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# The Free-Rider Problem

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## I

People are often uneasy about the utilitarian requirement: *Act so as to maximize aggregate welfare*. The emphasis on the welfare of all is, of course, one of the things that distinguishes utilitarianism from egoism. But one may be unsatisfied with egoism,[1] be satisfied that a concern for aggregate welfare is the proper direction to take, and yet be wary of the level of self-sacrifice implicit in the utilitarian requirement.[2] That is why Invisible Hand theses are a constant source of fascination. If, for a large range of important cases, the way to maximize aggregate welfare is for each person to behave like a rational egoist, we can have the best of both worlds. We can be utilitarians by acting out rational, self-maximizing strategies.

The disappointments to such hope are well known. The prisoner's dilemma[3] provides one of them. And in public policy cases, sometimes an analogous situation occurs: the free-rider problem.

The problem arises when people want to produce some public good. (A public good is defined as one that, if it is available at all, is *necessarily* available equally to everyone. A paradigm example is clean air. Such a good cannot be "partitioned"—so as, for example, to exclude recalcitrant polluters from the enjoyment of it.) Now if people want some public good; if it can be produced only by the joint activity of a group of people; if people also want that joint activity to be voluntary (rather than coerced) cooperation;[4] and if voluntary cooperation would impose costs on each cooperator; then the following dilemma arises for each rational self-maximizer:[5] Either enough other people will cooperate to produce the desired public good (no matter what I do), or they will not. If they do, and if cooperating would cost me something, then it would be irrational for me to incur the costs of cooperation, for I can reap the benefits no matter whether I cooperate or not. On the other hand, if *not*

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enough others cooperate to produce the desired public good, then the probability of my cooperation's being the increment that makes the difference between success and failure is so small that *again* it is not rational for me to incur the costs of cooperation. So we seem to be in a situation in which each rational self-maximizer must choose to be uncooperative, and in which the Invisible Hand will not produce the desired public good.

I want to argue, however, that the free-rider problem is soluble on its own terms.[6] In a nutshell, my argument is that rational self-maximizers, facing the free-rider problem, would not necessarily have to accept defeat (either by accepting "mutual coercion, mutually agreed upon" or by abandoning the effort to produce the desired public good). Rather, in many imaginable circumstances, they would each embark on a project in moral education designed to defeat the dilemma—a project that required exactly that cooperative behavior from them that they would otherwise refuse to give.

## II

The argument begins with a simple observation. Rational calculation is what gets people into this dilemma. Further rational calculation (leading to a conclusion about what one ought to do about the dilemma) must necessarily include an attempt to escape from the dilemma, and the rational self-maximizer must necessarily *prefer* an escape to a defeat—as long as the costs of escape do not exceed those of defeat. (This is so by definition: If rational self-maximizers do not want—equally—*both* the public good at stake *and* the liberty to produce it voluntarily, there is no dilemma.)[7]

The next step, then, is to look for an escape. Rolf Sartorius has considered one—the moral exemplar argument—and rejected it as inapplicable to most cases.[8] I want to consider an escape that, while it may be inapplicable to some cases, *is* applicable to a large range of important ones.

To begin, consider two common occurrences. One is that people often cooperate for the sake of realizing the values inherent in the cooperation itself—quite independently of whether their efforts are likely to produce the public good at which they are ostensibly aimed. People give blood, in part, to get the feelings of solidarity, conviviality, and fraternity that the activity itself provides—and might well continue to do so even if convinced that the expected utility to them of having their blood in the bank could not conceivably offset the costs to them of donating it. They do this because their donation costs are offset by the values inherent in the *process* of donating.

The other frequent occurrence to consider is this: People know the utility (for themselves and others) of spontaneity, of habit, and of learned reflexes. That is, they know that in some areas of human conduct, rational self-interest is best served by acts that are not themselves taken as result of rational calculation. Tennis players can think so much on the court that they play badly; drivers can think so much on the road that they drive dangerously; lovers can be so analytical that they destroy the pleasure they seek. These are familiar

problems, but they are not usually thought to raise any theoretical difficulty. Rational self-interest dictates that one define with great care the situations in which it would maximize utility to act reflexively, or on impulse, or out of habit, and then *train oneself to do it* (assuming the expected payoffs outweigh the training costs). That is why a rational self-maximizer who wanted to beat Jimmy Conners at Forest Hills would *practice*—even though the practice were painful. That is why pilots and drivers have *routines*—even though the routines are irksome. That is why, at some point, lovers have to try to stop remembering what the marriage manuals say.

