The Social Evolution of Cooperation

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INTRODUCTION

The central questions of political theory are an explanatory and a normative question: Why does the state work? and How can we justify its working the way it does? Both questions are forced upon us by concern with conflict and the realization that in resolutions of conflict some typically benefit only if others lose. The traditional answers to the first question, why the state works at all, are that it is backed by power and that it depends on cooperation. These answers undergird the conflict and the cohesion models of society, which are commonly taken to be alternative, contrary models. I wish to defend the thesis that they are not contrary models, that power and cooperation are heavily intertwined in the organization of society and government, indeed, that they are mutually reinforcing in the sense that power is based in cooperation and that it also enables cooperation.

The two questions are sometimes reduced to one on the presumption that the explanatory question is answered normatively in the following way. Cooperation is often thought to require normative commitments, and these commitments can be taken to give an answer to the fundamen-

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2. Talcott Parsons, "Power and the Social System," pp. 94–143 in Steven Lukes, ed., Power (New York: New York University Press, 1986), 121. If one could read the notion of "a common normative system" to include rampant egoism, Parsons's view would be true. He clearly means the notion to be a counter to rampant egoism.

tral example of cooperation interactions is exchange: I have something you want and you have something I want. I’d rather have what you have than what I have and you’d rather have what I have. We can both benefit by exchanging. There is conflict because each of us has to give up something in order for the other to gain. And there is coordination because we can both be made better off at once by exchanging.

Much of the discussion of cooperation, both in ordinary language and political theory, runs together the latter two categories that I have called coordination and cooperation. I don’t wish to quibble about vocabulary here but I do wish to keep the interactions straight, because the distinction between them is clearly very important in explanations of many social processes and institutions. It is in the explanation of these that I am interested. To avoid some confusion I will often refer to what I have here called cooperation interactions as exchange, although the category of exchange is not as extensive as that of cooperation.

What we exchange may be objects: you give me a book, I give you one. Or it can be actions: you do something for me and I do something for you. This sounds like the very stuff of politics. Or what we exchange can even be abstentions: the United States abstains from building a new weapons system if the Soviet Union abstains from building the same. Exchanges can be perverse in the sense that the element of conflict, of loss, may dominate that of coordination, of gain. For example, you give me the book you wrote and I retort by giving you the book I wrote.

Coordination problems are commonly resolved by conventions. We somehow happen on a way of coordinating that might be one of many plausible ways of coordinating well. Once we have done so, there is little or no incentive to do anything but go along with the convention. This is an account that is given by Hume and articulated in game theoretic terms by David Lewis. For example, the driving convention in the United States may have arisen spontaneously without legal backing, although it is now backed by the force of law. The very orderly convention for time that we now follow first arose almost spontaneously only last century. The morass of diverse local sun times that were the norm in the United States until 1883 were too confusing to keep sensible railway schedules. The railways coordinated on standard railway time and eventually cities, states, and—in living memory—the nation adopted laws to mandate


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standard time. One can see the problem from the fact that still in the 1960s there was a 35-mile bus trip from Steubenville, Ohio, to Moundsville, West Virginia, that required seven time changes.

COORDINATION AND POWER

Successful social coordination, whether intended or not intended, can create extraordinary power. Even the driving convention carries with it great power to sanction those who violate it, as many who are accustomed to one convention learn to their sorrow when they drive in nations that follow the opposite convention. Each of us may go along with a particular coordination merely because it would be costly not to. But because each of us goes along, the resulting convention may elevate someone to a station of power. This realization is at the core of the nascent theory of the state according to Adam Smith, who—I have it on the authority of certain of my colleagues at the University of Chicago—is every economist’s favorite political theorist.

The usual concern with Smith’s theory of the state is with his apparent theory of stages of development, from the state of nature through pastoral societies to, eventually, the England of his own time. I am not concerned with this account but only with the way in which Smith implicitly explains the power of government. For example, in a pastoral society he supposes that an individual shepherd will find it in his interest to be part of a group of shepherds because the group or tribe can better protect each individual against various depredations. In a competitive world of pastoralists, one benefits best from association with the most powerful tribe. Hence, if someone rises to capable leadership with a tribe, others will be attracted to join with it. The result eventually will be remarkable power in the control of the leader of the tribe. Combination for the sake of survival then makes it possible not merely to survive but to thrive and even to plunder.

This is essentially an argument from coordination. We coalesce be-

6. Ibid., p. 49.
8. James remarks, “This tendency of organic unities to accumulate when once they are formed is absolutely all the truth I can distill from Spencer’s unwieldy account of evolution” (William James, “Herbert Spencer,” pp. 107–22 in James, Essays in Philosophy (Cambridge, MA: Harvard University Press, 1978; essay first published 1904), 119).
cause it is individually in our interest to do so as long as others do so as well. What we need to guide is in coalescing with others is merely the evidence of sufficient leadership and sufficient members to make our joining them clearly beneficial. If others were coalescing around a different leader or a different group, we would be as pleased to join with them. On this evolutionary theory of the growth of power, fitness leads not merely to survival but also to increasing fitness. Power may not simply be a resource that can be expanded until it is gone; rather it may derive from coordination that recreates itself.9

