would be true even if everyone in the industry were absolutely convinced that the proposed program was in their interest (though in fact some might think otherwise and make the organization's task yet more difficult).

Although the lobbying organization is only one example of the logical analogy between the organization and the market, it is of some practical importance. There are many powerful and well-financed lobbies with mass support in existence now, but these lobbying organizations do not get that support because of their legislative achievements. . . .

Some critics may argue that the rational person will, indeed, support a large organization, like a lobbying organization, that works in his interest, because he knows that if he does not, others will not do so either, and then the organization will fail, and he will be without the benefit that the organization could have provided. This argument shows the need for the analogy with the perfectly competitive market. For it would be quite as reasonable to argue that prices will never fall below the levels a monopoly would have charged in a perfectly competitive market, because if one firm increased its output, other firms would also, and the price would fall; but each firm could foresee this, so it would not start a chain of price-destroying increases in output. In fact, it does not work out this way in a competitive market; nor in a large organization. When the number of firms involved is large, no one will notice the effect on price if one firm increases its output, and so no one will change his plans because of it. Similarly, in a large organization, the loss of one dues payer will not noticeably increase the burden for any other one dues payer, and so a rational person would not believe that if he were to withdraw from an organization he would drive others to do so.

The foregoing argument must at the least have some relevance to economic organizations that are mainly means through which individuals attempt to obtain the same things they obtain through their activities in the market. Labor unions, for example, are organizations through which workers strive to get the same things they get with their individual efforts in the market—higher wages, better working conditions, and the like. It would be strange indeed if the workers did not confront some of the same problems in the union that they meet in the market, since their efforts in both places have some of the same purposes.

However similar the purposes may be, critics may object that attitudes in organizations are not at all like those in markets. In organizations, an emotional or ideological element is often also involved. Does this make the argument offered here practically irrelevant?

A most important type of organization—the national state—will serve to test this objection. Patriotism is probably the strongest non-economic motive for organizational allegiance in modern times. This age is sometimes called the age of nationalism. Many nations draw additional strength and unity from some powerful ideology, such as democracy or communism, as well as from a common religion, language, or cultural inheritance. The state not only has many such powerful sources of support; it also is very important economically. Almost any government is economically beneficial to its citizens, in that the law and order it provides is a prerequisite of all civilized economic activity. But despite the force of patriotism, the appeal of the national ideology, the bond of a common culture, and the indispensability of the system of law and order, no major state in modern history has been able to support itself through voluntary dues or contributions. Philanthropic contributions are not even a significant source of revenue for most countries. Taxes, *compulsory* payments by definition, are needed. Indeed, as the old saying indicates, their necessity is as certain as death itself.

If the state, with all of the emotional resources at its command, cannot finance its most basic and vital activities without resort to compulsion, it would seem that large private organizations might also have difficulty in getting the individuals in the groups whose interests they attempt to advance to make the necessary contributions voluntarily.[15]

The reason the state cannot survive on voluntary dues or payments, but must rely on taxation, is that the most fundamental services a nation-state provides are, in one important respect, like the higher price in a competitive market: they must be available to everyone if they are available to anyone. The basic and most elementary goods or services provided by government, like defense and police protection, and the system of law and order generally, are such that they go to everyone or practically everyone in the nation. It would obviously not be feasible, if indeed it were possible, to deny the protection provided by the military services, the police, and the courts to those who did not voluntarily pay their share of the costs of government, and taxation is accordingly necessary. The common or collective benefits provided by governments are usually called "public goods" by economists, and the concept of public goods is one of the oldest and most important ideas in the study of public finance. A common, collective, or public good is here defined as any good such that, if any person X_i in a group $X_1, \ldots, X_i, \ldots, X_n$ consumes it, it cannot feasibly be withheld from the others in that group.[16] In other words, those who do not purchase or pay for any of the public or collective good cannot be excluded or kept from sharing in the consumption of the good, as they can where noncollective goods are concerned.

Students of public finance have, however, neglected the fact that the achievement of any common goal or the satisfaction of any common interest means that a public or collective good has been provided for that group.[17] The very fact that a goal or purpose is common to a group means that no one in the group is excluded from the benefit or satisfaction brought about by its achievement. As the opening paragraphs of this chapter indicated, almost all groups and organizations have the purpose of serving the common interests of their members. As R. M. MacIver puts it, "Persons . . . have common interests in the degree to which they participate in a cause . . . which indivisibly embraces them all."[18] It is of the essence of an organization that it provides an inseparable, generalized benefit. It follows that the provision of public or collective goods is the fundamental function of organizations generally. A state is first of all an organization that provides public goods for its members, the citizens; and other types of organizations similarly provide collective goods for their members.

And just as a state cannot support itself by voluntary contributions, or by selling its basic services on the market, neither can other large organizations support themselves without providing some sanction, or some attraction distinct from the public good itself, that will lead individuals to help bear the burdens of maintaining the organization. The individual member of the typical large organization is in a position analogous to that of the firm in a perfectly competitive market, or the taxpayer in the state: his own efforts will not have a noticeable effect on the situation of his organization, and he can enjoy any improvements brought about by others whether or not he has worked in support of his organization.

