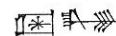

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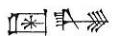
The Calculus of Consent
Logical Foundations of
Constitutional Democracy

James M. Buchanan
and
Gordon Tullock



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Foreword

The Calculus of Consent: Logical Foundations of Constitutional Democracy, by James M. Buchanan and Gordon Tullock,¹ is one of the classic works that founded the subdiscipline of public choice in economics and political science. To this day the *Calculus* is widely read and cited, and there is still much to be gained from reading and rereading this book. It is important for its enduring theoretical contributions and for the vistas and possibilities that it opened up for a whole generation of scholars.

Among the major contributions of the book is its model of constitutional decision making; that is, the choice of the rules within which the activities of in-period politics play themselves out. This is a theme that echoes throughout Buchanan's subsequent work, so much so that volume 16 of his Collected Works is devoted to the topic of constitutional political economy.² In the late 1950s and early 1960s, choosing the rules of the game was (and perhaps still is) a relatively new topic for economists and political scientists, but the intriguing questions raised by this new perspective continue to entice young economic and political theorists who are busily building this new paradigm of constitutional choice.

Constitutional "choice" in the *Calculus* is unique in that such choice presupposes a type of generational uncertainty that prevents the decision maker from predicting how the choice will influence his or her welfare in the future. Thus, constitutional choice differs from ordinary political decision making

1. James M. Buchanan and Gordon Tullock, *The Calculus of Consent: Logical Foundations of Constitutional Democracy* (Ann Arbor: University of Michigan Press, 1962), volume 3 in the series. Hereafter referred to as the *Calculus*.

2. Volume 16, *Choice, Contract, and Constitutions*.

5. The Organization of Human Activity

So in all human affairs one notices, if one examines them closely, that it is impossible to remove one inconvenience without another emerging. . . . Hence in all discussions one should consider which alternative involves fewer inconveniences and should adopt this as the better course; for one never finds any issue that is clear cut and not open to question.

—Machiavelli, *The Discourses*

Is there a logical economic rationalization or explanation for the emergence of democratic political institutions? On the basis of our individualistic assumptions about human motivation can we “explain” the adoption of a political constitution? If so, what general form will this constitution take? Questions such as these have rarely been discussed carefully.¹

If no collective action is required, there will be no need for a political constitution. Therefore, before discussing the form which such a constitution might assume, we must examine the bases for social or collective action. When will a society composed of free and rational utility-maximizing individuals choose to undertake action collectively rather than privately? Or, to make the question more precise, when will an individual member of the

1. An important exception is William J. Baumol's *Welfare Economics and the Theory of the State* (Cambridge: Harvard University Press, 1952). Starting from behavioral assumptions similar to those employed here, Baumol examines the extension of state or collective activity. He does not explore the economic aspects of the constitutional problems that are introduced in the choices among alternative collective decision-making rules.

group find it advantageous to enter into a "political" relationship with his fellows?

The "Costs" Approach to Collective Action

The individual will find it profitable to explore the possibility of organizing an activity collectively when he expects that he may increase his utility. Individual utility may be increased by collective action in two distinct ways. First, collective action may eliminate some of the *external costs* that the private actions of other individuals impose upon the individual in question. The city policeman keeps the thief from your door. Secondly, collective action may be required to secure some additional or *external benefits* that cannot be secured through purely private behavior. Individual protection against fire may not be profitable. If they are somewhat more broadly considered, these apparently distinct means of increasing individual utility become identical. Whether a specific collective effort is viewed as reducing external costs imposed on the individual or as producing an external benefit depends solely on the presumed threshold between costs and benefits. The question becomes precisely analogous to the age-old utilitarian one about the threshold between pain and pleasure.

An orthodox or standard approach would perhaps be that of taking the situation characterized by no collective action as the zero or starting point and then comparing the expected benefits from collective activity with the expected costs, the latter being measured in terms of production sacrificed in the private sector. This approach would have the advantage of being familiar to the economist who tends, professionally, to think in benefit-cost terms. The orthodox approach does not, however, lend itself well to a comparative evaluation of different methods of organizing activity. If we wish to compare collective organization with private organization, and especially if we want to analyze various collective decision-making rules, we need, even at the conceptual level, some means of comparing the *net direct gains* or the *net direct costs* of collective action with the *costs of organization* itself, that is, with the *costs of organizing decisions collectively*, a key variable in our analysis. It would be possible to use net direct gains, which could be defined as the difference between the benefits expected from collective action and the direct costs. On this basis, we could construct a "gains" or "net benefit" function,

starting from a zero point where no collective action is undertaken. We shall discuss this alternative approach in somewhat more detail in a later chapter.