That this is a central part of the power of even modern states can be shown by the answer to an apparent conundrum in John Austin's theory of law, according to which obedience to law is based on the threat of sanction.10 We may call this the 'gunman theory' of law.11 The conundrum is that, if we are to be made to obey law by threat of force, then the state will be unable to mount adequate mechanisms of enforcement. Hume says, "No man would have any reason to fear the fury of a tyrant, if he had no authority over any but from fear; since, as a single man, his bodily force can reach but a small way, and all the farther power he possesses must be founded either on our own opinion, or on the presumed opinion of others."12 As a contemporary lawyer, this argument: "No state could possibly compel people to obey all these rules at gunpoint; there would not be enough soldiers and policemen to hold the guns (a sort of Orwellian vision of society), they would have to sleep sooner or later, and then anarchy might break out."13 Anarchy might indeed break out, but as we all know it generally does not even under far

9. Of course, there may be some conflict in our group. I may wish I were leader in your stead. To become leader, however, I will need to gain a sufficient following to make it the interest of others to recoordinate behind me.
12. David Hume, "Of the First Principles of Government," pp. 32–36 in Hume, Essays Moral, Political and Literary, ed. by Eugene F. Miller (Indianapolis, Ind.: Liberty Press, 1985; essay first published 1741), 34. Many philosophers have followed Hume's view. Although he seems to know better in other places, Hume here fails to note that "the presumed opinion of others" need be only the opinion that they are themselves at risk if they do not support the tyrant. They can take that risk with impunity only if they are relatively sure others will join with them, that is, will coordinate on redefining power. See further, Gregory S. Kavka, Hobbesian Moral and Political Theory (Princeton: Princeton University Press, 1986), 254–66. Kavka cites several references (ibid., p. 257n).
turned on a civic norm of cooperation or a shared commitment to a particular set of values.

In the coordination theory it is also easy to grasp the power of passive disobedience, as in the Indian independence movement or the American civil rights movement, which depends on the power of popular coordination against the limited capacity of a normal state to control its population. That there is differential capacity for coordination is clear. The large population often cannot coordinate except by careful, covert conspiracy while the minions of the state can conspire openly. What makes passive disobedience a rare device is that it too requires open conspiracy, hence widespread moral agreement. But passive disobedience is not anarchy, or at least not chaos. It is generally quite orderly. If there is great disorder, it is often introduced by the state in the effort to rout the orderly resisters.

Exchange

Perhaps the interaction that most commonly underlies what we call cooperation is that of the game theorist's favorite game, the prisoner's dilemma. This game was discovered or invented—it is not clear which is the more apt term here—by Merrill Flood and Melvin Dresher, two early game theorists who were trying to test bargaining theories with experimental games. Oddly, two of the games with which Flood experimented before the prisoner's dilemma involved simple exchanges—one of old cars for money. He seems not to have seen that his prisoner's dilemma game was a simplification and generalization of such exchanges. Unfortunately, this association got lost in the later naming of the game by A. W. Tucker, who saw in the game a perverse analog of American criminal justice, in which prosecutors extract confessions on the promise of reduced sentences. Social theorists have come to see prisoner's dilemmas everywhere in social interaction and many have been surprised by the ubiquity of the game. Had the game originally been named "exchange," we would have expected it to be ubiquitous.

14. The unnamed prisoner's dilemma is reported in Merrill Flood, "Some Experimental Games," Management Science 5 (October 1958):5-26, especially pp. 11-17. It was less accessible as published in "Some Experimental Games," Rand Corporation Research Memorandum RM-789-1, 20 June 1952. To my knowledge, this is the first instance of the appearance of the prisoner's dilemma.

15. Merrill Flood, private communication, 25 February 1975, reports that Tucker gave the game its present name.


Ordinarily we think of exchange as essentially a two-party affair, as in Flood's games over the sale of used cars in California. But the strategic structure of exchange can be generalized to any number of players. In its many-person or collective guise, exchange is a very interesting problem at the core of the issue of social order. It is in some ways less tractable than the ordinary two-party problem and, indeed, it entails the perversity of what Mancur Olson has called the "logic of collective action." Under this logic, a group of people with a common interest that requires common action may share an interest collectively but not individually. You and I both want cleaner air and we can both contribute to cleaning it up by not burning our leaves or grilling our dinners over charcoal and by paying more for cars that pollute less. Unfortunately, it is in my interest for everyone else to behave well in these ways, but it is not in my interest for me to behave well. The best of all worlds for me, egocentric as I am, is that in which you all behave well while I barbecue and otherwise pollute to my heart's content.

This is not unlike the motivations in Flood's and Dresher's original, still unnamed, prisoner's dilemma or in any ordinary exchange. In the best of all worlds for Flood in one of his car-buying games, he would have got the car without having to pay for it. At the level of two-person exchange in our actual world, that might require theft. But if I pollute the air of thousands of asthma sufferers in order to gain a slight pleasure, that is not theft—it is just the dismal logic of collective action. When we want benefits from collective exchange, we are slapped by the back of the invisible hand that co-ordinates us to success in dyadic exchanges on the market.