My proposal for an escape from the prisoner's dilemma, then, requires one of two things: either the cultivation (in others) of a set of attitudes that offsets the costs of cooperative action for them (this is what socialists see as one of the functions of feelings of solidarity, conviviality, and fraternity); or it requires the deliberate decision to train others to refrain from thoroughgoing calculative deliberation in these situations (much as realizing the values of loving another person occasionally requires training oneself in the deliberate suspension of calculation). Once that is done, or rather, once agents are embarked on the project of doing it, egoistic calculations may require that the agents themselves behave cooperatively. The argument for this proposal therefore has two basic parts: one designed to show that a rational self-maximizer would try to persuade others to cooperate; and one designed to show that these same self-maximizers would, as a part of their attempt to persuade others, cooperate themselves.

Here is the argument, step by step. First, to rehearse the dilemma, recall that it is *given* that:

(1) Everyone wants public good X.
(2) Everyone prefers voluntary cooperation (as a means to it) over mutual coersion, mutually agreed upon.
(3) Cooperation is costly. And
(4) Anyone who is a rational self-maximizer will refuse to cooperate to produce X directly.

But now, given these points, it follows that:

(5) If enough others could be *persuaded* to cooperate (voluntarily) to produce X, the problem would be solved.
(6) There are at least two ways to persuade (enough) other rational self-maximizers to cooperate voluntarily.
  (a) One way is to (*actually*) offset their cooperation costs by providing substitutes of equivalent value. (Substitutes of equivalent value might include feelings of solidarity, conviviality, and fraternity derived from cooperation, regardless of its success or failure in producing the aimed at public good.)
  (b) The other way to persuade people is to convince them to forgo thoroughgoing rational calculation in these prisoners' dilemma cases (for example, on analogy with the rationality of spontaneity,

habit, and reflex in other areas of life). The point here is to get others to believe that a satisfying life is one in which—in these dilemmas as well as in love, or tennis, or driving a car—one doesn't consider the consequences. (This is a common enough practice. We even have a long history of fossil evidence in the form of slogans: "Give me liberty or give me death." "Damn the torpedoes, full speed ahead." "Death before dishonor." "Don't just stand there, *do* something.")

(7) Now it is assumed, here, that rational agents will not engage in either of these two sorts of attempts to persuade others unless their attempts are "cost-effective"—that is, unless the benefits they themselves will reap from the attempt are larger than what it will cost them to make the attempt.

(8) It is also assumed that the expected utility of their attempts to produce the desired public good is *not* enough, by itself, to offset their attempt costs. (That is, we are here ruling out the cases in which one can persuade others to cooperate just by setting an example.)

(9) It follows, then, that to offset the costs of one's attempts to persuade others, one will have to engage in activities that *serve a double purpose:* that is, activities that are not only designed to persuade but that are cost-beneficial to oneself *whether* they succeed (in persuading others) or not.

(10) It seems plausible to suppose that the likeliest candidate for this double-purpose activity is cooperation itself. That is, it seems reasonable to suppose that to offset others' cooperation costs with conviviality, etc.—*at a cost to oneself that is rational*—one would have to plunge into cooperative acts with the dual intent of persuading others to do likewise and at the same time covering one's losses by reaping the rewards of conviviality, fraternity, and eventually, perhaps, solidarity that often accrue to the generous, friendly, and openhearted. Similarly, it seems reasonable to suppose that persuading others to forgo rational calculation in these cases—again at a cost to oneself that is rational—will require actually *becoming* a person who does not count the cost of cooperation in these cases, so as to be a persuasive example without cost to oneself.

(11) In either case, beginning with a purely self-interested calculation, one is *likely* to find that the expected utility of cooperation is *higher* than that of noncooperation. This is so because, first, one's cooperation costs are offset by other values (fraternity, conviviality, a Stoic/Buddhist indifference to the outcome); and second, there is, after all, some probability that one—together with other rational self-maximizers—will *succeed* in producing the otherwise unobtainable double benefit of the desired public good achieved through voluntary cooperation.

(12) Indeed, if it is rational for a self-maximizer to cooperate, then the probability that the public good will be produced is just the probability that enough people will act rationally for it to be produced.

In short, what I have argued for is *not* the rationality of cooperating in order to produce the desired public good. I have argued for the rationality of cooperating to defeat the dilemma—one by-product of which will be the production of the desired public good.

An interesting consequence of this for public policy deliberations is this: The necessity for governmental coercion in the production of public goods does *not* come from the "fact" that it would be rational for people to be free riders. Rather, in some cases it comes from the fact that we do not want people to be at liberty to cooperate or not, as they wish. (Think of the public good produced by criminal law enforcement.) Or in other cases, the necessity for coercion arises because we cannot expect enough people to be rational to guarantee the production of the public good. The *existence* of rational self-maximizers is not the problem: The problem is the *absence* of them.