We propose to adopt, instead of this, a "cost" approach in our subsequent analysis of collective action. That is to say, we propose to consider collective action as a means of reducing the external costs that are imposed on the individual by purely private or voluntary action. This is identical with the net-gains approach except for the location of the zero or starting point. Instead of using as our benchmark the situation in which no collective action is undertaken at all, we shall use that situation in which no external costs are imposed on the individual because of the actions of others. Positive costs are, in this way, associated with the situation characterized by the absence of collective action in many cases, and collective action is viewed as a possible means of reducing these costs. Intuitively, this approach is more acceptable if we conceive State activity as being aimed at removing negative externalities, or external diseconomies, but it should be emphasized that the model is equally applicable to the external-economies case. The advantages of using this somewhat unorthodox method of approach will become apparent, we hope, as the analysis proceeds. We shall elaborate the methodological distinction in greater detail in Chapter 7, but a few additional points may be made at this stage.

The individual's utility derived from any single human activity is maximized when his share in the "net costs" of organizing the activity is minimized. The possible benefits that he secures from a particular method of operation are included in this calculus as cost reductions, reductions from that level which would be imposed on the individual if the activity were differently organized. There are two separable and distinct elements in the expected costs of any human activity which we want to isolate and to emphasize. First, there are costs that the individual expects to endure as a result of the actions of others over which he has no direct control. To the individual these costs are external to his own behavior, and we shall call them *external costs*, using conventional and descriptive terminology. Secondly, there are costs which the individual expects to incur as a result of his own participation in an organized activity. We shall call these *decision-making costs*.

The relationship between these two cost elements and the relevance of our approach may be illustrated with reference to an activity that is appropriately organized by purely private action. If an individual chooses to wear red un-

derwear, presumably no other member of the social group suffers a cost. To any given individual, therefore, the organization of this activity privately involves no external costs. The individual in choosing the color of his underwear will, no doubt, undergo some decision cost. We propose, however, to ignore or to neglect this purely private cost of reaching decisions. We shall define *decision-making costs* to include only the estimated costs of participating in decisions when two or more individuals are required to reach *agreement*. This simple illustration clarifies the nature of our suggested zero point or bench mark. The *sum* of the external costs and the decision-making costs becomes *zero* for activities in which purely private action generates no external effects. The individual will, of course, reach decisions in such activities by comparing direct benefits with direct costs. However, it is precisely these direct benefits and direct costs that we may eliminate from our analysis, since these costs are not unique to particular organizational forms.

It is clear that the relevant costs with which we shall be concerned can be reduced to zero for only a relatively small proportion of all human activities. All external effects can be removed from only a small subset of the various activities in which human beings engage. Moreover, even when it is possible to remove all external effects that are involved in the organization of an activity, it will rarely, if ever, be rational for the individual to seek this state of affairs because of the decision-making costs that will be introduced. Nevertheless, the *minimization* of these relevant costs—external costs plus decision-making costs—is a suitable goal for social or political organization. We propose to call this sum of external costs and decision-making costs the costs of *social interdependence*, or, for a shorter term, *interdependence costs*, keeping in mind that this magnitude is considered only in *individual* terms. The rational individual should try to reduce these interdependence costs to the lowest possible figure when he considers the problem of making institutional and constitutional change.²

2. Our costs approach is related to the negative version of the utilitarian principle, as formulated by Karl Popper. See his *The Open Society and Its Enemies* (2d rev. ed.; London: Routledge and Kegan Paul, 1952), Vol. II, chap. 5. Cf. also Ludwig von Mises, *Human Action* (London: William Hodge, 1949), for a general economic treatise that consistently employs the conception of the minimization of dissatisfaction rather than the maximization of satisfaction.

Minimal Collectivization— the Definition of Human and Property Rights

Individual consideration of all possible collective action may be analyzed in terms of the costs-minimization model, but it will be useful to "jump over" the minimal collectivization of activity that is involved in the initial definition of human and property rights and the enforcement of sanctions against violations of these rights. Clearly, it will be to the advantage of each individual in the group to support this minimal degree of collectivization, and it is difficult even to discuss the problems of individual constitutional choice until the range of individual power of disposition over human and nonhuman resources is defined. Unless this preliminary step is taken, we do not really know what individuals we are discussing.³

The interesting, and important, questions concern the possible collectivization of activities beyond this minimal step of defining and enforcing the limits of private disposition over human and property resources. Why is further collectivization necessary? What are the limits of this pure *laissez-faire* model? If property rights are carefully defined, should not the pure *laissez-faire* organization bring about the elimination of all significant externalities? Why will the rational utility-maximizing individual expect the voluntary private behavior of other individuals to impose costs on him in such a world? On what rational grounds can the individual decide that a particular activity belongs to the realm of social as opposed to private choices?