The problem of pollution is a perverse and in some degree a modern variant of the central problem of collective action in social life. The collective problem of pollution has to do with the failure to control destructive impulses that are individually beneficial. The more urgent problem at the base of social life is that of motivating constructive actions to create order and wealth. The order we enjoy in a well-ordered state is in part the product of large-number exchanges or collective actions in which we individually contribute to the provision of a collective good. Collectively we may create resources that give us collective power. But generally we cannot count on individual generosity to contribute to collective endeavors. We need the motivations of direct benefit to individuals that made Flood's game of buying and selling a used car easy

problem. It was easy because neither the buyer nor the seller could get the benefits of the exchange without paying the cost of giving up the money or giving up the car. Often the only way to tie the benefits and costs of collective action so directly together is through legal sanctions. Our cars do not pollute as much as they once did because the state forces us to buy cars with pollution control devices. While many people might pay extra for optional safety equipment such as airbags or seatbelts on their cars, presumably few would pay extra for optional pollution control equipment.

Traditional political philosophers suppose that voluntary collective action is hard to motivate. They have commonly argued that we therefore create states with the power to sanction people individually. Not surprisingly, this move is ridiculed as circular because it supposes that we solve the grievous problem of collective action by collectively acting to solve it. This would not be a helpful explanatory move. Yet it does seem true that much of the source of a society’s power to motivate collective action comes from mutual cooperation. If this is so, must people not finally be motivated primarily by norms rather than by interests when they are concerned with social order? Surely to some extent people are motivated by norms. But much of modern social life seems much more heavily to depend on motivations of interest. The extraordinary wealth of industrial societies would be hard to explain if norms were thought to be the central motivators of workers on the job. Then do we partition ourselves and act from norms in politics and from interests in economics? That seems to be the central division for many scholarly accounts and, on the apparent views of some people, it underlies our division into academic disciplines.

Against this way of viewing social cooperation, I think that a large part of the answer to our seeming paradox is that much of the cooperation that is needed to create central power to regulate further cooperation grows out of a substantially different form of collective interaction: it grows out of games of coordination, not out of games of exchange. Coordination begets power that begets sanctions that motivate collective exchange. Of course, the causal chain of social life will not typically be so simple and pristine as this. Indeed, there will be no beginning for the chain. In any actual institution we will see an amalgam of resources that are sometimes created by coordination, sometimes by voluntary collective exchange, and sometimes by the use of prior resources to compel further contributions to the collective stores. There may be elements of norm-guided behavior in any of these, especially in voluntary collective exchange. But for many institutions the clear structure of motivations is individual incentives derived largely from the power of coordination.

Confusions between Coordination and Exchange

Is the distinction between coordination and exchange important for our further understanding of political theory? To see that it is, let us briefly consider several issues. First, let us consider the conceptual issue in the understanding of political power. Debates on power are often confused by the failure to distinguish the sources of it. Then let us turn to three instances of confusion in important political theories that are also based on this failure. These theories are Hobbes’s theory of political society, Marx’s optimistic theory of revolution, and contemporary explanations of the common law that base the law in arguments from efficiency. Keeping straight the different strategic sources of power in the nature of power and in such theories as these is crucial to political history.

Power

First, consider conceptual confusions in the notion of power. All too often discussions of power are concerned too soon with what power is rather than with how it comes to be, how it is created. As noted above, political power can be based directly in successful coordination of many people. Such coordination may sensibly be called a form of power. Power can also be based indirectly in collective exchange, which can produce resources, such as money. People can cooperate in such exchanges either spontaneously or under threat of sanctions. The force of the sanctions may derive from the power of a coordinated body or from the availability of resources to the state or other sanctioner. These resources can be used to manipulate or coerce people to do things unrelated to the original exchange that produced the resources.

It follows that power derived from resources can be used to augment the resources. It can also be expended as the resources are expended, as in war; and, if it is not adequately augmented, it can be exhausted. Power based in coordination can increase as it attracts further people to the coordination. For example, Smith’s pastoral leader may be so powerful as to attract others to his following because they seek his protection. Power based in coordination can be destroyed very quickly by recoordination behind a different leader or on a different convention, or even by the collapse of coordination. For example, in Xenophon’s account, Cyrus’s upstart army was on the verge of victory over Darius’s army and might have routed the latter when Cyrus charged into battle against the
king and was slain. As the news spread, his army collapsed before an alternative leader could be elevated to its head. Although it had taken months to mold that army, its extraordinary power was dissipated in hours.18 Darius seemed correctly to infer that victory went to the survivor even if the survivor may have lost most of the battle.

Power based in coordination may be harder to manipulate than that based in resources. It may be more fragile, as the Greeks fighting on the side of Cyrus learned, and it may be more resistant to changes in the uses to which it is put. It is often associated with charisma. Power based in resources extracted from collective exchange or from coerced contributions will be far more fungible. It can often be seized, as in coups.