There is no suggestion here that states or other organizations provide *only* public or collective goods. Governments often provide noncollective goods like electric power, for example, and they usually sell such goods on the market much as private firms would do. Moreover . . . large organizations that are not able to make membership compulsory *must also* provide some noncollective goods in order to give potential members an incentive to join. Still, collective goods are the characteristic organizational goods, for ordinary noncollective goods can always be provided by individual action, and only where common purposes or collective goods are concerned is organization or group action ever indispensable.[19]

1-2 Governing the Commons

Elinor Ostrom

Nobel laureate Elinor Ostrom is renowned for her book, Governing the Commons: The Evolution of Institutions for Collective Action *(1990). Ostrom reports on solutions to the provision of "common-pool resources." Common-pool resources are goods, such as the use of land, that are shared and tend to be over-exploited by individuals seeking to maximize the value of the resource for themselves. In the first chapter of her book, excerpted here, Ostrom introduces the origin of these ideas among social scientists and her own view of how institutions develop to govern the commons. She describes a world of successes and failures at managing common-pool resources and emphasizes how successful efforts vary widely in details to fit local circumstances. These ideas are essential to understanding how people govern themselves, the focus of political science.*

Hardly a week goes by without a major news story about the threatened destruction of a valuable natural resource. In June of 1989, for example, a *New York Times* article focused on the problem of overfishing in the Georges Bank about 150 miles off the New England coast. Catches of cod, flounder, and haddock are now only a quarter of what they were during the 1960s. Everyone knows that the basic problem is overfishing; however, those concerned cannot agree how to solve the problem. Congressional representatives recommend new national legislation, even though the legislation already on the books has been enforced only erratically. Representatives of the fishers argue that the fishing grounds would not be in such bad shape if the federal government had refrained from its sporadic attempts to regulate the fishery in the past. The issue in this case—and many others—is how best to limit the use of natural resources so as to ensure their long-term economic viability. Advocates of central regulation, of privatization, and of regulation by those involved have pressed their policy prescriptions in a variety of different arenas.

Similar situations occur on diverse scales ranging from small neighborhoods to the entire planet. The issues of how best to govern natural resources used by many individuals in common are no more settled in academia than in the world of politics. Some scholarly articles about the "tragedy of the commons" recommend that "the state" control most natural resources to prevent their destruction; others recommend that privatizing those resources will resolve the problem. What one can observe in the world, however, is that neither the state nor the market is uniformly successful in enabling individuals to sustain long-term, productive use of natural resource systems. Further, communities of individuals have relied on institutions resembling neither the state nor the market to govern some resource systems with reasonable degrees of success over long periods of time.

Source: Excerpted chapter from Elinor Ostrom, "Reflections on the Commons," *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, 1990).

We do not yet have the necessary intellectual tools or models to understand the array of problems that are associated with governing and managing natural resource systems and the reasons why some institutions seem to work in some settings and not others. This book is an effort to (1) critique the foundations of policy analysis as applied to many natural resources, (2) present empirical examples of successful and unsuccessful efforts to govern and manage such resources, and (3) begin the effort to develop better intellectual tools to understand the capabilities and limitations of self-governing institutions for regulating many types of resources. To do this, I first describe the three models most frequently used to provide a foundation for recommending state or market solutions. I then pose theoretical and empirical alternatives to these models to begin to illustrate the diversity of solutions that go beyond states and markets. Using an institutional mode of analysis, I then attempt to explain how communities of individuals fashion different ways of governing the commons.

THREE INFLUENTIAL MODELS

The Tragedy of the Commons

Since Garret Hardin's challenging article in *Science* (1968), the expression "the tragedy of the commons" has come to symbolize the degradation of the environment to be expected whenever many individuals use a scarce resource in common. To illustrate the logical structure of his model. Hardin asks the reader to envision a pasture "open to all." He then examines the structure of this situation from the perspective of a rational herder. Each herder receives a direct benefit from his own animals and suffers delayed costs from the deterioration of the commons when his and others' cattle overgraze. Each herder is motivated to add more and more animals because he receives the direct benefit of his own animals and bears only a share of the costs resulting from overgrazing. Hardin concludes:

> Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. (Hardin 1968, p. 1,244)

Hardin was not the first to notice the tragedy of the commons. Aristotle long ago observed that "what is common to the greatest number has the least care bestowed upon it. Everyone thinks chiefly of his own, hardly at all of the common interest" (*Politics.* Book II, ch. 3). Hobbes's parable of man in a state of nature is a prototype of the tragedy of the commons: Men seek their own good and end up fighting one another. In 1833, William Forster Lloyd (1977) sketched a theory of the commons that predicted improvident use for property owned in common. More than a decade before Hardin's article, H. Scott Gordon (1954) clearly expounded similar logic in another classic: "The Economic Theory of a Common-Property Research: The Fishery." Gordon described the same dynamic as Hardin:

> There appears then, to be some truth in the conservative dictum that everybody's property is nobody's property. Wealth that it free for all is valued by no one because he who is foolhardy enough to wait for its proper time of use will only find that it has been taken by another. . . .

> The fish in the sea are valueless to me fisherman, because there is no assurance that they will be there for him tomorrow if they are left behind today. (Gordon 1954, p. 124)
>
> John H. Dales (1968, p. 62) noted at the same time the perplexing problems related to resources "owned in common because there is no alternative!"' Standard analyses in modern resource economics conclude that where a number of users have access to a common-pool resource, the total of resource units withdrawn from the resource will be greater than the optimal economic level of withdrawal (Clark 1976, 1980; Dasgupta and Heal 1979).

If the only "commons" of importance were a few grazing areas or fisheries, the tragedy of the commons would be of little general interest. That is not the case. Hardin himself used the grazing commons as a metaphor for the general problem of overpopulation. The "tragedy of the commons" has been used to describe such diverse problems as the Sahelian famine of the 1970s (Picardi and Seifert 1977), firewood crises throughout the Third World (Norman 1984; Thomson 1977), the problem of acid rain (R. Wilson 1985), the organization of the Mormon Church (Bullock and Baden 1977), the inability of the U.S. Congress to limit its capacity to overspend (Shepsle and Weingast 1984), urban crime (Neher 1978), public-sector/private-sector relationships in modern economies (Scharpf 1985, 1987, 1988), the problems of international cooperation (Snidal 1985), and communal conflict in Cyprus (Lumsden 1973). Much of the world is dependent on resources that are subject to the possibility of a tragedy of the commons.