The Range of Voluntary Organization

If questions such as these can be answered satisfactorily, even at the purely conceptual level, we shall have some theory of the organization of collective activity—indeed, of all human activity. For the most part, scholars who have worked in this field have approached the answering of such questions by at-

3. This is not to suggest that this preliminary step is unimportant or that it is not amenable to analysis. At this point, however, such an analysis would carry us too far afield. For our purposes, any delineation of property embodying separable individual or group shares provides a suitable basis.

tempting to explain the various kinds of relevant externalities that would remain in any *laissez-faire* "equilibrium." This approach seems likely to be misleading unless the equilibrium concept is defined to include the modification of private institutions. After human and property rights are initially defined, will externalities that are serious enough to warrant removing really be present? Or will *voluntary co-operative* arrangements among individuals emerge to insure the elimination of all relevant external effects? We must examine the action of private individuals in making such voluntary contractual arrangements before we can determine the extent to which various activities should or should not be collectivized.

We shall argue that, if the costs of organizing decisions voluntarily should be zero, *all* externalities would be eliminated by voluntary private behavior of individuals regardless of the initial structure of property rights.⁴ There would, in this case, be no rational basis for State or collective action beyond the initial minimal delineation of the power of individual disposition over resources. The "efficiency" or "inefficiency" in the manner of defining human and property rights affects only the costs of organizing the required joint activity, not the possibility of attaining a position of final equilibrium.

The choice between voluntary action, individual or co-operative, and political action, which must be collective, rests on the relative costs of organizing decisions, on the relative *costs of social interdependence*. The costs of organizing voluntary contractual arrangements sufficient to remove an externality or to reduce the externality to reasonable proportions may be higher than the costs of organizing collective action sufficient to accomplish the same purpose. Or, both of these costs may be higher than the costs of bearing the externality, the spillover costs that purely individual behavior is expected to impose.

As the analysis of Chapter 6 will demonstrate, the decision as to the appropriate decision-making rule for collective choice is not independent of the decision as to what activities shall be collectivized. Nevertheless, it will be helpful if we discuss these two parts of the constitutional-choice problem

4. Recall that externalities are defined in terms of reductions in individual utility, not in terms of objectively measurable criteria. Thus, our conclusion holds even though "equilibrium" may be characterized by smoke from a factory being observed to soil household laundry. Such an observation would suggest only that adequate compensations must have been, in some way, organized.

separately. Here we shall assume that, if an activity is to be collectivized, the most efficient decision-making rule will be chosen. That is to say, the rule will be chosen which will minimize the expected interdependence costs of organizing the activity collectively. This assumption allows us to use a single value for the expected costs of placing any given activity in the collective sector.

This single value may be compared with two other values. First, it may be compared with the expected costs of allowing purely individualized action to organize the activity. In this case, the whole of the interdependence costs, as we have defined this term, will consist of external costs. Secondly, we may compare the expected costs of organizing the activity collectively with the expected costs of purely voluntary, but not necessarily purely individualized, action. If no collective action is introduced, the private behavior of individuals will tend to insure that any activity will be organized in such a way as to minimize the interdependence costs under this constraint. That is to say, the more "efficient" of the two alternative methods of organization will tend to be adopted in any long-range institutional equilibrium. In a real sense, therefore, it will be necessary to compare the interdependence costs of collective organization with only the most "efficient" method of voluntary organization, individual or co-operative. As the analysis will show, however, there is some usefulness in distinguishing between the two methods of organizing activity voluntarily. In many, indeed in most, cases, some jointly organized co-operative action will be found in the minimum-cost solution for noncollectivized activities. Some joint action will take place with the aim of eliminating troublesome and costly social interdependence. Individuals will, in such cases, willingly bear the added costs of these voluntary contractual arrangements in order to reduce the externalities expected to result from purely individualized action. Under other conditions, and for other activities, the minimum costs of voluntary action may be attained with little or no joint effort. Here the full external effects of individualized behavior may be retained. In either case, the relevant comparison is that to be made between the more "efficient" method of voluntary organization and the expected interdependence costs of collective organization.

One further point should be made in this introductory discussion. Voluntary action may emerge which will include all members of the social group. Here the action may be institutionally indistinguishable from political ac-

tion. Governmental institutions may be employed to effect purely voluntary co-operative action. The characteristic feature would be the absence of any of the coercive or compulsive powers of the government. An example might be the organization of a village fire department.

A Conceptual Classification

We have assumed that the rational individual, when confronted with constitutional choice, will act so as to minimize his expected costs of social interdependence, which is equivalent to saying that he will act so as to maximize his expected "utility from social interdependence." We now wish to examine, in very general terms, the calculus of the individual in deciding what activities should be left in the realm of private choice and what activities should be collectivized. For any activity, the expected minimum present value of total costs expected to be imposed by collective decision-making shall be designated by the letter *g*. The individual will compare this magnitude with that which he expects to incur from the purely voluntary action of individuals. We shall make a further distinction here. We designate by the letter *a* the expected costs resulting from the purely individualistic behavior of private persons, after an initial definition of human and property rights, but before any change in institutional arrangements takes place. These costs represent the spillover or external effects that are anticipated to result from private behavior, given any initial distribution of scarce resources among individuals. We want to distinguish this level of expected costs, which represents nothing but external effects, from those costs that the individual anticipates to be involved in the organization of voluntary contractual arrangements that might arise to eliminate or reduce the externalities. The expected costs of an activity embodying *private* contractual arrangements designed to reduce (to internalize) externalities will be designated by the letter *b*. Note that these costs may include both external and decision-making components.