Power based in coordination is rather like the money system than like exchange. We generally can rely on the intrinsically worthless paper money in our pockets just because virtually everyone else relies on it. If, however, enough of us suddenly were to coordinate in running on our banks to convert our currency into something else—silver, gold, or yen—our currency would suddenly lose its value. Coordination power is similarly a function of reinforcing expectations about the behavior of others. Exchange power is more nearly like the actual goods that are in exchange, either for money or for other goods. It takes the form of deployable resources. It is this dual nature of the sources of power and therefore of the workings of power that make efforts to define it generally unsatisfactory in the vast and vastly disagreeable “power is . . .” literature. For example, contrary to the view of Parsons, there is no “generalized medium” of power analogous to the medium of money in exchange.19 Coordination power shares the characteristic of money in that it depends on mutually reinforcing expectations. And exchange power shares the sometime characteristic of money that it is backed by real resources.

It is in the coordination view of power that we should analyze many aspects of political life, as for example, political participation. When one is a voter, Brian Barry asks, “Is it better to be powerful or lucky?”20 He rightly concludes that it is better to be lucky in the sense that what one wants is simply to have one’s views be the majority views. If, in the resource view of power, we were to analyze the resources of individual voters to determine their power, these would seem paltry. In the coordination view, it is not the individual voter who is powerful; rather, it is the coordinated mass of voters who vote together that is powerful. Similarly, it is not the individual herder in Smith’s pastoral society who is powerful; rather, it is the coordinated collective of herders under unified leadership. When the coordination breaks, the power dissipates, as it did for Cyrus’s army. In game theoretical language, power based in coordination is superadditive, it adds up to more than the sum of the individual contributions to it.

Again, as noted above, successful coordination of a group may radically reduce the group’s costs of action in important ways simply because its coordination induces others not to oppose it. Individual or small groups of herders, for example, might have to be constantly on the alert to protect their herds. The members of a large pastoral tribe might rest relatively content in the same environment.

Leviathan

It is sometimes supposed that Hobbes represents the central problem of political order as a general prisoner’s dilemma. If we all voluntarily cooperate in leaving each other’s goods and persons alone, we all prosper better than if we all plunder one another’s goods and threaten one another’s safety. But so long as everyone else is cooperating, I would benefit from taking advantage of them and plundering for my benefit. Indeed, no matter what anyone else does, my interest is better served by my plundering than by my abstinence. This is the structure of the prisoner’s dilemma.

Smith’s account of the rise of powerful leaders in pastoral societies seems far more plausible than this account, which, in any case, I think is a misreading of Hobbes. Smith supposes that before the rise of herding there could have been little advantage in going after another’s property because there could be little property of value.21 This is not the conceptual point that without a state to define ownership there can be no property but merely the economic point that before herding there could have been little of value to plunder from anyone. The potential benefits of plundering would therefore have been negligible. Moreover, if a plunderer ran some risk of personal harm, then plundering would be worse than not plundering.

That is to say, in the rudest state of economic and political development—not to speak of what philosophers call a “state of nature”—plun-

dering no matter what others did was plausibly not the dominant strategy it would be in the supposed prisoner's dilemma of Hobbes. Since the harm that could come from being attacked was likely greater than the gains to be made from attacking, the strategic structure of a rude society is that of a coordination game if only it is true that coordination of the many gives protection against attack, as surely it often must. Hence, the problem that Hobbes had to resolve is not a prisoner's dilemma or exchange but a coordination game. The rudimentary state precedes the rise of wealth that would make plundering worthwhile.

The resolution of such a game might seem similar to Hobbes's resolution of his problem in that it might well involve the elevation of someone to a position of powerful leadership. The elevation will not follow by a variant version of a contract to regulate an exchange, however, but will happen merely by coordination, perhaps spontaneously without direction from anyone. And the leader's power can fade as quickly as did the power of Cyrus's army.

Consider an earlier version of the justification of government to overcome prisoner's dilemma interactions, that posed by Glaucon in Plato's Republic. Glaucon says that if I could have a ring of Gyges, which would allow me to become invisible at will, I would plunder and rape at will. His theory of obedience to law is simply an early variant of the gunman theory. The problem of the possibility of freely committing crimes and escaping punishment under the law poses a prisoner's dilemma and not merely a coordination problem. It requires the general cooperation of others for me to gain advantage from my own uncooperative behavior. Hence, Glaucon's problem is a problem of incentives after order has been established to make production and accumulation of wealth possible. Hobbes's problem in the so-called state of nature is a problem before or about the establishment of order. If the order that is established can successfully punish all transgressors, that is, if there is no working equivalent of the ring of Gyges, there will be no sense to the notion of free-riding on that order.

The Socialist Revolution

The hope of a socialist revolution in Marx and in latter-day Marxists is also commonly seen as the resolution of what appears to be a prisoner's dilemma. But if this is the strategic structure of the problem, then, as Mancur Olson concludes, "class-oriented action will not occur if the individuals that make up a class act rationally." This is merely a specific instance of the more general logic of collective action: all of those who would benefit from a revolution will choose to let others take the risks of fighting it, but then it will not be fought. Marx is commonly thought to see social change as driven by interests, not ideas. Hence, he should agree with Olson.