The Prisoner's Dilemma Game

Hardin's model has often been formalized as a prisoner's dilemma (PD) game (Dawes 1973, 1975). Suppose we think of the players in a game as being herders using a common grazing meadow. For this meadow, there is an upper limit to the number of animals that can graze on the meadow for a season and be well fed at the end of the season. We all that number *L* For a two-person game, the "cooperate" strategy can be thought of as grazing $L/2$ animals for each herder, The "defect" strategy is for each herder to graze as many animals as he thinks he can sell at a profit (given his private costs), assuming that this number is greater than $L/2$. If both herders limit their grazing to $L/2$, they will obtain 10 units of profit, whereas if they both choose the defect strategy they will obtain zero profit. If one of them limits his number of animals to $L/2$ while the other grazes as many as he wants, the "defector" obtains 11 units of profit, and the "sucker" obtains –1. If each chooses independently without the capacity to engage in a binding contract, each chooses his dominant strategy which is to defect. When they both defect, they obtain zero profit. It has the structure of a prisoner's dilemma game.

The prisoner's dilemma game is conceptualized as a noncooperative game in which all players possess complete information. In noncooperative games, communication among the players is forbidden or impossible or simply irrelevant as long as it is not explicitly modeled as part of the game. If communication is possible, verbal agreements among players are presumed to be nonbinding unless the possibility of binding agreements is explicitly incorporated in the game structure (Harsanyi and Selten 1988, p. 3). "Complete information" implies that all players know the full structure of the game Tree and the payoffs attached to outcomes. Players either know or do not know the current moves of other players depending on whether or not they are observable.

In a prisoner's dilemma game, each player has a dominant strategy in the sense that the player is always better off choosing this strategy—to defect no matter what the other player chooses. When both players choose their dominant strategy, given these assumptions, they produce an equilibrium that is the third-best result for both. Neither has an incentive to change that is independent of the strategy choice of the other. The equilibrium resulting from each player selecting his or her "best" individual strategy is, however, not a Pareto-optimal outcome. A Pareto-optimal outcome occurs when there is no other outcome strictly preferred by at least one player that is at least as good for the others. In the two-person prisoner's dilemma game, both players prefer the (cooperate, cooperate) outcome to the (defect, defect) outcome. Thus, the equilibrium outcome is Pareto-inferior.

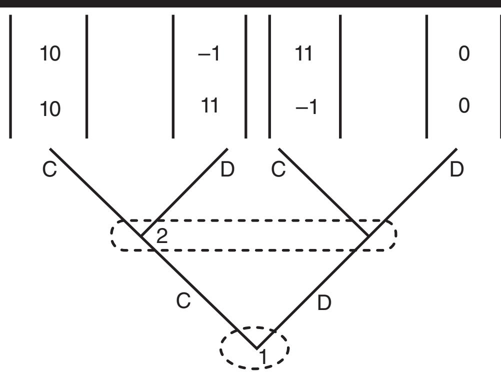
The prisoner's dilemma game fascinates scholars. The paradox that individually rational strategies lead to collectively irrational outcomes seems to challenge a fundamental faith that rational human beings can achieve rational results. In the introduction to a recently published book, *Paradoxes of Rationality and Cooperation*, Richmond Campbell explains the "deep attraction" of the dilemma:

> Quite simply, these paradoxes cast in doubt our understanding of rationality and, in the case of the Prisoner's Dilemma suggest that it is impossible rational creatures to cooperate. Thus, the bear directly on fundamental issues in ethics and political philosophy and threaten the foundations of the social sciences. It is the scope of these consequences that explains why these paradoxes have drawn so much attention and why they command a central place in philosophical discussion. (Campbell 1985, p. 3)The deep attraction of the dilemma is further illustrated by the number of articles written about it. In one count, 15 years ago, more than 2,000 papers had been devoted to the prisoner's dilemma game (Grofman and Pool 1975).

The Logic of Collective Action

A closely related view of the difficulty of getting individuals to pursue their joint welfare, as contrasted to individual welfare, was developed by Mancur Olson (1965) in *The Logic of Collective Action* (Figure 1.1). Olson specifically set out to challenge the grand optimism expressed in

FIGURE 1.1 ■ Game 1: The Hardin Herder Game



group theory: that individuals with common interests would voluntarily act so as to try to further those interests (Bemley 1949; Truman 1958). On the first page of his book, Olson summarized that accepted view:

> The idea that groups tend to act in support of their group interests is supposed to follow logically from this widely accepted premise of rational, self-interested behavior. In other words, if the members of some group have a common interest or object, and if they would all be better off if that objective were achieved, it has been thought to follow logically that the individuals in that group would, if they were rational and self-interested, act to achieve that objective. (Olson 1965, p. l)

Olson challenged the presumption that the possibility of a benefit for a group would be sufficient to generate collective action to achieve that benefit. In the most frequently quoted passage of his book. Olson argued that

> unless the number of individuals 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, p. 2; emphasis in original)

Olson's argument rests largely on the premise that one who cannot be excluded from obtaining the benefits of a collective good once the good is produced has little incentive to contribute voluntarily to the provision of that good. His book is less pessimistic than it is asserted to be by many who cite this famous passage. Olson considers it an open question whether intermediate-size groups will or will not voluntarily provide collective benefits. His definition of an intermediate-size group depends not on the number of actors involved but on how noticeable each person's actions are.

The tragedy of the commons, the prisoner's dilemma, and the logic of collective action are closely related concepts in the models that have defined the accepted way of viewing many problems that individuals face when attempting to achieve collective benefits. At the heart of each of these models is the free-rider problem. Whenever one person cannot be excluded from the benefits that others provide, each person is motivated not to contribute to the joint effort, but to free ride on the efforts of others. If all participants choose to free ride, the collective benefit will not be produced. The temptation to free ride, however, may dominate the decision process, and thus all will end up where no one wanted to be. Alternatively, some may provide while others free ride, leading to less than the optimal level of provision of the collective benefit. These models are thus extremely useful for explaining how perfectly rational individuals can produce, under some circumstances, outcomes that are not "rational" when viewed from the perspective of all those involved.