## III

I want to conclude by considering some objections that might be leveled at my argument.

*Objection:* Doesn't the free-rider problem just arise again at the second level, here? That is, won't rational self-maximizers reason as follows? Either enough people will choose to cooperate for the purpose of defeating the dilemma, or they won't. ("Enough people" here means enough to produce the public good.) If they do, then I should be a free rider. If they don't, then the probability of my behavior's helping to produce the public good is so low that again I should not cooperate. And so we are back in the dilemma.

*Reply:* The prisoner's dilemma in public goods cases depends upon the assumption that cooperative behavior imposes *costs* on the agent—costs that can be offset only by the production of the public good. The escape I have argued for imposes no net costs on cooperative behavior. The costs of cooperation are either offset by other values or are necessary to the development of traits of character that are justifiable whether or not the specific public good at issue gets produced. Added to that, there is a finite probability that one's cooperative act will contribute to producing the desired good. Hence, there is no free-rider problem, because the benefits necessary to make cooperation rational do not depend on the behavior of others (as they do in the prisoner's dilemma).

*Objection:* But surely the benefits of conviviality and so forth *do* depend on others—if not on their being cooperative themselves, at least on their "appreciation" of such efforts. Otherwise there could be no conviviality.

*Reply:* True enough. But even in that case it would still be rational to try to persuade others not to count the costs of cooperation—to persuade them to

become the sort of person who does not do that. And to the extent that *that* required one to become such a person (and act cooperatively oneself) cooperation would still be rational.

*Objection:* But when one has become the sort of person who does not count the cost in these situations, hasn't one ceased to be a rational self-maximizer? And doesn't a proposal for abandoning rational calculation violate the ground rules for defeating the dilemma on its own terms?

*Reply:* Not in this case. If it is rational to become X, then one can remain rational only by choosing to do so—even if the result of the process of doing so is the abandonment of rationality itself.

*Objection:* If the escape recommended here is really rational for self-maximizers, why does it seem (in the abstract) so implausible to expect that certain public policy theorists will accept it—namely, precisely those theorists who advocate thoroughgoing rational self-maximizing calculations on the part of everyone.

*Reply:* I think some of the resistance to proposals like mine arises because commitment to rational self-maximization as a means to making policy decisions is closely connected to a commitment to an individualist political theory. After all, people will often wallow in a misery of depression because—although they know how to get themselves out of it—they are repelled by what they would have to do to get themselves out. Similarly, individualists are sometimes repelled by the obvious cooperative solutions to their dilemmas. They prefer to wallow in the miseries of individualism. What my argument shows, I think, is that in some important prisoner's dilemma cases, the refusal to cooperate is not the act of a rational self-maximizer. It may well be, of course, the act of a stubborn individualist.

*A final objection:* Isn't the escape proposed here just a disguised form of rule-utilitarian escapes from these dilemmas?

*Reply:* No. I am not recommending the adherence to a rule, regardless of the cost in a specific case. I am recommending (repeated) self-interested decisions to cooperate for its own sake, or self-interested decisions to train oneself to become a certain sort of person.

In short, and to repeat, I think this proposal defeats the dilemma on its own terms—not by arguing for the rationality of cooperating in order to produce the desired public good, but by arguing for the rationality of cooperating in order to defeat the dilemma. And the probability that the desired public good will be produced as a by-product is just the probability that enough people will act rationally for it to be produced.

## Notes

1. Because, for example, it provides no principle for the moral assessment of the enormous class of acts that have no bearing on one's own welfare.

2. Peter Singer has argued, for example, that utilitarianism collapses the distinction between duty and charity. See his "Famine, Affluence and Morality," *Philosophy & Public Affairs* 1 (1972):229-243.