It is noted that the most "efficient" voluntary method of organizing an activity may be purely individualistic. Thus, in those cases when *a* is less than or equal to *b* ($a \leq b$), the organization represented by *b* will never be observed. The rationale for making the distinction between the individualistic organization and the voluntary, but co-operative, organization of activity stems from the analysis of those cases where *b* is less than or equal to *a* ($b \leq a$).

We now have for each activity three different expected costs which the individual may compare; these collapse to two in certain cases as indicated. There are six possible permutations of the three symbols, *a*, *b*, and *g*:

- | | |
|--------------|---------------|
| 1. (a, b, g) | 4. (b, g, a) |
| 2. (a, g, b) | 5. (g, a, b) |
| 3. (b, a, g) | 6. (g, b, a). |

Except for the relationship between the values of *a* and *b* noted in those cases where the most efficient form of voluntary organization is the purely individualistic, these permutations may be allowed to represent strong orderings of the three values of expected costs. That is to say, the individual is assumed to be able to order the expected costs from (1) purely individualistic behavior, *a*; (2) private, voluntary, but jointly organized, behavior, *b*; and (3) collective or governmental action, *g*. We assume that the individual can order these values for each conceivable human activity, from tooth-brushing to nuclear disarmament. Since, in our approach, the objective of the individual is to minimize interdependence costs, as he perceives them, the ordering proceeds from the lowest to the highest value. We get, in this way:

- | | |
|-----------------------|-----------------------|
| 1. ($a \leq b < g$) | 4. ($b < g < a$) |
| 2. ($a < g < b$) | 5. ($g < a \leq b$) |
| 3. ($b < a < g$) | 6. ($g < b < a$). |

We shall discuss each of these possible orderings separately.

1. In the first permutation *a* is, by definition, equal to or less than *b* ($a \leq b$). *b* should, therefore, never be observed. *b* assumes a value different from *a* only when some voluntary organization other than that embodying purely individualized decisions becomes more "efficient."

One subset of activities characterized by this or the second ordering merits special attention. When the expected organizational costs of purely individualized behavior are zero ($a = 0$), there are no external effects by definition. This would be characteristic of all activities which are, in fact, "purely private," those which the individual may carry out as he pleases without affecting the well-being of any other individual in the whole social group. For this subset of human activities, no external effects are exerted by individual behavior. The obvious constitutional choice to be made by the rational in-

dividual will be to leave all such activities in the private sphere of action. This is, of course, our bench-mark case discussed above.

2. The second ordering ($a < g < b$) need not be separately discussed since the only relevant relationship is that between the expected costs of organizing an activity by the most efficient voluntary method, in this case represented by a , and the expected costs of organizing an activity collectively, g .

Except for the particular case noted above, where $a = 0$, note that for all of the activities contained in, or described by, the first and second orderings, and for *all* of the activities described by the remaining orderings, *some* external effects must be expected by the individual to result from purely individualized behavior. Let us now examine more carefully the remaining activities described by the first or the second ordering. By hypothesis, $a > 0$, so that some external or spillover costs are anticipated by the individual as a result of the actions of other individuals if the activity is organized through purely individualistic choices. However, since these costs are lower than those expected from either voluntary co-operative action or from governmental action, the "costs of social interdependence" are effectively minimized by leaving such activities within the sector organized by purely individualistic or private decisions. Examples are familiar here. The color of the automobile that your colleague drives certainly influences your own utility to some extent. Spillover effects are clearly present, but you will probably prefer to allow your colleague free individual choice as regards this class of decisions. You anticipate that this individualistic organization of human behavior is less costly to you, over-all, than either co-operative action organized to make all such decisions in concert or governmentally dictated regulations, which, you will recall, must apply to you as well as to your colleague.

The expected costs arising from the difficulties of organizing voluntary, but co-operative, action will be somewhat different from those expected to result from collective action. The costs of the purely voluntary co-operation that may be necessary to reduce the relevant externality are almost wholly those of decision-making: that is, such costs stem from the difficulties expected to be encountered in the reaching of agreement on joint decisions. Since individuals will not voluntarily agree to decisions contrary to their own interests, no part of these potential costs can consist of discounted expectations of adverse decisions. Voluntary agreements need not, of course, extend to the point of eliminating the externalities expected from private action, in

which case external cost elements remain in b . By comparison, the expected costs of collective action always involve both of the two components of costs that we have discussed. The expected value, g , includes two elements, as the analysis of Chapter 6 will more fully demonstrate. First, there are the costs involved in making decisions, in reaching agreement. But to these must be added the expected costs of possible decisions made adversely to the interests of the individual. Only if the unanimity rule is dictated for collective decisions will this second element, which represents a particular sort of external cost, be absent.