What makes these models so interesting and so powerful is that they capture important aspects of many different problems that occur in diverse settings in all parts of the world. What makes these models so dangerous—when they are used metaphorically as the foundation for policy—is that the constraints that are assumed to be fixed for the purpose of analysis are taken on faith as being fixed in empirical settings, unless external authorities change them. The prisoners in the famous dilemma cannot change the constraints imposed on them by the district attorney; they are in jail. Not all users of natural resources are similarly incapable of changing their constraints.

As long as individuals are viewed as prisoners, policy prescriptions will address this metaphor. I would rather address the question of how to enhance the capabilities of those involved to change the constraining rules of the game to lead to outcomes other than remorseless tragedies. . . .

The "Only" Way?

Analysts who find an empirical situation with a structure presumed to be a commons dilemma often call for the imposition of a solution by an external actor: The "only way" to solve a commons dilemma is by doing *X*. Underlying such a claim is the belief that *X* is necessary and sufficient to solve the commons dilemma. But the content of *X* could hardly be more variable. One set of advocates presumes that a central authority must assume continuing responsibility to make unitary decisions for a particular resource. The other presumes that a central authority should parcel out ownership rights to the resource and then allow individuals to pursue their own self-interests within a set of well-defined property rights. Both centralization advocates and privatization advocates accept as a central tenet that institutional change must come from outside and be imposed on the individuals affected. Despite sharing a faith in the necessity and efficacy of "the state" to change institutions so as to increase efficiency, the institutional changes they recommend could hardly be further apart.

If one recommendation is correct, the other cannot be. Contradictory positions cannot both be right. I do not argue for either of these positions. Rather, I argue that both are too sweeping in their claims. Instead of there being a single solution to a single problem, I argue that many solutions exist to cope with many different problems. Instead of presuming that optimal institutional solutions can be designed easily and imposed at low cost by external authorities, I argue that "getting the institutions right" is a difficult, time-consuming, conflict-invoking process. It is a process that requires reliable information about time and place variables as well as a broad repertoire of culturally acceptable rules. New institutional arrangements do not work in the field as they do in abstract models unless the models are well specified and empirically valid and the participants in a field setting understand how to make the new rules work.

Instead of presuming that the individuals sharing a commons are inevitably caught in a trap from which they cannot escape, I argue that the capacity of individuals to extricate themselves from various types of dilemma situations *varies* from situation to situation. The cases to be discussed in this book illustrate both successful and unsuccessful efforts to escape tragic outcomes. Instead of basing policy on the presumption that the individuals involved are helpless, I wish to learn more from the experience of individuals in field settings. Why have some efforts to solve commons problems failed, while others have succeeded? What can we learn from experience that will help stimulate the development and use of a better theory of collective action—one that will identify the key variables that can enhance or detract from the capabilities of individuals to solve problems?

Institutions are rarely either private or public—"the market" or "the state." Many successful CPR institutions are rich mixtures of "private-like" and "public-like" institutions defying classification in a sterile dichotomy. By "successful," I mean institutions that enable individuals to achieve productive outcomes in situations where temptations to free-ride and shirk are ever present. A competitive market—the epitome of private institutions—is itself a public good. Once a competitive market is provided, individuals can enter and exit freely whether or not they contribute to the cost of providing and maintaining the market. No market can exist for long without underlying public institutions to support it. In field settings, public and private institutions frequently are intermeshed and depend on one another, rather than existing in isolated worlds. . . .

Policy Prescriptions as Metaphors

Policy analysts who would recommend a single prescription for commons problems have paid little attention to how diverse institutional arrangements operate in practice. The centrists presume that unified authorities will operate in the field as they have been designed to do in the textbooks—determining the best policies to be adopted for a resource based on valid scientific theories and adequate information. Implementation of these policies without error is assumed. Monitoring and sanctioning activities are viewed as routine and nonproblematic.

Those advocating the private-property approach presume that the most efficient use patterns for CPRs will actually result from dividing the rights to access and control such resources. Systematic empirical studies have shown that private organization of firms dealing in goods such as electricity, transport, and medical services tends to be more efficient than governmental organization of such firms; for a review of this literature, see De Alessi (1980). Whether private or public forms are more efficient in industries in which certain potential beneficiaries cannot be excluded is, however, a different question. We are concerned with the types of institutions that will be most efficient for governing and managing diverse CPRs for which at least some potential beneficiaries cannot be excluded. Privatizing the ownership of CPRs need not have the same positive results as privatizing the ownership of an airline. Further, privatizing may not mean "dividing up" at all. Privatization can also mean assigning the exclusive right to harvest from a resource system to a single individual or firm.

Many policy prescriptions are themselves no more than metaphors. Both the centralizers and the privatizers frequently advocate oversimplified, idealized institutions—paradoxically, almost "institution-free" institutions. An assertion that central regulation is necessary tells us nothing about the way a central agency should be constituted, what authority it should have, how the limits on its authority should be maintained, how it will obtain information, or how its agents should be selected, motivated to do their work, and have their performances monitored and rewarded or sanctioned. An assertion that the imposition of private property rights is necessary tells us nothing about how that bundle of rights is to be defined, how the various attributes of the goods involved will be measured, who will pay for the costs of excluding nonowners from access, how conflicts over rights will be adjudicated, or how the residual interests of the right-holders in the resource system itself will be organized. . . .

1-3 What Is Political Science For?

Jane Mansbridge

At first glance, this essay by political theorist Jane Mansbridge may seem to be an odd selection for a collection on American politics. It is not. Because political science is the study of how people govern themselves, answering the question she poses requires an understanding of governance. As Mansbridge argues, governance involves coercion of some form. It represents the creation of rules and their enforcement to get people to behave in ways they otherwise may not. In doing so, she emphasizes the importance of the work of Ostrom and others on the tragedy of the commons, but she does so with more emphasis on the role of coercion, legitimacy, negotiation, and democratic experimentation. Her essay could not be more relevant to understanding American politics.