On this account, Marx is thought simply to have misunderstood the strategic structure of the problem of revolution and to have founded his historicist theory of the coming of socialism on flawed reasoning. One defense of Marx on this point is to suppose that he did not think that class action would be based on narrowly rational or self-interested motivations but would follow from class-oriented motivations. Such an explanation elevates normative or altruistic motivations over self-interest motivations in this context. At first it sounds odd to think that what motivates an individual to act against the interest of the individual is the interest of the individual's class. But it is possible that the self-seeking that drives much of our lives retires momentarily in the face of certain opportunities, as it does when we see someone in danger, when we work for the benefit of a child or others, or when we become excessive patriots in times of national crisis.

What is wanted in an explanation of revolution that relies on such a motivation is an account of how individuals come to identify the interests of their class as their own interest. Without this latter explanation, the contemporary efforts to refurbish Marx's prediction of socialist revolution in industrial societies seem like wish fulfillment. They recall the popular Sidney Harris cartoon in which two mathematicians are standing before a blackboard. On the left and right sides of the board are complicated formulations that look very different but that one of the mathematicians seems to think equivalent. The other mathematician has doubts: he is pointing at the middle of the board and saying, "I think you should be more explicit here in step two." Step two simply says "THEN A MIRACLE OCCURS."

An alternative, less miraculous defense of Marx's view of the possib-


ity of socialist revolution is to suppose that he did not see the problem as merely a prisoner's dilemma, but also in part as a simple problem of coordination. In particular, the mobilization of large enough numbers on certain occasions reduces the costs of acting against state power. On the actual evidence of earlier events of his lifetime, this would not have been a perverse way to view the problem, although it may later have come to seem implausible. It would be tendentious to claim that Marx held a clear view of the strategic structure of the problem of revolutionary action. But on the evidence of the French Revolution and of the revolutionary events of 1848, it is not implausible to suppose that revolution would be relatively easy if it could get coordinated. Once coordinated, it was on these occasions almost a matter of orderly, focussed rioting or mutiny. Once enough people were participating, the costs of participating fell to almost negligible levels.

There was some chance of harm, as there was for street demonstrators in Teheran during the events leading to the abdication of the Shah, but it was slight once the crowds at, say, the Bastille were large. Technically it might typically be true on these occasions that the order of payoffs in the matrix of the game of revolution was strictly that of the prisoner's dilemma, as it may also be for voting in, say, American elections. But successful coordination may so greatly reduce costs that the latter are almost negligible, so that the slightest moral commitment may tip the scales toward action. Just as it would be odd for many Americans in communities in which voting is easy to balk at the minor cost in inconvenience, so it might seem odd for many workers or soldiers or others to balk at joining a crowd to march on the palace or the Bastille. This is not identical to a multiple coordination problem, such as that in the driving convention, in which one simply wants to go with the majority. In the revolutionary coordination, one has an active preference between the outcome of full attack and that of no attack. Still, one prefers to attack if enough others do and not to attack if enough others do not.

This argument would seem to fit well with Marx's analysis. Richard Arneson, however, argues that in his expectations of revolution Marx was really "the German Romantic, not the sober Victorian political economist." Marx characterizes the problem of modern proletarian revolutions as one in which the proletariat "recollected ever and anon from the indefinite prodigiouslyness of their own aims, until the situation has been created which makes all turning back impossible." Arneson supposes this cannot mean that the proletariat reach a point at which individual benefits from revolutionary action outweigh individual risks. Rather, he says, "a point is reached at which turning back would renege on a commitment to one's most ideal self-image, to be realized in the attainment of the most prodigious aims by heroic means." The florid style of Marx's rhetoric makes it hard to call his account sober rather than romantic. But what seems to make "all turning back impossible" is not romantic attachment to one's "most ideal self-image." Rather it is the eventual development of the necessary class consciousness to know what to do with the state once it has been taken. The revolution will succeed when the proletariat has been prepared for its mission of rule and when it then has momentary opportunity to grasp control in a coup de main, an unexpected stroke, such as that of 1848. Coordination without clear enough purpose will soon collapse. Turning back from a coordination once there is clear purpose then is impossible in part because opposing forces cannot naturally regain control after those forces collapse in the face of the revolutionary move.

It was perhaps the startling ease with which spontaneous revolutions took control in cities that led the French under Thiers to put down the Paris Commune with such thoroughgoing brutality as to make it seem more nearly like murder than warfare. The answer to the coordination explanation of revolutionary action is draconian force. This lesson of the Commune has been learned well by many later regimes and leaders in various places, such as the Nazis in Czechoslovakia, Stalin in the Soviet Union, Pinochet in Chile, and Videla in Argentina, with their harsh, blanket suppression of dissenters and potential dissenters. They raise the likely costs of revolutionary activity enough to change its structure. Since the time of the Commune, no one can any longer suppose that revolution can be simply a matter of spontaneous coordination in an industrial state. It can occur relatively easily, if at all, only when the state has lost its resources for self-defense, as in Russia in 1917 at the end of a disastrous war, or in Iran during the death agony of the Shah, or in societies with far poorer resources in the state's control. It is this realization that gives the chill to our expectations from current events in South Africa.