3. Activities characterized or described by the third ordering ($b < a < g$) are more interesting. Here the costs from the organization of the activity through voluntary contractual arrangements are expected to be less than those imposed by purely individualistic action, which are, in turn, less than those expected from collective organization. There may exist significant external effects from purely individualized behavior; if no contractual arrangements among individuals are allowed to take place, these externalities may impose considerable costs on the individual. On the other hand, the organization of such arrangements may be relatively profitable to all individuals directly affected by the externalities involved. This being true, the most efficient means of organizing these activities will be to allow them to remain in the private sector, with collective action, if any, limited to those steps that might be taken to insure freedom of private contracts. Note that this ordering suggests that the individual prefers to bear the external costs of individual behavior rather than to shift the activities in question to the collective sphere, even if there should be restrictions that prevent the desired voluntary co-operative solutions from being realized.

The set of activities described by this ordering is very important. It includes many of the activities that are embodied in the institutional structure of the market or enterprise economy. The business firm or enterprise is the best single example of an institutional arrangement or device that has as its purpose the internalization of external effects.⁵ If, by combining resources into larger production units, over-all efficiency is increased, there are gains to all parties to be expected from arrangements facilitating such organiza-

5. The fourth ordering ($b < g < a$) might, of course, also characterize the activities of a business firm, but this possibility does not modify the argument here.

tion. The individual artisan is a rarity in the modern economy because there do exist increasing returns to scale of production over the initial ranges of output for almost all economic activities.⁶ Voluntary private action, motivated by the desires of individuals to further their own interests, will tend to guarantee that the externalities inherent in increasing returns of this nature will be eliminated.⁷

This ordering ($b < a < g$) places the expected costs of purely private or individualized behavior below that of collective action ($a < g$) in spite of the fact that external effects are anticipated. The organization of higher education, especially professional training, may provide a helpful example. Due to the institutional restrictions on the full freedom of contract in capital values of human beings, the arrangements that might arise to insure the removal or reduction of certain externalities in higher education may be quite difficult to secure. Although students may recognize that they will be the primary beneficiaries of further professional training and that investment in such training would be financially sound, their inability to "mortgage" their own earning power may prevent them from having ready access to loan markets. Of course, collective or State action may be taken which will remove or reduce the private externalities involved here. However, many individuals may prefer to accept the expected costs of private decision-making in this area

6. The business firm emerges as the institutional embodiment of this fact, since co-ordination may be achieved more efficiently in this way than through the use of direct contractual relations among all parties to the co-operative endeavor. On this point, see Ronald H. Coase, "The Nature of the Firm," *Economica*, IV (1937), 386-405. Reprinted in American Economic Association, *Readings in Price Theory* (Chicago: Richard D. Irwin, 1952), pp. 331-51.

7. At first glance, it may seem awkward to fit the increasing-returns case into our general conceptual scheme. Individual production organized in small units does not normally impose external costs directly on other individuals. Instead, the combination of productive factors into larger producing units results in greater total income for all members of the group. However, stated in opportunity cost terms, any failure of production to be organized in efficient-sized units may be said to impose external costs, even if indirectly. So long as the organizing entrepreneur does not secure for himself the full value of the "surplus" resulting from combining resources, some external "benefits" from this action will be expected by all individuals; and, of course, competition among potential entrepreneurs will act to prevent any such full appropriation of the "social surplus" created by more efficient organization. The entrepreneurial behavior, therefore, may be said to reduce the "external costs" imposed on the individual by inefficient "handicraft" production.

rather than to undergo the expected costs of collectivization, which represent yet another kind of externality. This example is introduced here, not to provoke controversy on the merits of the position, but rather because professional education is one of the few current activities that might be described by this particular rank ordering between individualistic and collective action. Normally, if voluntary contractual arrangements are the most efficient means of organizing activity, these arrangements will tend to emerge, and the rank order of the alternative forms of organization is unimportant. In the particular case of professional education, if this ordering should be descriptive, collective action may be suggested to facilitate the emergence of the efficient private arrangements.

4. The fourth ordering ($b < g < a$) describes the individual assessment of a related, but distinct, set of human activities. This set is perhaps more important than the third for our purposes, since more controversial issues relating to possible collectivization may be expected to arise in the discussion of activities falling within this set. The individual expects that voluntary co-operative action will be the most efficient means of organization, and also that arrangements will tend to arise which will prove sufficient to remove or to reduce the external effects of private behavior, effects which may be slightly more serious here than in those activities described by the third ordering. Furthermore, the rank order here suggests also that the individual prefers a shift of the activities to the public sector if the voluntary arrangements required are not possible for some reason. Collective decision-making is expected to impose lower interdependence costs on the individual than purely individualistic decision-making. If care is not taken in the discussion of new activities falling within this set, the comparison that will tend to be made is between the costs of collectivization on the one hand and the costs of purely individual organization on the other, with the first, and possibly most efficient, alternative being overlooked or assumed not to exist.