Today I want to introduce three ideas. First, our discipline has a mandate to help us human beings govern ourselves. Second, we should be focusing, more than we do now, on creating legitimate coercion. Third, we have neglected an important source of legitimate coercion: negotiation to agreement.

This analysis is both descriptive and aspirational. It is analogous to a lawyer's brief before the Supreme Court (you, my colleagues in political science, are the court), pointing out a thread in its past decisions and arguing that this thread should serve as a guide to the future.

THE MANDATE

Having posed the question, "What is political science for?" I propose the answer, "To help us govern ourselves."

It is true, of course, that political science is not always "for" anything. Political scientists often just pursue explanation and understanding without expecting the quest to serve any larger goal. It is marvelous to take satisfaction in solving—or just making progress on—a puzzle simply for the intellectual thrill of it—because, like Everest, "it is there." I have done this, I love it, and I love seeing others do it. In the puzzles that we take on in political science, we have the added satisfaction of knowing that we are deepening human understanding—about the human condition, about the tradeoffs we face in political institutions, and about our past histories.

Yet if political science is "for" anything, I think it is, and should be, for helping us to govern ourselves. Political science is the only academic discipline specifically organized to study this question. Other disciplines—law, psychology, sociology, economics—make valuable contributions to answering it. But we, as a discipline, are organized around the issue of governing. Because we have consciously created social structures that let us think together, and because of our specialized toolkits, we—of all the people in the world—are the best organized to help do this. The world certainly needs that help.

Source: Jane Mansbridge, 2014, "Presidential Address: What Is Political Science For?" *Perspectives on Politics* 12(1):8–17.

Compared to our needs, we know very little about how to govern ourselves. We don't know how to coerce ourselves into giving up what we need to give up in order to stop global warming. We don't know how to stop nuclear proliferation. We don't know how to transition from autocracy to democracy without descending into violence. Closer to home, we don't know how to tax ourselves sufficiently to keep our infrastructure from crumbling or how to pay for the rising medical costs of an aging population. We don't know how to produce laws in a polarized Congress or how to reduce that polarization. We don't know how to keep ourselves from drifting into greater and greater inequality. At this moment of great need and relative ignorance, political science is the one academic discipline explicitly organized to study how we make our collective decisions on these matters, and how we can make them legitimately.

CREATING LEGITIMATE COERCION

Legitimate coercion is the fundamental problem of governance. How can large, highly interdependent structures produce sufficient legitimate coercion to solve their collective action problems? Such structures are evolving everywhere—even internationally—although in the case of nuclear proliferation and global warming, we seem to be losing the race against time. On the domestic front, large-scale representative democracy has evolved only relatively recently, in the last 300 years, and we are continuing to experiment with the form. In the US, innovations in the primary system, redistricting, and Congressional rules have recently affected the way our democracy works. Elsewhere in the world nations and regions are experimenting institutionally with a realistic sense of urgency. Yet the democratic theory we have is not fully up to the job of providing normative guidance in the midst of these changes.

In its first incarnations, the democratic theory that accompanied representative democracy focused largely on preventing tyranny, not on legitimating the coercion needed to solve collective action problems. The social contract tradition arose in opposition to the rule of emperors and kings. Even Madison, Jefferson, and Hamilton, concerned though they were to establish a system of effective government, made the prevention of tyranny a central goal. What I have called the *resistance tradition*, rooted in contract theory and focused on combating too much power, has dominated much of democratic theory ever since. Today, however, the challenge of creating legitimate coercion is at least as great as the challenge of resisting illegitimate coercion.

My central argument regarding coercion has three parts. First, in a world of increasing interdependence we face an almost infinite number of collective action problems that are created when something we want or need is a "free access" good. Second, solving most of those collective action problems requires coercion, which is the basic reason for government. Third, the best coercion is legitimate coercion. Important as legitimate coercion is, we do not know how to do it very well. The fundamental job of political science, I believe, is to help societies create and properly use legitimate coercion.

What do I mean by legitimate coercion? Coercion is relatively easy to define. By coercion I mean the threat of sanction ("Leave this room or I'll shoot you") or the use of force (carrying you out of the room kicking and screaming). A sanction can be as small and informal as a dirty look or as large and formal as life imprisonment. Defining legitimacy is harder, and I will return to that.

Now, let me begin to walk through my argument.

Free-Access Goods Create Collective Action Problems

First, as most people here know, collective action problems arise whenever a "free-access good" must be produced. By a "free-access" good, I mean a good that, once produced, anyone can consume even if they did not contribute to producing it. If common defense against enemies is provided, anyone can benefit even if they did not contribute. So too with law and order, or a toll-free road. Once some group of people has provided such a good, anyone can use it. Everyone is therefore tempted to free-ride, using the good without helping to create or to maintain it by contributing effort or money.

I use the term *free-access good* instead of the economists' terms *non-excludable good* and *public good* both because free access is easier to remember and for technical reasons. All that matters for this analysis that when a good has the characteristic of being free access—that is, open to all potential users—it tends to be underproduced.

A collective action exercise. I would like to ask even those of you who are deeply familiar with the collective action problem to participate with me in a brief collective action exercise. Imagine that you have $100 in your pocket. Now please take out a real piece of paper and write on it either zero dollars or one hundred dollars, for the contribution you will make to the common pot. Just zero or 100, please, nothing in between, for simplicity. I will be a doubling machine. I will double everything in the pot, with no effort on your part, and return that amount to everyone equally. That doubled money is a free-access good. If you give me zero, you get to keep your $100 and also get an equal share of whatever others put in the pot. But if everyone keeps his or her $100, you will all lose the chance to double your money without effort. This is the "common pool" version of the collective action problem. The point is that no matter what the others do, if you do not contribute you will end up with more than if you do contribute. Now please write either zero or 100 on the paper, fold it over so that no one can see what you wrote, and pass it to the aisle and then to the front of the room. Thank you.