27. Marx, 18th Brumaire, p. 19.
29. Marx, 18th Brumaire, p. 18.
If the old state raises the costs enough to individuals for revolutionary activity, it overcomes the power of coordination to reduce the costs of revolutionary activity. It forces potential revolutionaries to see their problem overwhelmingly as a prisoner's dilemma in which free-riding is in the individuals' interest. Indeed, in recent decades it is hard in many settings to view the prospect of revolution as even a prisoner's dilemma. States often especially and effectively target the leadership of revolutionary groups, so that early leaders cannot sensibly see their cause as one in which they have any hope of benefiting from the collective action even if it eventually succeeds. The state can use the very resources that Marx thinks the revolutionaries want to seize to stop them in their tracks. Then the conflict aspect in the collective interaction of insurgency may severely override its coordination aspect and we should not expect much further revolutionary activity.

The Common Law

One of the most innovative and interesting scholarly endeavors of the past decade or so has been the renewed effort to give economic interpretations of the nature and content of law. The chief omission in this endeavor to date has been the relative neglect of strategic considerations in the focus on efficiency and wealth maximization. In much of this work, the concern is with the global efficiency of a given state of affairs as compared to some other. This is a relatively static view of the problem not unlike the predominant mode of economic analysis more generally, which focuses on static equilibrium. A major difficulty in a static understanding of efficiency is that our major concern is often with policy, with how to get from the state of affairs in which we find ourselves to another that seems ideally better. This is fundamentally a strategic and dynamic problem. If such dynamic considerations are important in economics, they are crucial in the law.

In general the greatest barrier to achieving ideally efficient outcomes

in a system of common law, and plausibly also in a system of legislated law, is the weight of what we have already decided and of the institutions we have already created. These structure expectations and overwhelmingly determine the general cast of outcomes. Once they have been in place long enough to do this, they are conventions in the strong game theoretic sense that they resolve coordination problems. Although we can change conventions—that is typically the purpose of legislation that alters part of a regime of common law—we may not be able to do it easily. Moreover, if our concern is with efficiency, it should be partly with dynamic efficiency, with the costs and benefits of making changes—not only with static efficiency, with the costs and benefits of living under one legal regime rather than another.

Once we have a particular legal rule in place, it acquires political force, but it also acquires moral force. Neither of these may be sufficient to block revision of the rule, but they are likely to be serious considerations if the rule is important. One of the important aspects of passive disobedience to a particular law is the demonstration that the moral force of that law is in serious question. Voiding the Jim Crow laws of the American South and passing laws against the Jim Crow practices of much of the nation clearly affected many expectations, no doubt to the detriment of many interests. Some of these expectations were moral on any reasonable account. Blocking them was part of the cost of changing the laws.

More fundamentally, we may ask why have a system of common law at all? The answer is a grand version of the doctrine of stare decisis: because we already have it. At various early times in the history of the development of any particular legal system, we have opted for various systems. At early enough stages when it might be possible to choose a system, it might be hard to put forth a compelling argument for the general superiority of any one system, whether codified or common law. The choice of which system might have been virtually a matter of indifference. But choosing some system was not a matter of indifference: we need some system of law to give us decisive resolutions of issues so that we may get on with our lives. Hence, the central problem is to get everyone coordinated on some workable system. If historically we did not come around to choosing a system, that may not have been a serious loss. A system of common law based on precedents is a system that could simply grow up over time even without active creative efforts to devise the best possible system.


THE NORMATIVE QUESTION

It would be out of place here to go very extensively into the answers to the normative question of how to justify the state's working the way it does. But I should say something about the implications for that question of the explanatory analysis here. According to a well-known dictum of Hume, objective facts cannot imply values. One who was convinced of this dictum would readily conclude that the foregoing analysis cannot imply anything about the justification of the state's working. To some extent this conclusion would be wrong, for two reasons.

First, there is a related, contrary dictum that "ought" implies "can." If it is not possible for me to do something then it cannot be the case that I morally ought to do it. At the level of a society, this dictum would suggest that if the requisite institutional structure for accomplishing some end cannot be created out of the stuff of actual humans, then it cannot be true that that end ought to be achieved. This is the limited lesson that Bernard Williams thinks we may draw from sociobiology. "The most that sociobiology might do for ethics," he says, is "to suggest that certain institutions or patterns of behavior are not realistic options for human societies." 32

Second, one answer to the normative question is that, in a narrow sense, might may sometimes make right. 33 For example, once we have successfully coordinated in the same way on a particular, recurring problem, we may have established a convention, as in the discussion of the common law above. Thereafter, we individually have very strong incentive to follow the convention. Moreover, and more important here, we have very strong moral reason to do so to the extent that violating the convention would bring harm to others, as my driving on the left in North America would likely bring harm to others. 34 In this account, efforts to find a priori normative justification for many laws and for the system of common law are often wrongheaded. What justifies them is a combination of a historicist explanation of their origin and a consideration of whether they are reasonably, not ideally, workable.