Several of these points may be clarified by examples, and we can locate numerous ones in a single general set of activities encompassed by the term "municipal development." Let us first take the case of a proposed suburban shopping center. The several parcels of land are initially owned by separate individuals, but external economies are evident that may be expected to result from a co-ordinated development of the whole area. Therefore, it will be to the advantage of a developing firm, as well as to that of the separate indi-

vidual owners, to organize contractual arrangements that will "internalize" most of the relevant external economies. Since the group is a reasonably small one, the costs of reaching agreement should not be overwhelming, although considerable bargaining effort may be exerted. In any case, a unified development could be predicted. No significant external economies would exist after the development is completed, and no collective action in the form of zoning ordinances or regulations will be needed. For such problems it is erroneous to contrast the expected results of purely individualistic development with development under a city plan or zoning ordinance and to opt in favor of the latter. This approach too often neglects the presence of mutual gains that may be secured by all parties from the organization of private contractual arrangements designed specifically to internalize much of the externality that initially exists.

Let us now look at the already developed residential area. Each property owner in the area will participate in the sharing of certain elements of "social surplus" which cannot be separated readily into distinguishable and enforceable property rights. This "surplus" includes such things as neighborhood atmosphere, view, absence of noise, etc. Recognizing the existence of this, each owner will seek measures through which the "surplus" may be protected against undesirable "spoilage" by the unrestricted private behavior of others. We know, of course, that the standard response of the individual in such situations is that of lending support to collective intervention in the form of municipal zoning. Let us examine here, however, whether or not voluntary arrangements may emerge which will make collective zoning action unnecessary. It seems clear that many institutional devices might be considered. If no protection against expected external diseconomies exists, a unit of property is less valuable to the owner than it would be with some protection. Without collective action the only owner who could insure this protection is the one who holds a sufficient number of single units to be able to internalize most of the expected spillover damages. It will be to the interest of a large realtor to purchase many single land units in the area. The capital value of each residential dwelling to this purchaser will tend to be greater than the capital values to the single individual owners. Mutual gains from trade will be possible. Moreover, a "solution" may emerge which will effectively eliminate the externalities or reduce these to acceptable dimensions. This shift from single ownership to corporate ownership of multiple units is only one out of the many possible institutional arrangements that might

evolve. Covenants, corporate ownership of titles with individual leaseholds, and other similar arrangements might serve the same purpose.

Before he makes his constitutional choice, the rational individual should compare the expected costs of such voluntary arrangements with the expected costs of collective action. The voluntary action will always be more desirable in the sense that it cannot place any unwanted restrictions on use of property. Only if collective action is expected to be considerably more efficient will this advantage of voluntary action be overcome. Before making a permanent choice among the alternative organizations of activities, it is essential to recognize that the costs of organizing voluntary co-operative arrangements will not be so great in a dynamic situation as they will be in a static one. Over a period of development and growth, institutional changes are accomplished with much greater ease.

To continue our example, it may prove quite difficult to reorganize the developed residential area. The large realtor who desires to purchase multiple units in an area from single-unit owners may encounter prohibitive bargaining costs. The single owner-occupier who desires to do so may try to exploit his individual bargaining position to the maximum and may, in the extreme case, secure for himself the full amount of the "surplus." Faced with single owners of this persuasion, the entrepreneur will have little incentive to undertake the organizing costs that will be necessary. In such cases collective action through zoning may be indicated. The activity would be characterized by the fifth or sixth rather than the fourth ordering.

This situation in the already developed area may be compared with that in the area remaining to be developed. In the latter it will be to the advantage of the individual owner of a parcel of land to allow the whole subdivision to be developed as a single unit, at least a sufficient portion of the subdivision to secure some incremental capital value. Only through unified development can a "social surplus" be created. Individual bargaining seems likely to be considerably less intense here; costs of organizing the required internalization will be reduced. Thus, it may be quite rational for individuals in the older residential areas of a city to choose collective action in the form of zoning, and at the same time it may be irrational for the owners of undeveloped units to agree.⁸

8. For an extended discussion of the problem of externalities in connection with municipal development, see Otto A. Davis, "The Economics of Municipal Zoning" (unpub-

Numerous other practical examples outside the municipal development field may be used to illustrate this fourth set of activities. Common oil pools, hunting preserves, fishing grounds, etc.: these have all provided familiar examples of external diseconomies in the literature of welfare economics. In deciding whether collective intervention is required in all such cases, the individual must try to evaluate the relative costs. Given individualized operation, production functions are interdependent; but this very interdependence guarantees that there exist profit opportunities from investment in "internalization." The capital value of the common oil pool to the single large owner, where he owns all drilling rights, must exceed the sum of the capital values of the separate drilling rights under decentralized ownership. Moreover, if the fourth ordering is descriptive, the most efficient means of organizing such activities is that of leaving such voluntary solutions full freedom to emerge.