While the counters are tallying up the results, let me assume that 80 percent of you contributed, using imaginary dollars that cost you nothing. [In the event, 76 percent of the 472 attendees contributed to the common pool, a higher percentage than in most such situations, explained by self-selection.] The percentage you give will normally decrease rapidly when the money you are asked to give is real and as the amount you are asked to give grows larger. But the precise percentage is irrelevant to my point. We can learn two things from this exercise.

First, we learn that many of you contributed $100. Assuming that you were confident of your anonymity, your motives were some mixture of solidarity and duty, two separate motives on which polities can build. You may also have looked around and quickly calculated that more than half of the people in the room would contribute, so that you would at least not lose your stake—and psychologists have provided ample evidence that human beings hate losses even more than we like gains. That kind of trust in the others in your community is another significant base on which polities can build.

Second, we also learn that some of you, even though the dollars were imaginary, have contributed zero. Some of you may have gone along with the assumption that the dollars were real and not wanted to risk that stake. Others may have been making a political point that you should not be asked to give up your $100 for a collective cause. Whatever the reason, at least 20 percent of you probably did not contribute. If we repeated this exercise over time your refusal to contribute would begin to undermine the contributions of others. As Margaret Levi has pointed out in developing her concept of *contingent consent*, people who think that others are paying their taxes are themselves less likely to cheat. When they think that others are free-riding, they often begin to free-ride too.

We can conclude both that we ought not to undermine the solidarity and conscience that lead some to contribute and that we need to find some way of getting the non-contributors to contribute—unless they had a good reason for not contributing, in which case we want the contributors to hear, understand, and accept that reason. In a small setting, contributors can use some version of the informal coercion of a dirty look to punish the non-contributors. Sometimes even large groups can handle a collective action problem through a combination of critical mass, solidarity, conscience, social sanction, and reciprocity based on reputation, for example in the strategy that game theorists call "generous Tit for Tat." But in a large and relatively anonymous setting, where many people do not know the others' reputations, we usually need more formal coercion to solve collective action problems. Government is the set of institutions we create to develop and administer that coercion.

Understanding the dynamics of the collective action problem is, in my view, a logical breakthrough comparable to understanding the implications of how supply and demand interact to determine price. But the collective action problem is a bit harder to understand than supply and demand. Until the last half of the twentieth century, no human being had access to this logic. Rousseau and Hume had developed partial formulations of one version of the problem, but only in the 1950s did scholars in the three separate fields of game theory, public finance, and fisheries management begin to work out its full logic. The economist William Baumol was the first to stress that the problem must be solved with what Garrett Hardin later called "mutual coercion mutually arrived at." For the next several decades the implications of the various forms of the collective action problem swept through the social sciences. Yet the full implications have still not been assimilated into general knowledge. Even today I doubt that more than a small percentage of political science students understands the logic of collective action, its dependence on a free-access good, and its implications for coercion. Nor do they understand its corollary, that solving collective action problems is the most significant reason for government.

Nonetheless, collective action problems have become much more central to human life in the last hundred years. As we increase in number, free-access goods that were earlier supplied by nature (clean air, clean and sufficient water, fish in the sea) require more and more human action to maintain or produce them. As human beings also produce more complex goods and develop more refined demands (like blueberries in the winter), we become more and more interdependent. And as we become more interdependent, we require more free-access goods, such as contract enforcement and certain forms of reliable knowledge. To get these free-access goods, we need more legitimate coercion.

Coercion Helps Solve Collective Action Problems

Take the looming catastrophe in climate change. Many people still do not see a reduction in global warming as a free-access good that we will have to coerce ourselves to produce. At the other end of a long spectrum, take the trivial case of blueberries in the winter. To get them on our tables, state coercion helps at every stage. In January, more than half of US blueberries come from Chile. Even before they are planted, the Chilean Agricultural Ministry gives farmers information about the crop and the Chilean Plant and Animal Health Policy, which is one of the strictest in the world, helps keep dangerous organisms out of the agricultural system. Getting the berries to the table also takes a large number of free-access goods, each provided through some sort of state coercion, including the coercion needed to collect taxes. Highways, ports and airports, emissions and pollution regulations, safe seas, law and order, property rights protected by the courts—the list of free-access goods that we need to get those berries, accurately labeled and safe to eat, to our tables, runs on and on. The market depends on the coercion that makes those free access goods possible.

To keep this whole complex of free-access goods going smoothly, the necessary coercion must be relatively well designed, in recognition of its costs. For example, extrinsic motivation such as coercion tends to drive out intrinsic motivation. Fining people if they pick up their children late from daycare increases rather than decreases the number of late pickups. Paying Swiss communities to accept nuclear waste makes them less likely to accept it than asking them to do so for the nation's good. So, on the implementation side, we often need more persuasion and less reliance on coercive power. As Elinor Ostrom and others have shown, even necessary coercion should be minimal, graduated, appropriately designed for the specific situation, and both formulated and applied by those who will have to live under it. Yet Ostrom never confronted—I would say she avoided—the problem of legitimacy.

The Best Coercion Is Legitimate Coercion

Many studies have shown that people are more likely to obey a law they consider legitimate. The more legitimate they think the coercion is, the less often sanctions need to be applied. Thus the best coercion is legitimate coercion. Less legitimate coercion throws sand in the cogs, the system begins to grind more slowly and less well, and the product becomes more expensive—sometimes too expensive to compete.

As I said earlier, legitimacy is harder to define than *coercion*. The term *legitimacy* refers to two different things. "Empirical" legitimacy arises when a group of people believes that something is legitimate. You can measure its existence by asking people questions about their beliefs. "Normative" legitimacy exists when what we believe can be justified with good reasons that withstand collective scrutiny. Empirical legitimacy does all the work in backing the coercion that solves collective action problems. In a good world, however, our belief in the rightness of a given system would also be backed by the actual rightness of that system. Normative legitimacy would underpin empirical legitimacy.