Apart from these two considerations, however, Hume's dictum seems compelling—we cannot derive an ought from an is. We may explain the state's power as the results of coordination and of the creation of resources through collective exchange, but this explanation yields us no immediate proof of the rightness of what the state may do. Indeed, we may reasonably suppose that resources generated for general purposes may well be corruptly used for particular purposes. This is, of course, the traditional liberal's great fear: that the state will abuse its power. Indeed, no sooner does Smith lay out the nascent theory of the pastoral state discussed above than he notes that the system in which the sovereign dispensed justice for a fee "could scarce fail to be productive of several very gross abuses." 35

CONCLUSION

The major forms of cooperation that we see in social and political contexts have their origins in two distinctively different kinds of strategic interactions: coordination and exchange. These typically come together in important institutional arrangements. But in many contexts, such as in Smith's account of the organization of a pastoral society and in many problems of international relations, coordination seems to come first. Is it in fact prior to exchange in explaining widespread social cooperation and institutions? In an explanatory sense it probably is, although in a historical sense it might be impossible to show that it was in actual cases. It is prior because coordination creates a convention—an institution, a norm, or power—and that convention then promotes further coordination.

The force of this explanation is that, although it may sound circular, it is valid. As noted earlier, the problem of collective action cannot sensibly be resolved in the seemingly similar circular manner of supposing we should act collectively in order to resolve our problem of collective action. That just is our problem of collective action. But coordination can come about without intent, without overcoming contrary incentives. It can just happen. And if it just happens the same way a few times the result may be a forceful convention that then governs future behavior by giving us specific incentives for action.

In recent years we have been given very clever evolutionary explanations of cooperation and of altruism. This is an important effort just because an evolutionary perspective would seem to predict a very strong trait of looking out for one's own interest. This trait and any trait for

34. This is obviously a contingent claim that depends on what coordination opportunities there are.
altruism clearly conflict in many contexts and we might commonly think interest would dominate in determining much behavior. An alternative to biological evolution is social evolution in the rise of institutions and norms. On an explanation from social evolution we account for strong institutions for cooperation even on the assumption that, biologically, we are wired to be strongly self-seeking. Hence we have cooperation that is consistent with our biologically determined egoism. Through social evolution we build complex institutional structures out of simpler ones. In the end we have an inextricable mixing of exchange and coordination, of power from resources based in exchange and power that is coordination.

COMMENT: On Russell Hardin’s “The Social Evolution of Cooperation”

Carol A. Heimer

Hardin ingeniously argues that the claims that the state is based on power and that it is based on cooperation need not be contradictory because power both rests on cooperation and, in turn, facilitates cooperation. The key is that simple coordination can create the power needed to create the sanctions to motivate further cooperation. In some cases in which individuals’ interests are best served by collective action, conventions that allow individuals to coordinate their actions will be sufficient to create this sort of cooperation. But such collective action may give power to one or another actor around whom the activities of others are coordinated. This newly powerful actor can then introduce sanctions to help overcome the free-riding that undermines other kinds of cooperative ventures (in particular those that have the structure of a prisoner’s dilemma). Thus coordination can lead to collective action, which leads to power, which leads to further cooperation.

Further, some kinds of collective action surely cost less when people’s activities are carefully coordinated. The paradox of voting would be even more puzzling if, in addition to having to explain why people voted when their individual votes were ineffective in determining the outcome of an election, we also had to explain why they would go to a lot of trouble figuring out how to register their votes if there were not polling places, voting machines, ballots, and easy access to information about candidates, party affiliations, party platforms, and the mechanics of voting. Hardin shows how coordination can sometimes arise spontaneously and suggests how this view of the role of coordination illuminates otherwise murky analyses of the Hobbesian problem of political order, the possibilities of socialist revolution, and the origins of systems of common law based on precedent.

The beauty of this formulation is that it makes the origin of the state considerably less mysterious since “mere” coordination is easier to arrange than cooperation and sometimes comes about spontaneously. Further, it suggests how one might account for some of the observed differences in the strength and stability of political groupings, in the likelihood of collective action, etc. If power and cooperation are partly based on coordination, then one should look at differences in the ease or difficulty of coordination to explain differences between groups in power and cooperative behavior. As Hardin notes (p. 364), “That there is a differential capacity for coordination is clear.” The remainder of this comment will suggest how one might turn capacity for coordination into a variable and what kinds of things might cause variations in capacity to coordinate.

I recall recently reading an argument to the effect that the social life of young people in poorer parts of the city is facilitated by the existence of vacant lots. Adolescents can meet here without advance planning and carry on their social lives without extensive supervision from adults. Suburban kids who do not have easy access to vacant lots or equivalent places to meet have to go to great pains to coordinate schedules, to arrange to meet at concerts, etc. We would expect, then, that suburban kids would be less likely to spontaneously meet their friends, but we would also expect that they might develop a different set of skills, namely those that are necessary to the maintenance of a social life when coordination is more difficult. Where there are few vacant lots to coordinate their social lives for them, adolescents learn to make appointments, to phone in advance, to arrive on time, etc.—skills that some might argue will be helpful to them in adult life when they will need to coordinate with employers, co-workers, spouses, and babysitters.

The problem with this example is that it is not clear that coordination is more likely in one case than the other, at least after the suburban adolescents learn to use a telephone and an appointment book. All we really know is that coordination is likely to come about in different ways in the two cases. This may make coordination, and hence collective action, more likely in one case than in the other, but that is something we would have to investigate.