5. The individual, at the time of the ultimate constitutional decision, should choose collective decision-making only for those activities that he describes by the fifth ($g < a \leq b$) and the sixth ($g < b < a$) orderings. The fifth ordering describes an activity for which some external effects from purely individualistic action are expected ($a > 0$), and for which the most efficient means of eliminating or reducing these effects is organization of the activity through governmental processes. Voluntary contractual arrangements among separate persons are not expected to emerge independently of collective action, since the costs of organizing decisions in this way are anticipated to be prohibitive. The relevant comparison here is between the expected costs of collective action and those expected to result from purely private behavior.

Many of the accepted regulatory activities of governments seem to fall within the set of activities described by this fifth ordering. The expected costs of organizing decisions voluntarily on the location of traffic lights, for example, may be minimized by no traffic control at all. However, this value may be much in excess of the costs that the individual expects to incur as a result of organizing traffic control collectively. The cost reduction that may be accomplished by collectivization becomes more significant when it is noted that such regulatory activities will normally be delegated to single decision-

lished Ph.D. dissertation, University of Virginia, 1959). Also see the chapter on "Housing and Town Planning" in F. A. Hayek, *The Constitution of Liberty* (Chicago: University of Chicago Press, 1960).

makers who will be empowered to choose rules for the whole group. Activities in this set involve high external costs if organized privately, but the external costs resulting from adverse collective decisions are not significant.

It is important to note that this set of activities can include only those which, if collective action is to be taken, will be rationally delegated to a decision-making rule requiring significantly less than full agreement among all members of the group. This conclusion will emerge from the analysis of the following chapter. At this point it is perhaps sufficient to point out that the descriptive ordering ($g < a \leq b$) suggests that, while collectivization of the activities will minimize expected interdependence costs, the most efficient voluntary organization is the purely individualistic. That is to say, costs will be minimized by allowing all of the external effects of private individual behavior to continue unless collectivization is carried through. However, if the collective decision-making rule should be that of unanimity (or approximately this), g would surely not diverge appreciably in value from some hypothetical b which would represent the costs of private contractual arrangements. The reduction in expected costs by a shift from co-operative voluntary contractual arrangements to governmental organization which this ordering suggests could be expected only if the costs of bargaining should be large and the expected damage from adverse collective decisions should be small. The fifth ordering will tend, therefore, to be characteristic of all rationally chosen collective activities, which in their normal operation do not exert significant effects on the net worth of the individual.

6. The sixth ordering ($g < b < a$) describes those activities in which the untrammeled individualistic behavior of persons will create important spill-over effects. These activities are similar to those described by the fourth ordering ($b < g < a$). If no collective action is taken in either case, voluntary contractual arrangements will emerge to reduce the externalities. The difference lies in the relative costs of organizing such internalization in the private and the public sector. The individual, who is presumed able to make a comparison between these expected costs, should choose to shift to the public sector all activities that he describes by this sixth ordering.

This set includes the most important activities of governments, measured in a quantitative sense. The provision of truly collective goods, which will be discussed in some detail later, falls in this general category of activities. If no police protection were to be provided collectively, surely voluntary arrange-

ments would be worked out to secure some co-operation in the organization of a private police force. Towns without formally organized collective fire protection organize voluntary fire departments. Numerous other examples could be cited to illustrate the activities falling within this set for the average individual.

Normally, for an activity in this set, the impact of adverse collective decisions on capital values may be significant for individual calculus; but the costs of reaching agreement, either voluntarily or collectively, may also be high. If the rule of unanimity were to be chosen as the appropriate one, the fourth and sixth orderings would become almost identical; collective action here would, in one sense, be voluntary. However, the difficulties involved in reaching general agreement among all members of the group may explain the greater efficiency of collective action for many activities. The costs of reaching agreement on decisions rise quite sharply as the unanimous support of the whole group is approached. The closer to unanimity is the rule required for decision, the greater is the power of the individual bargainer and the greater the likelihood that at least some individuals will try to "exploit" their bargaining position to the maximum extent possible. Voluntary contractual agreements sufficient to remove the externality completely may be as costly as the organization of collective action under the unanimity rule. However, the costs expected to result from adverse collective decisions, although high, may not be so great as to prevent some rational choice of a less-than-unanimity rule for decisions organizing many collective activities. The reduction in expected costs that may be secured by the change from the unanimity rule to, say, a 90 per cent rule, may more than offset the increase in total expected costs involved in discounting possible adverse decisions when the individual falls in the minority 10 per cent.

Implications

We have defined the possible orderings which are sufficient to describe all human activity in terms of the expected costs of private and collective organization. At the conceptual level, we may call our classification a "theory" of organization. However, in a more positive sense, we have actually done little more than to say that the individual should choose the organization that he expects to be the most efficient. Nevertheless, in specifying somewhat care-

fully the individual calculus in this respect, we are able to draw some important implications for a more positive interpretation of some of the real-world policy issues.