The centrality of legitimacy to the entire enterprise is, I believe, why political science (unlike the other social sciences) has always included inquiries that are explicitly normative, addressing issues related to the ideals that make coercion legitimate. It is the job of democratic theory, among other things, to explore democratic ideals, ferret out their implications, reveal their contradictions, and either underscore or challenge the conclusion that they deserve our allegiance.

Democracy is ideal based. In the advanced industrial democracies of the early twenty-first century, democratic systems are legitimated not by one ideal, but by a constellation of ideals. These include republican liberty (by which I mean autonomy or self-rule), "liberal" liberty (by which I mean the ideal of non-interference), a form of community grounded in equal respect, and various forms of equality based, among other things, on human dignity and formal justice. These ideals derive from human experience, have evolved over time, and resonate among the marginalized as well as the powerful. They anchor the legitimacy of democratic systems. They also conflict with one another. Indeed, the ideals on which democracy is based are all what Kant called "regulative ideals"—ideals toward which we should strive, all other things equal, but which we can never expect to reach fully. They are impossible to reach in all their fullness partly because of the nature of reality and partly because they do often conflict with one another. This means that no democracy is ever fully legitimate. Most people can tolerate this failure because they are practical. They don't expect things to be perfect. The feature that further legitimates democracy, when this is in fact the case, is that the institutions are designed to be likely to move, when possible, closer to these animating ideals.

In 1989, Robert Dahl listed and described many of the ideals on which democracy is based, along with some of the practices to which they have given rise. His analysis has served as the touchstone for much subsequent empirical work. But our understanding of these ideals is still evolving, and so are the practices anchored by these ideals. It is to those practices that I turn now.

NEGOTIATING TO AGREEMENT

We have learned a great deal in the last fifty years about the legitimacy-inducing power and shortcomings of democratic mechanisms such as unanimity and majority rule, deliberation, and many forms of electoral representation. Recently we have even begun to understand better the legitimacy that can be based on representation by lot.

One legitimating mechanism, however, has been surprisingly neglected both empirically and normatively, namely negotiation to agreement. Negotiation to agreement is an important source of legitimacy in a world that greatly needs more legitimate coercion to solve its growing list of collective action problems.

Negotiation to agreement is possible only when issues are "tractable." That means there must be some area in which two (or more) negotiating groups can get better outcomes together than they could working separately. In politics, negotiation to agreement is most important in non-Westminster systems of government. It is a large part of politics in systems with multiparty proportional representation, where parties must constantly negotiate to form and maintain coalitions. It is also a large part of politics in systems with a strong separation of powers, where parties must negotiate around many constitutional veto points. In the United States, as Thomas Edsall said recently, "politics *is* negotiation."

A more inductive approach to politics would immediately reveal that negotiation plays a major role in domestic political decisions. But we have little empirical work in this field. The best work mostly comes from the rational choice tradition, which models what the incentives provided by specific institutions would induce rational but self-interested political actors to do.

For the other aspects of negotiation in domestic politics, political science must build on the last half-century of scholarship in labor studies, in business, law, and policy schools, and in our own subfield of international conflict resolution. One big lesson that these fields teach—and that we should take seriously in designing institutions—is the importance of what negotiation theorists call "expanding the pie," which primarily means bringing in new issues on which the different parties have different priorities, allowing each side to trade its low priority items for higher priority items that matter less to the other side. However, the textbooks and courses in business, law, and policy schools aim primarily at teaching individuals how to be good negotiators, not at identifying institutions that facilitate successful negotiation. That is a task for political science.

Because negotiation is such a large part of politics, we need to identify institutions that help negotiators bring in new issues and make good trades. And because one function of institutions is to help correct individual mistakes, we need to figure out which institutions help participants combat the cognitive and emotional barriers to successful negotiation. Self-serving bias, for example, means that we tend to select our facts and even our conceptions of justice and the common good without noticing that we are selecting facts and concepts that benefit us more than others. Well-designed institutions help participants agree on facts and see that their conceptions of justice are not shared by everyone else.

Why do political scientists know so little about negotiation empirically in our domestic democratic institutions? Most negotiation takes place behind closed doors and leaves no easily-quantifiable record. The light from the lamppost does not reach there. We could nevertheless triangulate from retrospective interviews, as journalists have done. Or we could analyze the letters that participants assumed were private but that were later made public, as Daniel Naurin has done in the EU. This wide-open field poses many unanswered empirical questions.

Normative theorists have also neglected negotiation. We have tended to see deliberation to agreement (based on common interests) and majority rule (based on conflicting interests) as the only two democratic mechanisms for generating legitimate coercion. Negotiation to agreement is another such mechanism, with a unique normative configuration. It captures the legitimating force of agreement—like the consensus that sometimes ends deliberation. But like majority rule, negotiation to agreement also allows the parties to recognize their sometimes on-going conflicting interests.

The fact that negotiation is often about conflicting and untransformed material interests may even have helped stymie significant normative inquiry on the subject. A long tradition, stretching back at least to Aristotle, identifies regimes as perverse or tyrannical if they are not aimed at the common good. As a result, negotiations over conflicting material interests are tainted. In 1962, for example, Jürgen Habermas roundly condemned "compromise [that] literally had to be haggled out, produced temporarily through pressure and counterpressure and supported only through the unstable equilibrium of power constellations between state apparatus and interest groups." Habermas later changed his mind on compromises and bargaining, but his early focus on the common good and excoriation of both self-interest and material interests has also characterized parts of the work of many other contemporary political theorists, including many whom I admire.

Once we abandon this perspective and accept negotiating to agreement as an important way of legitimating state coercion, many questions arise. How do we legitimate the negotiation? Negotiation involves both power and persuasion ("bargaining and arguing" some call it). It is far more open than majority rule to domination by the powerful. This feature of representation raises major normative issues. First, who is doing the negotiating? The kinds of representatives we want when the representatives are acting behind closed doors are different from the kinds we may want when we can monitor every important move.