A parallel contrast can be found between city life in Europe (in Britain especially) and in the United States. In the United States we have few public institutions like pubs that draw people out of their homes and bring them into contact with their neighbors on a regular basis. Pub
schedules coordinate the social lives of the British in situations in which Americans would have to send out invitations or leave messages on answering machines to have an equivalent amount of contact with neighbors. This paucity of coordinational materials means that some kinds of collective action are surely more costly in America than in Britain.

Hardin argues that Marx may have seen socialist revolution as a problem of coordination and that Marx’s statement about the impossibility of turning back after a certain stage (cited on p. 373) may have been a comment about what happens when coordination and clear purpose are finally brought together. Before coordination and clear purpose are united, coordination can serve as a vehicle for many different purposes; after that point, it is much more difficult to harness the coordination to serve different ends. Further support for Hardin’s view that Marx may have seen socialist revolution as a coordination problem rather than as a prisoner’s dilemma comes from another of Marx’s famous insights. Marx also argued that working-class consciousness (and hence the likelihood of revolution) depended strongly on workers being brought together in one place. By coordinating the activities of workers for capitalist ends, employers also facilitate their coordination for other purposes, including collective action on behalf of the working class. So employers may or may not facilitate coordination between workers by bringing them together, and workers whose situations are rich in the materials of coordination may or may not have sufficient sense of purpose so that coordination leads to collective action.

In order to use Hardin’s important insight to construct a variable describing variations in the difficulty of coordination in particular time periods, societies, age groups, parts of cities, and so forth, we need some notion about what makes coordination easy. This is the sort of question one would expect Thomas Schelling to have answered, but I do not think he has. Schelling has commented in The Strategy of Conflict that there are focal points—twelve noon, round numbers ($100 or $1,000 for example). Presumably some of these common foci of attention are part of nearly universal systems—part of the decimal system, part of the way we keep time, etc. Other points of coordination have to do with the physical layout of our environment, including the prominence of certain features of the landscape or the existence of crossroads and natural meeting places. Here culture and precedent can reinforce geography. A prominent feature of the environment that has been used to coordinate collective action before will be more likely to serve as a setting for collective action in the future. The clock tower at Northwestern’s Rebecca Crown Center is now more likely to be a place for demonstrations after having been used extensively in antiapartheid activities. Though coordination depends partly on physical layout, it also depends on the cultural interpretation of the physical environment, on sharing a culture.

Different societies or parts of societies are differentially rich in the materials of coordination. Some of these differences are naturally occurring, other differences are or could be amplified or created by wise leaders. Coordination is probably facilitated by the existence of landmarks or crossroads that serve as natural gathering places. But leaders can emphasize the precedents associated with particular places and so increase the coordinating effect of the physical environment. Further, as the design of many business establishments and public buildings shows, physical coordination of human activities need not be based on pre-existing features of the environment. Barriers, lines, arrows, signs, etc. are quite effective in getting people to do what they are “supposed” to.

Similarly, coordination is surely facilitated when people share a cultural heritage and is more difficult when there is too much cultural diversity (for example, in ethnically and linguistically mixed societies). But leaders can build on whatever cultural resources there are by stressing those parts of the culture that facilitate coordination. And, of course, appropriate cultural forms can be created, as we see happening in the use of scripts in businesses and their attempts to teach us these scripts, for instance, through advertising.

The extent to which coordination leads to power probably depends on the details of how it takes place. Traffic can be coordinated either by lights and signs or by traffic police. One gives the police a larger role than the other. Bottlenecks and crossroads emphasize the importance of those located at them. Gathering places and events can be named neutrally or named to point to the roles of particular people in important events. Stressing the role of a particular person might increase his or her attractiveness as a leader others might rally around.

One might further expect that some kinds of coordination might be more invaluables to disruption than others. Coordination that is multilayered might be harder to disrupt than coordination that was based only on a single mechanism. For instance, the ties between adult siblings are much stronger when their parents are alive than after their parents die. After the parents’ deaths there is no easy way to coordinate visits, and adults whose parents have died report seeing less of their siblings than they would like. But if a family had coordinated visits not just by gathering periodically at the parents’ home but also by gathering at par-
ticular holidays, those holidays might serve as a coordination mechanism even after the parents' deaths. When coordination is cued by several stimuli it is harder to disrupt than when it is cued only by one. Hardin cites the example of Cyrus's army falling apart when Cyrus was killed in battle (pp. 367–68). An upstart army is peculiarly vulnerable because its coordination is usually based only on a single mechanism, the leader.

In this comment I have tried to suggest some of the things that will make it more likely that the coordination aspect of collective action will dominate the conflict aspect. While there are naturally occurring variations in the materials that facilitate coordination (for example, cultural forms), leaders can do a lot to facilitate coordination by creatively using pre-existing materials or devising new conventions. Those who would prevent collective action can either increase the difficulty of coordination or increase the costs so that the conflict of interests again dominates the coordination aspect of collective action.

But thinking of power as sometimes stemming from coordination and, in turn, facilitating cooperation makes the social order seem considerably more resilient and less fragile than when one believes that if people were able to see the strategic structure they would all cease to cooperate unless coerced.