3. "Prisoner's dilemma" is understood here in its usual sense—as the name given to a class of non-zero sum, noncooperative games in which each player is faced with two undesirable options—typically represented in a two by two matrix.

|  |  | X | |
| --- | --- | --- | --- |
|  |  | does C | does D |
| Y | does C | Y does C, gets 1<br>X does C, gets 1 | Y does C, gets −2<br>X does D, gets 2 |
|  | does D | Y does D, gets 2<br>X does C, gets −2 | Y does D, gets −1<br>X does D, gets −1 |

These payoffs—and the provision that the players may not make collusive agreements—make each player's options problematic. Each player will want to try for the biggest payoff, which can only be achieved by doing D. But if the other player does the same thing, both players will "lose." (The "D D" cell of the matrix.) On the other hand, a player who does C (hoping for the modest payoff of the "C C" cell) risks disaster. Hence the dilemma. Payoffs may vary widely as long as they maintain the ordinal inequalities in the above matrix (i.e., the best payoff for a player comes when he/she does D and the other does C; the next best when both do C, the next best when both do D; and the worst when he/she does C and the other does D). Some people recommend a further condition—namely that the sum of the payoffs for options in which one player does C and the other D be larger than the sum of the payoffs when both do C. See Anatol Rapoport and Albert M. Chammah, *Prisoner's Dilemma* (Ann Arbor: University of Michigan Press, 1965), p. 34.

4. Some public goods (for example, safety from violent crime) are not in this category. That is, people want them, but they don't want everyone to be free to choose whether or not to contribute to them.

5. There is one other condition that must be met: No member of the group must be able to profit so much from the public good that he or she would be willing to pay the whole cost of its production. In a recent paper, Allen Buchanan has shown that the same free-rider dilemma arises for (rational) *social* utility maximizers. See his "Revolutionary Motivation and Rationality," *Philosophy & Public Affairs* 9 (Fall, 1979):59-82 at 65.

6. Mancur Olson argues that voluntary cooperation to produce public goods (on the basis of uncoordinated and rationally self-interested action by each individual) is sometimes possible—namely when one or more members of the group can expect a benefit in excess of the total cost of providing the good. But this occurs, he says, only in rather small groups. See Mancur Olson, Jr., *The Logic of Collective Action* (Cambridge: Harvard University Press, 1965), pp. 33-34. For large groups—defined as groups "distinguished by the fact that, if one member does or does not help provide the collective good, no other member will be significantly affected and therefore [have] any reason to react"—Olson argues that

> Only a *separate and "selective" incentive* will stimulate a rational individual . . . to act in a group oriented way. In such circumstances group action can be obtained only through an incentive that operates, not indiscriminately, like the collective good, upon the group as a whole, but rather *selectively* toward the individuals in the group. . . . These "selective incentives" can be either negative or positive, in that they can either coerce by punishing those who fail to bear an allocated share of the costs of

the group action, or they can be positive inducements offered to those who act in the group interest.

See Olson, *ibid.*, pp. 50-51. In Olson's terms, my proposal for an escape from the dilemma invokes a "positive inducement." Further, one part of the proposal is an example of what he calls a "social" incentive. And he thinks that, in general, social incentives are effective only in small and intermediate groups (*Ibid.,* pp. 61-62). I disagree. Large groups can certainly be "mobilized" toward a public good by the provision of positive incentives; and these incentives can be social in nature. An example is the blood donation system in England. My proposal, however, is not an argument for the manipulation of incentives by an organization (such as a government). It is rather for the rationality of each agent's acting to provide those incentives for himself and others. (For completeness, one should note that "intermediate" groups, in Olson's argument, are judged able to provide public goods only when the actions of their members are coordinated and organized. An "intermediate group" is one in which "no single member gets a share of the benefit sufficient to give him an incentive to provide the good himself, but which does not have so many members that no one member will notice whether any other member is or is not helping to provide the collective good," p. 50.) For other attempts to beat the dilemma on its own terms, see Jan Narveson, "Utilitarianism, Group Action, and Coordination," *Nous* 10 (1976):173-194, and Wayne Summer, "Cooperation, Fairness, and Utility," *Journal of Value Inquiry* 5 (1971):105-119.

7. A word about "giving up." The option often recommended for getting out of the dilemma — "mutual coercion, mutually agreed upon" — is not an escape from the dilemma. It is a defeat. It is a defeat because the dilemma begins with these assumptions (among others): first, that everyone prefers mutual liberty over mutual coercion; second, that everyone prefers the production of some specified public good over its nonproduction; and third, that liberty and the public good are desired *equally*. (If this last condition were not met, of course, the way out of the "dilemma" would be clear: Sacrifice the lesser good for the greater.) Given mutual liberty, the specified public good is obtainable only through voluntary cooperation. But given mutual liberty, rational self-maximizers will not cooperate. To give up liberty in this situation — to get the public good — is one sort of defeat. To give up the desired public good — in order to preserve liberty — is another.

8. Sartorius mentions that occasionally one can lead others into cooperating just by setting an example. For large-scale soceities as a whole, however, the instances of this are rare. See Rolf Sartorius, "Benevolence, Collective Action, and the Provision of Public Goods," this volume, pp. 214-215.