Second, how do we make the relations among the negotiators "democratic"? Like majority rule, democratic negotiation must presumably be legitimated by its approximation to the ideal of equal power, or at least the proportional representation of interests. No theorist disagrees with the general thrust of these criteria. But it is not clear if "equal power" implies equal individual power or the equal power of competing groups, let alone proportionality for the affected interests. Nor is it clear which threats of sanction are allowable—perhaps only those that offset existing power disparities in order to create a more equal negotiation. Much at the very base of what we might mean by a democratic negotiation still needs to be explored.

In addition, negotiation poses a host of subsidiary normative questions. The privacy that allows negotiators to speak freely is antithetical to the widely accepted democratic norm of publicity. The ongoing relationships that produce sufficient mutual trust among legislators to generate creativity in negotiation often require long incumbencies, which are antithetical to the widespread democratic norm of frequent closely contested elections. The tradeoffs on unrelated issues that make package deals work are antithetical to the classic focus on the common good. All of these issues need careful normative attention before we can understand how best to use negotiation to generate democratically legitimate coercion.

CONCLUSION

In a Venn diagram, the two concepts "collective action" and "need for formal government" have only a partial overlap. In the first place, as your recent voluntary donations to the common pool illustrate, we can largely solve some collective action problems without the formal coercion of government. In the second place, we need government for issues other than collective action problems. Government can act as a coordinator without coercion, as a model for right behavior, and as a voice for collective ideals. Government institutions can serve as deliberative arenas and focal points for collective struggle over who we are. We may also need the formal coercion of government to accomplish other goals, such as justice, that are arguably not collective action problems.

Yet, while I am not contending that the only function of government is coercion, I believe that coercion is government's most important and most controversial function. Most of that coercion is required to solve collective action problems. Surprisingly few people today understand the basic point that whenever you want to produce a free-access good—and they are all around us, everywhere, not least in our changing climate—you will often need some coercion to help make it happen. For large scale problems, you will very often need state coercion.

We do not like the word or, quite reasonably, the fact of coercion. The Nobel Prize Committee, in praising Elinor Ostrom's pathbreaking work, implied that she was showing how to do without the state. In fact, however, Ostrom always made the "polycentric" point that for informal or local self-governing institutions to work well, they usually had to be "nested" within larger state entities that could, among other things, police agreements. It has not been widely noted, but in her most famous case, the groundwater agreement in southern California, local and private negotiations were successful only because the state Supreme Court had threatened to impose its own plan if the parties could not agree.

It would be astonishing if the use of coercion did not, as a general rule, favor the more powerful. It would be astonishing if even the most well-meaning bureaucracies did not want to advance their missions with ever more personnel and ever more access to coercive power. So coercion, whether state or private, will tend to be unequally applied and greater than necessary. Resistance to state coercion is therefore always an important part of governing ourselves. Even in relatively uncorrupt and just governments the threat of resistance plays an important role in keeping them relatively uncorrupt and just. Resistance has an especially important role when governments are corrupt, self-serving, unjust, or deeply misguided.

Viscerally and experientially I identify with resistance. Women, for example, have won most of our gains in the last two centuries by resisting the domination of men. My generation grew up with resistance and our political theory was largely about resistance. Nevertheless, I think the western democratic tradition, anchored in resistance to kings, has focused too much on the possibilities and actualities of tyranny and domination and not enough on the equally important problem of how to create legitimate coercion for collective action. In this talk, I have focused on legitimate coercion because of its centrality to what political science should be about. I do not mean to exclude protest and resistance from the concept of governing ourselves; I just want to strike a better balance.

More broadly, on the mission of political science, I contend that political science has always organized itself at least in part to help human beings govern themselves. It is in our DNA. Aristotle, lecturing on politics, wanted his listeners not only to hear, but also, after hearing, to govern themselves well. So too Hobbes, Locke, Montesquieu, and Madison wrote to help their readers do better in this business of governing.

When political science first became an academic discipline, Frank J. Goodnow, the first president of the APSA, recommended in his 1904 presidential address that the association bring together scholars and practitioners so that the scholarship would not "conduce to the adoption of impracticable and unworkable methods." He gave a learned lecture on administrative law and concluded with recommendations aimed at his "hope to secure the highest public welfare in the industrially and socially complex age in which we are living."

In England in 1926, when Harold Laski was appointed to the first chair of political science in that country, he said in his inaugural lecture that in political science we have to "define aims . . . [and] discover both the institutions through which those aims are likely to be realized, and the methods by which they are to work." His first question was, "Do we need a parliamentary system?"

Democracy, as the pragmatists point out, lends itself particularly well to experimentation. But experiments often need people to evaluate, sift, and pass on to others the results of the experiments. Political science performs this task.

All of the subfields in political science are involved in the process of trying to improve the processes by which we govern ourselves. We need to explore the ideals we have—or think we have—about how we should govern ourselves. We need to explore the polity we know most intimately, whether it be the United States of America or another polity, to understand it in greater depth. We need to compare existing governments to one another, to ferret out their greatest strengths and weaknesses. We need to understand better how states and other entities relate to one another and how they can do so more productively.

We also need to use all of the methodologies we have developed—from the close reading of thinkers whose subtleties have often been forgotten or never understood as the intellectual wave of the moment swept past them, to the stringent analysis through formal models of the possible interactions of individuals motivated only by self-interest, to experiments in labs and in the field, to interpretive immersion in the processes of governing and being governed, to the quantitative analysis of large data sets.

What we have in common, I believe, is that we can all try to help the human race figure out how to institute sufficient legitimate mutual coercion to stave off the catastrophes toward which we are heading—as well as to move toward goals that would be good, by and large, for us all. We are the only discipline organized to address these questions. If political scientists do not try to do this, who will?