The most important implication that emerges from the approach taken here is the following: *The existence of external effects of private behavior is neither a necessary nor a sufficient condition for an activity to be placed in the realm of collective choice.* The fact that the existence of externality is not sufficient has been widely recognized, but it is clearly suggested by our classification. As indicated, externalities will continue to exist in those activities characterized by the first ordering ($a \leq b < g$), except for the subset described as "purely private" where no external effects are exerted ($a = 0$). Yet it will be irrational for the individual to undertake either private or collective action designed specifically to remove these externalities. The expected costs of interdependence (or the converse—the expected benefits of interdependence) are not sufficient to warrant any departure from the norm of purely atomistic-individualistic behavior.

Not so widely recognized is the fact that the existence of external effects from private behavior is not even a *necessary* condition for an activity to be collectivized on rational grounds. The activities described by the sixth ordering, which are perhaps the most important ones performed by governments, may be characterized by the absence of externalities in the final equilibrium resulting from free individual choice. Contractual arrangements will tend to be worked out on a voluntary basis which will effectively reduce and may completely remove the externalities. The advantage of collective organization for activities in this group lies wholly in its greater efficiency.

Interestingly enough, the collectivization of activities described by the sixth ordering may involve the introduction of externality—of external effects. In a final equilibrium, private contractual arrangements may remove all external effects of individual behavior, but this organization may prove quite costly to maintain. It may be quite rational in such cases for the individual to support a shift of the activity to the collective or public sector with decisions therein to be made by some less-than-unanimity rule. Moreover, under any such rule, there will exist some expected external costs of possible decisions adverse to the interests of the individual.

The description of activities by the orderings employed in this chapter broadens the meaning of the term "externality," but at the same time it serves

to tie together several of the loose ends that seem to have been left dangling in much of the discussion of this subject. The classical examples of external economies and diseconomies constitute only a small set of activities, and no one has discussed carefully the criteria for determining when an externality resulting from private behavior becomes sufficiently important to warrant a shift to the public sector. Few scholars in the field have called attention to the fact that much voluntary behavior is aimed specifically at removing external effects, notably the whole economic organization of activities in business enterprises. The limits to voluntary organization, and thus the pure *laissez-faire* model of social organization, are defined not by the range of significant externalities, but instead by the *relative costs of voluntary and collective decision-making*. If decision-making costs, as we have defined them, are absent, the pure *laissez-faire* model will be rationally chosen for all activities. All externalities, negative and positive, will be eliminated as a result of purely voluntary arrangements that will be readily negotiated among private people. Almost by definition, the presence of an externality suggests that "mutual gains from trade" can be secured from internalization, provided only that the decision-making costs do not arise to interfere with the reaching of voluntary agreements.

Although it has surely been widely recognized, to our knowledge no scholar has called specific attention to the simple and obvious fact that collective organization of activities in which decisions are made through less-than-unanimity voting rules must also involve external costs for the individual.

These conclusions, which will be more firmly grounded in the analysis of the following chapters, point toward a return to an older and more traditional justification of the role of the State. Instead of advancing the discussion, the modern emphasis on externalities has, perhaps, confused the issue. The collectivization of an activity will be supported by the utility-maximizing individual when he expects the interdependence costs of this collectively organized activity (interdependence benefits), as he perceives them, to lie below (to lie above) those involved in the private voluntary organization of the activity. Collective organization may, in certain cases, lower expected costs because it removes externalities; in other cases, collective organization may introduce externalities. The costs of interdependence include both external costs and decision-making costs, and it is the sum of these two elements that is decisive in the individual constitutional calculus.

6. A Generalized Economic Theory of Constitutions

... government is not something which just happens. It has to be "laid on" by somebody.

—T. D. Weldon, *States and Morals*

In Chapter 5 we have examined the calculus of the individual in determining the activities that shall be organized privately and collectively. As there suggested, the individual must consider the possible collectivization of all activities for which the private organization is expected to impose some interdependence costs on him. His final decision must rest on a comparison of these costs with those expected to be imposed on him as a result of collective organization itself. The costs that a collectively organized activity will impose on the individual depend, however, on the way in which collective decisions are to be made. Hence, as suggested earlier, the choice among the several possible decision-making rules is not independent of the choice as to the method of organization. In this chapter we propose to analyze in some detail the problem of individual choice among collective decision-making rules. For purposes of analytical simplicity we may initially assume that the organizational decision between collectivization and noncollectivization has been exogenously determined. We shall also assume that the specific institutional structure through which collective action is to be carried out is exogenously fixed.¹

1. This particular assumption is required to avoid ambiguities that might arise concerning the possible "pricing" of collective services. As we shall discuss later, such institutional devices may, in some cases, serve as analogues to more inclusive decision rules.